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1. Predicting from Data Science the No of People Affected Using AI

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Abstract **- This electronic document is a "live" template and already defines the components of your paper [title, text, heads, etc.] in its style sheet.**

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I. Introduction

In terms of infrastructure, finance, business, manufacturing, and a variety of other resources, our society is in the midst of incredible efforts to combat the spread of this life-threatening illness. Researchers in artificial intelligence (AI) are honing their skills in constructing mathematical models for researching the epidemic utilising data from around the country. Using real-time data from the Johns Hopkins dashboard, this research aims to apply machine learning models simultaneously with a forecast of predicted COVID-19 reachability across the nations.

II. How Data Science Can Ease The Covid-19 Pandemic[1]

Before policymakers reopen their economies, they must be certain that the new COVID-19 cases that arise will not compel local healthcare systems to revert to crisis-level treatment. This necessitates not just viral prevention and suppression, but also constant monitoring of virus activity, evaluation of suppression measures' performance, and forecasting of near-term demand on local health systems. Given community demographics, the incidence of pre-existing conditions, population density, and socioeconomics, this need is very varied.

Data science can already give reliable and continuous projections of health-care demand, which is a need in nearly all reopening plans. We need to move beyond static data collecting, analysis, and forecasting to inform real-time policy decisions and iteratively improve public

health recommendations for re-opening. While the majority of reopening plans call for thorough testing, contact tracing, and population motion tracking, practically none contemplate establishing a dynamic feedback loop. Particular regional health system capability, such feedback might help assess what amount of viral activity can be tolerated in a given area and modify population distancing accordingly.

We argue that by combining existing technologies with some clever data science, we can create a feedback loop that keeps healthcare demand below the limit of what is available in a given location. This is an opportunity for the data and tech community to partner with healthcare experts and provide a measure of public health planning that governments are unable to do, just as the maker community stepped up to cover for the government's failures to provide adequate protective gear to health workers. As a result, we'd want to ask the data science community: How can data science assist estimate regional health system resource demands based on viral activity measurements and suppression methods like population distancing?[2]

To make the data science endeavour successful, we must first address the delays in data gathering and access caused by existing reporting systems. Most public health agencies are now collecting and reporting data that aren't helpful, and they're doing it with 48-hour delays and frequent inaccuracies. Although there are some examples of regional competence in such reporting, the health IT community's suggestions for accurate and timely public health reporting are mostly ignored. Take the number of COVID-19 hospitalizations, for example, which is the best measure of the disease's impact on the area health system. Even regions that submit hospitalisation data frequently give only a hazy image of the strain on the regional health system at the moment, due to time gaps in confirming and reporting cases and an inability to distinguish between current and cumulative hospitalizations. In addition to the date of report or confirmation, regions should report both suspected and confirmed hospital cases and provide the date of admission. [3]

Adopting such technology and data science to keep anticipated healthcare needs below the threshold of availability in a region necessitates a number of privacy trade-offs, which will necessitate thoughtful legislation to ensure that the solutions devised to combat the current pandemic do not result in permanent loss of privacy. Given the shutdown's enormous economic and hidden medical costs, we urgently need to build an early warning system that alerts us to increase suppression measures if the next COVID-19 epidemic peak threatens to overwhelm our

regional healthcare system. It is critical that we concentrate our efforts on applying data science to predict and manage regional health system resource demands based on local assessments of viral activity and population distancing effects.

III. Transmission Stages

There are four steps to how a coronavirus spreads. The first stage begins with cases reported by persons who went to or from impacted countries or places, while the second stage begins with cases reported regionally by family, friends, and groups who came into touch with people travelling from affected nations. As a result, the persons who have been affected may be identified. The third stage worsens the situation since the sick person becomes undetected and spreads to those who don't have any travel records or have been in contact with the infected person. This situation necessitates quick lockdown across the country in order to minimise social interaction between individuals and track the virus's spread. Finally, when transmission becomes endemic and uncontrolled, stage four begins. China was the first country to experience stage four of the COVID-19 transmission, although other developed countries are now experiencing this stage of transmission and are experiencing a higher number of outbreaks and losses than China.

In the analysis and forecasting of pandemics, machine learning techniques are critical. Machine learning techniques also aid in the discovery of epidemic trends. As a consequence, a quick reaction might be planned to stop the virus from spreading (Kalipe, Gautham, & Behera, 20181; Singh, Singh, & Bhatia, 20182). Furthermore, using real-time data from the Johns Hopkins dashboard, machine learning algorithms are used to detect collective behaviour as well as estimate the projected spread of the COVID-19 across society.[4]

IV. Dataset[5]

The dataset was obtained from Johns Hopkins University's official repository3. Daily case reports and daily time series summary tables make up this data. We used time-series summary tables in CSV format for the study, with three tables for confirmed, deceased, and recovered COVID-19 cases, each with six attributes. Province/state, country/region, last update, confirmed, death, and recovered cases are only a few examples. The CSV files may be found in Github4 repositories.

Prediction and Analysis[6]

Furthermore, it is important to investigate the growth of transmission ahead and predict the future occurrence of the transmission. Coronaviruses spread have put the society at risk of loss in social lives. During concurrent simulation, the most advanced mathematical models are

chosen based on machine learning for a computational process to predict the spread of the virus,for instance:

- Support Vector Regression[5] (SVR)
- Polynomial Regression[6] (PR)
- Deep Learning regression models

Regression Analysis[7]

We use python's library to perform machine learning and deep learning strategies to predict the total number of confirmed, recovered, and death casesAccording to this prediction, specific decisions will be taken, such as expanding the lockdown phase, implementing the sanitation plan, and providing daily support and supplies.

Machine learning algorithms are a subset of regression analysis. This is the most common machine learning algorithm. Imagine a straight equation combining any two variables X and Y, which is defined algebraically as:

Y=aX+b

The slope of the line is defined as the intercept of the line on the y-axis, while a is the intercept on the x-axis. In regression analysis, these slopes are defined as the parameters. These parameters should be learned through proper methods.

Correlation Coefficients[7]

The strength of a linear relationship between two variables is represented by the correlation coefficient. The coefficient of correlation, according to Karl Pearson, is a weight or degree of linear association between two variables. In addition, he devised a formula known as the Correlation Coefficient. The correlation coefficient between two random variables, X and Y, is commonly expressed as a numerical measure of their linear dependency and is defined as:

$$r(X,Y) = \frac{Cov(X,Y)}{\sigma x \sigma y}$$

$$Cov(X,Y) = \frac{1}{N}\sum_{i=1}^{N}(x_i - \bar{x})(y_i - \bar{y})$$

$$\sigma x = \frac{1}{N}\sum_{i=1}^{N}(x_i - \bar{x})^2$$

$$\sigma y = \frac{1}{N}\sum_{i=1}^{N}(y_i - \bar{y})^2$$

Where, i = 1, 2, 3, 4, …N, is the collection of input and output variables. Some prediction is given below:

1. An output variable Y and an input variable X that have zero correlation coefficient means that there is no correlation between them.
2. If the correlation coefficient is equal to one, it means the input variable and output variable have a strong link. To put it another way, if the input variable is increased, so is the output variable.
3. If the correlation coefficient is negative, it means the input variable has increased, followed by a reduction in the output variable, and so on

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2. Sentiment analysis using machine learning techniques to predict outbreaks and epidemics
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4. Johns Hopkins University: COVID-19 Data Repository
5. Support Vector Regression
6. Polynomial Regression
7. Artificial Neural Network

2. Fitness and Health Apps Using AI

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Abstract

Smartphones and tablets are slowly but steadily changing the way we look after our health and fitness. Today, many high quality mobile apps are available for users and health professionals and cover the whole health care chain, i.e. information collection, prevention, diagnosis, treatment and monitoring. Our team has developed a mobile health and fitness app called myFitnessCompanion® which has been available via Android market since February 2011. The objective of this paper is to share our experience with rolling out a fitness and app. We discuss the acceptance of health apps by end-users and healthcare industry. We discuss how mobile health apps will be distributed in the near future, the use of Personal Health Record (PHR) systems such as Microsoft HealthVault and the impact of regulations (FDA) on the future of mobile health apps. The paper is based on seven years of experience by the authors as mobile health and fitness application developers and we discuss the challenges and opportunities for app developers in the health industry.

Introduction

Mobile Health apps, hereafter referred to as mHealth apps, are health and fitness related applications running on mobile devices such as smart phones and tablets. An increasing number of people use mobile apps to monitor their health or fitness and gradually they are being used for prevention, diagnosis and treatment. These apps can be personalized and tailored to the user's condition and can be used in the comfort of their home, office, or even on the move. They are a step towards ubiquitous healthcare, i.e. access to healthcare anywhere, anytime, thereby allowing chronic disease patients to self-manage their condition using mobile devices and wireless sensors.

Combining the popularity of mobile devices with the on-going search for fitness, thousands of fitness applications (apps) are available for free or low cost. Apps allow users to set fitness goals, track activity, gather workout ideas, and share progress on social media.

Characteristics such as a user-friendly interface, automatic tracking, and security are desired app characteristics among fitness app users. Studies have examined desirable app characteristics at one point in time, but long-term app usage and subsequent fitness behavior have not been adequately studied. There is also uncertainty if these apps help individuals achieve and maintain personal fitness long term. To further complicate, technology usage attrition in studies of eHealth technology is an issue that can negatively affect results

The mHealth application market is booming, and will continue to grow substantially over the next few years, according to a study conducted by Frost & Sullivan in 2011

The growing availability of health and fitness apps and increasing number of people using smart phones and tablets encourages the healthcare industry to exploit the possibilities offered by health and fitness apps. [1].

According to the Global Mobile Health Market Report2010–2015, more than a third of the 1.4 billion smart-phone users will use some kind of mobile healthcare application in 2015. At the time of writing (December 2012), thousands of health and fitness apps are available for down-load on Google Play [2]

Of those, 396 Apps use some sort of sensor (e.g. weight scale, blood pressure monitor, accelerometer, GPS) to collect or derive physiological data. An app can be downloaded for free or a few dollars that helps the user losing weight, monitor their blood pressure or guide the user in their workout exercises. People from more than 190 countries download apps everyday and a total of 10 billion downloads have been recorded up to December 2011 [3].

Our team has developed such an application called my Fitness Companion® It uses wireless sensors (Bluetooth, Wifi), or manual entry, to collect physiological data. It works on Android phones & tablets and offers personalized exercise tracking and monitoring of weight, food intake, blood pressure, asthma, blood glucose, HbA1c (glycated hemoglobin), cholesterol, temperature, respiration, oxygen, intraocular pressure, bowel movement and heart rate. The therapy fields include fitness, diabetes, asthma, obesity and hypertension. [4].

Fig 1:Health Apss Interface

mHealth Apps

- Mobile health (mHealth) is the monitoring and sharing of health information via mobile technology – such as wearables and health tracking apps.
- mHealth is the use of mobile technology to provide health care support to patients or technical support to health service providers in a direct, low-cost and engaging manner.
- The use of mobile devices and wireless technology to monitor symptoms and deliver care allows physicians to make diagnoses quicker and with fewer errors.
- Insider Intelligence publishes hundreds of insights, charts, and forecasts on the Digital Health industry with the Digital Health Briefing. You can learn more about subscribing here.
- It uses mobile devices to monitor patients' exercise, heart rate, and medication adherence. Mobile health is gaining steam among consumers as Apple and Google continue to offer an array of mHealth applications on their app stores; there were more than 318,000 mHealth apps available for download worldwide as of November 2017.

Uses technology to extend the reach of healthcare professionals beyond traditional clinical settings. It's a broad term describing how the healthcare market is taking advantage of digital development to enable remote care. With increasing consumer demand to monitor their own health comes the opportunity for and tech giants to develop mHealth applications. Here are some of the top mobile health apps on the market: According to Business Insider Intelligence, nearly half of all mHealth app publishers integrate with EHRs in order to provide a detailed representation of a patient's health or medical history.

Fig 2:App to regulate Heart

1. Kardia Mobile app

The Kardia App, developed by AliveCor Inc., allows a user to take a medical-grade EKG anytime, anywhere using their smartphone paired with AliveCor® KardiaMobile EKG Monitor.

It is recommended by leading cardiologists and has been used extensively by people around the world. It takes just 30 seconds to detect normal heart rhythm or AFib and it is easy to use – the user simply puts their fingers on the electrodes (no wires, patches or gels required). Kardia Mobile will wirelessly communicate with the Kardia app to let the user know if their EKG is normal or if atrial fibrillation (AF) is detected. The EKG can be emailed to the user's doctor at any time for analysis, saving the user time, effort and money.

- Downloads from Google Play: 100K+
- Rating on Google Play: 4.4
- Rating on App Store: 4.7 and #95 in Medical
- Available from Google Play and App Store

Fig 3: Sugar level controlling app

2. Mobile MIM™ App

MIM Software Inc. provides practical imaging solutions in the fields of radiation oncology, radiology, nuclear medicine, neuroimaging, and cardiac imaging. The Mobile MIM™ app was the first medical app on Apple's App store, with good reason! The Mobile MIM™ app is used for the viewing, registration, fusion, and display for diagnosis of medical images from the following modalities: SPECT, PET, CT, MRI, X-ray and Ultrasound. Mobile MIM™ provides wireless and portable access to medical images, enhancing physicians' access to images and allowing physicians to consult with peers.

- Available from MIM software

Fig 4: MIM app

3. BlueStar Diabetes App

The BlueStar Diabetes App, developed by WellDoc Inc., works by capturing blood-glucose information and providing real-time coaching. WellDoc's system analyzes the data and offers a personalised coach to help patients manage their medication and treatment with over 20,000+ automated coaching messages. Further support can be gained by submitting diabetes questions and getting answers from certified diabetes educators.

What's more is that the app organises the user's medications, sets reminders and provides healthy recipes, meal plans and lifestyle tips. The app can also be Synchronised with fitness trackers and paired with the OneTouch Verio Flex® meter to wirelessly transfer blood glucose results to the app.

- Downloads from Google Play: 10K+
- Rating on Google Play: 4.1
- Rating on App Store: 4.5
- Available from Google Play and App Store

Fig 5: Bluestar

Fitness Apps

Before we delve into all the great things about fitness apps, let's look at the history of this industry. When Google created its Google Health service in 2008, it seemed very promising. If it were launched today, it would probably gain popularity, but back in the day it was so unpopular that the company was forced to abandon the project in 2011. Why did Google Health fail despite all the possibilities it presented?

Over the past few years, living a healthy lifestyle has become trendy. Nowadays, being healthy means being beautiful, successful, and fit. People are becoming increasingly aware of diseases caused by obesity and sedentary office work.

These and other health-related problems encourage millions of people around the world to do sports. That's why fitness app development is so popular today.

Another modern trend is of course the use of mobile apps – there are thousands of them for any possible aspect of your life you can only imagine. Technology makes many things better and easier. Sports are no exception. Apps and smartphones have become a huge part of today's sports culture, and wearables are making a great impact as well, gaining more and more popularity each year.

4. Workout and Exercise Apps

Fig 6: Workout monitoring app

Workout apps allow users to track their progress and get information on how to perform exercises correctly

Workout apps is the broadest category in our list. As the name implies, they are focused on workouts. Its main purpose is to show users what exercises to do and explain exactly how to do them.

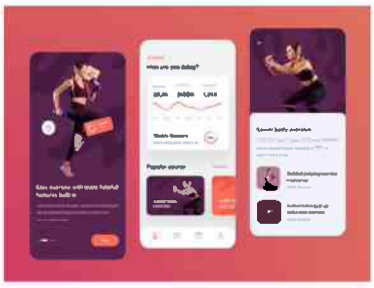

Fig 7: Health Monitoring App

5. Nutrition Apps

Fig 8: Nutrition Apps

Nutrition apps help count calories and find healthy recepies

These applications help users control their weight by counting calories consumed and burned, controlling water balance, and encouraging healthy eating habits. They can also help to track how much coffee they drink and keep body fat body fat weight and percentage in control. Setting personal goals is the main focus of such apps. If a person has hard time sticking to healthy nutrition, the app will help to create grocery shopping lists, and even collect healthy food recipes!

Among the best applications of this kind are HealthyOut, Calorie Counter & Food Diary, and MyPlate Calories Tracker.

6. Activity Tracking Apps

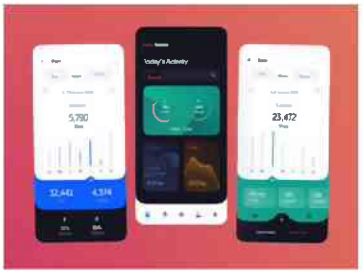

Fig 9: Activity Tracking Apps

Activity tracking apps are often paired with wearables

Activity tracking apps are suitable even for people who don't go to gym or not fond of sports, but still want to make sure they move enough. Such applications can count the number of steps and count calories. With geolocation, they can track distance walked.

One of the most interesting features here is sleep quality estimation and smart alarm clocks that wake users up during the REM sleep phase, making users wake up quickly and easily. Many activity tracking applications can be paired with wearables, though if a user doesn't have one the smartphone's capabilities are enough to gather data just as well.

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3. Predicting from Data Science the No. of People Affected

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Abstract

Prediction of the elements of new SARS-CoV-2 diseases during the ebb and flow COVID-19 pandemic is basic for general wellbeing, arranging of productive medical services portions and observing the impacts of strategy intercessions. We depict another methodology that conjectures the quantity of episode cases soon given previous events utilizing just few suppositions.

Our method for managing measuring future COVID-19 cases incorporates

1. **Displaying the noticed rate cases involving a Poisson conveyance for the day by day frequency the Poisson dispersion for the day by day occurrence issues, and the Gamma circulation for the series spans;**
2. **Assessing the compelling generation number accepting its worth stays steady during a brief time frame stretch; and**
3. **Drawing future occurrence cases from their back appropriations, expecting that the current transmission rate will remain something similar, or change by a specific degree.**

We apply our technique to anticipating the quantity of new COVID-19 cases in a solitary state in the U.S. also for a subset of areas inside the state to exhibit the utility of this strategy at different sizes of forecast. Our strategy delivers sensibly exact outcomes when the successful multiplication number is dispersed in basically the same manner in the future as before. Enormous deviations from the anticipated outcomes can suggest that an adjustment of strategy or a few different variables have happened that have significantly modified the illness transmission after some time.

We introduced a demonstrating approach that we accept can be handily taken on by others, and promptly valuable for neighborhood or state arranging.

Keywords: Prediction, covid, technique, deviations, future.

I. Introduction

Globally, the World Health Organization actually declared SARS-CoV-2 2019 a pandemic. All around the world, broadly, and at each sub-administrative level, there is a need to screen the current caseload and task the rate and nature of the spread to direct general wellbeing mindfulness, readiness, and reaction. c wellbeing mindfulness, readiness, and reaction. Networks are confronted with many major problems including the inventory of individual defensive gear, a talented medical care labor force, just as WHO it is feasible to offset prohibited practices with a cutoff on the quantity of cases for a clever irresistible sickness.

II. Data Analytics

Utilizing information investigation, you can find connections, patterns, and the quantity of information examination instruments is enormous. The quantity of information examination instruments is enormous. Among these instruments, the neural organization is the best apparatus for revealing the connection between a result (i.e., respo. This proficiency has been applied in taking care of various applications, incorporating stock value gauging in the monetary business, flight postpone expectation in the aeronautics business, organ forecast in the medical care area, and request determination in the rail route industry.

These past investigations uncover the significance of information past examinations show for purposes. This spurs analysts to embrace information investigation in the space of COVID-19. For instance, Chen et al. used information investigation to anticipate the quantity of COVID-19 cases to ease the mind-boggling clinic limit in Taiwan. The trap of this exploration work is that it has just centered around authentic information of the quantity of COVID-19 cases while thinking about a predetermined number of variables, similar to travel and occupation.

Another examination work by Zhou et al. coupled Geographic data framework (GIS) and information investigation together to distinguish the disease organization of COVID-19. Moreover, AI and man-made reasoning instruments have been used by many examinations to foster COVID-19 forecast draws near. Wieczorek et al. have fostered a gauging model for COVID-19 new cases dependent on the profound design of the Neural Network utilizing the NAdam preparing model. Notwithstanding, the entanglement of this review is the emphasis on

one dataset, called all out number of affirmed COVID-19 cases, while disregarding numerous different variables. Magesh et al. have proposed an AI-based calculation for anticipating COVID-19 cases utilizing a half breed Recurrent Neural Network (RNN) with a Long Short-Term Memory (LSTM) model. The creators have led their examinations while considering a few segment factors like sex, age, and temperature. Without a doubt, numerous other social elements were not considered in their model.

Pinter et al. have fostered a mixture AI way to deal with figure COVID-19 cases in Hungary. The proposed crossover approach includes the versatile organization based fluffy induction framework and multifaceted perceptron-settler serious calculation. An AI based methodology for anticipating COVID-19 new cases has been proposed in the concentrate by Tuli et al, who have involved an iterative weighting for fitting Generalized Inverse Weibull circulation. For broad review and more insights concerning the determining approaches for COVID-19, the intrigued perusers are alluded to the work by Bragazzi et al. who have investigated the possibilities of applying counterfeit wise and large information based methodologies in foreseeing and dealing with the COVID-19 Pandemic episode.

These past examinations show effective use of information investigation in various regions. Thus, it is sensible to utilize information investigation in this review.

III. Research Gaps and Contribution

An exhaustive assessment of the writing uncovers a few perceptions, which can be laid out as follows. To start with, there is no past concentrate on that all the while considers the verifiable information of the quantity of COVID-19 cases and a large portion of the outer elements that influence the spread of the infection. Also, there is no exploration work that gives future expectation of the quantity of COVID-19 cases utilizing information examination methods.

In this manner, endeavors of the public authority to further develop the medical services framework in the impacted nations are incredibly hampered. Thus, in this examination work, we have attempted to fill this hole by proposing an information investigation calculation, where all the previously mentioned highlights can be at the same time considered.

This paper has the accompanying commitments. First and foremost, rather than the current methodology, which just spotlights the authentic information of people contaminated with COVID-19, we propose a stronger methodology. Our methodology at the same time

considers the verifiable information of COVID-19 cases close to a large portion of the outer variables that influence the spread of the infection. These outer variables incorporate populace, middle age list, public and private medical services use, air quality as a CO2 pattern, irregularity as month of information assortment, number of appearances in the nation/domain, and schooling record.

To consider that large number of colossal quantities of components, we encourage a nonlinear autoregressive exogenous data (NARX) neural association based computation. This calculation is created on the grounds that it is the most fitting one to deal with time sensitive elements, similar to the quantity of COVID-19 cases. In addition, NARX calculations have been effectively applied in various examination regions, as displayed in Section 2.3.

Second, rather than foreseeing the quantity of COVID-19 cases in a couple of nations, we use our calculation to anticipate the quantity of COVID-19 in different nations, remembering the top five impacted nations for every mainland. This is useful as it gives wide information about the spread of COVID-19 in different locales of the planet.

Taking everything into account, it has been found in the composing that most assessment papers have not given future assumption for the amount of COVID-19 cases.

Instead of these past research papers, we utilize the prepared information delivered from our calculation to make future expectations of the quantity of COVID-19 cases. By utilizing such expectations, both the public authority and individuals in the impacted nations can go to proper lengths to continue pre-scourge exercises.

IV. Application to COVID-19 data Sets

We at first told the best way to include our methods for expecting COVID-19 cases in Texas, an enormous and various state in the US with a population size of around 29 million. We use data from the COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. As of November 15, 2020, the absolute number of detailed cases was 1,059,753, relating to an assault pace of 38·0 per 1,000 individuals.

We stress the significance of seeing how the case reports can be affected by managerial issues, and the need to change our model in a similar manner. For instance, on September 21, 2020 there was a revealed 14,129 cases for Harris area because of handling of accumulated information on that day. This counterfeit spike would impact the gauge of Re, and subsequently, the expectation going ahead. Hence, we reassigned those cases from Harris region as per the

accompanying guideline: We initially credited the quantity of cases on that day involving the normal number of cases in the seven days. Then, at that point, we equitably spread the additional cases over the past 31 days including that list day of September 21.

The altered series would be treated as the noticed series in our ensuing displaying examination. One more alteration we made was to smooth the information series. Because of the great changeability of the day by day cases, and the way that there was regularly a deferral in announcing particularly during the end of the week, we smoothed the information utilizing the accompanying calculation, like Sun et al.

V. Conclusion

In rundown, we introduced a demonstrating approach that we accept can be effortlessly taken on by others, and promptly valuable for nearby or state arranging. Though numerous at first downplayed the somewhat long aftereffects of COVID-19, it is presently certain that new floods are showing up in the US just as all around the world, and that the pandemic spread is probably going to keep going for one more little while. Subsequently, general wellbeing and legislative reactions should be directed by information that pinpoint where, when, and among whom the new cases are happening.

This data can assist with directing general wellbeing information just as the nature and level of government reactions to ordering general wellbeing practices or controlling business activities to restrict spread. Opportune projections with respect to case counts are basic to making arrangements for medical services assets and guaranteeing accessible consideration and most ideal results for populaces confronting the vulnerability of a quickly arising irresistible sickness during a pandemic reaction.

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4. Concept of Work from Home

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Abstract

The conclusion of work and homegrown work brought about by the newfound Coronavirus an affects all areas of the economy, including government, businesses and laborers. In the consequence of the scourge, the universe of work halted as Government, Employers, and laborers started to cooperate to stem the tide of this infection and to guarantee proceeded with work. Considering that Covid-19 is profoundly infectious, the Department of Business Affairs encourages all organizations to carry out WFH strategies to diminish the spread of the illness. To work with a smooth change from office work to useful association, bosses have started to offer representatives the chance to telecommute in those endeavors. Since the nation was put on lockdown over four months prior, it is sensible to expect that WFH will make due. In the repercussions of the unrest and change of the beyond couple of months, EFI is focused on working on co-activity, correspondence, and giving counsel and help to its individuals at all levels with the goal that we can arise monetarily more grounded than at any other time.

Telecommuting isn't new. A great many people worked at home during the Industrial Revolution - in agribusiness, as talented craftsmans, or as family supervisors. The development of the manufacturing plant framework, and later the workplace, prompted a notable change in the focal workplace. A significant fall in the expense of moving individuals from home to and from work, by bike, train, cable car, vehicle and transport. This forms our urban areas, local area and day to day life. As of late, innovation has made some amazing progress. In any case, the expense of correspondence is a lot of lower when you are away, notwithstanding the decrease in movement costs. The COVID-19 plague, notwithstanding, has ended up being disagreeable at significant distances. Subsequent to being compelled to attempt to telecommute, many organizations and representatives altered their perspectives - they turned out to be more hopeful with regards

to the chance and advantages of long haul work. It has become normal for individuals to telecommute, which won't work. The report analyzes the job of obligatory testing because of the pandemic. This report features the significance of ceaseless testing and variety, with various firms attempting various models, some will work and some won't work. accentuating As firms and representatives become better at dealing with the work far and observing the right equilibrium, there will be further learning.

Keywords: Work at home, covid, lockdown, transition, central workspace.

I. Introduction

An ever increasing number of individuals currently have a solid home web association, more positions need to utilize PCs and broadcast communications, and more families have the two guardians working all day, making Working From Home [WFH] more normal. After the Covid-19 scourge, an enormous piece of the worldwide labor force had to change to WFH, briefly. By diminishing drive time, giving greater adaptability, expanding work fulfillment, and further developing the functioning life balance over Office Work [WFO], WFH is superior to WFO.

An Asian IT organization is being explored by this review on the impacts of WFH. Because of the March 2020 pestilence, all laborers were out of nowhere moved from WFO to WFH. Our exploration has a few books with fascinating elements.

II. What is WFH (Homework)

In light of the phenomenal Covid-19 calamity, bosses and workers make them comprehend of WFH; be that as it may, suppositions differ broadly. WFH additionally doesn't have a solitary importance in instructive circles. There are huge contrasts among WFH and Telework, notwithstanding the way that the two terms are regularly conversely utilized. Since WFH consolidates business related work with schoolwork, Telework can be alluded to as a subset of WFH.

Schoolwork is one more method of getting sorted out positions, described by locally situated representatives (away from the normal office or production line) and admittance to their schoolwork expertly. (Nilles, 1997; Perez et al., 2003). It offers an option in contrast to the standard method of working low maintenance or longer.

In spite of its present prevalence, WFH is certainly not another idea, particularly after the beginning of the current pandemic. There is a continuous change in the realm of work. The work

interaction can be changed and brought to a structural shift in the event that there are occasional factors. The Industrial Revolution was one such event. Work was typically privately-owned company and was for the most part done at home before the Industrial Revolution. All through India, handiworks, jewelery, ivory carvings, wood carvings, stone carvings, and flavor creation are all privately-owned company.

During the Industrial Revolution, creation moved from lodging to manufacturing plants, and laborers moved from their homes to production lines. The present circumstance went on for over 200 years. The snapshot of water in the realm of work happens during the presentation of Information and Communication Technology (ICT) and is generally utilized. Individuals began getting back to work at home and after the Industrial Revolution thus.

III. Benefits of Work from Home

A few organizations had some information before the pestilence, before many had to make WFH ill-equipped. Many help based organizations, particularly the IT and programming areas, have as of now utilized this methodology, including Tata Consultancy Services (TCS), Infosys, IBM, and Cognizant, for instance. Notwithstanding, they were not viewed as a representative's right, however as a right allowed under reasonable conditions to workers whose commitments were sensible under the plan.

Many examinations has shown that telecommuting can help workers, bosses and to the general public overall (Perez et al., 2003; Buciuniene et al, 20o1).

Benefit for Managers

- WFH can further develop efficiency over traditional working styles (Fonner)
- Furthermore Roloff, 2010; Golden and Veiga, 2008; Bloom et al 2014)
- Decrease in turnover rate (Stavrou et al, 2010; Bloom et al 2014)
- Decrease in hierarchical expense (Choudhury et al., 2018)
- The WFH will actually want to employ from a more extensive ability pool as it won't be obliged by topography
- Geographic molding.
- Should some undesired occasion happen, for example, a characteristic cataclysm, an appropriated labor force could help
- Guarantees coherence in activity and subsequently diminishes the dangers.

Benefit for Representatives

- Driving time is diminished: This is especially significant for Indians
- Setting as its kin spend on normal 7% of the day in commuting2 (Tremblay and
- Thomsin, 2012);
- Decreased travel and other related expenses (Morgan, 2004)
- Representative feelings of anxiety are lower, and there is a superior harmony among work and individual life (Fonner and Roloff,
- 2010; Bloom et al 2014)
- Expanded independence for people (Harpaz, 2002)
- Expanded family and recreation time (Ammons and Markham, 2004; Johnson et al., 2007)
- Expanded work fulfillment (Gurstein, 2001; Pratt, 1999)
- Less diverted by associates (Golden and Veiga, 2008)

IV. Concern Associated with WFH

During seasons of pandemic, WFH has become progressively well known and furthermore seen by numerous individuals as an advantageous program long haul option in contrast to the customary method of taking care of business. Nonetheless, there can be various entanglements related with it. Nicholas Bloom, a senior individual at the Stanford Institute for Economic Policy Research (SIEPR), has cautioned the world that "This will make an efficiency calamity for firms"5. According to him, WFH needs to have specific essential requirements and vital conditions to make it powerful and effective. There will be difficulties at the two finishes.

V. Conclusion

The accomplishment of WFH will generally be reliant upon the cooperation of various partners. Managers need to characterize clear destinations and anticipated results from representatives. They should likewise plan suitable arrangements to do them. Distributed computing, mechanization, and cooperative instruments will be needed because of remote working. It is fundamental for keep representatives propelled and enthused to accomplish this future together. In that capacity, enrollment practices, prizes and acknowledgment strategies, commitment drives, leave processes, and other various cycles might should be changed and adjusted. Workers must be more proactive than any time in recent memory to convey in this course of action in light of the fact that the ability pool in WFH will be massively enormous,

fluctuated and incredibly serious. To wrap things up, the public authority can assume a significant part by giving arrangements helpful for WFH and by working with framework the nation over.

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5. Study Paper on the Basics of Artificial Intelligence

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Abstract

Research in AI has built upon the tools and techniques of many different disciplines, including formal logic, probability theory, decision theory, management science, linguistics and philosophy. However, the application of these disciplines in AI has necessitated the development of many enhancements and extensions. Among the most powerful of these are the methods of computational logic.

I will argue that computational logic, embedded in an agent cycle, combines and improves upon both traditional logic and classical decision theory. I will also argue that many of its methods can be used, not only in AI, but also in ordinary life, to help people improve their own human intelligence without the assistance of computers.

1. Introduction

Computational logic, like other kinds of logic, comes in many forms. In this paper, I will focus on the abductive logic programming (ALP)form of computational logic.

I will argue that the ALP agent model, which embeds ALP in an agent cycle, is a powerful model of both descriptive and normative thinking. As a descriptive model, it includes production systems as a special case; and as a normative model, it includes classical logic and is compatible with classical decision theory.

These descriptive and normative properties of the ALP agent model make it a dual process theory, which combines both intuitive and deliberative thinking. Like most theories, dual process theories also come in many forms. put it, intuitive thinking "quickly proposes intuitive answers to judgement problems as they arise", while deliberative thinking "monitors the quality of these proposals, which it may endorse, correct, or override".[1]

In this paper, I will be concerned mainly with the normative features of the ALP agent model, and on ways in which it can help us to improve our own human thinking and behavior. I will focus, in particular, on ways it can help us both to communicate more effectively with other people and to make better decisions in our lives. I will argue that it pro-vides a theoretical underpinning both for such guidelines on English writing styles

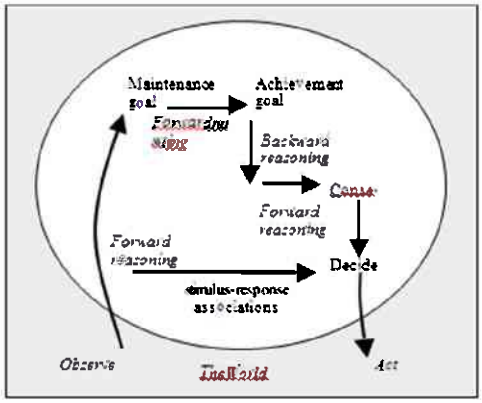


Figure1.The basic AL Pagent cycle

2. A Brief Introduction to ALP Agents

The ALP agent model can be viewed as a variant of the BDI model, in which agents use their beliefs to satisfy their de-sires by generating intentions, which are selected plans of actions. In ALP agents, beliefs and desires (or goals) are both represented as conditionals in the clausal form of logic. Beliefs are represented as logic programming clauses, and goals are represented as more general clauses, with the ex-pressive power of full first-order logic (FOL). For example, the first sentence below expresses a goal, and the other four sentences express beliefs:[5]

If there is an emergency then I deal with it myself or I get help or I escape. There is an emergency if there isa fire.

I get help if I am on a train

And I alert he driver of the train.

I alert the driver of the train if I am on a train and

I press the alarm button. I am on a train.

In this paper, goals are written conditions first, because, like production rules, they are always used to reason forwards. Beliefs are usually written conclusion first, because, like logic programs, they are usually used to reason backwards. But beliefs are sometimes written conditions first, because in ALP they can be used to reason backwards or forwards. In the

semantics, it does not matter whether conditionals of any kind are written forwards or backwards.

2.1 Model-theoretic and Operational Semantics

Informally speaking, in the semantics of ALP agents, beliefs describe the world as the agent sees it, and goals describe the world as the agent would like it to be. In deductive data-bases, beliefs represent the data, and goals represent data-base queries and integrity constraints.

In the operational semantics, ALP agents reason forwards from observations, and forwards and backwards from beliefs, to determine whether some instance of the conditions of a goal is *true*, and to derive the corresponding instance of the conclusion of the goal as an *achievement goal*, to make *true*. Forward reasoning from observations is like forward chaining in production systems, but it has the semantics of aiming to make the goal *true* by making its conclusion true whenever its conditions become true. Conditional goals understood in this way are also called *maintenance goals*.[2]

Achievement goals are solved by reasoning backwards, searching for a plan of actions whose execution solves the goals. Backwards reasoning is a form of goal-reduction, and executable actions area special case of atomic sub-goals.

Suppose, for example, that *I observe there is a fire*. I can then reason with the goal and beliefs given above, concluding by forward reasoning that *there is an emergency*, and deriving the achievement goal *I deal with it myself or I get help or I escape*. These three alternatives represent an initial search space. I can solve the achievement goal by reasoning backward, reducing the goal I get help to the consecutive sub-goals *I alert the driver of the train* and I *press the alarm button*. If this last sub-goal is an atomic action, then it can be executed directly. If the action succeeds, then it makes the achievement goal and this instance of the maintenance goal both *true*.

In the model-theoretic semantics, the agent needs to generate, not only actions, but also assumptions about the world. These assumptions explain the use of the *term ab-duction* in ALP. Abduction is the generation of assumptions □ to explain observations O. For example, if instead of observing fire, I observe *there is smoke,* and I believe*: there is smoke if there is a fire.*

Then backwards reasoning from the observation generates an assumption that *there is a fire*. Forward and backward reasoning then continue as before

In the model-theoretic and operational semantics, observations O and goals G are treated similarly, by reasoning forwards and backwards to generate actions and other assumptions, to make G O true in them in model of the world determined by B. In the example above, given O={there is smoke}, then□={there is a fire, I press the alarm button} together with B makes G and O both true.Theoperationalsemanticsissoundwithrespecttothemodel-theoreticsemantics. Withmodestassumptions,it is also complete.

2.2 Choosing the Best Solution

There can be several, alternative that, together with *B,* make *G* and *O* both *true.* These □can have different values, and the challenge for an intelligent agent is to find the best □possible within the computational resources available.

In classical decision theory, the value of an action is measured by the expected utility of its consequences. In the philosophy of science, the value of an explanation is measured similarly in terms of its probability and explanatory power. (The more observations explained the better.)

In ALP agents, the same measures can be used to evaluate both candidate actions and candidate explanations. In both cases, candidate assumptions in □are evaluated by reasoning forwards to generate consequences of the assumptions.[4]

In ALP agents, the task of finding the best is incorporated into the search strategy for reasoning backwards to generate, using some form of best-first search, like A* or branch and-bound. This task is analogous to the much simpler problem of conflict resolution in production systems.

Conventional production systems avoid complex decision-theory and abductive reasoning mainly by compiling higher-level goals, beliefsanddecisionsintolower-levelheuristicsandstimulus -responseassociations. For example

if there is smoke and I am on a train then I press the alarm button.

In ALP agents, such lower-level rules and higher-level thinking and decision-making can be combined, as in dual process theories, to get the best of both worlds.

Like BDI agents, ALP agents interleave thinking with observing and acting, and do not need to construct complete plans before starting to act. However, whereas most BDI agents select and commit to a single plan at a time, ALP agents select and commit only to individual actions.

Unlike most BDI agents, ALP agents can interleave the pursuit of several alternative plans, to improve the chances of success. For example, in an emergency an agent can both press the alarm button and try to escape more or less at the same time. Whether an ALP agent works on one plan or several alternative plans at a time depends on the search strategy. Depth-first search works on one plan at a time, but other search strategies are often more desirable.

The ALP agent model can be used to develop artificial agents, but it can also be used as a descriptive model of hu-man thinking and deciding. However, in the remainder of this paper I will argue that it can also be used as a normative (or prescriptive) model, which combines and improves upon both traditional logic and classical decision theory.

3. Clausal Logic as an Agent's LOT

In the philosophy of language, there are three main schools of thought regarding the relationship between language and thought:

- The LOT is a private, language-like representation, which is independent of public, natural languages.
- The LOT is a form of public language; and the natural language that we speak influences the way that we think.
- Human thinking does not have a language-like structure.

The ALP agent model belongs to the first school of thought, opposes the second school, but is compatible with the third. It opposes the second school, partly because the ALP logical model of thinking does not require the existence of natural languages and partly because, by AI standards, natural language is too ambiguous and incoherent to serve as a useful model of human thinking. But it supports the third school, because, as we will see in section 4, it has a connection is t implementation, which conceals its linguistic nature.[6]

In AI, the notion that some form of logic is an agent's LOT is strongly associated with GOFAI (good old-fashioned AI), which has been partly overshadowed in recent years by connectionist and Bayesian approaches. I will argue that the ALP model of thinking potentially reconciles the conflict between logic, connection is mand Bayesian approaches. This is because the clausal logic of ALP is much simpler than standard FOL, has a connectionist implementation that accommodates Bayesian probability, and bears a similar relationship to standard FOL as the LOT bears to natural language.

The first step of the argument is based on relevance, which maintains that people understand natural language by attempting to extract the most information for the least processing cost. It follows, as a corollary of the theory, that, the closer a communication is to its intended meaning, the easier it is for a reader (or listener) to extract that meaning of the communication.

Thus one way to determine whether there is a LOT, and what it might look like, is to look at situations where it can be a matter of life or death that readers understand a communication as intended and with as little effort as possible. We will see that, in the case of the London underground Emergency Notice, the communication is easy to understandbe cause its English sentencesarestructuredexplicitlyorimplicitly as logical conditionals.

3.1 What to do in an Emergency

- Press the alarm signal button to alert the driver.
- The driver will stop if any part of the train is in a station. If not, the train will continue to the next station,
- Where help can more easily be given.
- Thereisa50poundpenaltyforimproperuse.[9]

The first sentence is a goal reduction procedure, whose underlying logic is a logic programming clause

The driver is alerted

If you press the alarm signal button.

These cond sentence is explicitly in logic programming clausal form, but is ambiguous; and one of its conditions has been omitted. Arguably, its intended meaning is

the driver will stop the train in a station if the driver is alerted

and any part of the train is in the station.

The logic of the third sentence is two sentences, say

the driver will stop the train in the next station if the driver is alerted

and not any part of the train is in a station.

help can more easily be given in an emergency if the train is in a station.

Presumably, the relative clause beginning with where adds an extra conclusion to the sentence rather than an extra condition. If the relative clause were meant to add an extra

condition, then this would mean that the driver will not necessarily stop the train at the next station, but at the next station where help can more easily begiven.

Arguably, the Emergency Notice is relatively easy to under-stand, because its expression is relatively close to its in-tended meaning in the LOT. Moreover, it is coherent, be-cause the consecutive sentences are logically connected both with one another and with the reader's likely preexisting goals and beliefs about what to do in an emergency.

One reason the English sentences are not closer to their intended meaning is because omitting conditions and other detail sometimes promotes coherence. emphasizes another way of achieving coherence: by placing old, familiar ideas at the beginning of sentences and new ideas at their end. In a succession of sentences, a new idea at the end of one sentence becomes an old idea that can be put at the beginning of the next sentence.[8]

The first three sentences of the Emergency Notice illustrate Williams' advice. Here is another example, which incidentally illustrates the kind of reasoning that is catered for in the ALP agent model:

- *It is raining.*
- *If it is raining and you go out without an umbrella, then you will get wet.*
- *If you get wet, then you may catch a cold .If you catch a cold, then you will be sorry. You don't want to be sorry.*
- *So you donot want to go out without an umbrella.*

3.2 Natural Language and the LOT

In contrast with the problem of understanding communications that are designed to be as clear and coherent as possible, the problem of understanding ordinary, every-day natural language communications is much harder. This harder problem has two parts. The first part is to identify the in-tended meaning of the communication. For example, to understand the ambiguous English sentence "he gave her the book "it is necessary to identify the individuals, say John and Mary, referred to by "he" and "her".

The second part is to represent the intended meaning in a canonical form, so that equivalent communications are rep-resented in the same way. For example, the following English sentences all have the same meaning:

John gave Mary the book. John gave the book to Mary.

Mary received the book from John. The book was given to Mary by John.

The use of a canonical form in a mental representation makes it easier to reason with the representation later. In this case, the common meaning of the different sentences could be represented either in the logical form give(*john, mary, book*)or in the more precise form:

event(e1000). act(e1000,giving).agent(e1000,john).Recipient(e1000,

mary).object(e1000,book21). Isa (book21, book).

The more precise form is one way of distinguishing between similar events and similar books.

It follows from the tenets of relevance theory that, if you want your communications to be easy to understand, then you should express them in a form that is close to their mental representations. They should be clear, so that extracting their meaning is easy, and they should be simple, so that their meaning is close to the canonical form in which they are represented.

For example, don't say "Every bird which belongs to class aves has feathers ".But say:

Every Bird has Feathers

every bird belongs to class aves.

Or

a bird has feathers if the bird belongs to class aves.

Depending on what you mean. In written English, the different meanings can be signaled by the presence or absence of commas before and after the relative clause beginning with the word "which". In clausal logic, they are represented by the difference between conclusions and conditions.

Examples such as these suggest that the difference and the relationship between conditions and conclusions are a fundamental feature of the LOT, and they add further support to the thesis that something like the conditional form of clausal logic is a plausible candidate for the LOT.[10]

3.3 Standard FOL and Clausal Logic

Various forms of logic have been used for knowledge representation in AI, and rival clausal logic as a candidate for the LOT. But compared with standard FOL, not only does clausal logic stand out because of its simple, conditional form, but it is just as powerful. It compensates for the lack of explicit existential quantifiers by employing Skolemization to give individuals that are supposed to exist a name, like the names e1000 and book21 above. In another respect, it

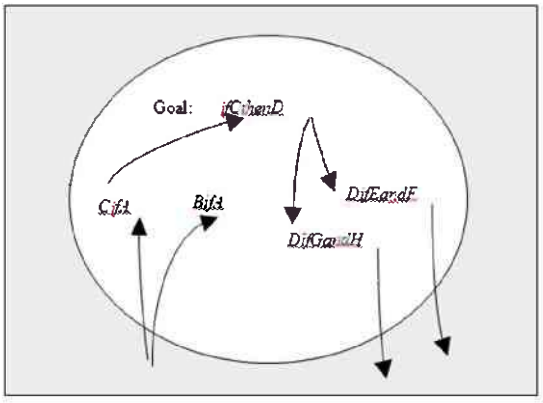
is also more powerful than FOL, when it is used in con-junction with the minimal model semantics.

Reasoning is also much simpler in clausal logic than in standard FOL, and for the most part can be reduced to just forward and backward reasoning. In conjunction with the minimal model semantics, reasoning in clausal logic also includes default reasoning with negation as failure.

Arguably, the relationship between standard FOLandclausal form is similar to the relationship between natural language and the LOT. In both cases, inferences can be partitioned into two kinds, performed in two stages. The first kind converts sentences into canonical form, and the second kind reasons with the resulting canonical form.

In FOL, the first kind of inference rule (including both Skolemization and the replacement of not(A or B) by not A and not) can be viewed as converting sentences into clausal form. The second kind (including the inference of P(t) from XP(X)) can be viewed as reasoning with clausal form, and is built into forward and backward reasoning.

As we have seen, in natural language, there are many ways of expressing the same information. Similarly in FOL,there are infinitely many, arbitrarily complex ways of ex-pressing information equivalently. Forexample ,to express that all bird shavefeather sandjohnisa bird,wecanwrite,notonly*X(bird(X)□feathers(X))□bird(john).butalso:*
¬(∃X((¬feathers(X)□¬bird(john))□(bird(X)□¬bird(john)))).



In clausal form there is only one way of expressing the same information canonically, in this example in the form of two clauses: feathers(X) ifbird(X)and bird(john).

Thus clausal logic stands in relation to standard FOL, as the LOT stands in relation to natural language. In the same way that the LOT can be regarded as a simplified and canonical

form of unambiguous sentences in natural language, clausal logic is a simplified, canonical form of FOL. This analogy further supports the argument for viewing clausal logic as a formalisation of the LOT.[6]

Certainly in the case of artificial agents in AI ,clausal logic has proved to be a practical knowledge representationlanguage,independentfromanylanguageanagentmightuse for communicating with other agents. In the case of human agents, clausal logic can also help people communicate more effectively, by expressing their communications in a form that is closer to the LOT.

Clausal logic can help people communicate more coherently, by helping them to link new information with old information. This model of coherence exploits the fact that clausal logic lends itself to a connectionist representation, in which information is stored in a connection graph of goals and beliefs

4. A Connectionist Form of Clausal Logic

Similar to the way that clausal logic implements FOL, by first converting sentences into canonical form, the connection graph proof procedure implements clausal logic, by pre-computing links between conditions and conclusions, and by labeling links with their unifying substitutions. These links can then be activated later, either forwards or back-wards, as and when the need arises. Links that are activated frequently can be compiled into shortcuts, which achieve the same effects more directly, in the manner of heuristic rules and stimulus-response associations.

Although clausal logic is a symbolic representation, once all the links and their unifying substitutions have been computed, the names of the predicate symbols no longer matter. All further reasoning can be reduced to the activation of the links, and to the generation of new clauses, whose new links are inherited from the links of their parent clauses. In many cases, parent clauses can be deleted or over-written, when all their link shave been activated.[11]

Any link can be selected for activation at any time. But most of the time, it makes sense to activate links only when new clauses are added to the graph as the result of new observations, including observations of communications. The activation of links can be guided by assigning different strengths to different observations and goals, reflecting their relative importance (or utility). In addition, different weights can be assigned to different links, reflecting statistical information about how often their activation has con-tributed to useful outcomes in the past.

Figure 2. A simplified connection graph of goals and beliefs.No-tice that only A, F and H are "grounded" in the world. B, C and Dare mental concepts that help the agent organize its thoughts and regulate its behaviour. The status of E and G is unspecified. Noticetoo that the same effect can be obtained more directly by means of the lower-level goalifAthen*((EandF)or (GandH))*.

The strength of observations and goals can be propagated throughout the graph in proportion to the weights on the links. The resulting proof procedure, which activates links with the current highest weighted strength, is similar to the activation networks of [Maes, 1990]. Moreover, it automatically implements an ALP style of forward and backward reasoning, combined with a form of best-first search.

The connection graph model of thinking can give the mis-leading impression that thinking does not have a linguistic or logical character at all. But the difference between thinking in connection graphs and reasoning in clausal logic is nothing other than the conventional computer science distinction between an optimized, low-level implementation, which is close to the hardware, and a high-level representation, which is close to the problem domain.[7]

The connection graph model of the mind adds further support to the argument that thinking takes place in a LOT that is independent from natural language. The LOT may facilitate the development of natural language, but it does not depend upon its prior existence.

5. Representing Uncertainty

The links in connection graphs include internal links, which organize the agent's thoughts, and external links, which ground the agent's thoughts in reality. The external links are activated by observations and by the agent's own actions. They may also include links to unobserved properties of the world. The agent can make assumptions about these proper-ties, and can attempt to judge their probabilities.

The probability that an assumption is true contributes to the probability that an agent's actions will have a particular outcome. For example:

You will be rich if you buy a lottery ticket and your number is chosen.

It will rain if you do a rain dance and the gods are pleased.

You can control your own actions (like buying a ticket or doing a rain dance), but you cannot always control the actions of others or the state of the world (your number is chosenorthegods are pleased).At best, you might be able only to judge the probability that the

world is or will be in a particular state (one in a million?). David Poole [1997] has shown that associating probabilities with such assumptions gives ALP the expressive power of Bayesian networks.[5]

6. Better Decision-Making

Uncertainty about the state of the world is only one of the complications contributing to the problem of deciding what to do. To reduce this complexity, classical decision theory makes simplifying assumptions. The most restrictive of these is the assumption that all of the alternatives to be decided between are given in advance. For example, if you are looking for a new job, it would assume that all of the job options are given, and it would focus on the problem of deciding which of the given options is most likely to result in the best outcome.

Other decision analysts point out, this assumption is not only unrealistic as a descriptive model of human decision making, but it is unhelpful as a normative(or prescriptive) model: To make a good decision between alternatives, it is necessary first to establish the goals (or problem) that motivate the alternatives. These goals might come from explicitly represented maintenance goals or they might be hidden implicitly in lower-level heuristic rules or stimulus-response associations.

For example, you might receive an offer of a new job when you are not looking for one, and you may be tempted to limit your options simply to deciding between accepting or rejecting the offer. But if you step back and think about the broader context of your goals, then you might generate other alternatives, like perhaps using the job offer to negotiate an improvement in your current employment.

Decision analysis provides informal strategies for making better choices by paying greater attention to the goals that motivate the alternatives. The ALP agent model provides a simple framework, which can help to formalize such strategies, by integrating them with a comprehensive model of human thinking. In particular, it shows how the same criteria of expected utility, which are used in classical decision theory to choose between alternatives, can also be used to guide the search for alternatives in some form of best-first search.

7. Conclusions

I have sketched two ways in which the ALP agent model, building upon many different developments in Artificial Intelligence, can be used by ordinary people to improve their own human intelligence. It can help them express their thoughts more clearly and coherently, and it

can help them make better choices. I believe that the application of such techniques is a fruitful direction of research for the future, and a promising area for collaboration between researchers in AI and researchers in more humanistic disciplines.

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6. Role of Ai in Teaching in Pandemic

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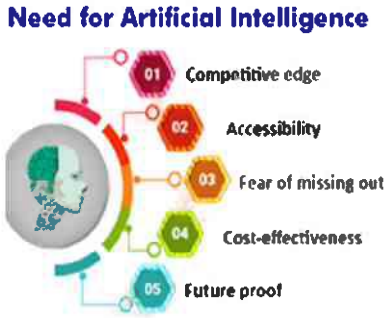
Abstract

Artificial intelligence (AI) refers to what information about the language structure being transmitted to the machine: It should result in a more intuitive and faster solution, based on a learning algorithm that repeats patterns in new data. Good results are obtained in imitating the cognitive process whose several layers of densely connected biological subsystems are invariant to many input transformations. This invariant so sought after by AI and cognitive computing is in the universal structure of language, provider of the universal language algorithm. The representation property to improve machine learning (ML) generalizes the execution of a set of underlying variation factors that must be described in the form of other simpler underlying variation factors, preventing the "curse of dimensionality.

Keywords - Education, Environment, Information and Communication Technologies, Knowledge, Learning

Introduction

When one is conducting research and acquiring an understanding of the significance of ICT in education, it is necessary to understand its accurate meaning. ICT stands for information and communications technologies. These are the diverse set of technological tools and resources that are used to communicate, create, disseminate, store and manage information. Through expansion of ICT, the business environment gets permeated and the governments are provided with efficient infrastructure. Another aspect that highlights the significance of ICT is, it adds value to the learning processes and organization and administration of educational institutions. The internet is regarded as the powerful force that has rendered a significant contribution in promoting development and innovative practices.



Benefits of AI in Education

- Opportunity to see weaknesses. Different training courses allow seeing the gaps in students' knowledge. ...
- Better engagement. ...
- Curriculum automatic creating. ...
- Opportunity to find a good teacher.

Fig 1:Teaching and Learning

Teaching-Learning Processes of AI

This is shrinking age-old accessibility gaps and enabling tailormade learning experiences for different learners with varied needs. Artificial intelligence (AI), among many technological applications, has a big role in changing old trends in education space. Let's see.

Fig 2: Key Competences

Role of ICT in bringing about Changes in Learning

AI has already been applied to education primarily in some tools that help develop skills and testing systems. ... AI can drive efficiency, personalization and streamline admin tasks to allow teachers the time and freedom to provide understanding and adaptability—uniquely human capabilities where machines would strugglethis is one of the major disadvantages of distance learning.

Supporting Constructivist Learning

Piaget describes the "behaviour of the stick": the infant seeks to take possession of an object which is located out of arm's reach; the infant uses a stick as a tool to draw the object into the range of his arms, and then takes possession of it.

To keep things simple we can restrict our attention to the case where the infant is provided with the stick by an adult. In this case the infant typically becomes capable of the behaviour of the stick roughly between 12 and 18 months (Piaget's fifth sensorimotor substage).

Conclusion

AI is at the centre of a new enterprise to build computational models of intelligence. The main assumption is that intelligence (human or otherwise) can be represented in terms of symbol structures and symbolic operations which can be programmed in a digital computer.

There is much debate as to whether such an appropriately programmed computer would be a mind, or would merely simulate one, but AI researchers need not wait for the conclusion to that debate, nor for the hypothetical computer that could model all of human intelligence

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7. Role of Artificial Intelligence in E-Commerce during the Pandemic

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Abstract

With everyone at home during the quarantine period , the E-commerce industry has seen a substantial growth in their sales because they provide people the ability to purchase,sell and view products online from the comfort and safety of their homes. Artificial Intelligence or AI has played a major role in the success of the E-commerce industry, it has helped both the customers and the companies in countless ways through data tracking, analysing search patterns, making payments easier and in terms of saving time and money.

In this paper we will go through the various ways that artificial has helped the E-commerce Industry during the pandemic.

***Keywords*-Artificial Intelligence, E-commerce, data tracking, search patterns, pandemic.**

I. Introduction

Artificial intelligence (AI) makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks. Application of this Artificial Intelligence was a game-changing move for the E-commerce Industry. Using this technology, computers can be trained to complete several tasks by processing large amounts of data and recognizing patterns in the data. The E-commerce Industry used this technology to develop new and advanced algorithms for their software, websites and applications which have helped them save a lot of time, effort and money.

If it wasn't for this technology they wouldn't have been such a huge success. Multi-billion Dollar companies such as Amazon and Flipkart have deployed their own artificial intelligence to help their customers.

II. Applications of Artificial Intelligence

With the market wide open for Artificial Intelligence , the E-commerce Industry capitalised on this opportunity and used it to make their websites and applications more user friendly.

- **Chatbots -** Chatbots are computer programs that are designed with the specific intention of helping the user with their questions. E-commerce websites use these chatbots to improve their customer support services and save a lot of manpower in the process. Chatbots are available 24/7 for customer support. Chatbots are built using artificial intelligence and are able to communicate with humans. They can also collect your data and provide you with a much more personalised experience and give you a highly filtered result.
- **Image Search -** Every time you see an object or any product but are unaware of what it is or what it is called you use this feature. In this feature , Artificial Intelligence solves your problem with ease. Artificial Intelligence has made it possible to understand images. Users can scour through the website with the help of image search making their work much easier. Certain mobile applications are able to locate the product as soon as you point your camera at them. This eliminates the need for keyword searches.
- **Handling Customer Data -** Companies like Amazon produce 1,000,000,000 gigabytes of data across 1,400,000 servers everyday. It is humanly impossible for us to go through so much data to analyse data patterns which is where Artificial Intelligence steps in. Artificial Intelligence processes this data in a structured form and generates proper insights from the data it processes. Artificial Intelligence helps analyse the data patterns of the customers and provides an understanding of the customer's buying behaviours. It can predict the next purchase of the customer with the help of the data.
- **Recommendation Systems -** Whenever we shop online we get recommended products that we might like. This is done with the help of Artificial Intelligence. AI and machine learning algorithms predict the behaviour of the user and suggest products similar to what you checked out earlier or purchased. This saves you a lot of time in terms of endless searches for a particular product. AI generates a list of products which have items which you have shown interest in and recommends them to you. This helps their sales as well.

- **Inventory Management -** Inventory Management is a very important part of any business. It is important to know how much inventory you are currently holding and how much you will require. When the business is at a large scale it is not possible to keep track of the inventory and Artificial Intelligence finds a way to help you out there as well. Artificial Intelligence applications help provide you with an oversight of your inventory. It will soon be able to bridge the gap between current demands and future demands. Many companies have already implemented AI to help them manage their inventory.
- **Cybersecurity -** With the advancement of technology, cybersecurity has become a must. Since E-commerce websites receive so much customer data, they are targets for hacking. Artificial Intelligence solves a lot of cybersecurity problems by just preventing and detecting criminal activities. To avoid loss of private data like customer transactions and online frauds, Artificial Intelligence prevents the hackers from getting their hands on that information. It develops several algorithms that drastically reduces the chances of any illegal activities on the website or application.
- **Post Sales Service -** In businesses just selling the product is not the end, they need to provide the customers with any kind of help regarding the product to complete the buying cycle. Artificial Intelligence applications are capable of generating automated feedback forms and giving an appropriate response. It can also help provide support regarding replacements and any other issues that the customer may encounter after the sale of the product. Solving customer problems helps the business gain the customer's trust and ensures future sales.
- **Customer Relationship Management (CRM) -** Previously, Customer Relationship Management (CRM) was dependent on humans to collect massive amounts of data but with the advancement of technology, Artificial Intelligence helps better serve the clients. They can help foresee which clients are more likely to make a purchase and allow better user engagement. It can help identify the current trends , suggest a plan to follow the trend and execute the program by itself. AI can learn trends on it's own and help improve customer engagement.
- **Transactions** - Since E-commerce industries rely on online transactions for it's revenue, it is extremely essential for the websites to have a safe and easy to use

transaction window. Artificial Intelligence creates a safe transaction window and generates automated windows.

III. Future of AI and E-commerce

With the advancement of technology and growth of Artificial Intelligence ,the future for both E-Commerce and AI seems very bright. Although the next big thing for E-commerce and AI will be Voice-Based Search, it's a very upcoming and helpful tool for E-commerce. It is a tool that allows consumers to search for products on the website or application by using their voices and avoid the hassle of actually typing anything. This Voice technology has already been implemented by companies like Google and Apple with the introduction of Google Assistant and Siri. Amazon is also catching up with Alexa.

Right now these AI programs can analyse your voice commands like Increase Phone Volume etc. But in the future it will be applied to E-commerce websites and applications. Smart searching with the help of Artificial Intelligence will save you time to find products easily and also saves you the effort of typing in keywords in the search bar.

It will use the same characteristics like high speed, phonetic similarity, automated color search and it will work on both our smartphones and our desktops. With speech recognition AI is able to identify phonemes, words and phrases spoken verbally, this allows speech interaction.

In order to perform this Voice Based Search all the user has to do is press on the microphone icon, say what they require and the AI will analyses the voice with the help of speech recognition and present the search results instantly.

The AI of the program will be so smart that if in a situation, you accidentally mispronounce or say the name of a particular brand or product wrong, it will show you a similar result. To summaries the applications of AI in Voice Search.

- Ease in search of products
- Higher speed to show results
- Provide a similar experience to physical shopping
- Voice technology is a growing trend
- Differential for the brand
- More personalized experience and search results
- Effortless and easy to use for all ages

IV. How the integration of Artificial Intelligence with E-commerce Helped during the Pandemic.

The COVID-19 pandemic changes a lot of things in our lives because all of a sudden we had to stay indoors for our own safety. The quarantine period was tough on a lot of people. Despite these issues the E-commerce industries flourished.

E-commerce industries decided to integrate the Artificial Intelligence technology to help their businesses grow and it was the right call. It has helped so many small businesses grow into multi-national companies. The reason it grew so much is that people could buy and sell products from the comfort and safety of their homes.

Due to the quarantine people refrained from going outside and shopped for everything online from daily groceries to Electronic appliances like TV and Refrigerators. With so much growth in business , it would have been impossible for the E-commerce industries to manage all the data, transactions, customer relations by themselves which is where Artificial Intelligence came into the picture and made people's lives so much easier.

By analysing search patterns, processing data, giving recommendations, helping with customer support and so much more by itself is a mighty task and to do this single handedly without taking much time is a gift. If it weren't for Artificial Intelligence, E-commerce websites and applications wouldn't have been able to grow so much in our modern world.

Conclusion

Artificial intelligence applications can generate and predict the accurate forecast of the E-commerce business. The study of historical data, data analytics, and latest trends can help in optimizing the resource allocation, build a healthy pipeline and analyze the team performance. The managers can get a better insight into the latest trends in sales.

They can analyze the trends and can improve the sales by making strategies well before time. Digital Platform has made life easier for the retailers as well as buyers. E-commerce websites are witnessing an exponential hike in their sales.

Artificial intelligence has helped E-Commerce websites in providing a better user experience.

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8. Role of Ai in Teaching

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Abstract

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- Opportunity to see weaknesses. Different training courses allow seeing the gaps in students' knowledge. ...
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AI has already been applied to education primarily in some tools that help develop skills and testing systems. ... AI can drive efficiency, personalization and streamline admin tasks to allow teachers the time and freedom to provide understanding and adaptability—uniquely human capabilities where machines would strugglethis is one of the major disadvantages of distance learning.

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9. Fitness and Health Apps using AI

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Abstract

Tablets and smartphones are slowly but surely changing our perceptions of health and fitness. Many apps that span the complete health care chain are now available to users and health professionals. The procedure includes acquiring information, preventing, diagnosing, treating, and monitoring. In addition, our team created myFitnessCompanion®, a mobile health and fitness app available on the Android Market since February 2011. The goal of this article is to share our experience in developing and launching a fitness and wellness app. This article discusses the acceptability of health apps among customers and the healthcare industry, as well as how mobile health apps will be supplied in the near future.

Medicine. IBM Watson, the company's own artificial intelligence computer, has outperformed human intelligence (at some levels). Watson not only defeated prior champions on Jeopardy!, but he was also hailed as a hero after correctly identifying a woman with leukaemia. We've compiled a list of the finest Android GPS tracking applications below. 1. It is based on the authors' experience as a mobile health and fitness app developer, which spans seven years. The potential impact of Personal Health Record (PHR) systems (Microsoft HealthVault) and FDA regulations

Introduction

Automation is a relatively new field that has experienced both stunning successes and equally spectacular disasters. The failures were primarily due to underestimating the complexity of seemingly easy problems, as well as a misconception that brute computer power should be capable of solving any problem. It's based on the authors' seven years of experience developing mobile health and exercise apps. Part of the study looks at the impact of Personal Health Record

(PHR) systems (Microsoft HealthVault) and FDA rules on the future of mobile health apps. creators, and we discuss the challenges and potential for app developers in the health business. Engineering principles are evolving from all of this expertise, which can be utilised to guide engineers. who must deal with ever-increasingly complicated challenges in an increasingly competitive world, which can be utilised to advise engineers

1. Access to health and fitness applications, as well as the growing number of customers who use smart phones and tablets, has pushed the healthcare industry to adopt them.
2. By 2015, mobile health apps will be used by more than a third of the world's 1.4 billion smartphone users. Thousands of health and fitness applications are available for download on Google Play at the time of writing (December 2012).
3. Three hundred and ninety-six of them acquire or derive physiological data using a sensor (e.g. weight scale, blood pressure monitor, accelerometer, GPS). The apps are available for free or a nominal cost. They can
4. My FitnessCompanion®, an app designed by our team, accomplishes exactly that. care provided from afar The opportunity for digital behemoths to produce mHealth applications expands as customer demand for self-monitoring grows.

Here are a few of the most popular health-related smartphone apps:

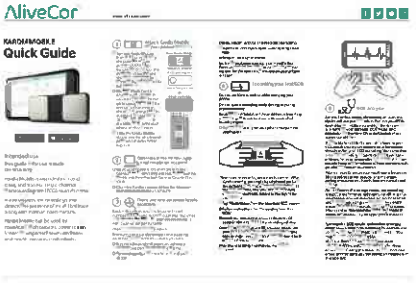
5. To acquire physiological data, it uses wireless sensors (Bluetooth, Wifi) or manual entry. Android phones and tablets allow users to keep track of their weight, food intake, blood pressure, asthma, blood glucose, HbA1c (glycated haemoglobin), cholesterol, temperature, respiration, oxygen, intraocular pressure, bowel movement, and heart rate. Fitness, diabetes, asthma, obesity, and hypertension are some of the therapy sectors. Uses technology to broaden the clinical settings of healthcare providers It's a broad term that refers to how the healthcare business is leveraging technological breakthroughs to provide remote care. The opportunity for digital behemoths to produce mHealth applications expands as customer demand for self-monitoring grows.

1. Kardia Mobile App

December 2011, there were a total of 10 billion reach outside

Diabetes patients can keep track of their heart health to lower their overall risk of heart disease. Doctors recommend that you have your heart checked, which involves an ECG. What's more, guess what? KardiaMobile 6L, the world's first and only 6 lead US FDA

authorised ECG heart monitor, makes it feasible. The KardiaMobile 6L is a portable ECG monitor that can take a medical-grade ECG in less than 30 second. The device is beneficial to you. detect



Atrial fibrillation, tachycardia, and bradycardia are examples of cardiac arrhythmias. Arrhythmias in the heart can cause strokes and heart failure. AFib is a condition in which the heart does not pump blood efficiently, causing blood to pool and clot. If the clots dislodge and move to the brain artery, a deadly blockage or stroke can occur.

Detecting tachycardia or bradycardia can also help you lower your chances of developing heart failure. The smartest at-home heart monitor, the Alivecor KardiaMobile 6L, can detect changes in your heart rhythm and notify you of probable heart illnesses.

- Rating on Google Play: 4.4
- Rating on App Store: 4.7

In the midst of a pandemic, innovative technology promises improved cardiac care for patients.

The necessity for breakthrough technologies has changed the face of heart care today, as the global cardiovascular load has increased. The situation has become even more complicated as a result of shifting lifestyles and the ongoing pandemic's influence on heart health. As a result, cardiologists new ways to treat patients by embracing new technology.

Patients are turning to telehealth for cardiovascular treatment as a result of the pandemic, and persons with cardiovascular illness can benefit from telemedicine in the form of remote monitoring and consultation.

One of the most important advantages of telehealth visits is the ability to consult with a cardiologist from afar, which is critical for people who live in remote areas.Tele-electrocardiogram (ECG) home-monitoring is more appropriate in the context of the current pandemic, using patient-friendly mobile phone applications to allow the transmission of ECG reports directly to specialists for analysis.

- In conjunction with the Heart Monitor, AliveCor's free Kardia app, available for iOS and Android, records and stores single-channel ECGs.
- TGA-approved (ARTG)AliveCor's free Kardia app for iOS and Android records and stores single-channel ECGs in conjunction with the Heart Monitor. Because of the improved filtering process, artefact is reduced, resulting in a high-fidelity tracing. The following Google Play downloads are available: 100K+

2. Bluestar Diabetes App

The WellDoc Inc.-developed BlueStar Diabetes App works by recording blood-glucose data and offering real-time coaching. With over 20,000+ automated coaching messages, WellDoc's system analyses the data and provides a tailored coach to help patients manage their medication and treatment. Submitting diabetes questions and receiving replies from professional diabetes educators can provide additional support.

In addition, the app keeps track of the user's meds, makes reminders, and offers healthy recipes, meal plans, and lifestyle advice. The app can also be synced with fitness trackers and integrated with the OneTouch Verio Flex® metre to send blood glucose data wirelessly to the app.

- Downloads from Google Play: 10K+
- Rating on Google Play: 4.1

- Rating on App Store: 4.5
- Available from Google Play and App Store

3. Fitness Apps

Let's take a look at the history of fitness applications before we go into all of their benefits. When Google launched its Google Health service in 2008, it appeared to be a huge success. If it were released today, it would almost certainly be popular, but it was so unpopular at the time that the firm was forced to terminate the project in 2011. Why did Google Health fail, despite all of the opportunities it offered?

Living a healthy lifestyle has been fashionable in recent years. Being healthy nowadays entails being attractive, successful, and physically fit. Obesity and sedentary office employment are becoming more widely recognised as causes of disease.

Millions of people throughout the world participate in sports as a result of these and other health-related issues. As a result, A fitness app is a programme that can be downloaded and used to stay in shape on any mobile device. In 2015, there were over 165,000 health-related apps available on the two most popular platforms, the iPhone operating system (iOS) and Android. [1] Apps can help people modify their habits by allowing them to create fitness goals, track their caloric intake, get workout ideas, and share their accomplishments on social media. With individualised workouts, fitness guidance, and nutrition programmes, they can be used as a platform to promote healthy behaviour change. Fitness apps can connect health data from

wearable devices to third-party devices, making it easier to access. By incorporating gamification components and instilling a sense of competitiveness among friends and family

3. Activity Tracking Apps

Wearables are frequently coupled with activity tracking apps.

Even if you don't go to the gym or enjoy sports, you may use an activity tracking software to make sure you get enough exercise. These apps can track how many steps you've taken and how many calories you've consumed. They can track the distance travelled using geolocation.

Sleep quality evaluation and smart alarm clocks that wake users up during the REM sleep period, allowing them to get up fast and easily, are two of the most intriguing aspects here.

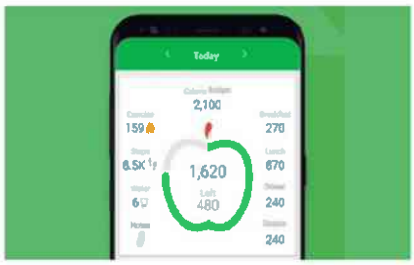
Many activity monitoring apps can be used with wearables, but if a user doesn't have one, a smartphone's capabilities are sufficient to collect data.

- Map My Run.
- Fitness Buddy.
- JEFIT Workout Planner.
- Runkeeper.

- MyFitnessPal.
- 10K Runner.
- Runtastic

It might be difficult to keep track of everything you do on a daily basis, especially if you're tracking multiple behaviours at the same time. Simple checklists, habit-building social networks, and personal data hubs are among the apps included here. Hopefully, you'll be able to discover one that suits your needs.

4. Nutrition Apps



Nutrition applications assist in calorie counting and the discovery of nutritious recipes. These apps assist users in maintaining a healthy weight by tracking calories ingested and expended, monitoring water balance, and encouraging good eating habits. They can also assist in keeping track of how much coffee they consume and maintaining a healthy body fat weight and percentage.

The smartphone in your pocket is a miracle of modern science. Its processing power is millions of times greater than that of the machines NASA used for the Moon landings, and it connects you to a worldwide network of over 3 billion people. Today's best diet apps leverage the power of your smartphone to help you take control of your nutrition and health through better eating. We tested 10 of the most popular weight loss app choices for Android and iPhone (iOS). Here's a breakdown of those choices, and a look at their pros and cons. While a few of the diet apps in this list are calorie counters and food diaries with added bells and whistles, we've made sure to include innovative and unique options as well.

Remember that the true measure of an app's worth is if it helps you to make healthy changes. If an app doesn't motivate you to improve your diet, it's not much more than a time-waster.

The main focus of such apps is on setting personal goals. If you're having trouble keeping to a healthy diet, the app can help you make grocery lists and even collect healthy food recipes! HealthyOut, Calorie Counter & Food Diary, and MyPlate Calories Tracker are three of the top apps of this type.

1. Activity Tracking apps

Wearables are frequently coupled with activity tracking apps.

Even if you don't go to the gym or enjoy sports, you may use an activity tracking software to make sure you get enough exercise. These apps can track how many steps you've taken and how many calories you've consumed. They can track the distance travelled using geolocation.

Sleep quality evaluation and smart alarm clocks that wake users up during the REM sleep period, allowing them to get up fast and easily, are two of the most intriguing aspects here.

The Best Fitness Tracker Apps for Android

- Fitness22.
- FitNotes.
- Google Fit.
- JEFIT Workout Tracker.
- Leap Fitness Step Counter.

Many activity monitoring apps can be used with wearables, but if a user doesn't have one, a smartphone's capabilities are sufficient to collect data

Exercise on a regular basis can help people maintain a healthy weight and reduce their risk of diseases like coronary heart disease, diabetes, and cancer. It can also help to strengthen the heart, improve lung function, and reduce depression risk.

Adults should strive for at least 150 minutes of moderate intensity aerobic activity per week, according to the Centers for Disease Control and Prevention (CDC). Finding the drive to exercise, on the other hand, can be challenging. Fitness apps may drive users to improve their physical activity, according to a 2014 study including 15 mobile app users.

However, according to a 2015 study, consumers should be cautious while selecting a fitness app. The researchers examined 30 popular exercise applications and discovered that overall, adherence to the American College of Sports Medicine's guidelines was low. Only one app had a total score of more than 50%.

Finding the drive to exercise, on the other hand, can be challenging. Fitness apps may drive users to improve their physical activity, according to a 2014 study including 15 mobile app users.However, according to a 2015 study, users should be cautious while selecting an app.

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10. Online Food Delivering Platforms using Artificial Intelligence

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Abstract

During the worldwide 2020 COVID-19 episode, the upsides of online food conveyance (FD) were self-evident, as it worked with buyer admittance to arranged suppers and empowered food suppliers to continue to work. Notwithstanding, online FD isn't without its faultfinders, with reports of purchaser and eatery blacklists. It is, subsequently, an ideal opportunity to assess the situation and consider the more extensive effects of online FD, and what they mean for the partners in question. Utilizing the three mainstays of manageability as a focal point through which to consider the effects, this survey presents the most cutting-edge research in this field, uncovering a heap of positive and adverse consequences. From a monetary angle, while online FD gives work and deal openings, it has been condemned for the high commission it charges cafés and problematic working conditions for conveyance individuals. According to a social viewpoint, online FD influences the connection among customers and their food, just as affecting general wellbeing results and traffic frameworks. Ecological effects incorporate the huge age of waste and its high carbon impressions. Pushing ahead, partners should consider how best to moderate the negative and advance the positive effects of online FD to guarantee that it is manageable in each sense.

Keywords - online food delivery (online FD); sustainability; economic impacts; social impacts; environmental impacts Introduction

Introduction

Monetary development and expanding broadband infiltration are driving the worldwide extension of internet business. Buyers are progressively utilizing on the web administrations as their extra cash increments, electronic installments become more reliable, and the scope of providers and the size of their conveyance networks grow. Online to disconnected (O2O) is a

type of internet business wherein purchasers are drawn to an item or administration on the web and instigated to finish an exchange in a disconnected setting. A space of O2O business that is growing quickly is the utilization of online food conveyance (online FD) stages. Generally the world, the ascent of online FD has changed the way that numerous buyers and food providers associate, also the maintainability impacts (characterized by the three mainstays of financial, social and natural [1]) of this change still can't seem to be extensively surveyed. A piece of the trouble in surveying its effect has been that researchers are moving toward this subject from a scope of various disciplines. Consequently, the destinations of this audit are triple: (1) To direct an interdisciplinary survey that unites scholastic research on the expansive scope of regions affected upon by the expanded utilization of online FD; (2) to talk about the openings and difficulties these effects posture; and (3) to feature the chances for activity by all partners, including on the web FD industry specialists, strategy creators, customers, and scholastics, to amplify its positive and lessen its antagonistic effects. Prior to introducing the survey, it is critical to outline the web-based food conveyance area (Section 2) to help contextualize the outcomes laid out in the survey.

I. Overview of the Online Food Delivery Sector

a. E-Commerce Market Size

The web based business market has encountered solid development over the previous decade, as clients progressively move on the web. This change in how purchasers shop has been driven by a wide scope of assorted elements, some being business sector or nation subordinate, others happening because of overall changes. These changes include: an increment in removal pay, especially in emerging countries; longer work and driving occasions; expanded broadband infiltration and further developed security of electronic instalments; an unwinding of exchange boundaries; an expansion in the quantity of retailers having an internet based presence; and a more noteworthy familiarity with internet business by clients [1].

The most grounded development of online business in the course of the most recent couple of years has happened in China, the second biggest market. All alone, China addresses 54.7% of the worldwide online business market, an offer almost double the piece of the pie of the following five most noteworthy nations (US, UK, Japan, South Korea, Germany) consolidated [2].

The ascent of web based business in the Asia-Pacific locale is shown in Table 1, which features the monstrous expansion in the sum spent during key web based shopping days somewhere in the range of 2015 and 2019. The main internet business stages overall contrast by locale and incorporate stages which are presently commonly recognized names, like Amazon(U.S.), Alibaba (China), and Flipkart (India).

b. Online to Offline Business and Online FD

The fast development of online business has generated many new types of business, like B2B (business to business), C2C (client to client). The matter of O2O is a promoting technique dependent on data and correspondences innovation (ICT) by which customers place orders for labor and products on the web and get the labor and products at a disconnected outlet [7,8]. One of the critical improvements driving the O2O business blast has been the expansion of cell phones and tablets and the advancement of frameworks to help installment and conveyance.

In 2019 there were 5.2 billion cell phone associations, and before the finish of 2020, it has been predictedthat half individuals on the planet will approach versatile internet providers [9].O2O administrations have arisen in different fields, including the acquisition of assorted item and administration classes, for example, food, lodgings, land, or vehicle rentals [10]. Online FD alludes to the cycle by which food that was requested online is ready and conveyed to the shopper. The developmentof online FD has been supported by the improvement of coordinated internet based FD stages, for example,

Uber eats, Deliveroo, Swiggy, zomato and Meituan. Online FD stages serve an assortment of capacities includingproviding buyers with a wide assortment of food decisions, the taking of requests and the handing-off of these request to the food maker, the observing of installment, the association of the conveyance of the food and the arrangement of following offices (Figure 1) [11]. Food conveyance applications, or 'applications', (FDA) work inside the more extensive setting of online FD as they empower the requesting of food through versatile applications [12].

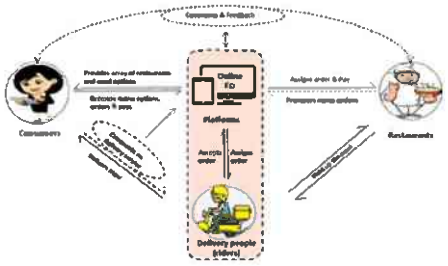

Figure 1. The functions associated with online food delivery (FD) platforms. Arrows indicate movement of information or logistic; lines indicate necessary routes; dotted lines indicate optional routes.

c. Online FD Providers and their Delivery System

Café to-Consumer Delivery suppliers make the food and convey it, as exemplified by suppliers, like KFC, Mcdonald's, and Domino's. The request can be made straightforwardly through the eatery's internet based stage or by means of an outsider stage. These outsider stages change from one country to another, and incorporate models, for example, Uber eats in the U.S. Outsider stages additionally give online conveyance administrations from accomplice eateries which don't really offer conveyance administrations themselves, an interaction which is characterized as Platform-to-Consumer Delivery.

Online FD requires exceptionally proficient and versatile continuous conveyance administrations. Cafés can utilize existing staff for self-conveyance, for example, the utilization of servers in some little eateries or they might utilize particular conveyance groups who are explicitly utilized and prepared for this job, as is seen with a portion of the enormous eatery brands, like KFC, Domino's, and Xibei. Then again, eateries can utilize publicly supporting coordinations, an organization of conveyance individuals (riders) who are self employed entities, a model that gives a proficient, minimal expense way to deal with food conveyance [14]. Online FD stages can either be answerable for enrolling and preparing proficient conveyance individuals, or they may likewise fall back on publicly supporting coordinations, utilizing conveyance individuals who are not really utilized by the web-based FD stage. Proficient conveyance individuals are generally prepared, and to some extent a piece of their compensation is ensured, while a part is commission-based. Conversely, the free conveyance individuals who are regularly known as "riders" are paid on a commission (per request) premise (Figure 2).

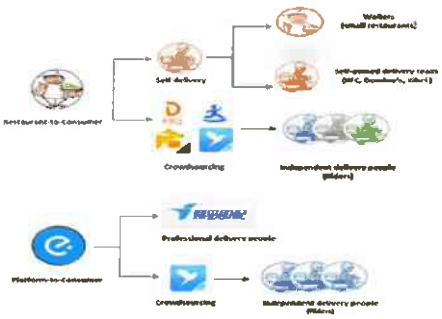

Figure 2. Online FD delivery retailers (Eleme in China, for example).

d. Growth of Online FD Worldwide

The ascent of online FD is a worldwide pattern with numerous nations all over the planet having somewhere around one significant stage for food conveyance.

The internet based FD industry has been extremely proactive in the manner it grows new business sectors and develops shoppers' dietary patterns. For instance, in 2018, an advancement crusade by the India-based internet based FD organization Foodpanda offered customers enormous limits, which brought about Foodpanda expanding the quantity of clients by a component of 10 [15]. Besides, in 2018, Eleme in China, burned through three billion yuan (US$443 million) north of 90 days in an effective showcasing methodology to expand its portion of the overall industry to in excess of 50% of the Chinese market [16]. In spite of online FD being extremely amazing in certain areas, all in all across the world internet based FD is in the beginning phases of market advancement, and it will require significant speculation to subsidize advancements and crusades and to give sponsorships to taking part cafés [17–21]. For instance, a café may hold a mission on a FD stage, in which a purchaser acquires ¥8 as a rebate on the off chance that the aggregate sum requested scopes ¥20. Indeed, this rebate may just cost the eatery ¥2, as it will get a ¥6 appropriation from the FD stage (the genuine principles might differ starting with one stage then onto the next [22]). Such a methodology is gainful for a café on the grounds that it will draw in more shoppers and orders. It is vital for the fate of online FD to develop buyers' dietary patterns by acquainting them with the picking and buying of food on the web. By giving shoppers the choice of having a supper at a less expensive cost or by offering different types of assistance, like free conveyance, online FD stages and suppliers are empowering buyers to forsake cooking at home or going out to an eatery to eat.

Overall web-based FD is turning out to be progressively all around acknowledged and embraced by youthful grown-ups, and no place is this pattern more obvious than in China. A study in 2019 of 1000 college understudies in Nanjing, uncovered that essentially 71.45% of them had utilized internet based FD for something like two years and that 85.1% of them utilized web-based FD at least a time or two per week [23]. Online FD has been accounted for to be famous with Chinese college understudies since it saves time (50.35% of 141 understudies in Hebei, China), is helpful (44.35% of 124 understudies in Jiangxi, China), and can give choices that were more delicious (39.52% of 124 understudies) or essentially not the same as flask dinners (36.17% of 141 understudies) [24,25]. Obviously, various populaces all over the planet

have various freedoms to buy food internet attributable to social, mechanical and monetary reasons and these distinctions can be answerable for the contrasting paces of take-up of online FD seen all over the planet. Via correlation with China, for instance, a 2019 overview of 252 Greek college understudies matured 18–23, detailed that the vast majority of them cook at home and seldom eat out or have food conveyance (45.6%), while others generally eat at the understudy café or cook at home (23.4%), with just 21% of the understudies studied expressing that they had food conveyed [26].

II. Methodology

Understanding the monetary, social, and natural maintainability effects of online FD required a top to bottom and interdisciplinary survey of late writing. In excess of 60 reports were recognized on 'online food conveyance impact(s)', utilizing the accompanying exploration motors: The expansive scope of information bases looked was because of the interdisciplinary idea of the exploration question and the craving to look in two dialects. Critically, notwithstanding diary articles, the exploration examining additionally included books and book parts, government approaches, reports, working papers, and other dim writing sources.

Given the novelty of the web-based FD area, our underlying inquiries uncovered that a deliberate audit of the scholastic writing was impractical as there was basically insufficient distributed on the manageability effects on empower firm decisions about the condition of the area to be inferred. Thusly, a somewhat more exploratory methodology was taken on that distinguished themes deserving of additional investigation and tried to exhibit these to empower future examination. Source material distributed somewhere in the range of 2010 and 2020 that were accessible in one or the other English or Chinese (language) were incorporated. While our review planned to comprehend the effects of online FD universally, the choice to incorporate both Chinese and English language articles was made on the grounds that the web-based FD area is generally evolved in China, and hence, online FD in China has gotten the most scholastic consideration regarding date. Without a doubt, the aftereffects of our inquiry showed that the vast majority of the writing on web-based FD gave an account of FD inside a Chinese setting. To examine and incorporate the discoveries from the examinations we utilized a story blend [27], which is an adaptable methodology which permits the commentators to be intelligent and basic [28] when giving an account of the investigations remembered for the survey [29].

III. The Impacts of Online FD

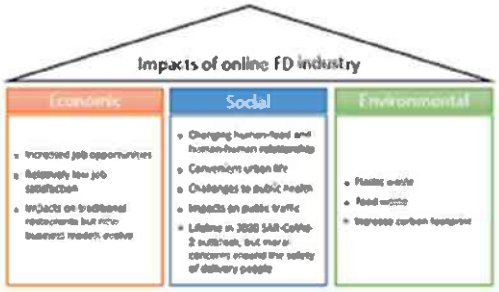

Figure 3. Message House of the impacts of Online FD.

1. Economic Impacts

The ascent of the web-based FD industry has given open positions to many individuals across a scope of kinds of business including as cooks and regulatory staff in cafés, conveyance individuals or as developers behind the Apps/online stages. Moreover, the internet based FD industry has been a mother lode for help enterprises, including organizations that make, sell or administration electric bikes, and organizations engaged with the making and conveyance of food bundling. The huge internet based FD stages utilize a huge number of laborers, with Meituan and Eleme in China, utilizing around 1.17 million individuals to fill in as conveyance individuals [30]. Moreover, Swiggy in India has 17 thousand conveyance individuals [31], and the US-based web-based FD organization Uber Eats has north of 10 thousand workers [32].

While there is no question that the web-based FD industry has given many positions, particularly in the conveyance area, there has been concern communicated about the helpless working conditions that conveyance individuals are exposed to, including the normalized idea of their work, their high responsibility, the restricted preparing many get and the dangers they experience to their own security during the method involved with conveying the food [33,34]. These limits imply that while many open positions exist for food conveyance individuals, work fulfillment is frequently low, and there is a high whittling down rate [18].

2. *Social Impacts Online*

FD impacts the connection among shoppers and their food by changing the manner in which purchasers acquire, plan and burn-through food. Thus, these progressions sway the human to human connections, which has prompted significant discussion on whether online FD improves or decreases the nature of family time and local area collaborations. Customarily, relatives spoke with one another and partook in the solace of one another's organization while

undertaking the ordinary parts of food-related day to day life—like looking for food, and getting ready and preparing food in their home [49,50]. To be sure, in certain cases, it has been accounted for that hitched Korean ladies are less inclined to utilize online FD in light of the fact that they accept they have an honest conviction to get ready dinners for their families [10]. Conversely, different investigations report that internet based FD is seen by some Chinese [33] and UK [33] buyers just like an approach to rapidly and effectively give suppers which thus empowers them to invest energy with their family. For instance, a subjective report in Guangzhou (the biggest city in South China) of individuals matured somewhere in the range of 18 and 35, who request action item dinners once each week observed that they utilized web-based FD as it empowered them to partake in the solace of their home and still participate in the food varieties and ways of life they delighted in, without the pressure related with the purchasing and preparing of food [34].

3. Environmental Impacts

Perhaps the most squeezing ecological concern apparent from the sensational expansion in web-based FD is the sheer volume of plastic waste created and how to manage it. The viability wherein various nations are managing the plastic waste created by online FD is reliant upon how all around fostered their reusing foundation is and the speed at which online FD has developed. In China, for instance, on the rear of an increment in web-based FD, the complete volume of bundling. In 2016, 19,507 batteries (counting 17,285 lead-corrosive batteries) were transferred to squander. In China, in 2016, the power utilized during vehicle accusing and in managing of the waste produced was assessed to have an aberrant GHG emanation of 73.89 Gt CO2eq [42]. In 2020, in many areas of the planet the utilization of single-use, dispensable food bundling expanded attributable to the COVID-19 pandemic, as numerous purchasers accepted single-use bundling was more secure and more sterile [43].

IV. Benefits of Technology in Food Industry

It's not simply clients who have felt the effect of innovation on food administrations. Food organizations themselves are seeing various benefits from remembering more innovation for their day by day undertakings.

Because of the Internet of Things, supervisors have a fuller picture with regards to stock administration. Reports exhibit client conduct in a given market or the inventory accessibility from a maker. IoT can likewise assist with foreseeing changes in a specific region and how a

business can change. These For clients who need to know where their food is, or need refreshes as their food is conveyed, organizations can report following data quickly to them with worked in area following instruments. What's more, on account of associated gadgets and continuous GPS, clients can see where their things are. They can likewise report or message a business straightforwardly, and workers can react also, ideally prompting more sure criticism.

Beside the backend benefits, innovation for the most part affects getting food to buyers without really wasting any time because of the accompanying upgrades.

I. Increases Amount of Data Available

Every client exchange creates data that is valuable to an organization. Every one of this information is priceless to organizations searching for spaces of progress and featuring where breakdowns happen.

Man-made consciousness, the Internet of Things (IoT), machine correspondence, and business gadget the executives all produce immense measures of information data for food organizations. Every one of this information should be put away and coordinated with the goal for organizations to effectively learn and distinguish issues or smooth out processes. Gathered information gives organizations more profound experiences into their clients and market. For example, a look into the critical contrasts in rustic versus metropolitan practices, every area's active occasions, and individual item interest. All of which help in settling on better by and large business choices just as working on the reality..

II. Improves Customer Communication

While client support entries stay essential to organizations, there are new continuous techniques for talking with clients that are extremely helpful in food conveyance. Voice innovation and chatbots permit organizations to talk with their clients progressively.

Buyers can arrange food while leaning back on the lounge chair by utilizing in-home voice innovation devices, like shrewd speakers or their telephones. By taking on voice search highlights on their site, organizations can get before clients by matching normal quest inquiries for their food contributions. Refreshing business hours and menu records often helps a business stay close to the highest point of list items.

Furthermore, computerized chatbots can work on client correspondence. They can tell people when their food is being made, when it's prepared for conveyance or report where a request is in the conveyance cycle. Chabot's assist with unburdening representatives from being

on the web constantly to respond to questions, which is particularly useful during surge times. Some normal inquiries are handily made do with computerized reactions and in any event, recognizing a message has been gotten and when it will be addressed can emphatically affect consumer loyalty.

III. Incorporates Personalized Approach to Individuals

Outside of normal correspondence, there mechanically affect customizing informing to clients. Put away information data holds a wide range of ways of customizing informing to individuals. Also with expanded instruments available to them, food conveyance organizations can modify their informing regardless outlet they send.

At the point when a client puts in a request, message pop-ups sent all through the conveyance interaction presently incorporate their name. What's more, messages conveyed to clients incorporate their name as well as grandstand normal things requested or markdown bargains for their beloved items. Indeed, even online media posts can focus on an as of late visited client a business' site and suggest items they checked on.

Personalization is a major draw for organizations since it shows that they observe a client and their inclinations. It additionally eliminates speculation which albeit supportive in certain examples, can eliminate the sensation of an individualized touch.

IV. Unlocks New Ways of Skipping LineS

Gone are the times of remaining in line or racing through a store to select things. Presently, clients have better approaches for staying away from a long queue or not observing something they need. Regardless of whether it's requesting on the web, or visiting a real area for pickup, innovation has changed the manner in which clients can chop down stand by time.

Beside home conveyance, innovation has additionally helped the food business at physical areas. A few organizations have transferred their menus on the web and connected them to requesting applications that permit clients to put in a request in a hurry and get it at an assigned area with their actual area. A few cafés even permit request situation by means of text. For individuals who actually visit actual areas, self help stands permit them to submit a request themselves. Yet, it's not simply dinner pickup that is evolving.

Other tech that permits you to skirt the line would be supper packs or using a staple conveyance administration, the two of which make requesting customary food stuff exceptionally simple. From common supermarkets to online organizations, customers can put

orders for face to face get or conveyance right to their front advance. People have boundless choices for what things can be conveyed from over the counter prescriptions to liquor, all that they need is only a tick away. Also being only a tick away is valuable for organizations.

V. Provides More Ways of Reaching Consumers

Handheld innovation, like cell phones and tablets, permits customers to forever be associated with what they need. Furthermore it likewise enables organizations to have better command over their business gadgets disseminated to their conveyance drivers. This implies organizations get the opportunity to be before their ideal interest group consistently while keeping up with high help quality simultaneously. Be that as it may, this expects them to be on their game consistently.

The present clients appreciate having options that are helpful for them. Regardless of whether it's requesting from a conveyance application, on the web, or self-administration booths, people need what they need when they need it. Food conveyance administrations can profit from all day, every day admittance to their crowd.

VI. The Future of Food Delivery System

Customers are developing to anticipate that restaurants should have applications for conveyance or pickup administration. They need a bigger menu of choices with regards to requesting food early, and altering their orders. On the client end, innovation is helping food conveyance organizations get their items to their buyers, just as getting informing before people. For food conveyance organizations, self-administration stands or organization claimed telephones/tablets disseminated to the conveyance drivers make cell phone the board even more significant.

Moreover, using innovation has prompted an increment in purchaser information data that is accessible to organizations for examination and sending of business enhancements. Innovation has further developed client correspondence channels, while additionally adding more customized messages to shoppers. New devices permit people to chop down stand by times when requesting food or getting their things. Likewise, these apparatuses are additionally being utilized to get convenient informing and advancements before individuals regardless season of day it is, or where they are found.

The food conveyance industry has been changing in the course of the most recent couple of years, and innovation has assisted with these headways. As individuals keep on requesting food

from the solace of their homes, organizations should keep observing new innovation administrations to get things out quicker.

VII. Conclusions

This survey has illustrated an enormous cluster of effects from online FD that are influencing a scope of partners in various ways, as summed up in Table 3. While an endeavor has been had to order the effects as being either 'positive' or 'negative', in all actuality, a contention could be had for each effect to be arranged in an unexpected way. For instance, during the COVID-19 emergencies, online FD had a positive effect in that it permitted individuals to source food without venturing out from home (i.e., a positive effect for purchasers), however utilizing on the web FD right now implied more noteworthy openness for conveyance individuals worries around the wellbeing of conveyance individuals. Right off the bat, it is the main interdisciplinary survey that unites scholarly exploration on the expansive scope of regions affected by the expanded utilization of online FD. Furthermore, it has examined the chances and difficulties these effects present. Thirdly, it features the chances for activity by all partners, including on the web FD industry experts, strategy creators, shoppers, and scholastics, to boost its positive and lessen its unfavorable effects. The fate of online food conveyance is invigorating, and to guarantee the area creates in a reasonable way which serves the interests of all partners included, we should keep on thinking about what's going on, and question in the event that things should be possible better.

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11. Data Mining: A Prediction for Performance Improvement using Classification

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Abstract

In the present age the measure of information put away in instructive data set expanding quickly. These data sets contain stowed away data for development of understudies' exhibition. The presentation in advanced education in India is a defining moment in the scholastics for all understudies. This scholarly exhibition is affected by many elements, consequently it is fundamental to foster prescient information digging model for understudies' presentation to recognize the distinction between high students and slow students understudy.

Keywords *- Data Mining, Educational Data Mining, Predictive Model, Classification*

I. Introduction

The capacity to foresee an understudy's presentation is vital in instructive conditions. Understudies' scholarly presentation depends on assorted elements like individual, social, mental and other ecological factors. An extremely encouraging instrument to achieve this goal is the utilization of Data Mining. Information mining strategies are utilized to work on enormous measure of information to find stowed away examples and connections accommodating in independent direction. Arrangement is a prescient information mining strategy, makes expectation about upsides of information utilizing realized outcomes found from various information Classification maps information into predefined gatherings of classes. It is frequently alluded to as regulated learning on the grounds that the not really settled prior to analyzing the information. It is necessitated that the distinguished understudies can be helped more by the instructor so their presentation is worked on in future.In this connection, the objectives of the present investigation were framed so as to assist the low academic achievers in higher education and they are:

a. Generation of an information wellspring of prescient factors.

b. Validation of the created model for advanced education understudies contemplating in Indian Universities or Institutions.

c. Identification of various variables, which impacts an understudy's learning conduct and execution during scholastic profession..

II. Background and Related Work

Information Mining can be utilized in instructive field to upgrade our comprehension of learning interaction to zero in on recognizing, removing and assessing factors identified with the learning system of understudies as portrayed by Alaa el-Halees. is called Educational Data Mining.

Han and Kamber depicts information mining programming that permit the clients to investigate information from various aspects, classify it and sum up the connections which are distinguished during the mining system. Pandey and Pal directed review on the understudy execution based by choosing 600 understudies from various universities of Dr. R. M. L. Awadh University, Faizabad, India. Through Bayes Classification on class, language and foundation capability, it was found that whether or not new comer understudies will entertainer.

The speculation that was expressed as "Understudy's mentality towards participation in class, hours spent in review on consistent schedule later school, understudies' family pay understudies' mom's age and mom's schooling are altogether related with understudy execution" was outlined. Through straightforward direct relapse examination, it was observed that the variables like mother's schooling and understudy's family pay were profoundly related with the understudy scholastic

execution.

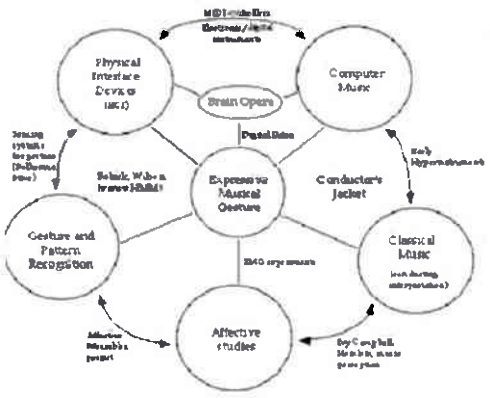

Fig 1 Intersecting Academic Areas Represented in this Thesi

III. Data Mining Process

In this review, information assembled from various degree universities furthermore organizations partnered with Dr. R.

M. L. Awadh University, Faizabad, India. These information are investigated utilizing ordertechnique to anticipate the understudy's exhibition. To apply this procedure following advances are acted in grouping:

A. Data Preparations

The informational collection utilized in this review was acquired from various schools on the testing strategy for PC Applications division obviously BCA (Bachelor of Computer Applications) of meeting 2009-10. At first size of the information is 290. In this progression information put away in various tables was participated in a solitary table in the wake of joining process blunders were eliminated.

B. Data selection and Transformationts

- In this progression just those fields were chosen which were needed for information mining. A couple of determined factors were chosen. While a portion of the data for the factors was removed from the information base. All the indicator and reaction factors which were gotten from the data set are given in Table 1 for reference.

Variable	Description	Possible Values
Sex	Students Sex	{Male, Female}
Cat	Students category	{General, OBC, SC, ST}
Med	Medium of Teaching	{Hindi, English, Mix}
SFH	Students food habit	{veg , non-veg}
SOH	Students other habit	{drinking, smoking, both, not-applicable}
LLoc	Living Location	{Village, Town, Tahseel, District}
Hos	Student live in hostell or not	{Yes, No}
FSize	student's family size	{1, 2, 3, >3}
FStat	Students family status	{Joint, Individual}
FAin	Family annual income status	{BPL, poor, medium, high}
GSS	Students grade in Senior Secondary education	{O – 90% - 100%, A – 80% - 89%, B – 70% - 79%, C – 60% - 69%, D – 50% - 59%, E – 40% - 49%, F - < 40%}
TColl	Students College Type	{Female, Co-education}
FQual	Fathers qualification	{no-education, elementary, secondary, graduate, post-graduate, doctorate, not-applicable}
MQual	Mother's Qualification	{no-education,

Fig 2 Student Related Variables

		elementary, secondary, graduate, post-graduate, doctorate, not-applicable}
FOcc	Father's Occupation	{Service, retired, not-applicable}
MOcc	Mother's Occupation	{House-wife, Service, retired, not-applicable}
GObt	Grade obtained in BCA	{First >60% Second >45 & <60% Third >36 & <45% Fail < 36%}

The domain values for some of the variables were defined for the present investigation as follows:

- Drug – This paper concentrate on covers just the degree universities and establishments of Uttar Pradesh province of India. Here, mechanisms of guidelines are Hindi or English or Mix (Both Hindi and English).
- GObt - Marks/Grade got in BCA course and it is announced as reaction variable. It is additionally parted into five class esteems: First – >60% , Second – >45% and 36% and < 45%, Fail < 40%
- SOH – In current culture unfortunate quirks are expanding quickly among undergrads. Here understudies other propensity incorporate Drinking, Smoking, Both or Not-appropriate.
- GSS - Students grade in Senior Secondary training. Understudies who are in state board show up for five subjects each convey 100 imprints. Grade is relegated to all understudies utilizing following planning O – 90% to 100%, A – 80% - 89%, B – 70% - 79%, C – 60% - 69%, D – half - 59%, E – 40% - 49%, and F - < 40%}.
- FSize-. As indicated by populace measurements of India, the normal number of youngsters in a family is 3.1. Subsequently, the most extreme family size is fixed as 10 and conceivable scope of qualities is from one to ten.

C. Implementation of Mining Models

Different calculations and procedures like Classification, Clustering, Regression, Artificial Intelligence, Neural Networks, Association Rules, Decision Trees, Genetic Algorithm, Nearest Neighbor strategy and so on, are utilized for information disclosure from data sets.

Order is perhaps the most habitually concentrated on issues by datum mining and AI (ML) specialists. It comprises of anticipating the worth of a (all out) trait (the class) in light of the upsides of different characteristics (the foreseeing credits). There are distinctive grouping strategies. In the current review we utilize the Bayesian Classification calculation.

Bayes order has been suggested that depends on Bayes rule of contingent likelihood. Bayes rule is a method to assess the probability of a property given the arrangement of information as proof or information Bayes rule or Bayes hypothesis is-

$$P(h_i \mid x_i) = \frac{P(x_i \mid h_i)P(h_i)}{P(x_i \mid h_1) + P(x_i \mid h_2)P(h_2)}$$

The methodology is classified "innocent" since it expects the autonomy between the different property estimations. Credulous Bayes arrangement can be considered both a distinct and a prescient sort of calculation. The probabilities are spellbinding and are then used to anticipate the class enrollment for an objective tuple. The gullible Bayes approach enjoys a few benefits: it is not difficult to utilize; dissimilar to other order moves toward just one sweep of the preparation information is required; effectively handle mining esteem by essentially discarding that likelihood . A benefit of the guileless Bayes classifier is that it requires a limited quantity of preparing information to appraise the boundaries (means and changes of the factors) fundamental for arrangement. Since autonomous factors are accepted, just the fluctuations of the factors for each class still up in the air and not the whole covariance grid. Disregarding their guileless plan and evidently distorted suspicions, gullible Bayes classifiers have functioned admirably in numerous mind boggling certifiable circumstances.

For the current review, we chose five degree universities running BCA course associated with Dr. R. M. L. Awadh University, Faizabad, UP, India. Out of five degree universities two was a metropolitan based, independent and co-instructive school, the other one was a rustic based, helped and female school and the other two was provincial based, supported and co-training school. A sum of 300 (226 guys, 74 females) understudies of BCA course from these five schools who showed up in 2010 assessment were the examples for our review. All the data identified with understudy's segment, scholarly and financial factors was acquired from the 300 understudies straightforwardly through survey and University information base. The imprint got ofthese understudies was gathered from the University Examination cell.

Given a preparation set the credulous Bayes calculation first gauges the earlier likelihood P (Cj) for each class by counting how frequently each class happens in the preparation information. For ach quality worth xi can be built up to decide P (xi). Also the likelihood P (xi | Cj) can be assessed by counting how frequently each worth happens in the class in the preparation information.

While characterizing an objective tuple, the restrictive and earlier probabilities created from the preparation set are utilized to make the expectation. Then, at that point, gauge P (ti | Cj) by

$$P(t_i \mid c_j) = \prod_{k=1}^{p} (x_{ik} \mid c_j)$$

To work out P (ti) we can appraise the probability that ti is in each class. The likelihood that ti is in a class is the result of the contingent probabilities for each trait esteem. The class with the most elevated likelihood is the one picked for the tuple .

The current examination utilized information mining as an apparatus with guileless Bayes order calculation as a procedure to plan the understudy execution forecast model. Separated element choice procedure was utilized to choose the best subset of factors based on the upsides of probabilities. .

D. Result and Discussion

In the current review, those factors whose likelihood esteems were more noteworthy than 0.50 were given due contemplations and the exceptionally affecting factors with high likelihood esteems have been displayed. These highlights were utilized for forecast model development. For both variable determination and forecast model development, we have utilized MatLab.

Variable	Description	Probability
GSS	Students grade in Senior Secondary education	.8642
LLoc	Living Location	.7862
Med	Medium of Teaching	.7225
MQual	Mother's Qualification	.6788
SOH	Students other habit	.6653
FAIn	Family annual income status	.5672
FStat	Students family status	.5225

Fig 3 High Potential Variables

It is found that the students' performance is highly dependent on their grade obtained in Senior Secondary Examination,

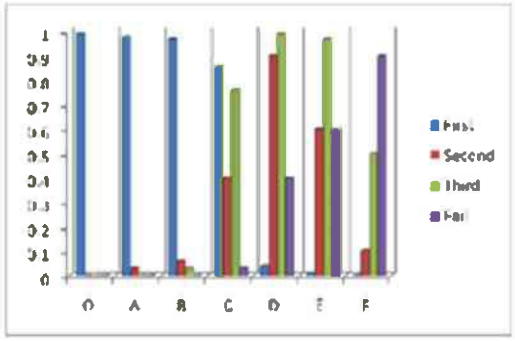

Fig 2 : Relationship between GSS and GObt

It is found that the third high potential variable for students' performance is medium of teaching. In Uttar Pradesh the mother tong language of students if Hindi. In Mixed and

Hindi language students are more comfortable than English language. The relationship between students' medium of teaching and their grade obtained in BCA examination.

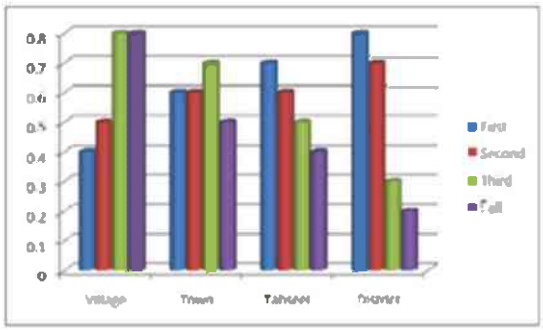

Fig 3 : Relationship between LLoc and GObt

Conclusion

In this paper, Bayesian arrangement strategy is utilized on understudy data set to anticipate the understudies division based on earlier year information base. This review will serve to the understudies and the instructors to work on the division of the understudy. This review will likewise attempt to distinguish those understudies which required exceptional consideration regarding decrease bombing apportion and making a fitting move at right time. Present review shows that scholarly exhibitions of the understudies are not continually relying upon their own work. Our examination shows that different elements have critical impact over

understudies' exhibition. This proposition will work on the bits of knowledge over existing strategies.

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12. Study Paper on Fitness and Health Apps using Internet of things

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Abstract

Cell phones and tablets are gradually however consistently changing the manner in which we take care of our wellbeing and wellness. Today, numerous top notch versatile applications are accessible for clients and wellbeing experts and cover the entire medical care chain, for example data assortment, avoidance, analysis, treatment and observing. Our group has fostered a portable wellbeing and wellness application called my Fitness Companion which has been accessible by means of Android market since February 2011. The target of this paper is to impart our experience to carrying out a portable wellbeing and wellness application. We talk about the acknowledgment of wellbeing applications by end-clients and medical services industry. We talk about how versatile wellbeing applications will be disseminated sooner rather than later, the utilization of Personal Health Record (PHR) frameworks like Microsoft HealthVault and the effect of guidelines (FDA) on the eventual fate of portable wellbeing applications.

Keyword - Smartphones Heath and Fitness Health.

I. Introduction

A Wellbeing and Wellness application is an application that can be downloaded on any cell phone and utilized anyplace to get fit. Starting at 2015, the quantity of wellbeing related applications delivered on the two driving stages, iPhone working framework (iOS) and Android, had arrived at more than 165,000.

They can be utilized as a stage to advance solid conduct change with customized exercises, wellness guidance and nourishment plans. Wellness applications can work with wearable gadgets to interface their wellbeing information to outsider gadgets for simpler availability. By utilizing components and making contest among loved ones, wellness applications can assist clients with being more roused. Running and exercise applications permit

clients to run or work out to music as DJ blends that can be suggested dependent on the client's means each moment, pulse improving execution during exercise.

The Covid sickness (Coronavirus) brought about by serious intense respiratory condition Covid 2 (SARS-CoV-2) has gotten worldwide consideration. T he number of affirmed cases across the world keeps on rising. The World Wellbeing Association declared Coronavirus as a pandemic on Walk 11, 2020 [1]. The general population has become more anxious to acquire data about the spread of the contamination . Their endeavors in staying up with the latest with the most recent data about Coronavirus could include existing innovations like watching the public notice on the TV or paying attention to the news on the radio. Notwithstanding, many individuals dislike sitting tight for a live transmission at a decent timetable. Perusing computerized news stories and looking through solid authority sites might be the principle choice for technically knowledgeable people

This is an amazing chance for web or versatile clinical application designers to make a major stage for people in general to give them the data they are searching for. With the progressing of versatile programming and innovation, portable applications have turned into a significant component in our regular routine

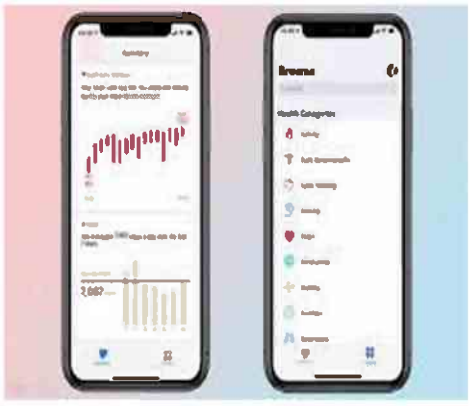

Fig:1-Fitness And Health Apps

The utilization of portable innovation and gadgets has been viewed as fruitful in the medical services setting. The term (mHealth) implies portable wellbeing has been utilized to portray any medical services practice which is upheld by cell phones . For example, a mHealth application might assist wellbeing with caring experts in treating clinical illnesses and teaching patients on self- observing of the sickness just as supporting therapy adherence The utilization of mHealth applications has made medical services and wellbeing data effectively open.

[2]The execution of key highlights in mHealth that can help in finding or manifestation revealing has incredible potential in the administration of contaminations. Also, the mix of applicable epidemiological information and topographical data of communicable sickness commonness in a district will permit the following of cases, which can be utilized as a helpful device to control the spread of contamination. To convey wellbeing related data through applications, as data can be traded quickly and refreshed effectively. Versatile applications might conceivably forestall the event of a specific sickness, as traded messages through a portable application can advance correspondence, stockpiling of data, and message conveyance that drives clients to make sound way of life changes.

As of late the US Food and Medication Organization gave direction and strategy for mHealth applications to guarantee their wellbeing and viability. In the interim, different difficulties spin around data sharing and straightforwardness of administrations offered that could think twice about protection of the application's client. mHealth application use is additionally a central issue among medical care experts on account of the conceivable dispersal of falsehood that could hurt the clients or perusers, as some data and administrations gave are not adjusted clinical rules.

This review means to break down and assess the substance just as elements of Coronavirus versatile applications. The discoveries are instrumental in assisting wellbeing with caring experts to recognize appropriate versatile applications for Coronavirus self- checking and instruction. The aftereffects of the portable applications appraisal might possibly help versatile application engineers improve or alter their current versatile application plans to accomplish ideal results.

I. Methods

We played out a substance examination, correlation, and usefulness evaluation of chose portable applications for Coronavirus. Initial, a quest for Coronavirus portable applications was acted in two advanced stages: the Application Store on the Apple iPhone 8 Or more and the Google Play Store on Oppo R9s and Vivo V9 cell phones. The pursuit was led from April 18, 2020, to May 5, 2020. The district of the Application Store where we played out the hunt was the US, while a virtual private organization (VPN) application named Contact VPN was utilized to find and access Coronavirus versatile applications from all nations on the Google Play Store. The consideration models to get significant mHealth applications included applications dispatched for

cell phone clients and applications that are identified with Coronavirus with no limitation in language type. The prohibition models incorporate versatile applications that are dispatched on different gadgets like iPads, tablets, and workstations; applications intended to give isolated clients their staple or drug store supplies because of containing the infection; and business venture applications intended to gather assets on the side of associations impacted by Coronavirus.

[3]The catchphrases "Covid19," "Covid," "Crown," and "Coronavirus" were utilized to find Coronavirus versatile applications in the Application Store and the Play Store. To guarantee that all significant portable applications were incorporated, a web-based inquiry on Google utilizing the key terms "versatile application," "mHealth," "Covid19," "Covid," "Crown," and "Coronavirus" was additionally directed. All portable applications were then sifted by the Coronavirus significance and were additionally separated by the consideration and prohibition standards. The creators are predominantly capable in the English language, so just applications that help an English language UI were evaluated and inspected. The rundowns of the cycles associated with choosing the important portable applications from the Application Store and Play Store are represented in Figure 1.

The included portable applications were evaluated dependent on their essential elements and functionalities. The essential elements were altered from the framework of created grouping of mHealth applications assessment models proposed by Nouri et al and in the writing. The included seven essential elements were no web necessity, size of application under 50 MB, no membership required (ie, free instructive substance (Coronavirus educating), send out information (sharing of client's information with different stages), (computerized information passage (programmed update of information without client impedance), and warning capacity. When the evaluation of essential highlights was finished, the specialists assembled again to sort the applications into various gatherings as indicated by their motivation and usefulness, by perusing the outline and clarification given by the designers of each included application. The sorted five functionalities of portable applications were information (data on Coronavirus), (following or planning of Coronavirus cases, home observing observation, online interview with a wellbeing authority, and official versatile applications run by a wellbeing authority.

Fig:2- Fitness and Health Apps

The essential highlights of all included versatile applications were screened independently by three scientists. Any conflict was examined until agreement was accomplished. The full substance of the included portable applications were then separately inspected by similar specialists. Any equivocalness was settled by two senior specialists to affirm the usefulness order of all included portable applications. One point was alloted to things that were completely fulfilled. No point was given for every thing that was mostly fulfilled or didn't have any significant bearing. There was a limit of 7 and

5 focuses for the essential elements and functionalities, individually. Clear measurements (frequencies) were utilized to depict the qualities of the applications as indicated by the essential elements and functionalities

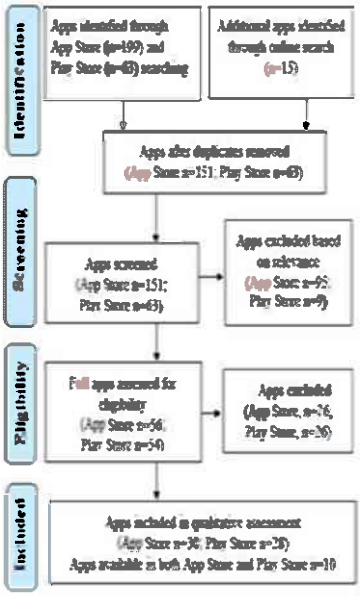

Fig:3- Ststistics of Health Apps

The essential highlights of all included portable applications were screened independently by three analysts. Any conflict was examined until agreement was accomplished. The full substance of the included versatile applications were then exclusively inspected by similar scientists. Any uncertainty was settled by two senior analysts to affirm the usefulness order of all included versatile applications. One point was appointed to things that were completely fulfilled. No point was given for every thing that was part of the way fulfilled or didn't make a difference. There was a limit of 7 and 5 focuses for the fundamental highlights and functionalities, separately. Engaging measurements (frequencies) were utilized to portray the qualities of the applications as per the fundamental elements and functionalities

II. Physical Activity and Health

Normal active work and exercise are useful for working on physical and psychological wellness. It is in this way critical to advance being genuinely dynamic during times of lockdown. The American School of Sports Medication (ACSM) rules suggest 150–300 min each seven day stretch of moderate- power vigorous actual work, for example, working out with rope, video-based high- impact works out, energetic strolling around the house, and 2 meetings each seven day stretch of muscle strength preparing, (for example strength exercises utilizing portable applications, squats, jumps, push-ups, and so on) [4]. Actual work and restoration have been displayed to have explicit advantages, for example, worked on physical, mental, and emotional well-being . Medical care intercessions to advance actual work, conveyed by wearable mon itors, are powerful in advancing actual work . In this way, the execution of organized versatile application based projects during times of lockdown may diminish the adverse effect of latency on the soundness of people, including more seasoned individuals, who have a high danger of contamination. We report here a scope of wellbeing related versatile applications and suggestions for explicit locally established actual work for use as corresponding treatment in times of lockdown.

During times of lockdown, people need to follow social removing or self- disengagement conventions to forestall the spread of Coronavirus. Different versatile based, or tablet-based, wellbeing applications, or games, can be utilized to advance active work during these periods. Actual work (Dad) and energy use (EE) have been displayed to diminish fundamentally during times of lockdown [PA 4,135.7 metabolic same (MET)- min/week, EE 4,221.7 kcal/week]

contrasted and before lockdown [PA 7,809.7 MET-min/week, EE 8,189.8 kcal/week] (7). The point of expanding active work and exercise is to keep up with or work on actual wellness, straight forwardly and routine, upset rest examples, stress, and travel and openness. Actual work and exercise is subsequently fundamental for people in all age bunches during times of lockdown, to keep up with wellbeing and secure the body against Coronavirus.

Fig: 4 - Fitness Apps

III. Virtual Reality - Based Active Work

[5]During times of lockdown, people need to follow social separating or self-confinement conventions to forestall the spread of Coronavirus. Different versatile based, or tablet-based, wellbeing applications, or games, can be utilized to advance actual work during these periods. Active work (Dad) and energy consumption (EE) have been displayed to diminish altogether during times of lockdown [PA 4,135.7 metabolic same (MET)- min/week, EE 4,221.7 kcal/week] contrasted and before lockdown [PA 7,809.7 MET-min/week, EE 8,189.8 kcal/week] (7). The point of expanding active work and exercise is to keep up with or work on actual wellness, straightforwardly and by implication working on safe, stomach related and renal capacities. For instance, practice expands counter acting agent and white platelet levels, to battle contaminations. During and later the activities, an expansion in internal heat level might help the body battle contamination. Contaminations are bound to be connected with horrible eating

The utilization of computer generated reality (VR) in dynamic computer games and exergaming can be utilized as a reciprocal device in restoration. VR games advance people's engine learning, neural versatility, and can be utilized as a supplement to regular activities. VR-

based games could streamline engine working by joining physical and intellectual preparing in a charming and persuading way (8, 9). Our physiotherapy offices suggest the utilization of different exergaming applications: Wii Offset load up with WiiFit, Nintendo Wii preparing, Equilibrium restoration unit, PC unit and Step cushion, a Dance computer game with cushion, Omni treadmill, and I minds Ace pilot test program. These games rouse people in performing locally situated warm-up, obstruction preparing, balance preparing, and running. One review suggests performing 25–60 min of activity, 2–3 times each day, 1– 5 times each week, to advance active work.

IV. Mobile - Based Applications to Advance Actual Work at Home

Portable based applications are a promising apparatus to expand adherence to active work at home, empowering people to draw in with wellbeing data and direction whenever. Data and correspondence innovations are ordinarily utilized in the field of instructive procedures and actual wellbeing. Innovation based intercessions to advance actual work offer an option in contrast to customary consideration (10). Innovations empower people to screen, assess, and educate the presentation of their active work (11). Different mobilebased applications are accessible to download from the web.

Versatile based wellbeing applications for recovery of neurological conditions, like Parkinson's infection, have been demonstrated to be helpful during the Coronavirus pandemic records a portion of the portable based applications that we prescribe to advance active work at home during lockdown. Versatile based active work gives the chance to individuals to rehearse practices and work on their wellness, while remaining at home to control spread of the infection. The utilization of portable based applications might assist with advancing mental and actual wellbeing during times of lockdown, when individuals can't perform ordinary outside active work.

V.Conclusion

i. The physical activity programme using fitness app has shown a positive effect on the cardiovascular endurance of the sedentary peoples.

ii. The fitness of the subjects has improved physical activity programme using fitness app.

iii. The physical activity programme using fitness app has shown a positive effect on beep test levels, distance, time, VO2Max, speed, score, calories and rating of the subjects.

It is therefore concluded that physical activity programme using fitness app is effective and improves fitness, day to habits of sedentary peoples.

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13. New Way to Work from Home using AI

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Abstract

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Keywords - component, formatting, style, styling, insert (key words)

I. **Introduction** ***(Heading 1)***

As of late another talk encompassing the balance between fun and serious activities has arisen supplanting family cordial strategies (Bryson et al., 2000; DTI, 2001a, 2002; Duncan, 2002; Senior member, 2002; Hogarth et al., 2001; Williams, 2000). As indicated by the DTI paying little mind to age, race or sex, everybody can track down a cadence to assist them with consolidating work with their different obligations or desires, and the balance between fun and serious activities includes changing working examples in manners which permit individuals to accomplish this mood. (DTI, 2002) The public authority has acquainted subsidizing for organizations wishing with investigate balance between serious and fun activities drives and ongoing regulation to work with adaptable working for guardians with youngsters younger than six, on top of the family agreeable arrangements presented in the 1999 Business Relations Act. One of the manners by which the public authority recommends that a harmony among work and other life responsibilities may be accomplished is by telecommuting (DTI, 2001a, 2002.) This structures part of a more extensive pattern in which homeworking is introduced as a remedy to the anxieties of working life (Aldrich, 1982; Bulos and Chaker, 1991; Galinsky et al., 1993; Mahfood, 1992; Qvortrup, 1992; Hutchinson and Brewster, 1994; Duxbury et al., 1998; Slope et al., 1996; Mirchandani, 1998; Sullivan and Lewis, 2001). Nonetheless, homeworking is being advanced in this way without a full assessment of its worth or restriction as a supporter of the balance between serious and fun activities..

II. Homeworking Research

A. Homeworking is an expanding peculiarities, somewhere in the range of 1981 and 1998 the quantity of individuals in the UK working mostly from home nearly multiplied ascending from 345,920 to 680,612 (Felstead and Jewson, 2000). In excess of a fourth of England's workforce are accounted for to work part of the time from home (Workforce Study, 2001). This is anticipated to ascend to something like 33% of the labor force by 2006 (Henley Center, 1998).

Fig 1: Home page web diagram

There are numerous meanings of homeworking (Felstead and Jewson, 2000), however our exploration extensively characterized it as any paid work that is done essentially from home (somewhere around 20 hours out of each week). This wide standard hence incorporates those working at home (for example representatives) or telecommuting (for example independently employed) (Felstead and Jewson, 2000). This methodology considered a variety of involvement with homeworkers across the financial range. It accordingly moves past a large part of the exploration in this space that will in general loan authenticity to the encounters of one segment of the homeworking populace by inspecting homogeneous examples of homeworkers.2 Numerous scientists recognize the separated idea of homeworking. Homeworkers are assorted in segment terms and according to sex, abilities and pay. Also not all homeworkers effectively arrange the social, individual, fleeting and actual changes between the limits of home and work (Nippert-Eng, 1996). There are possible troubles and strains that accompany homeworking and teleworking (Transporting, 1998; Gurstein, 1991; Gurstein, 2001; Haddon, 1998; Huws, 1994; Moran, 1993). Homeworking can expand the penetrability of the limit among work and family spaces, making endeavors shuffle work and family timetables to turn out to be more troublesome

(Bulos and Chaker, 1995; Olson and Prepares, 1984; Crossen, 1990; Foegen, 1993; Gottlieb et al., 1998; Madigan et al., 1990; Imperial School of Craftsmanship, 1999; Sullivan, 2000)..

Fig 2: Online Jobs

III. Prepare Your Paper before Styling

Before you begin to format your paper, first write and save the content as a separate text file. Complete all content and organizational editing before formatting. Please note sections A-D below for more information on proofreading, spelling and grammar.

Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you.

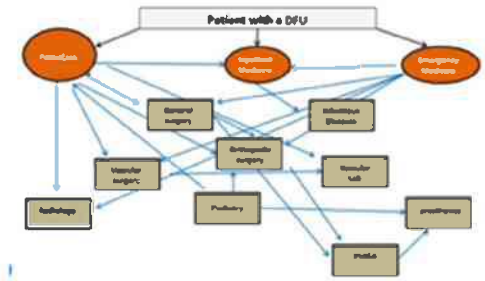

Fig 3: Patient with a DFU

IV. Defining Work–Life Balance

A brilliant style manual for science scholars is [7]. The quest for a harmony among work and the remainder of our regular routines is a genuinely ongoing concern. It has arisen in the midst of developing worries over contemporary segment improvements that are achieving emotional changes in the sex and age of the work power (European Commission, 2002; Work Market Patterns, 2001) and expanded worries inside the UK specifically over its long working hours culture (Dignitary, 2002; Hyman et al., 2002). These improvements have sped up worries over wellbeing and wellness, word related pressure and the troubles in joining work and childcare (DTI, 2001b). The patterns toward adaptable working examples are additionally

impacted by innovative improvements by which business can be led away from the predetermined office climate and frequently at extensively lower monetary expenses, making working at 3am and on vacation de riguer (The Onlooker, 2002). There is a monetary motivation to empower adaptable working which has been unequivocal in any material focused on the business or public area however this remaining parts stowed away where the advantages are being offered to representatives and laborers in general.3 It is significant along these lines to challenge the current view that that their are just sure advantages to be acquired by seeking after the balance between fun and serious activities (Hyman et al., 2002). Joined with the new interest in adaptable working examples has been an expanding center around the home climate as a spot where we work, live, shop and look for diversion (Henley Center, 1998; Moore, 2000). This shift to consolidate work and life all the more viably is important for a recurrent pattern which originates before the modern upset by which home and work were not seen as isolated parts of life spatially or theoretically. Late work has proposed that the reconciliation or detachment of work and home circles

Fig 4: New normal

V. Differences and Experiences: Homeworkers' Lives

The members in this exploration shared a portion of the advantages and challenges in bringing work inside the home. A key subject, which arose out of the meeting and center gathering information, was that there were normal backings and obstructions to fruitful homeworking across the example. For each sure help, there was a bunch of negative hindrances. Anyway generally the distinction in experience was expected to contrasting ability levels, pay or space levels, just as gender.7 This help and boundary subject is coordinated into three segments to outline every one of Williams' everyday issues vital for balance between serious and fun activities.

VI. Care Time and Space

A few benefits of homeworking as of late refered to incorporate commonality and solace, adaptability, self administration, calm and working undisturbed, no movement, being with the youngsters (Daniels et al., 2000; Illustrious School of Craftsmanship, 1999). These were reverberated by our example. This investigation discovered that most homeworkers felt that homeworking managed the cost of them some degree of adaptability by they way they utilized their time, which permitted them to adjust the obligations of their paid work with their obligations of care for other people. The obligations homeworkers said they could oversee all the more effectively incorporated the consideration of life partners, kids, more seasoned individuals or impaired family members too family errands, like cleaning, washing, shopping, planting and covering bills. In any case, there are pressures intrinsic in these benefits, as being with the kids doesn't uphold working undisturbed. Besides, customary homeworkers, accomplishing low-talented work for low compensation, would in general mind their youngsters while they were working, as opposed to most expert homeworkers.

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14. Study Paper on Infrared Wireless Thermometer Using AI (Temperature Monitoring)

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Abstract

There are a lot of certified methods which were developed after years of research and definitely. The most noteworthy exactness is accomplished by a type of actual contact between the estimation gadget and the patient. However, as recent events have shown, there are cases such as virus pandemics, in which avoidance of direct contact with objects that may be used by other people is strongly recommended. The high contagion rate of viruses such as the recent COVID-19 can be best dealt with by achieving highest degree of prevention possible. This paper does a research on infrared temperature measurement. We likewise propose a basic arrangement dependent on IR temperature sensors that could assist with anticipation of infection spreading in packed regions like places of business.

Keywords - infrared sensors, body temperature, health care, flu prevention

I. Introduction (Heading 1)

Viral and bacterial diseases have become very common in our lives. Almost every person catches a cold or even a flu at least once a year and with all the medical research that has been done over the last decades, there is still quite little progress in curing these. The available medicine is mostly just doing a good job easing up the symptoms. Best strategy known so far to deal with highly contagious viruses such as COVID-19 is for people to avoid having contact with any potential virus carrier. Crowded areas(especially closed ones) have increased odds of disease transmission. By measuring the body temperature of each individual that enters a closed area such as an office space, detection of virus carrier in early stages could be possible. However, these methods are usually time consuming and skill dependent. For our purpose, infrared temperature detection might prove to be the best solution.

Infrared usage relies mainly on the fact that the temperature of human body is above absolute zero, a temperature value that is physically impossible. When the body is heated, it emits radiation called "thermal radiation". The IR radiation is emitted by the motion of the atoms and molecules on the surface of the objects which are having temperature above absolute zero.
Infrared radiation is really electromagnetic radiation with a recurrence lower than noticeable light. The emissivity of a body can be characterized as the proportion between brilliant energy produced by it and how much radiation that a dark body would discharge at the very same temperature. Clinical practice believes dry human skin to be an ideal dark body, with greatest emanation frequency at around 9.3μm. The energy emanated by the dark body is characterized by the Planck's law and the Stefan Boltzmann law depicts the unearthly brilliant emittance of a specific frequency. Dry human skin results having an emissivity of around 0.98. There are a great deal of clinical applications that advantage from infrared thermography, including determination of diabetes, joint pain, dermatology or issues like malignant growth or cardiovascular infections. A precision that would empower early location of possibly tainted individuals. [2]

II. Related Research

With recent world-wide events, a lot of studies related to virus spreading prevention are being carried out. One of the most important topics is human body temperature monitoring. A very recent article entitled Investigation of the Impact of Infrared Sensors on Core Body Temperature Monitoring by Comparing Measurement Sites[3]

Does a generally excellent assessment of the exhibition of modern thermometers when utilized on various objective regions, as tympanic or brow. The tympanic most certainly has a temperature that is extremely near the center temperature of the human body [4,5].
However, measuring tympanic temperature is not an easy process, as it requires the probe to be adjusted to the shape of the ear canal. More important, in the context of facing a global pandemic of a virus with extremely high contagion rate, this accurate method is not a solution. However, IRT devices dont exactly have a proven reliability[7].

When using a noncontact IRT, Ng et al. came to the conclusion that a higher temperature than 35.6 o C could be considered as fever. In, a series of measurements are taken using two commercial and one industrial IRT. A statistical analysis is performed over the measurement data. In one experiment, the tympanic temperature in the right and left ears, the forehead

temperature and the wrist temperature of 614 randomly chosen persons was measured using a BRAUN IRT-3020 thermometer. The coefficient of variance (CV) was calculated to determine the accuracy of the measurements.[3]

III. Related Research

With recent world-wide events, a lot of studies related to virus spreading prevention are being carried out. One of the most important topics is human body temperature monitoring. The tympanic definitely has a temperature that is very close to the core temperature of the human body. However, measuring tympanic temperature is not an easy process, as it requires the probe to be adjusted to the shape of the ear canal. More important, in the context of facing a global pandemic of a virus with extremely high contagion rate, this accurate method is not a solution. However, IRT devices don't exactly have a proven reliability. When using a noncontact IRT, Ng et al. came to the conclusion that a higher temperature than 35.6 o C could be considered as fever. In another study, by comparing the relationship between facial skin temperature measured using an IRT and a direct thermometer, it was established that a safe threshold for fever would be 35.5 o C. In, a series of measurements are taken using two commercial and one industrial IRT. A statistical analysis is performed over the measurement data. In one experiment, the tympanic temperature in the right and left ears, the forehead temperature and the wrist temperature of 614 randomly chosen persons was measured using a BRAUN IRT-3020 thermometer. The coefficient of variance (CV) was calculated to determine the accuracy of the measurements. [4,5]

Table. 1. Statistical analysis over performed measurements in the experiment

	Forehead	Wrist	Ear avg.	Ear avg.-Forehead
Mean	34.714	34.164	36.911	2.196
Std dev	0.392	0.455	0.264	0.411
CV (%)	1.129	1.332		
Min	34.0	34.0	35.85	0.15
Max	37.3	36.1	37.7	3.4

Table 1 shows that there is a big gap of around 2.2 °C between ear temperature and forehead measurements on the same subject.

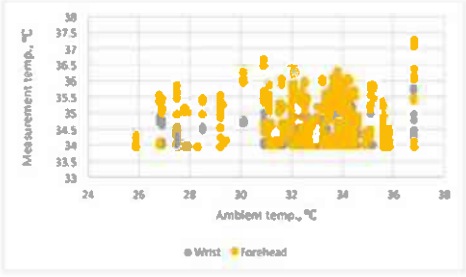

Fig. 2: Forehead and Wrist Temperature Measurement

In Fig. 2, it can be observed that ambient temperature didn't show a very significant influence on the measured temperature. The conclusion of the study is that there is a measurement uncertainty when using IRT. However, forehead IRTs are definitely suited for quick screening and recommended threshold to be used is around 36 o C. Our solution is based on usage of, perhaps one of the most commonly used and cheapest infrared temperature sensors on the market, MLX90614, designed to measure skin temperature with an accuracy of +/- 0.5 o C, in range of 0-60 o C.

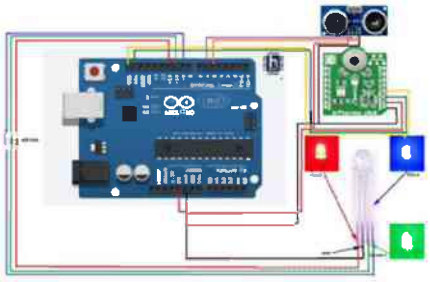

Fig. 1- Schematic of the Proposed Solution

In the proposed scheme (Fig.3) we have the following main components: • Arduino Uno board • MLX90614 infrared temperature sensor • HC-SR04 ultrasonic distance sensor • RGB led The overall cost of components for this project was around 19$, but it can be definitely reduced significantly if purchases are made on a large scale.

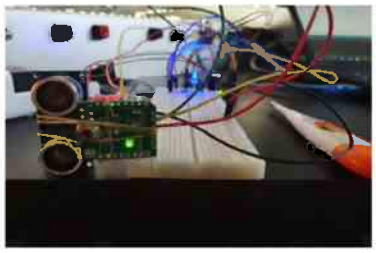

Fig. 3 - Image of the System in Action

The infrared temperature sensor is sending acquired data to Arduino board through I2C interface, measurements being done every 500ms., with an output resolution of 0.14 o C.

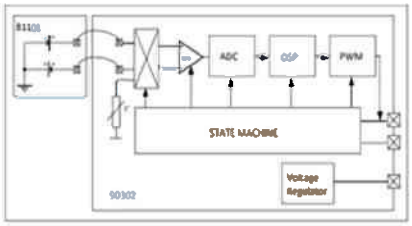

Fig.4 - Block Diagram of the Sensor (MLX90614 Datasheet)

Selecting a Template (Heading 2)

The internal state machine (Fig.5) controls how the ambient and object temperature measurements and calculations are done. There is also some post-processing needed to output the data through SMBus compatible interface. The sensor comes with a factory calibrated emissivity of 1. However, different materials have different emissivity. Usually, IR thermometers make use of radiation flux between the sensitive element of the sensor and the object of interest:

$$q = \varepsilon_1 * \alpha_1 * T_1^4 * \sigma * A_1 * F_{a-b} - \varepsilon_2 * T_2^4 * \sigma * A_2 \quad (1)$$

Where:

ε_1 and ε_2 are the emissivities of the two objects.

α_1 is the absorptivity of the sensor.

σ is the Stefan-Boltzmann constant.

A_1 and A_2 are the surface areas involved in the radiation heat transfer.

F_{a-b} is the shape factor.

T_1 and T_2 are the already known temperature of the sensor die (measured using integrated element) and the object temperature that is needed.

In real life, for any given material, the sum of Emissivity, Reflectivity and Absorptivity equals exactly 1.00, so as long as there is a big difference between environment and object temperature at a set reflectivity, there will also be a significant measurement error. Field of View (FOV) is also extremely important for the accuracy of an infrared temperature measurement. We decided to calibrate the system for correct operation at set distances (typically between 4 and 6 cm). Our system measures the distance between IR sensor and target object through the use of an ultrasonic distance sensor

Fig. 5 - HC-SR04 - ultrasonic sensor

The principle is very simpleThe length of the pulse is proportional to the time it took for the transmitted signal to be detected. So, the distance can be easily calculated:

$$d = 0.034\ cm/\mu s * t\ \mu s \quad (2)$$

Where:

d – distance to object(cm)

$0.034\ cm/\mu s$ – transformed speed of sound

t – time in μs (pulse width on the Echo pin)

The system uses an RGB led to inform the user on the measurement result. There are four defined states:

- White state – distance is ok. Start calculating average temperature
- Red state – measured average temperature is higher than set threshold (36 o C).
- Green state – measured average temperature is lower than set threshold (36 o C).

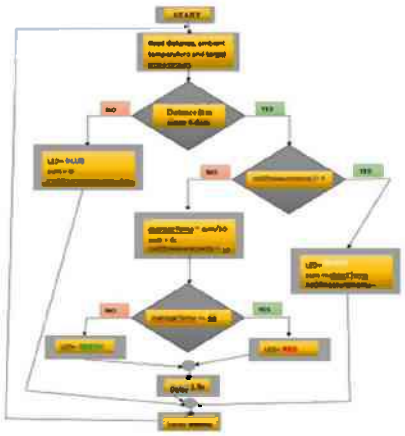

Fig. 6 - Logical Scheme of the IR Temperature Measurement System

In order to achieve better accuracy, the resulted temperature value is achieved as arithmetic mean of 10 consecutive measurements (Fig.7). One complete measurement takes 3 seconds.

Fig. 7: Thermometer Used for in-ear Temperature Checking[12]

In the first experiment, we did over 20 consecutive forehead temperature measurements on the same person at room temperature. Beforehand, the in-ear temperature was measured to be 36.9 o C.

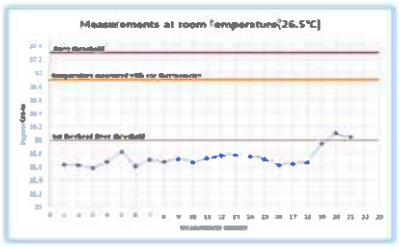

Fig. 8 - First Experiment. Room Temperature Measurements

As it can be observed from the graphic (Fig.9), 2 out of 21 measurements reached the set forehead fever threshold (36 o C), the highest measured temperature being only 0.1 o C over the limit. However, on average, the measured temperatures are around 0.26 oC below threshold, which is close to the 0.4 oC gap between in-ear and generally accepted fever threshold of 37.3 oC (for contact-based measurements).

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \mu)^2} \qquad (3)$$

Using formula in (3), we obtained the following results:

Mean	35.74
Standard Deviation	0.134
CV (%)	0.003
Min	35.56
Max	36.10

In the second experiment, we took the same series of measurements on the same person outside

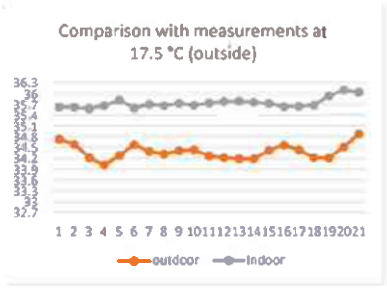

Fig. 9: Second Experiment. Indoor vs. Outdoor

As expected, second experiment (Fig. 10) demonstrates that ambient temperature has a significant influence over the accuracy of the measurements. Our system is calibrated for indoor usage (temperatures between 22 and 27 o C). Statistical analysis is performed in table 3.

Table. 3. Statistical analysis over outdoor measurements

Mean	34.385
Standard Deviation	0.201
CV (%)	0.005
Min	34.02
Max	34.88

V. Conclusions

While IR thermometer offer a convenient way to measure any object's surface temperature, it is crucial to select the right type of device for your application to ensure accuracy in temperature readings. There are infrared thermometers specially made for long-range measurements. Likewise, there are IR thermometer explicitly built for reading high temperatures from a limited distance but with better accuracy.

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15. Role of Ai during Pandemic Fitness and Health Apps

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Abstract

One effect of the Covid-19 lockdowns was a limitation on individuals' capacity to participate in active work in already routine ways. We viewed that movement trackers reminded individuals as dynamic, while virtual training (i.e., video instructional exercises and online classes) assisted them with remaining associated. The lockdown expanded individuals' consciousness of their action levels and eliminated boundaries to work out, for instance by giving them more noteworthy command throughout their time. Be that as it may, it additionally made new difficulties, with absence of reality, wounds because of abrupt changes in action, and tension around lockdown, setting boundaries for actual work. We feature future headings that should be addressed to expand the advantages of active work advancements for individuals attempting to remain dynamic during significant life interruptions.

Keywords - Fitness, Health, Online apps, Lockdown, Pandemic.

Lockdowns in March 2020, wraps of clients changed from going to the rec center, to working out at home with the assistance of wellness applications. Our keep going article on the development of wellbeing and wellness applications announced that introduces blast by 67% in March 2020, trailed by a meetings increase in 48% in May.

More than a year after the fact, as rec centers and wellness studios overall are gradually re-opening, we've analyzed the upward's development in 2021 up until this point. In spite of the fact that introduces are not generally so noteworthy as last year, meetings are moving upwards, showing that applications have performed especially well in holding the clients they obtained during 2020's pinnacle.

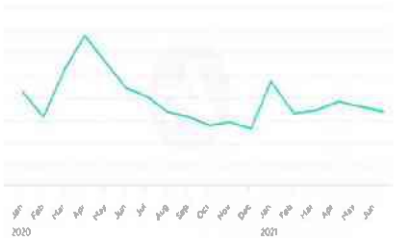

Fig. 1 Graph of Installs Per Day

Introduction

As the coronavirus pandemic confined people within the bounds of their homes on and off since March last year, the fitness industry also saw a major slump. Gyms and other fitness centres were seen to be one of the places where the virus would spread quickly, likely due to shared machines, towels, a lot of shared space, and the heavy breathing that came along with fitness, and so, the avenues to go out and exercise were shut off, at least for some time. While this was enough for fitness lovers to take up exercising from home, others started becoming conscious about their health when the lockdown kept on extending for months last year and they had no option but to take up fitness at home.

Growth of Fitness Apps

Cross country lockdowns and social separating rules in the course of recent months changed the manner in which we use applications. All verticals saw a huge expansion in introduces and meetings in 2020 - however wellbeing and wellness performed uncommonly well. Following the principal

Future of the Health Andfitness Industry

Our information demonstrate that applications have worked effectively in holding their clients, bringing about enormous quantities of individuals picking to stay with portable to remain in shape. Notwithstanding limitations actually impacting client propensities, it's additionally the wealth and various scope of wellbeing and wellness applications that are possible rousing this supported use. Numerous applications offer something beyond exercises and schedules - coordinated gear, wearable innovation, and care/reflections are presently standard.

At the point when nations began shutting down, request developed, application designers tracked down holes on the lookout and responded by making new items. Indeed, even settled physical rec centers were headed to deliver their own applications. Application Annie's State of Mobile 2021 Report assessed that in 2020 more than 71,000 wellbeing and wellness applications

were dispatched worldwide (24,000 in the Apple App Store and 47,000 in the Google Play Store).

Virtual Live Coaches

Associated wellness empowered by savvy innovations is turning out to be progressively famous among wellness devotees in more created markets. Trendy players are empowering individuals to follow their favored wellness systems at home under the direction of a virtual mentor who helps wellness aficionados to address their structures and stances continuously to accomplish ideal outcomes. Intelligent innovations will become much more well known in the post-pandemic world, particularly thinking about that the lockdowns have broken the confusion that wellness preparing is just conceivable in physical exercise centers.

Personalised Workout Plans

Wearable gadgets have turned into a typical sight in the wellbeing space. Wearable innovation empowers wellness lovers to follow their exercises, just as their advancement through an application or a wellness tracker. Such gadgets catch tremendous volumes of information about the client. Driving wellness players are presently utilizing progressed AI calculations to bridle information mined experiences that work with customized exercise and diet designs in accordance with the singular's novel wellbeing profile and destinations. This has prompted better 1.

Outcomes and more client tenacity for the tech-drove stages. There are likewise arrangements being developed that can follow metabolic exercises and vitals during the day to offer clients a more inside and out thought regarding what their eating routine and exercise plan is meaning for their psyche and body. As innovation develops more astute, customized wellbeing systems will get more explicit and exact, conveying more viable results.

Growth, by Number of Downloads

Between Q1 and Q2 2020, health and fitness app downloads grew by 46% worldwide. Here's a look at the regional breakdown:

Region	Download Growth
India	157%
MENA	65%
Europe	25%
Asia-Pacific	47%
Rest of the World	43%
Americas	21%

Fig.2 Download Growth

India saw the most noteworthy expansion in downloads, ascending by 156%. That means 58 million new dynamic clients—practically the whole populace of Italy.

This appears to be legit thinking about that India had the biggest lockdown on the planet—from March 25 to May 2020, 1.3 billion individuals were told to remain inside. That is a many individuals who, out of nowhere, observed themselves to be homebound.

The Middle East and North Africa (MENA) area saw the second most noteworthy development in downloads, at a 55% expansion, trailed by Asia-Pacific with a 47% increment.

Here are Some Wellness Apps to Keep You Happy and Healthy in 2021

1. Calm.
2. Myfitnesspal.
3. Headspace.
4. Sleep Cycle.
5. Nike Run Club.
6. Wakeout!

Fitness App Development Advantages

In the publication by the American College of Sports Medicine (ACSM) on the subject of 2019 fitness trends fitness apps were up at number 13. Brick-and-mortar gyms are having an increasingly harder time to compete against in-app fitness.

Technology is transforming the way industry works.

According to Sensortower, revenue from the top 10 health and fitness apps increased by 61% last year to $327 million worldwide. And the number of fitness app users is expected to surpass the figure of 353 million by 2022.

Wellbeing and wellness applications likewise show the most noteworthy degrees of consistency across all classifications. 96% of clients are utilizing just a single wellbeing and wellness application. This shows that they are devoted to their wellness applications once they begin utilizing them.

Advantages of Fitness Apps

- Monitor Your Diet Easily. Weight watchers or people who want to gain weight can mention the type and amount of foods consumed at each meal.
- Monitor Your Progress.
- Give Free Health and Fitness Tips.

- Track Your Foot Steps.
- Provide Personal Health Coaches.
- All in One Health Tool.
- Keep You Motivated.

Disadvantages of Fitness Apps

- Counting calories doesn't make sense.
- Lack of automation.
- Drained battery.
- GPS problems.
- Community support.
- Too much data.
- Gamification fails to provide long-term motivation.
- Key takeaway.

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6. The fulfilled clients recommend the applications to other people.

16. Case Study: Effect on Education System Because of Covid-19

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Abstract

Indian schooling framework is as yet not experienced at both the metropolitan and provincial region. Early afternoon feast is the program coordinated to draw in the understudies to get instruction. Under these conditions, the government forced a country-shrewd lockdown on March 25th, 2020 to battle Coronavirus, which seriously affects the schooling framework. As indicated by UNESCO, 63 million instructors were impacted in 165 nations. An aggregate of 1.3 billion students all over the planet couldn't join in schools or colleges, and around 320 million students are impacted in India alone. It has changed the customary schooling framework to the instructive advancements model in which educating and appraisals are directed on the web.

Keywords— OECD, UNESCO, MOOC

Introduction

The lockdowns in light of COVID-19 have hindered traditional tutoring with cross country school terminations in most OECD and accomplice nations, the larger part enduring at least 10 weeks. While the instructive local areas have made deliberate endeavors to keep up with learning progression during this period, TV or radio. Instructors likewise needed to adjust to new academic ideas and methods of conveyance of education, for which they might not have been prepared. Specifically, students in the most underestimated gatherings, who don't have admittance to advanced learning assets or do not have the versatility and commitment to learn all alone, are in danger of falling behind.

The COVID-19 pandemic seriously affects advanced education as colleges shut their premises and nations shut their boundaries because of lockdown measures. Albeit advanced education foundations rushed to supplant eye to eye addresses with internet learning, these

terminations impacted learning and assessments just as the security and legitimate status of worldwide understudies in their host country. Maybe in particular, the emergency brings up issues about the worth presented by a college degree which incorporates systems administration and social freedoms just as instructive substance. To stay applicable, colleges should reevaluate their learning surroundings so digitalization extends and supplements understudy instructor and different connections.

The Impact of the Covid-19 on Education

Public Financing on Education in OECD countries

Inspect the Preparation and Pick the Most Important Instruments

Settle on the utilization of high-innovation and low-innovation arrangements dependent on the dependability of nearby power supplies, web availability, and advanced abilities of educators and understudies. This could go through incorporated computerized learning stages, video examples, MOOCs, to broadcasting through radios and TVs.

Ensure Inclusion of the Distance Learning Programs

Carry out measures to guarantee that understudies incorporating those with disabilities or from low-pay foundations approach distance learning programs, if by some stroke of good luck a predetermined number of them approach computerized gadgets. Think about briefly decentralizing such gadgets from PC labs to families and backing them with web availability.

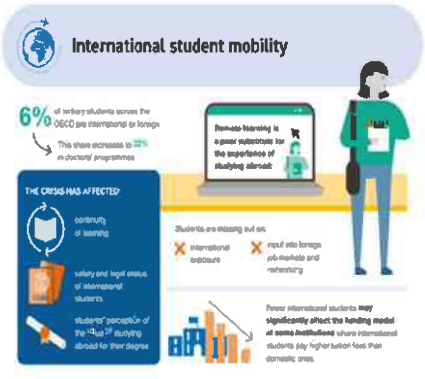
Ensure Information Protection and Information Security

Evaluate information security while transferring information or instructive assets to web spaces, just as when imparting them to different associations or people. Guarantee that the utilization of uses and stages doesn't disregard understudies' information protection.

Focus on Answers for Address Psychosocial Challenges Prior to Instructing

Prepare accessible devices to associate schools, guardians, educators, and understudies with one another. Make social class to ensure standard human affiliations, engage social caring measures, and address possible psychosocial challenges that understudies may defy when they are detached.

Worldwide Student Mobility

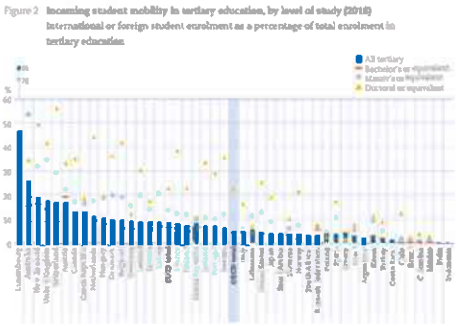


One of the pieces of tertiary preparing which Education At a Glance tracks consistently is worldwide understudy streams. Here future arrivals of this conveyance might reveal a sharp reversal of examples in the year that COVID-19struck. The overall spread of the COVID-19 pandemic brutally affected high level training as schools shut their premises and countries shut their limits as a result of lockdown measures.The emergency has impacted the progression of learning also the conveyance obviously material, the wellbeing and lawful status give crisis monetary guide awards to understudies whose lives have been disturbed The CARES Act Elementary and Secondary School Emergency Relief Fund intends to give monetary backing to school regions impacted by the disturbance furthermore conclusion of schools from COVID-19..of worldwide understudies in their host nations, and understudies view of the worth of their certificate.

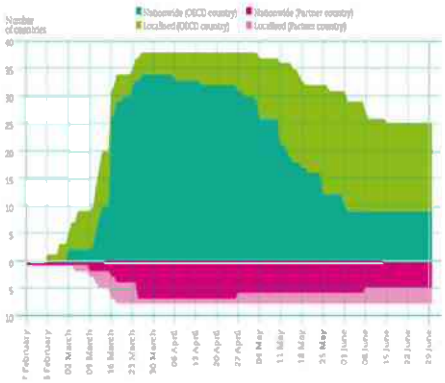
Maybe in particular, the emergency has uncovered the offer of colleges. Understudies are probably not going to submit a lot of time and cash to burn-through on the web content. Understudies go to colleges to meet incredible individuals, have rousing discussions with personnel, team up with specialists in the lab and experience the social life nearby. To stay applicable, colleges will require reevaluating learning conditions so digitalization grows and supplements, however doesn't supplant student teacher and understudy connections. Understudies are previously requesting a fractional discount of their educational expenses and numerous organizations have made favorable to rata discounts on room and board, or have offered charge deferrals. With the enrolment of worldwide understudies for the following scholastic year harshly compromised, this will cut into colleges' main concern, influencing their

center training administrations, yet additionally the monetary help they give homegrown understudies, just as innovative work exercises..

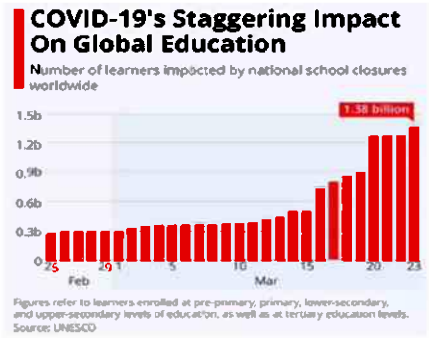
Approaching Understudy Portability in Tertiary Schooling, by Level of Review (2018)



Number of nations with school terminations because of COVID-19



Coronavirus Staggering effect on Global Education



Our examination shows that the effect of the pandemic on K–12 understudy learning was huge, abandoning understudies on normal five months in arithmetic and four months. Behind in examining before the completion of the school year. The pandemic broadened earlier a promising situation and achievement openings, hitting commonly hindered understudies hardest. In math, understudies in greater part Black schools finished the year with a half year of

incomplete learning, understudies in low-pay schools with seven. High schools students have become bound to exit school, and secondary school seniors, particularly those from low-pay families, are less inclined to continue to postsecondary training. What's more the emergency affected scholastics as well as the more extensive wellbeing and prosperity of understudies, with in excess of 35% of guardians entirely or very worried about their youngsters' psychological well-being. The aftermath from the pandemic takes steps to push down this current age's possibilities and tighten their chances far into adulthood. The expanding influences might sabotage their odds of going to school and eventually getting a satisfying line of work that empowers them to help a family. Our investigation proposes that, except if steps are taken to address incomplete learning, the present understudies might procure $49,000 to $61,000 less over their lifetime attributable to the effect of the pandemic on their tutoring. As schools shut their structures in March 2020, understudies kept on advancing in perusing, yet at a more slow speed. Throughout the late spring, we expect that understudies' perusing level remained generally level, as in earlier years. The speed of learning expanded somewhat over the 2020–21 school year, yet the thing that matters was not however extraordinary as it might have been in math, bringing about four months of incomplete learning before the finish of the school year (Exhibit 3). Put another way, the underlying shock in perusing was less extreme, however the upgrades to remote and crossover learning appear to have had less effect in perusing than they did in math.

Acknowledgment

As we investigate the expense of the pandemic, we utilize the expression "incomplete learning" to catch the truth that understudies were not given the chance this year to finish all the learning they would have finished in a run of the mill year. A few understudies who have withdrawn from school by and large might have slipped in reverse, losing information or abilities they once had. The larger part is basically educated short of what they would have in an ordinary year, yet this is regardless significant. Understudies who continue on to the following grade ill-equipped are missing key structure squares of information that are essential for progress, while understudies who rehash a year are substantially less liable to finish secondary school and continue on to school. Also it's not simply scholarly information these understudies might pass up. They are in danger of completing school without the abilities, practices, and mentalities to prevail in school or in the labor force. An exact evaluation of the profundity and

degree of incomplete learning will best empower locales and states to help understudies in getting up to speed with the learning they missed and moving past the pandemic and into an effective future.

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17. Study Paper on Work from Home using Artificial Intelligence

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Abstract

The development of information communication and internet technology is transforming the traditional system of higher education and training into online education by international universities. Students gain the freedom to work and simultaneously study online enrollment at these international universities. If the online education model is considered the next wave in the higher education system, we propose the idea of an online office model as a new system to support the online education model. This paper contains the concept of "Working at Home" an online office maintenance program for organizations and its benefits to customers, employees and service providers. In addition, such a model reduces the cost of travel, having better home food etc. staff and service provider can reduce the cost of office space and maintenance. This online office management system works as a college back office system. This online office acts as a general office system where it performs all the functions related to marketing, admission, registration, online download, online administration, online assignments management, student questionnaires and intelligence, support test-based assessment and finally monitoring the degree / production of diploma certification.

Keywords: work at home, online, employees

Introduction

Telecommuting is seen as people who work from home or elsewhere of their choice outside of the operating environment with an installment provided by the employer. Working from home has a lot of uses recently. As home improvement management systems show that an employee can complete his or her work on the premises. Work will be done remotely. Depends on game / phone game plans where the employee does not need to stay during business hours with his or her supervisor. In today's developing world there is a real need to work from home. In order to continue to improve staff nutrition during a busy and stressful life we need some time for recreation. By telecommunications you can have free access to a particular job with a short

break from individual representatives at work and communication time is extended. [Baruch Y, 2001], [Bussing A, 1998] With the growing number of home-based workers. as a clearly functional policy developed to care for an employee, for example working from home can help by holding active caregivers with child care responsibilities. [Thatcher SMB & Zhu X, 2006] Encourages increased staff motivation with less stress as well. In addition it saves considerable expenditure in presenting the region for different job offices and different offices. A person who communicates by telecommunications can fulfill his or her office duties just as much as a household chore at the same time. Allowing representatives to communicate by telephone to empower high work / health equity can lead to improved social and prosperity.

Working from Home Model

Modeling working from Home Decision

The number of telecommunications representatives has increased significantly [Mateyka, et al, 2012] Telecommuting has significant benefits for both business and employee. As shown by the new experiments conducted regardless of whether the review site is different the results achieved compared to the results compared to the available time compared to the best. There was no improvement in performance from the active circle, however the people connected by telephone were 13% helpful. Records kept by the review office showed a significant increase in the amount of assistance received by representatives at home and in working greater hours than office work. The review found that home-based professionals also announced higher job fulfillment and less work fatigue. [Nicholas Blossom, 2013], [Cascio WF, 2000] [Debra et al, 2005] In addition to our pre-emptive speculation we present a specific model of the impact of telecommunications on: (I) firm benefits, (ii) representative hours, and (iii) and the effects of choice. Strong Benefits: We model the impact on WFH benefits as basically determining four impacts: A) Hours: Number of hours worked since a change of authority (rather than enjoy withdrawal) B) Call rate: Amount (value changed) calls terminated per hour C) Decrease power: Impact on resignation rates (resulting in rental and repair costs) D) Big cost: Impact on funding, office space and gear requirements. An increasing number of people start working without going to work. Instead of driving to the workplace, they stay at home in their neighborhood. Instead of

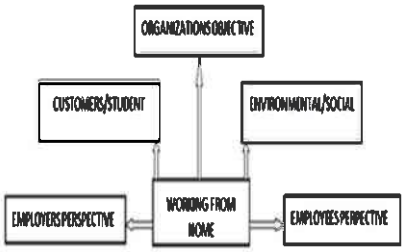
diverting their daily activities from home, they mix it up or try it. Instead of considering the task at hand, they view it as a work in progress. While many enjoy the opportunity to balance between pleasant and serious things with telecommunications, some are surprisingly unable to be kept out of the workplace. [Harpaz, 2002]

Methods of Working from Home

For those who wish to communicate by telephone and who need additional payment or for a parent who wishes to receive payment and stay home with the children, this is the best response for them. There are different types of work, which can be done at home.

a. Phone is very focused: Time and Voice Marketing By assuming you have a unique voice, the ability to quickly collect data.
b. Selling home made items In the event that individuals are having thoughts of making delightful things at home, this is assists them with providing the items while sitting at home. Home made items are given no indications of halting. For example Gifts, Garments, Vegetables (ranchers) and so forth
c. Consultancy Advisors offer their administrations or guidance for a free. Specialists are people, certain individuals use experts for charge or monetary counsel, while others might pay an advisor to encourage them how to set up and keep up with the works. Essentially in the event that advisor is demonstrated their abilities in a space, they can showcase theirself as an expert and offer types of assistance from home. [Herman Miller,2008]

III. ABCD ANALYSIS OF WORK FROM HOME



BENEFITS, Benefits, Requirements and Requirements (ABCD) of the application can be used to analyze and understand the model correctly. According to this assessment method [PS Aithal et al 2015], the adequacy of the action plan can be focused on identifying and differentiating the benefits, benefits, limitations, and detriments by harms by considering different issues such as site management and representatives, student / client perspective and local environment as a square side. shown in Figure 1. The different elements presented under the four visual cues develop as benefits, benefits, limitations, and distractions considering an

independent information integration tool within a particular area. the collection method [EM Rogers and SD Chase, 1994], [RM Morgan and SD Chase 1994] and the basic components that support these components are separated. Factors The telecommunications model is (1) Factors identified by category, (2) Factors identified by management perspective, (3) Staff-related factors, (4) Clients identified / Study Management, and (5) Environmental. / Social features. Allowing employees to work from home in a fully or partially renovated facility can bring a wide range of business benefits - from increased utilization and more significant employee motivation to the efficient use of their facilities. Working from home expands the foundation one can choose from, enhancing their chances of successful enrollment. The spread of homework opens up another opportunity for how organizations can work and design themselves.

Organizational Issues

Delivering Work to the boundaries of space and time through Data Establishment supports new examples of workmanship, with the most consistent flexibility in space and time. Working in a particular place - a place of work - during a certain time - a day of work - is an important aspect of how modern work is integrated north of the two centuries. This approach enjoys many obvious benefits: for people: 'create their time' gives them access to the community, 'gives them pride, the value of humanity. In the organization, 'provides control and communication of the work' makes representatives visible - henceforth they can be directed, evaluated, and created 'dictate key communications for agreement for authorized purposes It speaks to a common, stable design, in which the work can become accustomed. Mostly, for reasons that there is a tendency to be the way he used to do. Apart from the fact that it can bring extraordinary benefits, working with different organizations is far more complicated than working alone. Success lies in the combination of formal and standardized methods of achieving good working relationships at both level and level one.

a. Technical Problems

New inventions are used in almost every organization to accomplish specific tasks. Innovation has changed the way people work and brought happiness to the workplace, down to human error that can be brought about by overwork or stress. Business development such as PCs, tablets, corporations, material systems, bookkeeping planning, client application clients, therefore largely removes workplace barriers and work with them in developing workplace data that accelerates decision-making faster. in any workplace

b. Environmental Affairs

Depending on the cycles they support, remote systems may need to deal with problematic situations such as helpless lighting, unpleasant situations, extreme temperatures and high rate of gadget theft and misfortune. Security is a major concern for some remote applications. Remote information, which goes to open wireless transmissions, is hand-held. Weather conditions are resolved by a complete understanding of who will use the application and how and where it will be used. Security can be enhanced using a combination of methods, from encryption to authentication servers, to private organizations. Negative working conditions can be maintained through the use of a suitable gadget and a decorative willingness, for example, to use earplugs in noisy environments and illuminated presentations of dim light conditions. telecommunications event.

c. The story of the employer / employee

Organizations work best when there is strong communication between managers, representatives and entrepreneurs (for example investors). Choices made as a result of a workforce plan are certainly two-dimensional relationships - for example: Choosing retrenchment and reducing labor costs may be seen as an emphasis on investors, but worse on workers and trade unions. Arrangements to provide flexible operational decisions may be invited by representatives, but may place a heavy burden on the responsibilities of rope access officers. The answer to these conflicts and possible issues is usually found in correspondence. Ultimately, the choice should be taken in the most beneficial way for the business - however it is important to try at least to get the help of different partners.

d. Customer's Story

Ultimately, everyone in the business needs to manage an angry client. The test is to deal with situations that leave the client thinking you are working for an unusual organization. If you think you are lucky, you can ask that person to fill in as a passionate supporter of your image. All things considered, most clients do not try to complain

IV. Conclusion

In light of ABCD examination for the plan of action "telecommuting" different elements influencing the issues of the model alongside their constituent basic components are distinguished and examiner. It is observed that the variables supporting benefits and advantages are more viable contrast with imperatives and detriments of this model, so that telecommuting model might turn out to be more famous from the forthcoming of bosses and representatives in the association later on.

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18. Shirdi Sai Baba E-Darshan during Pandemic Using AI

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Abstract

This short review unites two beforehand random scholastic talks in the field of the investigation of religion. Initially, the academic work on Shirdi Sai Baba – a cryptic, blessed figure whose ubiquity has developed altogether all through the 20th century. Through a study of online sites, using a phenomenological way to deal with portray and decipher the substance of these sites with a specific accentuation on where aficionados of Shirdi SaiBaba impart and express their commitment (bhakti) through the web, a scope of movement is investigated. Close by conventional sites, the utilization of person to person communication, online discussions, synergistic sites, sites dedicated to online custom, sight and sound and live video takes care of, are totally inspected. The review uncovers that a large number of the huge parts of strict life online talked about in the scholarly writing are unmistakably present in the Shirdi Sai Baba sites as well – yet the past typologies and classes detailed by those researchers are not completely sufficient to represent the variety (and expanding intelligence) of how religion is communicated and experienced in the internet in the Shirdi Sai Baba development.. There is proof of both the continuation of 'old media' (like pictures) on the web and furthermore fascinating transformations of existing practices that permit them to prosper in the internet. However there is moreover impressive alert with regards to the apparent prevalence of religion on the web and the truth of how restricted admittance to this new innovation is for most Shirdi Sai Baba enthusiasts.

Introduction

There have been a progression of researchers who, particularly over the previous decade, have noticed the sensational expansion in innovation utilize and have led some underlying investigations that have drawn conditional decisions concerning how this affects religion. How and for what reason are lovers of Shirdi Sai Baba utilizing the web as a mechanism for their

dedication to him? From this a double methodology is taken. There are two essential inquiries: are there particularhighlights of the Shirdi Sai Baba development that make it agreeable to using this new media? Is theresomething about new media that makes it especially amiable to use by the Shirdi Sai Babadevelopment? At last, and critically, are there any issues experienced in both of these? Hence,this unites two until recently random strands of scholastic grant – famous dedication toSai Baba and the web as a mechanism for religion.White, prophetically in the principal insightful investigation of the development distributed in 1972,reasons that Sai Baba is "coming to be viewed as a significant manifestation and may obtain a sort ofskillet Indian devotion"1furthermore he notes Aurobindo and Ramakrishna as people who have accomplished such a status in India. Sikand also composes that Sai Baba is "one of the most generally adored Indianholy people of late time, with an after that rises above all hindrances of rank and community".2AntonioRigopoulos, whose 1993 investigation of Shirdi Sai Baba comprises the most critical and point by point studyof the baffling Maharashtrian figure to date additionally notes Sai Baba's rising to broad reputation.

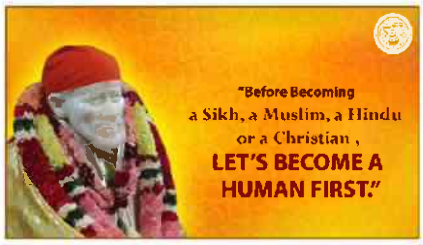

Fig 1: Couple of Sai Baba Experiences

He composes that "Nowadays Sai Baba of Shirdi [...] is the most famous holy person in India", that his"sanctuaries and altars are tracked down all around the nation" and the many pictures of Sai Baba are"pervasive on town and town dividers, in shops, vehicles [...] and he has a spot in practically all family special raised areasfurthermore puja rooms".3Marianne Warren composes of the fast development of the development locally and universally; that"Sai Baba of Shirdi is drawing in a flood of famous dedication, being venerated not just locally inMaharashtra, yet progressively his profound standing is developing all through India – and is presentlyspreading all over the planet".At the finish of her new 2012 article, Be United, Be Virtuous:Composite Culture and the Growth of Shirdi Sai Baba Devotion, which gives specific consideration to themedia used to address the personality of Sai Baba, Karline McLain remarks that Shirdi Sai Baba's"message is currently being spread all through India and abroad through a

scope of new media, includingcomic books, magazines, network shows, films and the Internet"it is the remainder of these, theweb, that this review will concentrate upon.New innovation is seen to have an extensive effect upon religion. Researchers have made intenseclaims that the web is "changing the essence of religion worldwide"6what's more how, progressively, for"an ever increasing number of experts, online strict movement is turning into a critical part of theirgenerally strict life".7Still others have noticed "the Internet is changing religion"

Fig2: Sai Baba Live Darshan

All the more explicitly, Hinduism is set apart out as a strict practice that can well adjust (and is for sure adjusting to) this new media climate. This is most prominently present in crafted by Heinz Schiefinger; he composes that Hinduism's "key qualities – particularly darshan – which fit well with the internet based climate implies that Hinduism is probably not going to go through and revolutionary changes in cyberspace".9 Writing in the Heidelberg Journal of Religion on the Internet in 2010, Christopher Helland also trusts that while thinking about the appearance of the web "Hinduism might be encountering the best effect of this innovation upon their strict tradition"10 given the variety and relative simplicity with which it tends to be consolidated into strict life. With regards to concentrating on the connection among Hinduism and new interchanges innovation, Stephen Jacobs insightfully noticed how the dialogic idea of Hinduism online requests both an comprehension of the strict practices of Hinduism and a mechanical consciousness of the capacities of the new media – a central issue that frames the establishments of the assessment I am doing. He composes that the "correspondence of different parts of Hinduism in new media structures get their shows from going before structures just as the shows of the actual medium"; this implies that "to comprehend the idea of virtual satsangs, it is important to not just examine the nature of PC interceded correspondence yet additionally to ask into the job of the master in additional customary contexts".11 Jacobs isn't the only one to come to this meaningful conclusion; Cowan has made a comparable idea, he composes that "there is a need to lead research that is educated by a profound comprehension of the specific strict customs

at hand"12, one which is mindful of inconspicuous ways in which legalism is brought on the web. There is a need to contextualize what's going on online with the more extensive strict development of which it is a section. Such a methodology will be taken in this exploration.

At long last, the strict personality of Shirdi Sai Baba is maybe one of the most discussed (and antagonistic) topics in progress expounded on him. All through this piece of examination, terms, for example, 'Hindu' and 'Hinduism' are over and over utilized of Sai Baba and his supporters, yet a couple of capabilities about this are significant. Without being brought into the broad discussions encompassing the utilization of these terms, Hinduism in this review isn't seen as a bound together, homogenous element. Vineeta Sinha has suitably put forth this defense, she states: "[u]nquestioning summons of the terms 'Hinduism and 'Hindu' as selfevident and helpful depictions of complex 'strict' situations practically speaking are no more conceivable in academic talks"; she goes further to add: "the name 'Hindu' and the utilization of 'Hinduism' to signify a solitary, brought together, rational strict practice are outsider inconveniences and mutilate gathering of legalism rehearsed in the Indian subcontinent". 13 Yet Sinha likewise concedes that these terms have been taken up by the actual disciples, which has somewhat "legitimized and standardized them as legitimate and significant classes"

Literature Review: There are a couple of key perspectives about the personality of Shirdi Sai Baba and how his supporters deciphered(furthermore still decipher his life) – the first of these is bhakti, an extraordinary love for Sai Baba. Maybe the conclusive scholastic treatment of Shirdi Sai Baba and the Sai Baba development is Antonio Rigopoulos' The Life and Teachings of Sai Baba of Shirdi, distributed in 1993. Rigopoulos' broad review brings together an incredible number of sources and offers the most extensive record about the set of experiences, lessons and practices of Shirdi Sai Baba and the development that created around him. The "principal practice upheld by Sai Baba" as indicated by Rigopoulos "was a consuming affection for his master, to the reason behind engrossing/distinguishing himself with him. Everything is perceived to be the master's beauty. Nothing else is required except for a heart loaded with affection for one's master". 15 according to bhakti Rigopoulos composes that "the subjects of commitment and give up to the educator's will may to be sure have comprised the foundation of [Sai Baba's] strict childhood". McLain's new ethnographic examination features accounts of people whose day to day routines are contacted by the ceaseless presence of Shirdi Sai Baba. 17 He exists effectively as an individual master, a human face of the heavenly who can comprehend and identify with the

exceptionally human issues of his fans. However, as he is heavenly he can act powerfully to influence changes and advantages to those devotees. The helps that he is equipped for giving are ones enthusiastically looked for by his lovers and structure an significant piece of the relationship they have with their adored Sai Baba. The relationship that Sai Baba had with "lovers and guests was extremely close to home and direct, candid conversation". There are a couple of key angles about the personality of Shirdi Sai Baba and how his devotees deciphered (furthermore still decipher his life) – the first of these is bhakti, an exceptional love for Sai Baba. Maybe the authoritative scholarly treatment of Shirdi Sai Baba and the Sai Baba development is Antonio Rigopoulos' The Life and Teachings of Sai Baba of Shirdi, distributed in 1993. Rigopoulos' broad review brings together an extraordinary number of sources and offers the most exhaustive record about the set of experiences, lessons and practices of Shirdi Sai Baba and the development that created around him. The "major practice supported by Sai Baba" as per Rigopoulos "was a consuming adoration for his master, to the purpose in retaining/recognizing himself with him. Everything is perceived to be the master's effortlessness. Nothing else is required except for a heart brimming with affection for one's master". corresponding to bhakti Rigopoulos composes that "the topics of commitment and give up to the instructor's will may without a doubt have comprised the foundation of [Sai Baba's] strict childhood".McLain's new ethnographic exploration features accounts of people whose regular routines are contactedby the never-ending presence of Shirdi Sai Baba. He exists effectively as an individual master, a human face ofthe heavenly who can comprehend and sympathize with the exceptionally human issues of his fans.However, as he is heavenly he can act extraordinarily to influence changes and advantages to those adherents.

Methodology: Perhaps the most generally acknowledged issues with strict study research online is the absence of previous philosophies. Campbell has distinguished the subject of "normalized techniques and hypotheses" as one of the key regions where more work should be done to progress scholarship.100 At last, there is no broad agreement on the techniques generally adept for enquiring about religion on the web – driving Douglas Cowan to infer that "nobody technique ought to decide how research into strict use of or action on the Internet is led". 101 While the 'presence' of Shirdi Sai Baba online is an original part of this exploration, the crossing point among religion and innovation has been the subject of scholarly review for the beyond 20 years. However, the manner by which new innovation is utilized has changed an incredible

arrangement and there will consistently be a need to keep reconsidering the thoughts and speculations set forward by insightful investigations of the past considering the new mechanical turns of events. In this way, a viewpoint that is driven by a fair and definite depiction will consistently be of worth. This has been repeated by a few researchers - Heidi Campbell has expressed: "much work stays at the degree of reporting and characterizing the peculiarity of religion online".102 Likewise, Lorne Dawson also has expressed: "[t]he undertaking of estimating and portraying what is occurring on the Net in conditions of religion has scarcely started". 103 Douglas Cowan as well, trusts that" introductory reviews are significant initial phases in seeing how unique strict customs have tracked down homes on the web". 104 Given how the Sai Baba development online is a region that presently can't seem to be investigated in any grant, a studying approach does to be sure seem like the fundamental "significant initial steps" – to establish a few frameworks for future review.

Prayers Online: Another site what works basically as a correspondence medium – be that between Sai Baba devotees, or correspondence coordinated at Sai Baba himself is 'Shirdi Sai Leelalu' (http://www.shirdisaileelalu.com/). A site that once got many entries daily, it is as it were to some extent working at the hour of this examination.

Fig3 - Sai Baba Mandir Online Pass

This current site's subheading welcomes clients to "converse with Shirdi Sai Baba" and incorporates a statement from the Sai Satcharita, which addresses maybe the most normal topic in the development – ""If you look for my recommendation and help, it will be given to you without a moment's delay. I'm truly living to help and guide all, who come to me, who give up to me and who look for shelter in me". The idea of the petitions posted on the site is regularly unimaginably close to home. Fans uncover close data about themselves, their families and work associates. There is an overflowing of feeling in these petitions to Sai Baba. The actual supplications are basically the same as those referenced prior according to the message sheets.

The primary topic of the supplications includes upset individual connections, medical problems, monetary hardships, and worry over issues at work or school/school. The full array of individual hardships observes articulation in the supplication segment.

Online Puja: In spite of broad looking, a couple 'virtual puja' pages were seen as online devoted to Shirdi Sai Baba – which are all practically the same in their show and the association they offer the client. These incorporate the 'pooja room' at saibaba.org (http://www.saibaba.org/pooja/poojaroom.html) or the less intricate virtual puja presented at Eprarthana.com(http://www.eprarthana.com/virtual/vsaibaba.asp). In the one presented by saibaba.org a picture of Sai Baba taken from the Samadhi Mandir in Shirdi is set over a line of 'virtual' things regularly utilized as a component of a puja ceremondy. Explicit demonstrations are performed by tapping on buttons to the left that start the activity expressed. Here the puja performed at the most hallowed site of Shridi can be reproduced by the web client with only a couple of snaps of their mouse – in liveliness blossoms float to be put around the neck of the murti and the arti light over and again circles the picture of Sai Baba upon a mouse click. Other intelligently situated sites incorporate 'Sai Baba–Questions and Answers' (http://questions.shirdi-sai-baba.com/) where the client is asked to type in their particular inquiry and click a button, "Sai Baba please responded to my inquiry", before an answer is given by Sai Baba. Joined into the page is an enormous representation of Sai Baba, this time not one a taken from a sanctuary, in any case, a more straightforward and somber looking Sai Baba in his kafni. Notwithstanding, this page shows up fairly defective as the client need not type an inquiry in – basically tapping the button uncovers a short piece of guidance from Sai Baba. In any case, for lovers this is another way they could cooperate with Sai Baba on the web. Also, prashnavali.org (http://www.prashnavali.org/) is one of a few sites that utilizes numbers as a way to request counsel from Sai Baba. Clients are approached to follow a genuine of directions – which starts with clearing one's brain prior to thinking about Sai Baba lastly inquiring him for a number to come to you. At the point when a number somewhere in the range of 1 and 720 is gone into the website page furthermore the "Ask Sai Baba" button squeezed, a crate flawlessly slides down from the highest point of the page uncovering Shirdi Sai Baba's reaction.

Fig4 - Live Arti

A practically indistinguishable site in its arrangementisyoursaibaba.com(http:// www. yoursaibaba.com/), albeit this site incorporates a significant data area clarifying the life and lessons of Sai Baba. Here again the client should enter a number to get a customized reaction from Sai Baba. It is obscure how normal or how genuinely these sites are taken by enthusiasts of Sai Baba wanting to acquire some experience of him by means of the web, despite the fact that it is clear that the sites creators themselves trust it to be powerful – at the yoursaibaba.com site they harshly note that "This isn't so much for Fun or Comedy..".

Tragically, as no insights or choices for input are given on the page, it is exceedingly difficult to tell precisely how famous they are with aficionados or regardless of whether they are even considered to be authentic by Sai Baba.

Conclusion

Those parts of the Shirdi Sai Baba development that are so normally examined in scholastic writing (and which I had expected to explore on the web) – the 'composite culture' that brings together strands of both Muslim and Hindu conviction and practice – are entirely uncommon when looking at how lovers of Sai Baba utilize the web. Shirdi Sai Baba's universalism is absolutely present, in pictures portraying Sai Baba with a scope of different gods, his way of life as a Muslim fakir momentarily referenced in a vivified film about his life, and the remarks left on sites that broadcast Sai Baba as a heavenly manifestation similarly as Jesus, the Buddha and Muhammad were all point towards an open, universalist topic. However these aspects of Sai Baba's personality are not at the front in his on the web portrayal. The cases made by Rigopoulos, White, McLain and others, about the universalism of Sai Baba are not generally communicated unmistakably through the web yet it is not necessarily the case that they don't exist by any means. What intrigued me more than anything was a part of dedication to Shirdi Sai Baba that didn't highlight firmly in the scholastic works expounded on him. The utilization of mantras and the act of likhita japa that was a close to omnipresent component on each of the

pages where individuals interfaced with the site is a novel means to rehearse what Helland calls "online religion". Having not highlighted in any of the scholastic investigations I had learned about religion on the web However just as agreeing with their methodologies, there were deficiencies with them. Comprehensively, the congruity of Hinduism and the internet, a thought more than once accentuated by researchers like Heinz Schiefinger, is one that I am leaned to concur with based on this review – albeit, so little is really known and the noteworthy absence of hands on work in this space is certainly one region that should be tended to previously ideas, for example, those made by Schiefinger are to be approved with any certainty. Insightful concentrates on that have centered upon darshan and puja both appear to agree with what I have seen as on the web among Sai Baba aficionados.

The confidence in the all-knowingness of Sai Baba (remembering for the internet) is unmistakably reflected in the very direct manner by which people endeavor to contact him on the web – in their petitions and likhta japa.

The topic of these petitions additionally concurs with the grant, they frequently show a worry with material achievement (occupations, tests, business bargains) that Sai Baba can help with. On the web, as in the 'disconnected' custom, Sai Baba is depicted as both human and heavenly; a baffling figure who lived in the remaining parts of a neglected mosque – he is somebody who communicates an extreme worry in the prosperity (profound and material) of his enthusiasts.

In the opportunity with which he set close by Hindu gods just as heavenly figures from different practices, the universalism of Sai Baba is showed. Be that as it may, the Islamic part of Sai Baba is introduced distinctly with regards to his universalism and is not given uncommon treatment or seen as something key to his person. The fakir Sai Baba talked about in the scholastic writing is seldom referenced on the web.

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19. Health and Fitness App using AI

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Abstract

Unique Nowadays, numerous wellbeing and wellness applications(apps) can be downloaded from application stores, changing the way individuals deal with their wellbeing and persistent sicknesses. This paper ponders 7 years of involvement with versatile wellbeing and fitness application improvement. It investigates the take-up of a health and wellness application, my Fitness Companion®, by the health care industry and end-clients managing persistent illness management. The utilization of my Fitness Companion is analyzed from an end-client viewpoint. The application is accessible via Google Play since February 2011 and the examination presented is dependent on information gathered from 5500+users over a period of 7 months. The paper additionally talks about how mHealth applications could be appropriated soon, just as, the utilization of Personal Health Record (PHR) frameworks like Microsoft Health Vault, and the effect of guidelines on the future ofm Health applications. The end features the difficulties and opportunities for application engineers in the mHealth industry.

Keywords - Health Health and wellness applications. Chronic Disease the board.

I. Introduction

Versatile Health applications, henceforth alluded to as mHealth apps, are wellbeing and wellness related applications running on mobile devices like PDAs and tablets. An increasing number of individuals utilize portable applications to screen their well being r wellness and slowly they are being utilized for prevention, diagnosis and treatment. These applications can be customized and tailored to the client's condition and can be utilized in.

The comfort of their home, office, or even progressing. They are a stage towards pervasive medical services, for example access to health care anyplace, whenever, accordingly permitting chronic disease patients to self-deal with their condition utilizing mobile devices and

remote sensors. The mHealth application market is blasting, and will continue to become significantly over the course of the following not many years, according to a review directed by Frost and Sullivan in2011 [1]. The developing accessibility of wellbeing and wellness apps and expanding number of individuals utilizing advanced cells and tablets urges the medical services industry to take advantage of the possibilities presented by wellbeing and wellness apps. According to the Global Mobile Health Market Report2010–2015 [2], in excess of 33% of the 1.4 billion PDA clients will utilize some sort of versatile medical care application in 2015. At the hour of composing (December 2012),thousands of wellbeing and wellness applications are accessible for down-load on Google Play [3]. Of those, 396 Apps utilize some sort of sensor (for example weight scale, circulatory strain screen, accelerometer, GPS) to gather or determine physiological information. An app can be downloaded free of charge or a couple of dollars that helps the client shedding pounds, screen their pulse or guide the client in their exercise works out. Individuals from more than 190 nations download applications regular and a total of 10 billion downloads have been recorded up to December 2011 [4].Our group has grown such an application called my Fitness Companion [5]. It utilizes remote sensors(Bluetooth, Wifi), or manual passage, to gather physiological data.

II. My Fitness Companion

14 distinct dialects (for example English, Mandarin, French, Spanish) and no advertising effort has been conductedfor a specific country. The application utilizes Google Analytics [2] to gather namelessly utilization information. Google Analytics is an exceptionally compelling device and offers itemized insight in the highlights utilized by my Fitness Companion clients. The results introduced depend on Google Play insights and Google Analytics information from 5500+ clients gathered between June 2011 and January 2012. It gives understanding into the maturity level of the wellbeing and wellness App market for chronic illness the executives from a client's perspective. The objective is to see if clients are willing to use wellbeing and wellness applications, for example, my Fitness Companion, and to examine what conditions are being monitored, and which functionalities of my Fitness Companion are used. My Fitness Companion offers 3 distinct variants of the app (Free, Silver and Gold). For the free form, the number of simultaneous physiological information checking is restricted to 3and 10 estimations can be put away before the client is asked to move up to the paid rendition (Silver or Gold) or to delete old measurements. The Silver adaptation permits limitless assortment of measurements for three

physiological information screens. The Gold form is the top notch adaptation with no restrictions and permits additionally the transfer of estimations to PHR systems such as Microsoft HealthVault®. By far most of paying clients utilize the Gold version. Due to the various forms a few outcomes introduced in this segment are restricted to clients utilizing the paid rendition of the app. The outcomes are additionally restricted to information gathered from users that own an Android telephone gadget and voluntarily want to screen their wellbeing.

The measurements introduced in Fig. 2suggest that the average user owns a standard cell phone that is approx. 1 year old with not really the most recent operating system introduced. At first, the app was just accessible for cell phones however, due to the increasing fame of tablets, a pattern is noticeable that users install my Fitness Companion on tablets as well. Users can set guidelines and input in their own language. As of now, my Fitness Companion upholds English, Mandarin, Spanish, French, Portuguese, Russian, Dutch, German, Korean, Japanese, Brazilian, Hindi, Swedish and Italian. Figure 3shows that English is the most widely used language followed by German and Spanish. It is surprising that Mandarin talking nations appear to be not to use my Fitness Companion. This is as a conspicuous difference with a study directed by Mini Watts Promoting Gathering [5]that puts Mandarin/Cantonese simply behind English as the most used language on the Web. The most probable explanation is that the Google Play isn't accessible in China and therefore the openness of my Fitness Companion is very limited. When checking out the circulation of clients per country(Fig. 4), the information shows that 4 of the best 10 most Application savvy countries [4] use my Fitness Companion: South Korea, the United States, Israel and the Netherlands. Shockingly, 25 %of my Fitness Companion clients live in Germany. However, this is in accordance with writing: A Deloitte's review [1] mentions that the German wellness market has reached a new record high in 2011 and Germany has 7,100 wellness facilities with in excess of 7 million enrolled individuals, which is8.9 % of the all out populace. The report finished up that Germans put expanded worth on actual wellness, and are willing to burn through cash on it. One more article about the75th commemoration of a German donning decoration designation [2] phrases it as follows:"Scarcely a country gets so giddy(literally: tanked) on its own wellness like the Germans."2.2 What are clients checking and how? My Fitness Companion can gather and decipher physiological information dependent on client inclinations and individual thresholds. It empowers clients to change limits and focuses to

suit their particular condition and wellness level. Clients can likewise receive reminders to take their estimation and decide to receive text and voice input. During the review time frame, 40

FIG 1 - Fitness Companion

III. How are users Monitoring Themselves

Manual information section versus remote sensors my Fitness Companion works flawlessly with 15 different wireless sensors. The current rundown of equipment sensors supported can be found in [5]. The application additionally permits clients to enter information physically. To date most clients (88.6 %) enter the data physically and just a little rate utilizes one of the wireless sensors upheld. A potential explanation could be the complexity of blending the Bluetooth sensor with the mobile device. In any case, the application incorporates bit by bit videos showing how to combine a particular Bluetooth gadget [2] and this conquers numerous potential challenges dependent on user feedback got. When set up, the sensors seamlessly integrate with the Application, and how the sensor interfaces with the App is straightforward to the client. There can be distinctive reasons why a specific sensor is more famous than others (e.g.price, notable brand). In any case, manual section is most used as a result of the significantly greater cost of these Bluetooth gadgets contrasted with a non-Bluetooth device and likewise the way that most clients like to continue to utilize their own clinical devices. On-request versus nonstop checking The larger part of measurements are recorded on request (94.5 %) and just a small rate screen persistently their pulse, respiration or oxygen level for a more extended timeframe. This is in line with the perception that my Fitness Companion users mainly screen their pulse, blood glucose and scientist or organization to take necessary steps to prevent unauthorized or malicious use. The paper will explore and answer various questions about the implication of using/not using cybersecurity such as what, how and why my Fitness Companion stores estimations locally on the phone yet additionally permits the client to transfer the

information to a Personal Wellbeing Record (PHR) framework like Google Health or Microsoft HealthVault®. The wellbeing records may then be imparted to wellbeing experts, specialists, and research organizations. Information gathered, show that numerous users take their estimations consistently and transfer these to a PHR. My Fitness Companion interfaced with Google Health until Google chose to shut down the help in December 2011. It became obvious that clients were between ested in PHR frameworks when they requested an alternative. From January 2012, my Fitness Companion associates to Microsoft HealthVault® and it is one of the main Android applications officially supported to transfer and download physiological information to and from Microsoft HealthVault in the USA and the remainder of the world. A formal review process was led by Microsoft to guarantee that the data uploaded and downloaded consents to the principles resource by Microsoft. However, by far most of clients keep the data stored on their telephone (91,7 %) and utilize the inherent graph functionality to see their advancement. Just 5.3 % use my Fitness Companion server and 3.1 % transfers the data to Google Wellbeing. These low rates are most likely related to the way that clients need to have the premium(paid) rendition of my Fitness Companion to be capable to upload information to PHR servers. With the new expansion of Microsoft HealthVault, these numbers will go up in the near future. Data send out my Fitness Companion permits the product (via email) of physiological information in Dominate organization and graphs. Blood pressure (40 %) is most traded which can be explained, since numerous clients need to share their blood pressure history with their GP. Besides, circulatory strain and blood glucose are the most famous physiological information being monitored by my Fitness Companion clients. The commodity of exercise following information (11.7 %) is generally high due to the reality that these clients need to screen and contrast their performance over time. Export with person to person communication destinations my Fitness Companion allows clients to present their estimation results on Facebook or Google+, which can work on their inspiration. An example Facebook divider posting is displayed beneath.

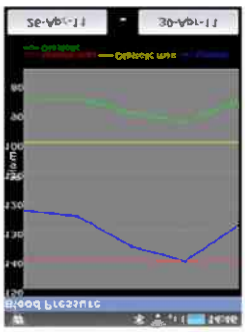
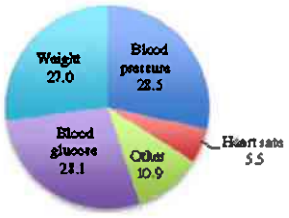


Fig 1.2 Blood Pressure

IV. Summary of users Accepting

In general, the information investigation shows that my Fitness Companion is particularly appropriate for constant sickness patients since they need to gather and screen their wellbeing routinely, and for along period. Circulatory strain, weight and blood glucose monitoring are most utilized which isn't is actually to be expected since they relate to cardiovascular, diabetes and corpulence sicknesses, which are the most pervasive in evolved and emerging nations [3].Each client has various necessities so it is vital to be capable to personalize and arrange the application to the client requirements. A few patients need to get quick feedback regarding their physiological readings, though others prefer no criticism and hang tight for their wellbeing expert to validate the information. Dynamic individuals need the application to be pretty much as unobtrusive as could be expected. My Fitness Companion has been designed with this as a primary concern and permits full personalisation of the app. Simplicity and inspiration, not age, appear to be the key factors for tolerating and utilizing wellness and wellbeing Applications. Atrial with a previous rendition [3] of my Fitness Companion ,which focussed just on arrhythmia identification, affirms that for client acknowledgment the application must be not difficult to utilize and customizable. Most of clients were north of 60 years old, with some in their 80's..The clients view it significant as responsible for their health and monitor their advancement (for example they can work out what triggers changes in glucose levels or blood pressure).However, self-inspiration to record information over a more extended period can be a test without the inclusion of a health professional. As referenced in [14], 'Self-management education for constant sickness may before long turn into an integral part of excellent essential consideration



V.Concusion

This paper finishes up with a short SWOT examination of the user reception of versatile applications for persistent illness oversee ment dependent on writing exploration and experience with my Fitness Companion .Strengths Wellbeing related applications on cell phones are often

easy to utilize and speak to numerous clients. It permits clients to take measurements at whatever point they need to. The applications offer a lot of usefulness for one or the other free or a couple of dollars and health professionals begin utilizing the physiological information collected from these applications in their conclusion. These applications are particularly reasonable for constant sickness patients since they need to collect and screen their wellbeing for a more drawn out time of time independent of a particular location. Usage information gathered from my Fitness Companion® con-firms this and there is an expanding interest by consumers. Particularly, Americans and Germans are early adopters and are ready to pay for these applications. Pulse, weight and blood glucose checking are most well known which relate to cardiovascular, diabetes and corpulence infections, which are the most predominant in evolved and agricultural nations [2].Weaknesses The review features that measurements recorded utilizing mHealth applications are basically entered manually by the client. This takes into account wrong information section, which could undermine its dependability. Self-inspiration to record data over a more drawn out period can be a test without the involvement of a wellbeing proficient. Additionally, with the proliferation of mHealth applications, it is hard for engineers/companies to make it financially feasible, and might bring about poorer solutions or broken applications assuming they are not coordinated in a total start to finish medical services solution. Threats There are critical moves ahead for mHealthapps because of proposed FDA guidelines in the USA [4]. A major issue with the current FDA proposition is that it could stall the advancement of mHealth applications since it is almost impossible to acquire FDA endorsement adequately quick to keep up with the consistent arrival of new PDAs, tablets or operating framework refreshes. Notwithstanding, FDA involvement would eliminate wellbeing applications that make outlandish medical claims. Security and security concerns might forbid the wide adoption because of worries about information break and abuse.

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20. Role of AI in Teaching

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Abstract

Data advances (IT) has impacted each part of human action and play an expected part to play in the field of schooling and preparing, uncommonly, in distance training to change it into a creative type of involvement. The need of new innovations in showing learning process develops further and quicker. The data age turns into a time of information giving sound and unparalleled plausibility to revelation, trade of data, correspondence and investigation to fortify the showing learning process.Information advancements help in advancing chances of information sharing all through the world. These can help the educators and understudies having exceptional data and information. Exact and right data is essential for compelling educating and learning; and data advances (Haag, 1998; p.10) are "set of instruments that can assist with furnishing the perfect individuals with the ideal data at the ideal time." Students are free and they can settle on most ideal choices about their investigations, learning time, spot and resources.Students can work in communitarian and intelligent learning conditions adequately imparting, sharing data and trading thoughts and learning encounters with all in the climate. Watchwords—part, designing, style, styling, embed.

I. Introduction

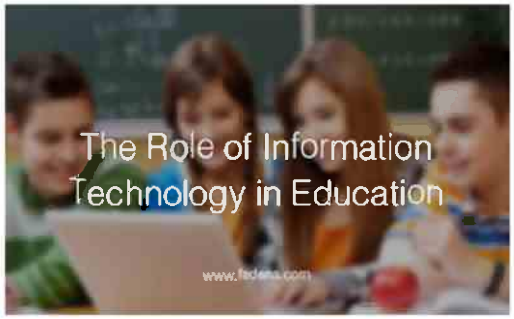
One of the fundamental elements of training is arrangement of understudies forever. this capacity in 21st century might be investment in a data rich society, where information is viewed as the principle hotspot for socio-social and politico-prudent advancement of nations and additionally countries. data rich social orders are created and ruling and they are controlling the data all through the world. data includes and depends on the utilization of various channels of correspondence, as of now called data and correspondence advancements (hussain, 2005) and would join better educational techniques to adapt to such arising circumstances. These have changed the situation of training especially, teaching method and guidance making showing learning process more useful making community, student focused and intelligent worldwide

learning conditions. In this manner, data innovations are accepted to assume useful part in instruction to make the educating and learning process more useful through joint effort in a data rich society. Data rich society advances new practices and ideal models for instruction where the educator needs to assume new part of tutoring, training and aiding understudies in their examinations rather to assume the customary part of coddling in the homerooms. Understudies can adapt freely having a wide decision of program choice and admittance to data. Understudies can be engaged with ability situated exercises in bunch mastering conditions for amassed information. They can connect and impart learning encounters to their instructors and individual students in information development and scattering process. They can get and utilize data of numerous sorts in more valuable and useful calling rather relying on the instructor. Branson (1991) expressed that understudies learn by the instructor as well as learn alongside the educator and by connecting with each other. Without a doubt, presently understudies can learn considerably more than that the educator instructs in regular learning conditions. For useful showing learning process instructors and understudies need to utilize data advancements as per their necessities and accessibility.

III. Information Technologies

The Historical Backdrop Of Data Stockpiling And Spread Demonstrates That Individual Utilized Various Things For Data Stockpiling, Its Showcase And Transmission. In Various Ages Individuals Utilized Various Materials And Techniques For Correspondence, For Example, Shakes And Stones, Papyrus, Palm Leaves, Creature Calfskin And Carefully Assembled Compositions For Putting Away And Sending The Data Starting With One Spot Then Onto The Next And To The Future. These Methods For Data Were Restricted And Bound To The Elites However "The Approach Of Printing Empowered Data To Be Really Inescapable All Through The World To Move To A More Impartial Level As Far As Admittance To Information" (Menon, B., 2000, P.Xi). As Of Now, Information Might Be Viewed As Power And It Comes From Having Data. Data Incorporates And Depends Upon The Utilization Of Various Correspondence Channels Or Advances – Called Data Advances, For Its Adequacy And Equivalent Access. Data Advances Might Broaden Information Past The Topographical Limits Of A State Or Nation Giving Important Data To The Significant Individuals Nonstop. Data Technology "Is Any Pc Based Device That Individuals Use To Work With Data And Backing The Data And Data Handling Needs Of An Association" (Haag. 1998; Pp.17. 518). It

Incorporates Pcs And Its Connected Advancements; Www, Internet And Videoconferencing And So On Data Innovation Can Be Utilized To Advance The Chances Of Information Spread. It Can Help The Instructors And Understudies Having Modern Data And Information. Prepare Your Paper Before Styling



Iii. Information Technologies and Teaching Learning Process

Utilizing data innovations understudies can choose about their examinations, learning time, spot and assets in a superior way. Understudies can work in more strong conditions, look for help from educators and colleagues, and offer their learning encounters and thoughts in heartfelt and useful style. Dede (1996, p.4) expressed that the improvement of elite execution figuring and correspondence is making new media like the Www and computer generated realities.

Thusly these new media empower new kind of messages and encounters, for example, relational cooperations in vivid manufactured conditions lead to the development of virtual networks. The inventive sorts of instructional method engaged by these arising media and encounters advanced the chances of distance training and at present virtual schooling and wiped out the obstructions of distance and time. New and inventive learning encounters would be upgraded and empowered by these innovations, as by virtual networks, which exist by connections across the globe through worldwide organization of PCs nonstop.

The worldwide sharing of encounters would make conceivable the gathering show type of guidance in distance instruction. Distance schooling includes and depends on the utilization of data innovations to make learning more useful and more individualized, to give guidance a more logical base and make it suitable and more powerful, learning more quick and admittance to assets more equivalent. These astounding angles can extend the quality and amount of educational assets. They can serve students at their simplicity as far as overall setting. Rashid (2001, p.270) expressed that: ¾ Both instructors and students can work with others at remote

destinations. ¾ The people group of students can grow to incorporate essentially any individual who wishes to acquire data and who isn't prohibited by strategy or cost. ¾ They can give genuine admittance to specialists in colleges, research labs, the business local area, government offices and political workplaces. Data innovations can advance the chances of rebuilding the showing learning process.

IV. Students Use Information Technologies to

1. Participate in a media revolution, profoundly affecting the way they think about and use information technologies.
2. Improve the ways of learning in new learning fashions
3. Extend the ability and skills of applying their learning in real situation.
4. Working in groups for cooperative and collaborative learning
5. Developing self-learning habits at their own pace and time.
6. Learn with the teacher rather by the teacher.
7. Develop inquiry-learning habits.
8. Use right information at right time to achieve right objective.
9. Review and explore qualitative data.
10. Exchange learning experiences and information with others students and teachers living anywhere in the world

Lockdown and social removing measures because of the COVID-19 pandemic have prompted terminations of schools, preparing organizations and advanced education offices in many nations. There is a change in perspective in the manner in which teachers convey quality schooling—through different internet based stages. The web based learning, distance and proceeding with training have turned into a panacea for this uncommon worldwide pandemic, in spite of the difficulties presented to the two instructors and the students. Changing from conventional up close and personal figuring out how to web based learning can be a totally unique encounter for the students and the instructors, which they should adjust to with practically zero different choices accessible. The instruction framework and the teachers have taken on "Training in Emergency" through different web-based stages and are constrained to embrace a framework that they are not ready for.

E-learning instruments have assumed a critical part during this pandemic, helping schools and colleges work with understudy picking up during the conclusion of colleges and schools

(Subedi et al., 2020). While adjusting to the new changes, staff and understudy availability should be measured and upheld likewise. The students with a proper outlook think that it is hard to adjust and change, though the students with a development attitude rapidly adjust to another learning climate. There is nobody size-fits-all instructional method for internet learning. There are an assortment of subjects with differing needs. Various subjects and age bunches require various ways to deal with web based learning (Doucet et al., 2020). Web based adapting additionally permits genuinely provoked understudies with more opportunity to take an interest in learning in the virtual climate, requiring restricted development (Basilaia and Kvavadze, 2020).

V. Challenges in Teaching and Learning

With the accessibility of an ocean of stages and online instructive apparatuses, the clients—the two teachers and students—face continuous hiccups while utilizing it or alluding to these devices. A portion of the difficulties distinguished and featured by numerous scientists are summed up as follows

Extensively recognized difficulties with e-learning are availability, moderateness, adaptability, learning teaching method, deep rooted learning and instructive arrangement (Murgatrotd, 2020). Numerous nations definitely dislike a dependable Internet association and admittance to advanced gadgets. While, in many non-industrial nations, the monetarily in reverse kids can't manage the cost of internet learning gadgets, the web-based training represents a danger of openness to expanded screen time for the student. Consequently, it has become fundamental for understudies to take part in disconnected exercises and self-exploratory learning. Absence of parental direction, particularly for youthful students, is another test, as the two guardians are working. There are functional issues around actual work areas helpful for various methods of learning.

The naturally persuaded students are somewhat unaffected in their learning as they need least management and direction, while the weak gathering comprising of understudies who are feeble in learning face troubles. Some scholastically capable students from financially burdened foundation can't get to and bear the cost of web based learning.

VI.Conclusion

The review on the effect of the COVID-19 pandemic on instructing and learning across the world reasons that albeit different investigations have been done, on account of emerging nations, appropriate teaching method and stage for various class levels of higher optional, center and essential schooling should be investigated further.

Web transfer speed is moderately low with lesser passages, and information bundles are expensive in contrast with the pay of individuals in many non-industrial nations, in this manner making availability and reasonableness deficient. Strategy level intercession is needed to advance the present circumstance. Further investigation and examination on compelling instructional method for web based educating and learning is a region for research. Need for creating instruments for legitimate appraisals and convenient input is viewed as one more space of study. The reasonableness and availability for every one of the students of fluctuated financial foundation is recognized as a test, for which the instructive devices engineer could zero in on customization. The arrangement level mediation is likewise fundamental. Training framework across the world including Bhutan needs to contribute on the expert advancement of educators, particularly on ICT and compelling instructional method, thinking about the current situation. Making internet showing imaginative, inventive and intelligent through easy to understand instruments is the other space of innovative work. This would help and set up the instruction framework for such vulnerabilities later on.

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21. Stock Market Response during Covid-19 using AI

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Abstract

The examination researches the effect of the lockdown time frame brought about by the COVID-19 to the securities exchange of India. The review inspects the degree of the impact of the lockdown on the Indian financial exchange and regardless of whether the market response would be something very similar in pre-and post-lockdown period brought about by COVID-19. Market Model Event concentrate on strategy is utilized. An example of 31 organizations recorded on Bombay Stock Exchange (BSE) are chosen indiscriminately with the end goal of the review. The example period taken for the review is 35 days (24 February - 17 April, 2020). An occasion window of 35 days was taken with 20 days preceding the occasion and 15 days during the occasion. The occasion (t1) being the authority declaration of the lockdown. The outcomes demonstrate that the market responded emphatically with essentially certain Average Abnormal Returns during the current lockdown time frame, and financial backers expected the lockdown and responded decidedly, though in the pre-lockdown time frame financial backers froze and it was reflected in regrettable AAR. The review tracks down proof of a positive AR around the current lockdown time frame and affirms that lockdown decidedly affected the financial exchange execution of stocks till the circumstance works on in the Indian setting.

Keywords - Coronavirus; Event study; Lockdown period; Stock Market; Abnormal Retur.n

Introduction

The episode of Covid has caused a pandemic of the respiratory infection (COVID-19) for which antibodies and designated therapeutics for treatment are inaccessible (Wang et al. 2020). The pandemic caused central issue for general wellbeing just as the economy of the world. The COVID-19 is the abbreviation utilized for Corona Virus Disease 2019. This infection causes a pneumonia of obscure reason originally distinguished in Wuhan, China, and first answered to the World Health Organization (WHO) on 31st December, 2019. The World Health Organization

reported the authority assignment of this destructive infection on February 11, 2020. On March 11, it proclaimed COVID-19 a pandemic, highlighting more than 118,000 instances of the Covid ailment in 110 nations and regions all over the planet and the supported danger of further worldwide spread.(Time 2020)

India is the country with the second biggest populace on the planet. According to World Bank information, India is home to 176 million destitute individuals and furthermore has most reduced positions in neatness and clinical offices from one side of the planet to the other, and it will end up being a catastrophe if COVID-19 is spreading to its populace. In any case, India was not a long ways behind, and the principal case was accounted for on 30 January, 2020; by 17 April 2020, 14,376 individuals kicked the bucket (Deccan Herald 2020). Without better ways of life and general wellbeing, it was main issue for the Government of India under Prime Minister Narendra Modi, who declared and requested a cross country lockdown for 21 days on 24th March, 2020 for forestalling the spreading of the infection, and on 14 April, the Prime Minister expanded the cross country lockdown until 3 May.

Literature Review

Since, the COVID-19 was announced pandemic by WHO, there is a shortage of studies identified with COVID-19 effect on securities exchange, as it is another worldwide turn of events. Some examination has been done to break down the effect of COVID-19 on various economies, however the number is still little.

Ramelli and Wagner (2020) look at the market responses to the COVID-19 on the global exchange and monetary strategies of the firm and observed an unfortunate result for universally situated US firms, particularly those with China openness and the US; markets moved hotly when the infection spread across Europe and the US. The creator finished up how the wellbeing emergency caused the monetary emergency that intensified through different monetary channels.

Adda (2016) endeavored to resolve some issue identified with the financial movement and spread of viral illnesses, issues like the unseen side-effects of monetary action on the spread of contaminations and how to dispense the restricted assets to restrict the spread of the diseases, and utilized semi exploratory variety to assess the significance of the police, requested by the public authority to decrease relational contact and conclusion of public vehicle organizations, and observed that it diminished the sickness, however this action isn't costeffective and results are likewise showing that this spreading of disease is touchy to monetary conditions.

Hang (2016) examines the hidden elements of offer market rises in China during the new decade and observes obstruction in the data caused huge volatilities in the Chinese offer market. Blockage of data forestalls the offers to react to monetary conditions just as outer shocks and it increments or diminishes the interest for shares when the stock is hard to change. Data additionally has the impact on the exhibitions of the securities exchange of India; uplifting news or data decidedly affect the exchanging of offers and inflows, while awful news or data have an adverse consequence that causes the high unpredictability which brings about weighty surges on the lookout

Benefits of Online Stock Trading

Whether or not you're an accomplished stock broker or new to stock exchanging, there are many advantages of stock exchanging on the web:

1. Work at home

PCs and web has advanced web-based stock exchanging and taken the business sectors to another level. Presently you can exchange stocks from the solace of your home. With simply a PC and a web association, presently exchange stocks at a tick of your mouse. Bring in cash even at home alongside your day to day life. This is one of the central stock exchanging benefits.

2. Low Commissions

Gone are the days when you were helpless before not many stock dealers who might charge weighty enormous commissions on any exchange done. With the approach of PCs and web, hordes of stock financier firms have mushroomed from one side of the planet to the other. Contending with one another to get the greatest customers, they offer low commissions, most recent exchanging advances and different offices to draw in customers. Low commission is one of the primary advantages of stock exchanging.

3. Complete Opportunity

With many stocks to browse, you have the total opportunity to put resources into any stock you like. You are your own lord. Do your own exploration and settle on your own choices.

4. No Time Bar

One more benefit of online stock exchanging is that it has eliminated record-breaking requirements and limitations. You can exchange stocks any time and night whenever the timing is ideal.

5. Bring in Cash in Minutes

You can rake in boatloads of cash inside merely minutes, assuming you are knowledgeable with regards to the patterns in financial exchange. The time it takes to execute the exchange online is as old as clicking your mouse.

6. No Venture Limit

One more principle advantage of online stock exchanging is that you are not bound to any venture limits. You can begin exchange a stock with as low or as high of a sum that your pocket permits.

7. Speedy Returns

In contrast to some other business, in stock exchanging, you don't need to trust that quite a while will get your profits. Also there are no issues of promoting your merchandise or charming the clients by offering appealing plans.

8. No Experience Required

One of the other stock exchanging benefits online is that you don't need any proper training or experience. One simply needs to gather as much data as possible to turn into a little stock exchange wise. With time and experience, anybody can start their method for loading exchanging begin bringing in cash from the very beginning.

Stock Market Investment

Disadvantages of Online Trading

First time financial backers might get sucked into all innovation and may briefly fail to remember that they are really utilizing genuine cash.

There is no tutoring connection between proficient dealer and an internet exchanging account holder, forgetting about the financial backer all alone to simply decide

Beginners curious about the in and outs of the financier programming can commit exorbitant errors.

- The upside of internet exchanging is the chancesof losing the exchange. In the event that the component or framework flops because of the less speed of web association, the financial backer can endure abig disappointment.
- The other hindrance is in regards to the charges of the web-based representatives. As some web-based intermediaries charge lack of care expenses from dealers. Assuming you trust them without enquiring about them it will end up being a major misfortune for you.
- There is more serious danger on the off chance that exchanges are done widely on edge month to month programming utilization charges.
- The time affectability in nature prompts the outcome that most choice lapses useless. This suggests on each merchant of web based exchanging.
- The drawback side of online stock exchanging is monetary danger. However there have been other negative components noted in exchanging gatherings, the one thing that one ought to know about is the danger part that internet based stock exchanging gives.

Stock Market

Trading Procedure on a Stock Exchange

The Trading system includes the accompanying advances

1. Determination of an Intermediary

The trading of protections must be done through SEBI enrolled intermediaries who are individuals from the Stock Exchange. The agent can be an individual, organization firms or corporate bodies. So the initial step is to choose an agent who will purchase/sell protections for the financial backer or theorist.

2. Opening Demat Account with Depository

Demat account allude to a record which an Indian resident should open with the storehouse member (banks or stock intermediaries) to exchange recorded protections in electronic structure. Second step in exchanging system is to open a Demat account. The protections are held in the electronic structure by a storehouse. Vault is a foundation or an association which holds protections . At present in India there are two stores: NSDL (National Securities Depository Ltd.) and CDSL (Central Depository Services Ltd.) There is no immediate contact among vault and financial backer. Store collaborates with financial backers through safe members as it were.

3. Submitting the Request

Subsequent to opening the Demat Account, the financial backer can submit the request. The request can be set to the intermediary either by and by or through telephone, email, etc.Investor should put in the request unmistakably indicating the scope of cost at which protections can be traded.

4. Executing the Order

According to the Instructions of the financial backer, the dealer executes the request for example he trades the protections. Dealer readies an agreement note for the request executed. The agreement note contains the name and the cost of protections, name of gatherings and financier charged by him. Contract note is endorsed by the representative.

5. Settlement

This implies genuine exchange of protections. This is the last stage in the exchanging of protections done by the representative for their customers.

Common Intra-Day Stock Market Pattern

Conclusion

The COVID-19 pandemic has impacted the worldwide economy of which India is a major member. India is the country with the second biggest populace on the planet, so the pandemic is particularly risky for India. The COVID-19 impacted practically generally financial exchanges all over the planet. The world halted because of the infection episode and it drove the world into the incredible emergency of the century. The all out lockdown and social separating is the main answer for forestalling the spreading of the infection until an antibody is accessible. India additionally reported the lockdown as a defensive measure, however India declared somewhat late and this is clear through the pre-lockdown time frame where AAR was negative. The declaration of the lockdown was taken emphatically by the financial exchange that was reflected in the financial exchange reaction; this is anything but an optimal circumstance, yet at the same time there is a possibility when the lockdown is lifted and COVID-19 is annihilated from the country, the financial exchange will recuperate.

The review tracks down the proof of a positive AR around the current lockdown time frame and affirms that the lockdown emphatically affects the financial exchange execution until the circumstance works on in the Indian setting. Notwithstanding, the outcome remains constant for the select example of BSE-recorded organizations and during the period considered for the review. It can't be summed up for other exchanged stocks, nor in different periods later on or in an alternate market climate. The ramifications of this review are that financial backers can make preparatory strides prior to exchanging stocks during the time of a lockdown. Hazard opposed financial backers can try not to exchange around the lockdown to stay away from the danger connected with instability of stocks in the lockdown time frame. The aftereffect of this review will help financial backers as it might assist them with bettering comprehend and assess the effect of the lockdown on securities exchanges brought about by COVID 19.

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22. Importance and Concept of Work from Home during Pandemic

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Abstract

The pandemic sweeping the world, COVID-19, has rendered an oversized proportion of the force unable to commute to work, on mitigate the unfold of the virus. As a result, businesses and employees are looking for various work arrangements, especially in a fast-paced metropolis like Hong Kong. Because of the epidemic, most, if not all, employees worked from home (WFH). As a result, several countries have made WFH a policy priority. In doing so, the policies should be created keeping in mind the usefulness for both employers and employees. However, this current state of affairs provides distinctive insight into however well working from home works, and will play a pivotal part in regulatory frameworks that modify the existing operational hours structure, probably leaving a lot of flexibility. victimisation Associate in Nursing alpha framework and a SWOT analysis, this study investigates the continued expertise of the leader and staff face. For future policy decisions, a crucial insight and related recommendations are formed. it'll conjointly critically investigate if this work arrangement will stay as a ephemeral component responding to the exceptional circumstances, or whether or not it might be a permanent arrangement.

Keyword: employees, online, work from home, pandemic.

I. Introduction

Fleeing from the nice Plague that reached Cambridge in 1665, Newton people to his country home wherever he continued working for following year and a half. throughout this time, he developed his theories on calculus, optics, and therefore the the} law of gravitation—fundamentally ever-changing the trail of science for centuries. Newton himself delineated this era because the most efficient time of his life [1]. is functioning from home so the key to potency for scientists also in fashionable times? an answer for working while not disturbance by

colleagues and having the ability to manage a work-life balance? What personal and skilled factors influence the relation between productivity and dealing from home? These are the most queries that the current paper aims to tackle. The Covid-19 pandemic provides a novel chance to investigate the implications of performing from direct nice detail.Working aloof from the normal workplace is progressively an choice in today's world. The development has been studied below numerous, part overlapping terms, cherish telecommuting, telework, virtual office, remote work, location freelance working, home office. during this paper, we'll use 'working from home' (WFH), a term that usually covers working from any location excluding the dedicated space provided by the employer.The observe of WFH and its impact on job potency and well-being are fairly well explored outside of academe [2, 3]. WFH has been on the rise for decades, thanks to increased internet access and private IT infrastructure.. In 2015, over 12% of EU employees and close to one-quarter folks staff worked a minimum of partially from home. A recent survey conducted among 27,500 millennials and information Z-s indicated that their majority would really like to figure remotely a lot of ofttimes [6]. The writing recommends that people performing from home would like adaptability for different reasons. Home-working could be a typical resolution for people who ought to take care of dependent youngsters however several staff simply look for an improved work-life balance and also the comfort of another work setting.

Fig 1.1 Workplace Challenges Faced during Pandemic

I. Work from Home

Several research in the economics and control literature have explored the consequences of WFH preparations inside unmarried groups previous to the pandemic. A randomized managed trial in a Chinese call-middle located proof of tremendous will increase in employee productiveness after employees may want to pick out into WFH preparations (Bloom, Liang, Roberts, & Ying, 2015). While this have a look at carefully illustrates the viable advantages of

WFH, it's miles difficult to extrapolate its findings to much less standardized and routinized occupations which might be normally related to understanding employees.[5] Choudhry, Foroughi, and Laron (2020), however, additionally located clean advantages in WFH in an test that allowed patent examiners from the USA Patent and Trademark Office to choose into WFH. Patent examiners, however, usually paintings independently . Therefore, the quantity to which the advantages of WFH might increase to occupations characterised via way of means of a better want for group paintings and coordination, and on managers in particular, isn't always but known. We additionally do now no longer understand the quantity to which pre-pandemic research can be extrapolated to apprehend the impact of a WFH in emergency contexts together with those compelled via way of means of the pandemic (for example, faculty closures, commercial enterprise disruptions, etc.). A latest have a look at of forty understanding employees compelled to do business from home throughout COVID reveals proof of a few productiveness advantages of WFH, anyway furthermore a couple of issues round longerterm viability, imagination, and private strength (Birkinshaw, Cohen, and Stach, 2020).Evidence from a massive pattern of electronic mail and conferences metadata indicates stark 7 will increase in digital conferences and emails after government-enacted lockdowns throughout COVID (which successfully compelled WFH on massive samples of employees), potentially as a way to make amends for the absence of real interactions(DeFilippis, Impink, Singell, Polzer,&Sadun, 2020). This task contributes to the WFH literature in more than one ways. First, plenty of the studies on WFH has usually targeted on employees that behavior standardized tasks (Bloom et al., 2015; Harrington & Emanuel, 2020) or which might be in exceptionally specialised fields (Choudhury et al., 2020; Myers et al., 2020). We make contributions to this literature [6]via way of means of analyzing the effect of WHF preparations on a greater diversity of employees and industries, and in supplying new proof at the variations among impartial employees and managers. Second, the extent of element of the statistics accrued at the time use of employees concerned in WFH is likewise novel. Thanks to those statistics, we will inspect version withinside the real time (in preference to mixture recollections) allotted to private and paintings-associated activities (e.g. paintings-associated conferences, reading/writing reports, private time) for a massive pattern of people and over time. Third, we concentrate on the outcomes of the furthest down the line shift to WFH on account of the Coronavirus pandemic.IV.

II. Efficiency of Work from Home

The effects confirmed that 94% (n = 662) of the surveyed researchers labored greater from homegrown at some stage in the Coronavirus lockdown when contrasted with the time sooner than. Of those researchers, 47% discovered that because of operating greater from domestic their studies became, in general, much less green, 23% discovered it greater green, and 30% discovered no distinction as compared to operating earlier than the lockdown. Within this database, we additionally explored the impact of the lockdown at the performance of human beings dwelling with children (n = 290). Here, we discovered that 58% of them skilled that because of operating greater from domestic their studies became, in general, much less green, 20% discovered it greater green, and 22% discovered no distinction as compared to operating earlier than the lockdown. Of the ones researchers who stay with children, we discovered that 71% of the 21 unmarried mother and father and 57% of the 269 partnered mother and father discovered operating much less green whilst operating from domestic as compared to the time earlier than the lockdown.

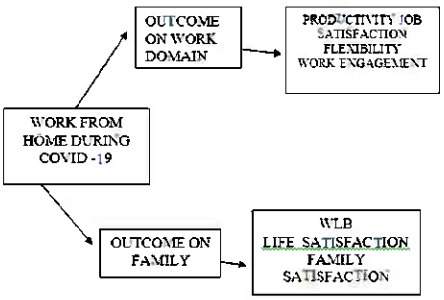

Fig 1.2 Efficient Work from Home

Inseparably with the adequacy of the WFH Rehearses, the assessment of the people WFH is urgent to consider. Watching the conclusions got inside the young people of the training, an amazing greater part of sentiments were positive. A review led in April 2020 showed that more than 80% of staff most well known at least fractional WFH gauges set up, with numbers variable[6] in what percentage days every week that ought to be, suggesting a preference for a mixed mode of working. The foremost common reasons for this, shown, were longer to rest (72.2% powerfully agree), faded work connected stress (63.8% strongly agree), and improvement in WLB (60.7% powerfully agree). Opinions conjointly showed employers in a very favorable light, with 45% of respondents united that employers offer adequate support to execute a good WFH strategy (Wong and Cheung 2020). However, whereas this was the

foremost widespread opinion, it doesn't categorical the bulk view, suggesting that even within the youth there was space to improve. This will be seen in the same study, with majority of respondents agreeing to all or any the challenges addressed, just as absence of equipment, aggravation from family, and helpless correspondence with associates.Another study highlighted the health benefits of WFH, with over 80% of staff feeling mentally relaxed whereas engaging at home.

This study conjointly highlighted workers pro and supporting WFH measures (73%), flextime (83%), and compressed operating hours (77%) (Sun Life 2020).

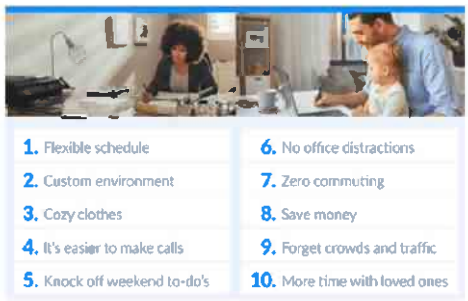

Fig 1.3 Benefits of Work from Home

III. Conclusion

Because of the Coronavirus pandemic, a few workers were out of nowhere asked to WFH in view of stay-at-home commands to fulfill social removing necessities. These specialists supposed a decrease in generally speaking actual Partner in Nursingd mental state standing and an amplified scope of ongoing physical and psychological well-being issues. crucial indicators of debilitated physical and emotional well-being status encased diminished active work, expanded food consumption, absence of correspondence with associates, and having a shaver at home. Also, having extra interruptions was a significant indicator of diminished mental prosperity. Around normal part of respondents detailed having at least one new actual medical problems, and almost normal part of respondents more established at least one new mental state issue. ladylike respondents and respondents with yearly monetary profit of under 100k supposed medical issues contrasted with male respondents and respondents with higher livelihoods. Respondents revealed amplified physical and psychological wellness issues with less actual exercise, extra food admission, having no less than one child at home, being occupied while WFH, debilitated correspondence with collaborators, higher responsibility, expanded work hours and changing work hours around others. Respondents who resided with no less than one teen,

had higher fulfillment over IEQ factors at home, had a picked work area, and had a good advanced PC set up, all had lower probability of encountering new physical and mental state issues. This review features factors that sway laborers' physical and psychological wellness prosperity though WFH and gives an establishment to considering the method for outmaneuvering support a positive WFH mastery.

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23. Growth of Health Fitness Apps during Pandemic

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Abstract

Guidelines on the future of Health applications. The end features the difficulties andopportunities for application engineers in the mHealth industry.

Keywords - mHealth. Health and wellness applications. Chronic disease.

I. Introduction

Versatile Health applications, henceforth alluded to as mHealth apps,are wellbeing and wellness related applications running on mobiledevices like PDAs and tablets. An increasingnumber of individuals utilize portable applications to screen their wellbeingr wellness and slowly they are being utilized for prevention,diagnosis and treatment. These applications can be customized andtailored to the client's condition and can be utilized in the comfort of their home, office, or even progressing. Theyare a stage towards pervasive medical services, for example access tohealthcare anyplace, whenever, accordingly permitting chronicdisease patients to self-deal with their condition utilizing mobiledevices and remote sensors.The mHealth application market is blasting, and willcontinue to become significantly over the course of the following not many years,according to a review directed by Frost and Sullivan in2011

1. The developing accessibility of wellbeing and wellness appsand expanding number of individuals utilizing advanced cells andtablets urges the medical services industry to take advantage of thepossibilities presented by wellbeing and wellness apps.According to the Global Mobile Health Market Report2010–2015
2. In excess of 33% of the 1.4 billion PDA clients will utilize some sort of versatile medical care appli-cation in 2015. At the hour of composing (December 2012),thousands of wellbeing and wellness applications are accessible for down-load on Google Play
3. Of those, 396 Apps utilize some sortof sensor (for example weight scale, circulatory strain screen, accel-erometer, GPS) to gather or determine physiological information.

Anapp can be downloaded free of charge or a couple of dollars that helpsthe client shedding pounds, screen their pulse orguide the client in their exercise works out. Individuals frommore than 190 nations download applications regular and atotal of 10 billion downloads have been recorded up toDecember 2011

4. Our group has grown such an application calledmyFitnessCompanion®
5. Unique Nowadays, numerous wellbeing and wellness applications(apps) can be downloaded from application stores, changing theway individuals deal with their wellbeing and persistent sicknesses.Thispaper ponders 7 years of involvement with versatile wellbeing andfitness application improvement. It investigates the take-up of a healthand wellness application, myFitnessCompanion®, by the healthcareindustry and end-clients managing persistent illness man-agement. The utilization of myFitnessCompanion® is analyzedfrom an end-client viewpoint. The application is accessible viaGoogle Play since February 2011 and the examination presentedis dependent on information gathered from 5500+users over a period of7 months. The paper additionally talks about how mHealth applications couldbe appropriated soon, just as, the utilization ofPersonal Health Record (PHR) frameworks like MicrosoftHealthVault, and the effect of It utilizes remote sensors(Bluetooth, Wifi), or manual passage, to gather physiologicaldata.

II. My Fitness Companion

14 distinct dialects (for example English, Mandarin, French,Spanish) and no advertising effort has been conductedfor a specific country. The application utilizes GoogleAnalytics [2] to gather namelessly utilization information. GoogleAnalytics is an exceptionally compelling device and offers itemized insightin the highlights utilized by myFitnessCompanion clients. Theresults introduced depend on Google Play insights andGoogle Analytics information from 5500+ clients gathered betweenJune 2011 and January 2012. It gives understanding into thematurity level of the wellbeing and wellness App market forchronic illness the executives from a client's perspective.The objective is to see if clients are willing touse wellbeing and wellness applications, for example, my Fitness Companion, and to examine what conditions are being monitored, and which functionalities of myFitnessCompanion areused. My Fitness Companion® offers 3 distinct variants of theapp (Free, Silver and Gold). For the free form, the numberof simultaneous physiological information checking is restricted to 3and 10 estimations

can be put away before the client is askedto move up to the paid rendition (Silver or Gold) or to deleteold measurements.The Silver adaptation permits limitless assortment ofmeasurements for three physiological information screens. TheGold form is the top notch adaptation with no restrictionsand permits additionally the transfer of estimations to PHR systemssuch as Microsoft HealthVault®. By far most ofpaying clients utilize the Gold version.Due to the various forms a few outcomes introduced inthis segment are restricted to clients utilizing the paid rendition of theapp. The outcomes are additionally restricted to information gathered fromusers that own an Android telephone gadget and voluntarilywant to screen their wellbeing.

The measurements introduced in Fig. 2suggest that the average userowns a standard cell phone that is approx. 1 year oldwith not really the most recent operating system introduced. At first, the appwas just accessible for cell phones however, due to theincreasing fame of tablets, a pattern is noticeable that usersinstall myFitnessCompanion on tablets as well.Users can set guidelines and input in their ownlanguage. As of now, myFitnessCompanion upholds English, Mandarin, Spanish, French, Portuguese, Russian, Dutch, German, Korean, Japanese, Brazilian, Hindi, Swedish andItalian. Figure 3shows that English is the most widelyused language followed by German and Spanish. It issurprising that Mandarin talking nations appear to be not touse my Fitness Companion. This is as a conspicuous difference with astudy directed by MiniWatts Promoting Gathering [5]thatputs Mandarin/Cantonese simply behind English as the mostused language on the Web. The most probable explanationis that the Google Play isn't accessible in China andtherefore the openness of myFitnessCompanion is verylimited.When checking out the circulation of clients per country(Fig. 4), the information shows that 4 of the best 10 most Application savvycountries [4] use myFitnessCompanion: South Korea, theUnited States, Israel and the Netherlands. Shockingly, 25 %of myFitnessCompanion clients live in Germany. However,this is in accordance with writing: A Deloitte's review [1] men-tions that the German wellness market has reached a newrecord high in 2011 and Germany has 7,100 wellness facilitieswith in excess of 7 million enrolled individuals, which is8.9 % of the all out populace. The report finished up thatGermans put expanded worth on actual wellness, and arewilling to burn through cash on it. One more article about the75th commemoration of a German donning decoration designation[2] phrases it as follows: "Scarcely a country gets so giddy(literally: tanked) on its own wellness like the Germans."2.2 What are clients checking and how?myFitnessCompanion can gather and decipher physiologi-cal information dependent on

client inclinations and individual thresholds.It empowers clients to change limits and focuses to suit theirparticular condition and wellness level. Clients can likewise receivereminders to take their estimation and decide to receivetext and voice input. During the review time frame, 40

FIG 1.1 Fitness Companion

III. How are Users Monitoring Themselves

Manual information section versus remote sensorsmyFitnessCompanion works flawlessly with 15 differentwireless sensors. The current rundown of equipment sensors sup-ported can be found in [5]. The application additionally permits clients toenter information physically. To date most clients (88.6 %) enter thedata physically and just a little rate utilizes one of thewireless sensors upheld. A potential explanation could be thecomplexity of blending the Bluetooth sensor with the mobiledevice. In any case, the application incorporates bit by bit videosshowing how to combine a particular Bluetooth gadget [2] andthis conquers numerous potential challenges dependent on userfeedback got. When set up, the sensors seamlesslyintegrate with the Application, and how the sensor interfaces with theApp is straightforward to the client. There can be distinctive reasonswhy a specific sensor is more famous than others (e.g.price, notable brand). In any case, manual section is mostused as a result of the significantly greater cost of theseBluetooth gadgets contrasted with a non-Bluetooth deviceand likewise the way that most clients like to continue to utilize theirown clinical devices.On-request versus nonstop checking The larger part ofmeasurements are recorded on request (94.5 %) and just asmall rate screen

persistently their pulse, res-piration or oxygen level for a more extended timeframe. This isin line with the perception that myFitnessCompanion usersmainly screen their pulse, blood glucose andscientist or organization to take necessary steps to prevent unauthorized or malicious use. The paper will explore and answer various questions about the implication of using/not using cybersecurity such as what, how and whymyFitnessCompanion® stores estimations locally on thephone yet additionally permits the client to transfer the information to aPersonal Wellbeing Record (PHR) framework like GoogleHealth or Microsoft HealthVault®. The wellbeing records maythen be imparted to wellbeing experts, specialists, andresearch organizations. Information gathered, show that numerous userstake their estimations consistently and transfer these to aPHR. myFitnessCompanion® interfaced with GoogleHealth until Google chose to shut down the help inDecember 2011. It became obvious that clients were between ested in PHR frameworks when they requested an alternative.From January 2012, myFitnessCompanion® associates toMicrosoft HealthVault® and it is one of the main Androidapplications officially supported to transfer and downloadphysiological information to and from Microsoft HealthVault® inthe USA and the remainder of the world. A formal reviewprocess was led by Microsoft to guarantee that the datauploaded and downloaded consents to the principles resource by Microsoft.However, by far most of clients keep the datastored on their telephone (91,7 %) and utilize the inherent graphfunctionality to see their advancement. Just 5.3 % usemyFitnessCompanion server and 3.1 % transfers the datato Google Wellbeing. These low rates are most likelyrelated to the way that clients need to have the premium(paid) rendition of myFitnessCompanion to be capable toupload information to PHR servers. With the new expansion ofMicrosoft HealthVault®, these numbers will go up in thenear future.Data send out myFitnessCompanion permits the product (viaemail) of physiological information in Dominate organization and graphs.Blood pressure (40 %) is most traded which can beexplained, since numerous clients need to share their blood pres-sure history with their GP. Besides, circulatory strain andblood glucose are the most famous physiological information beingmonitored by myFitnessCompanion clients. The commodity ofexercise following information (11.7 %) is generally high due tothe reality that these clients need to screen and contrast theirperformance over time.Export with person to person communication destinations myFitnessCompanionallows clients to present their estimation results on Facebookor Google+, which can work on their inspiration. Anexample Facebook divider posting is displayed beneath.

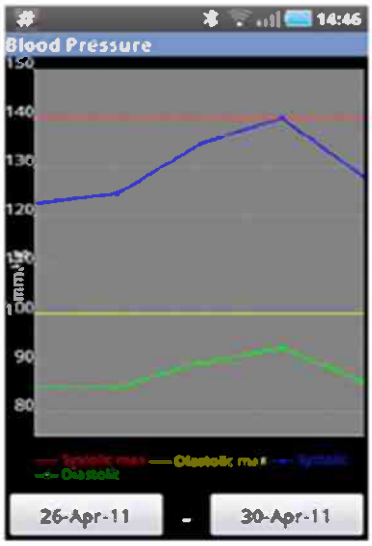
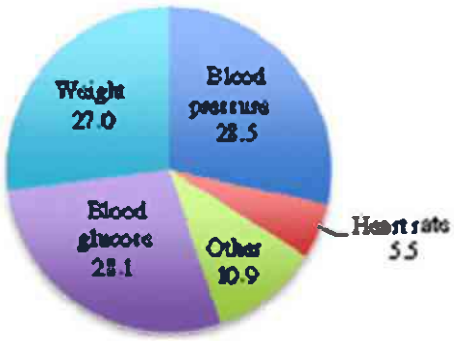


Fig 1.2 Blood Pressure

IV. Summary of users Accepting

In general, the information investigation shows that myFitnessCompanion isparticularly appropriate for constant sickness patients since theyneed to gather and screen their wellbeing routinely, and for along period. Circulatory strain, weight and blood glucose mon-itoring are most utilized which isn't is actually to be expected since they relateto cardiovascular, diabetes and corpulence sicknesses, which are themost pervasive in evolved and emerging nations [3].Each client has various necessities so it is vital to be capable topersonalize and arrange the application to the client require-ments. A few patients need to get quick feedbackregarding their physiological readings, though others preferno criticism and hang tight for their wellbeing expert to validatethe information. Dynamic individuals need the application to be pretty much as unobtru-sive as could be expected. myFitnessCompanion® has been designedwith this as a primary concern and permits full personalisation of the app.Simplicity and inspiration, not age, appear to be the keyfactors for tolerating and utilizing wellness and wellbeing Applications. Atrial with a previous rendition [3] of myFitnessCompanion®,which focussed just on arrhythmia identification, affirms thatfor client acknowledgment the application must be not difficult to utilize andcustomizable. Most of clients were north of 60 years old,with some in their 80's..The clients view it significant as responsible for their healthand monitor their advancement (for example they can work out whattriggers changes in glucose levels or blood pressure).However, self-inspiration to record information over a more extended periodcan be a test without the

inclusion of a healthprofessional. As referenced in [14], 'Self-managementeducation for constant sickness may before long turn into an integralpart of excellent essential consideration.



V. Concusion

This paper finishes up with a short SWOT examination of theuser reception of versatile applications for persistent illness oversee ment dependent on writing exploration and experience withmyFitnessCompanion®.Strengths Wellbeing related applications on cell phones are ofteneasy to utilize and speak to numerous clients. It permits clients to takemeasurements at whatever point they need to. The applications offer a lot of usefulness for one or the other free or a couple of dollars and healthprofessionals begin utilizing the physiological information collectedfrom these applications in their conclusion.

These applications are particu-larly reasonable for constant sickness patients since they need tocollect and screen their wellbeing for a more drawn out time of timeindependent of a particular location.Usage information gathered from myFitnessCompanion® con-firms this and there is an expanding interest by consumers.Particularly, Americans and Germans are early adopters andare ready to pay for these applications. Pulse, weight andblood glucose checking are most well known which relate tocardiovascular, diabetes and corpulence infections, which are themost predominant in evolved and agricultural nations [2].Weaknesses The review features that measurementsrecorded utilizing mHealth applications are basically entered manuallyby the client. This takes into account wrong information section, whichcould undermine its dependability. Self-inspiration to recorddata over a more drawn out period can be a test without theinvolvement of a wellbeing proficient. Additionally, with the prolifer-ation of mHealth applications,it is hard for engineers/companiesto make it financially feasible, and might bring about poorersolutions or broken applications assuming they are not coordinated in atotal start to finish medical services solution.

Threats There are critical moves ahead for mHealthapps because of proposed FDA guidelines in the USA [4]. Amajor issue with the current FDA proposition is that it couldstall the advancement of mHealth applications since it is almostimpossible to acquire FDA endorsement adequately quick to keep upwith the consistent arrival of new PDAs, tablets oroperating framework refreshes. Notwithstanding, FDA involvementwould eliminate wellbeing applications that make outlandish medicalclaims.Security and security concerns might forbid the wideadoption because of worries about information break and abuse.

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24. Study Paper on Work from Home using Internet of things

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Abstract

Development in information communication and internet technologies shifts the conventional higher education and training system completely into online e-education through global universities. Students get freedom to work and simultaneously study by enrolling online in these global universities. When online education model is considered as next wave in higher education system, we propose an idea of online office model as a new system to support online education model. This paper contains the concept of "Working from Home" a online office back-up system in organizations and its advantages to customers, employees and service providers. Moreover, such model decreases the expenditure for travelling, to have better homely food etc. for the employees and the service provider can decrease expenditure for office space and maintenance. This online office management system serves as back office system present college based education system. This online office functions like conventional office system where it does all functions related to marketing, admission, enrollment, managing online study material download, online attendance, online assignment evaluation management, handling student and faculty queries, supporting examination based evaluation and finally monitoring degree/diploma certificate generation.

Keywords: work from home, online, employees.

I. Introduction

Telecommuting is characterized as individuals working from their home or from other area of their decision other than the functioning region by installment which is given by the employer. Working from home is having bunches of utilization lately. Since the development of the systems administration from home shows the worker can complete their work with in their own premises. Work will be done from a distance. It relies upon teleworking/telecommunicating

game plans where a worker doesn't need remaining during the business hours with their boss. In the present developing world there is an earnest requirement for working at home. To further develop the worker maintenance during the occupied and stress filled life we require some recreation time. Through telecommuting you can have free access towards a particular occupation through less breaks from individual representatives in the workplace and correspondence time is additionally wider. [Baruch Y ,2001],[Bussing A,1998] With expanding quantities of workers working at home utilizing home as a functioning objective obviously further developed worker maintenance, for example home working can assist with holding working guardians with childcare obligations. [Thatcher SMB &Zhu X, 2006] It prompts expanded staff inspiration with less pressure too. It additionally saves an enormous consumption towards introducing a different work office region and different offices. An individual includes in telecommuting can accomplish his office function just as home required tasks at the same time. Permitting representatives to telecommute to energize a superior work/life equilibrium can prompt upgrades in wellbeing and prosperity.

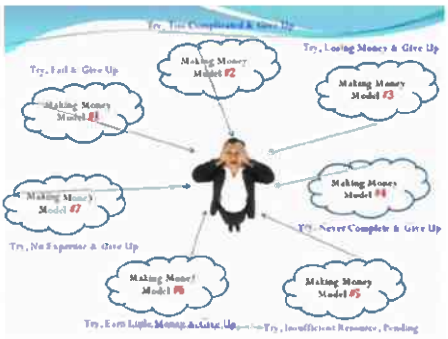

Fig 1.1 Working from Home Model

II. Working from Home Model

i. Modeling working from Home Decision

The quantity of representatives telecommuting has significantly increased [Mateyka, et al, 2012] Telecommuting has critical advantages for both the business and the worker. As indicated by the new examinations led regardless of whether the area of the review is distinctive the outcomes accomplished as far as the result contrasted with the review at available time is fairly comparable. There were no progressions in efficiency from the functioning gathering, yet the individuals who telecommuted were 13% more useful. The records kept by a review office showed a lot of expansion in usefulness procured by the representatives at home and they

worked a bigger number of hours than that of the work done in an office. The review uncovered that the home specialists additionally announced considerably higher work fulfillment and less work weariness. [Nicholas Blossom, 2013], [Cascio W F,2000][Debra et al,2005]

To moor our speculation prior to looking at the information we map out a straightforward model of the effect of telecommuting on: (I) firm benefits, (ii) representatives hours, and (iii) choice impacts.

Firm Benefits: We model the effect on benefits of WFH as principally determined by four impacts: A) Hours: The quantity of hours worked from the authority shift (rather than enjoyed on reprieves) B) Call rate: The quantity of (value changed) calls finished each hour C) Weakening: The effect on quit rates (which drive employing and preparing costs) D) Capital: The effect on capital contributions, through office space and gear prerequisites.

An ever increasing number of individuals are getting to work without going to work. Rather than driving to a corporate work area, they're remaining at home in their own space. Rather than isolating their work daily routines from their home lives, they're mixing them, or attempting to. Rather than considering work where they go, they're considering it to be something they do.While many relish the opportunity to strike a superior balance between fun and serious activities by telecommuting, some are shockingly impervious to being positioned outside the workplace. [Harpaz, 2002]

ii. Methods of Working Home

The individual who need to telecommute are people and who need extra pay or a parent who wishes to procure pay and remain at home with kids, this is the most ideal answer for them. There are different sorts of work, which can make at home.

a. Call focuses: Selling the Time and Voice Assuming that you have an extraordinary phone voice, a capacity to put together data rapidly and a quit place in your home to work, you could bring in cash working for a call community, call focus implies don't have somebody to answer their telephones 24 hours per day. The calls are steered to a call community. And afterward conveyed to people who work from their home. These specialists are furnished with PC and programming are they can work client's inquiries. [Oettinger, Gerald 2011]

b. Selling home made items In the event that individuals are having thoughts of making delightful things at home, this is assists them with providing the items

while sitting at home. Home made items are given no indications of halting. For example Gifts, Garments, Vegetables (ranchers) and so forth

c. Consultancy Advisors offer their administrations or guidance for a free. Specialists are people, certain individuals use experts for charge or monetary counsel, while others might pay an advisor to encourage them how to set up and keep up with the works. Essentially in the event that advisor is demonstrated their abilities in a space, they can showcase theirself as an expert and offer types of assistance from home. [Herman Miller,2008]

Fig 1.2 Methods of Working from Home

III. Abcd Analysis of Work from Home

Benefits, Advantages, Requirements and Disservices (ABCD) of a plan of action can be utilized to break down and comprehend the model adequately. According to this examination method [P S Aithal et al 2015], the adequacy of a plan of action can be concentrated by recognizing and dissecting the benefits, advantages, limitations, and detriments by considering different issues like hierarchical destinations bosses and representatives viewpoint, client/understudy viewpoint and natural social imminent as in the square outline of issues influencing telecommuting model displayed in figure 1. The different elements offering under the four recognized develops like benefits, advantages, limitations, and inconveniences are inferred by a subjective information assortment instrument in particular center gathering technique [EM Rogers and S D Chase ,1994],[R M Morgan and S D Chase 1994] and the constituent basic components supporting these elements are distinguished. Factors influencing telecommuting Model are

1. Variables identified with hierarchical targets,
2. Elements identified with Managers viewpoint,

3. Elements identified with Workers Point of view,
4. Elements identified with Clients/Understudies administration, and
5. Natural/Social elements. Permitting staff to work at home on either a full or low maintenance premise can bring a scope of business benefits - from expanded usefulness and more noteworthy staff inspiration to more viable utilization of their premises. Home working additionally extends the base from which one can select, helping their odds of enlisting effectively. The spread of home working is opening up another scope of opportunities for the manner in which organizations can work and design themselves.

a. Organizational Issues

Liberating Work from the limitations of area and time through Data innovation upholds new examples of work, with more prominent adaptability in area and time. Working in a specific area - the workplace - throughout a specific timeframe - the workplace day - is a vital component of the manner in which modern work has been coordinated for north of two centuries. This method of working enjoys numerous conspicuous benefits: for people: 'it structures their time 'it gives them social reach, 'it provides them with a pride, of worth of personality. For the association, 'it grants control and coordination of work 'it makes representatives apparent - henceforth they can be directed, assessed, and created 'it commands the connection important to get agreement on authoritative objectives It addresses a conventional, stable design, to which the work can be acclimated. Most by and large, on the grounds that there is an inclination that the manner in which they customarily have made due. Despite the fact that it can bring extraordinary advantages, working with different associations is more mind boggling than working alone. The achievement lays on a mix of formal and casual methods of accomplishing great working connections on both a hierarchical and a singular level

b. Technology Issues

Innovation is being utilized in pretty much every organization to achieve explicit assignments. Innovation has changed the manner in which individuals work and it has brought some fun at work, it decreases on human mistakes which can be brought about by a lot of work or stress. Business advancements like PCs, tablets, interpersonal organizations, virtual gathering programming, bookkeeping programming, client the executives applications, thus substantially more have eliminated work environment limits and they have additionally worked with in the development of data at working environment which speeds up fast decision making at any working environment.

c. Environmental Issues

Contingent upon the cycles they support, remote arrangements might need to deal with problematic conditions like helpless lighting, unpleasant conditions, outrageous temperatures and high paces of gadget robbery and misfortune. Security is an intense worry for some remote applications. Remote information, going over open wireless transmissions, is handily caught. Climate conditions are addressable through a full comprehension of who will utilize the application and how and where it will be utilized. Security can be upgraded utilizing a mix of methods, from cryptography to confirmation servers, to virtual private organizations. Unfavorable work conditions can be tended to through appropriate gadget and adornment determination, for example, utilizing ear pieces for loud areas and illuminated presentations for faint lighting conditions.The benefits and the advantages are superseding the limitations and detriments of different natural and social issues in the event of telecommuting.

Fig 1.4 Work Online

d. Employer/ Employee Issue

Organizations perform best when there are solid working connections between bosses, representatives and the entrepreneurs (for example investors). Choices made because of a labor force plan definitely the two sides of the relationship – for instance: A choice to make redundancies and diminish staff expenses may be seen emphatically by the investors, yet adversely by the workers and worker's organizations. An arrangement to offer more adaptable working choices would be invited by representatives, however may put extra strain on the responsibilities of line chiefs. The answer for these possible contentions and issues is typically found through correspondence and discussion. At last, choices should be taken to the greatest advantage of the business – yet it is essential to at minimum endeavor to acquire the help of different partners.

e. Customer's Issue

Eventually, everybody in business needs to manage an agitated client. The test is to deal with the circumstance such that leaves the client thinking you work an extraordinary organization. Assuming you're fortunate, you can even urge that person to fill in as an enthusiastic supporter for your image. All things considered, numerous clients don't try to grumble. They basically leave and purchase from your rivals. Research proposes that up to 80 percent of clients what leave's identity was, truth be told, "fulfilled" with the first organization. Clearly, consumer loyalty isn't sufficient. Organizations these days need to decidedly charm clients to acquire their dependability. It might appear to be outlandish, however an entrepreneur's capacity to successfully manage client protests gives an extraordinary chance to transform disappointed clients into dynamic advertisers of the business.

Iv. Conclusion

In light of ABCD examination for the plan of action "telecommuting" different elements influencing the issues of the model alongside their constituent basic components are distinguished and examiner. It is observed that the variables supporting benefits and advantages are more viable contrast with imperatives and detriments of this model, so that telecommuting model might turn out to be more famous from the forthcoming of bosses and representatives in the association later on.

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25. Online Food Ordering System

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Abstract

Food Industry has always been a profitable industry not only for manufacturers, suppliers, but also for the users, distributers. The online food delivery system is the need of hour because of the recent changes in the industry and the increasing use of the internet. A Real-time online food ordering system for the customer is our proposed system. The traditional queueing system drawbacks and disadvantages are overcome by our system application. Food can be ordered online in a hassle-free manner through our proposed system from restaurants as well as mess services. The food order taking methods from customer are improved by our system application. A Food Menu is set up online and as per their wish customers can simply place their order through the proposed system. Also, customers can effortlessly track the orders with a food menu. Users can rate the food items over the feedback system provided by the system. Also, restaurants and mess services are recommended to the new customers based on the user ratings through the proposed system and for the improvements with the quality, the restaurant/mess staff will be informed. For the initial implementation of the system application pay-on-delivery payment system is used. Separate accounts are maintained for each user for more secured ordering by providing an ID and a password.

Key Words: Automated Food Ordering System, Cloud Computing, Dynamic Database Management, Internet of Things, Smart Phone.

I. Introduction

An online food menu is set up by the proposed food ordering system and as per their will customers can easily place the order. Also, customers can easily track the orders with the food menu. The management improve food delivery service and preserves customers database. Motivation to develop the system is from the restaurant management system. To get the services efficiently the users of the system provides various facilities. Restaurants as well as Mess facility is considered by our system for the customers. Mostly mess users are person who are shifted to

new cities and this can be considered as a motivation to our system. Another motivation can be considered as the increasing use of smart phones by the customers, so that any users of this system get all service of the system. The system will be designed to avoid users doing fatal errors where users can change their own profile also where users can track their food items through GPS and where users can provide feedback and recommendations to Restaurants / Mess service providers.

There's a need for the system due to lack of a full fledge application that can fulfill the customer requirements by providing him food from restaurants/mess service. For the students studying in different cities, our system will be very helpful.

The flexibility to the Customers/Users to order from either Restaurants or Mess is provided by our system. Recommendations to the customers is also provided from the restaurants/mess owners which are updated daily. There will be no limitation on the amount of order the customer wants by ordering food from our system. As a Startup Business for the developers the same system application can be used. Real time customers feedback and ratings are provided by our system with the comments to the restaurants/mess owner. It gives appropriate feedbacks to users, so if there is any error happened, then there will be a feedback dialog toward users.

To avoid users doing fatal errors and inappropriate action our system application is designed. Input will be taken by the user from the graphical user interface. The major attributes such as name, address, email-Id, mobile no, other personal related values will give input to the dataset. The User/Customer's Order, Bill, Feedback and Recommendation will provide the output. For the initial implementation of the system we have considered 2 restaurants and 2 mess services in 5 areas.

2. Literature Review

In [1] an automated food ordering system is proposed which will keep track of user orders smartly. Basically, they implemented a food ordering system for different type of restaurants in which user will make order or make custom food by one click only. By means of android application for Tablet PCs this system was implemented. The front end was developed using JAVA, Android and at the backend MySQL database was used.

In [2] Customer using a Smartphone is considered as a basic assumption for the system. When the customer approach to the restaurant, the saved order can be confirmed by touching the

Smartphone. The list of selected preordered items shall be shown on the kitchen screen, and when confirmed, order slip shall be printed for further order processing. The solution provides easy and convenient way to select pre-order transaction form customers.

In [3] there was an attempt to design and implementation of digital dining in restaurants using android technology. This system was a basic dynamic database utility system which fetches all information from a centralized database. This application improved the accuracy and efficiency of restaurants as well as human errors. Earlier drawbacks of automated food ordering systems were overcome by this system and it requires a onetime investment for gadgets.

In [4] an application of integration of hotel management systems by web services technology is presented. Ordering System Kitchen Order Ticket (KOT), Billing System, Customer Relationship Management system (CRM) are held together by the Digital Hotel Management. Add or expand of hotel software system in any size of hotel chains environment was possible with this solution.

In [5] research work aims to design and develop a wireless food ordering system in the restaurant. Technical operations of Wireless Ordering System (WOS) including systems architecture, function, limitations and recommendations were presented in this system. By providing higher quality customer service and reducing human errors to improve the management aspect for restaurants, pervasive application will be a valuable tool due to the high demands of handheld devices such as PDAs.

In [6] along with customer feedback for a restaurant a design and execution of wireless food ordering system was carried out. It enables restaurant owners to setup the system in wireless environment and update menu presentations easily. Smart phone has been integrated in the customizable wireless food ordering system with real-time customer feedback implementation to facilitate real-time communication between restaurant owners and customers.

In Paper [7], the purpose of this study was to investigate the factors that influence the attitude of internet users towards online food ordering in Turkey among university students. A Technology Acceptance Model (TAM) developed by Davis in 1986 was used to study adoption of Web environment for food ordering. Trust, Innovativeness and External Influences are added to the model as main factors along with TAM.

In Paper [8], the research work aims to automate the food ordering process in restaurant and also improve the dining experience of customers. Design implementation of food ordering

system for restaurants were discuss in this paper. This system implements wireless data access to servers. The android application on user's mobile will have all the menu details. Kitchen and cashier receives the order details from the customer mobile wirelessly. These order details are updated in the central database. The restaurant owner can manage the menu modifications easily.

In Paper [9], this research works on efforts taken by owners of restaurants to adopt information and communication technologies such as PDA, wireless LAN, costly multi-touch screens, etc. to enhance dining experience. This paper highlights some of the limitations of the conventional paper based and PDA-based food ordering system and proposed the low-cost touch screen-based Restaurant Management System using an android Smartphone or tablet as a solution.

3. Proposed System

To overcome the restrictions of above system, based on Internet of Things an Online Food Ordering System is proposed. The use of mobile technology has revolutionized as the Android devices have gained popularity in the automation of routine task in wireless environment. For mobile devices such as smart-phones and tablets android is a Linux built operating system. As a general Objective of the study to develop a reliable, convenient and accurate Food Ordering System is considered. As an objective, a system that will surely satisfy the customer service will be considered. To design a system that can accommodate huge amount of orders at a time and automatically compute the bill is one of the key objectives. One of the important objective is to evaluate its performance and acceptability in terms of security, user-friendliness, accuracy and reliability. One of key objective is to improve the communication between the client and customers.

The figure.1 represents the simple system architecture of the proposed system

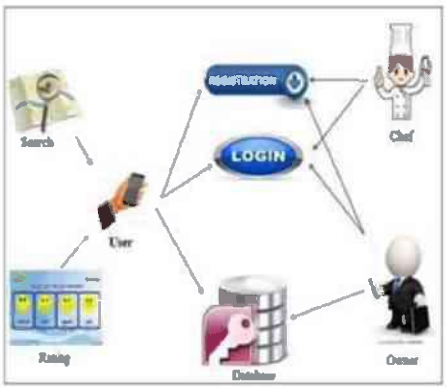

Figure-1: System Architecture

4. Architectural Design

The system implementation contains 3 main users: - Service Customer, Proprietor of Mess/Restaurant, and Worker of mess. When a person moved to new city he must find source for clean and superior food, so he/she will explore and select restaurant or mess, or tiffin service based on his category.

The pattern in which user will search the services for a purpose GPS system should be on and a part of Geo- Hashing Algorithm is used. Person can have the facility to search service by location that is home location of the person is detected with GPS and nearby service get searched according to selected option location. Searching by cost is another way.

Search by rating is also possible by our system. List of service is given if matched by the user given ratings when the services that has ratings are checked with it. The search can be carried out by accepting distance from user where it needs to search and displaying service provider within a distance.

4.1 Requirements Definitions

Analyzes based on similar application and determines the necessary features in the application, as well as do the details about the features that will be created with function of each features. Features that are needed in application for customer are as follows:

- New Order: New Order is the main feature of the customer side application that will be used to make orders. An order can be made in two separate ways, the one is by is using My Favorites feature to make an order by choosing one of the top three favorites restaurant and the other one is by using Make a new order feature to make an order by choosing restaurant and menus provided easily.
- Order History: Customer's order history is shown by this feature namely order history.
- Restaurant Profile: Restaurant's profile is shown by this feature. Through this feature customer can make call to the restaurant directly.
- Order Status: This feature is used to show that order status that includes "order received" means that restaurant has received the order, "order confirmed" means that restaurant has confirmed the order, "cooking" means restaurant is preparing the order, "delivering order" means that delivery of the order is done. While the status is on "delivering order" the customer can also show the delivery map.

- Profile Setting: To show and to change customer profile this feature is used that comprise of name, address, email, and phone number.
- Features required in website for admin are:
- Resto: Restaurant list is shown by this feature. Admin can modify restaurant data and insert new restaurant including transformation from restaurant active or inactive status through this feature.
- Order: Order list which has been done by each restaurant is shown by this feature.
- Menu: Menu list of each restaurant is shown by this feature. Through this feature admin can also alter each menu.
- Courier: Courier list of each restaurant is shown by this feature. Through this feature admin can also amend each courier data.
- Customer: Customer list in this application is shown by this feature. Through this feature admin can also modify customer profile.

4.2 System and Software Design

Using the storyboard design, we construct the application design workflow for restaurant, customer, courier and admin side; the user experience design. The use case, class diagram, sequence diagram, activity diagram and database structure design are comprised in the Unified Modeling Language.

- Storyboard design: Designing the user interface is done by storyboard design which includes each interface description.
- User experience design: When interacting with the application, designing the totality of end user perception this design is used.
- UML design: The UML design contains use case to define the system function from each actor perspective then accomplished by explanation in use case narrative, to draw the process of each actor in diagram activity diagram is used, to draw object or class of system with its relationship class diagram is used and to draw the message interaction with its objects base on its order of time sequence diagram is used.
- Database structure design: By the result of class diagram, database structure design is made. Classes that need to be saved in database and its relationship are drawn by this design.

4.4 System Implementation

- The implementation of the system application is done in Java, jQuery, HTML and the datasets are stored in MySQL database. We have developed hybrid Android Application using Cordova.
- We have developed a web-based application and based on it we have developed the android application.
- The hardware required for our application includes Android Smart phone and a desktop or laptop with browser and internet connection.
- For the initial implementation of the system we have considered 2 restaurants/mess from 5 areas nearby in our datasets.
- Implementation of our system consists of a real time feedback system where once you place an order, an email will be sent to the customer regarding the feedback of their order.
- According to the comments and ratings of the customer, using Sentiwordnet analysis we provide recommendation to the customers providing the highly rated restaurant/mess first and other respectively. The Sentiwordnet analysis uses the comments mentioned in the feedback and assign a value that can be positive and negative and organize the restaurant
- / mess in a fashion. This means the restaurant / mess with the highest positive value will be shown first and vice versa.

5. Results

The result of our system application includes an Android Application as well as a Web-based application. Once a customer place an order for a restaurant / mess, he/she will get the order Id on the screen dynamically.

The customer can check the status of the order through the Order Status interface provided in the GUI of the application. We have developed the system application in such a way that the customer can order the food first and then enter the required credentials while checkout.

Once the order is delivered to the customer, a feedback mail is send to the customer regarding his experience with the entire application. The feedback mail consists of the star rating as well as comments of the customer.

The customer can track his order through the Tracking Interface provided in the GUI of the application. The restaurant / mess owner as well as customer can track the order in our system application. The preview of this tracking system is shown below:

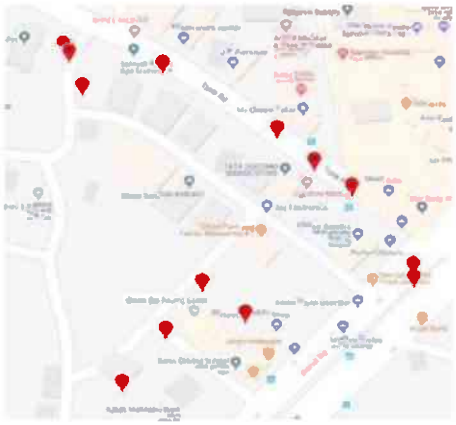

Figure-2: Customer Tracking

6. Conclusion

The application is based on user's requirement and is user centered. All issues related to all user which are included in this system are developed by this system. If people know how to operate android smart phone wide variety of people can use the application. This system will solve the various issues related to Mess/Tiffin service. To help and solve important problems of people implementation of Online Food Ordering system is done.

It can be concluded that, based on the application: Orders are made easily by this system; Information needed in making order to customer is provided by the system. Receiving orders and modifying its data is possible through the application and it also helps admin in controlling all the Food system.

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26. Study Paper on Work from Home using Internet of things

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Abstract

Development in information communication and internet technologies shifts the conventional higher education and training system completely into online e-education through global universities. Students get freedom to work and simultaneously study by enrolling online in these global universities. When online education model is considered as next wave in higher education system, we propose an idea of online office model as a new system to support online education model. This paper contains the concept of "Working from Home" a online office back-up system in organizations and its advantages to customers, employees and service providers. Moreover, such model decreases the expenditure for travelling, to have better homely food etc. for the employees and the service provider can decrease expenditure for office space and maintenance. This online office management system serves as back office system present college based education system. This online office functions like conventional office system where it does all functions related to marketing, admission, enrollment, managing online study material download, online attendance, online assignment evaluation management, handling student and faculty queries, supporting examination based evaluation and finally monitoring degree/diploma certificate generation.

Keywords: work from home, onlin, employees.

I. Introduction

Telecommuting is characterized as individuals working from their home or from other area of their decision other than the functioning region by installment which is given by the employer.Working from home is having bunches of utilization lately. Since the development of the systems administration from home shows the worker can complete their work with in their own premises. Work will be done from a distance. It relies upon teleworking/telecommunicating

game plans where a worker doesn't need remaining during the business hours with their boss. In the present developing world there is an earnest requirement for working at home. To further develop the worker maintenance during the occupied and stress filled life we require some recreation time. Through telecommuting you can have free access towards a particular occupation through less breaks from individual representatives in the workplace and correspondence time is additionally wider.[Baruch Y ,2001],[Bussing A,1998] With expanding quantities of workers working at home utilizing home as a functioning objective obviously further developed worker maintenance, for example home working can assist with holding working guardians with childcare obligations. [Thatcher SMB &Zhu X, 2006] It prompts expanded staff inspiration with less pressure too. It additionally saves an enormous consumption towards introducing a different work office region and different offices. An individual includes in telecommuting can accomplish his office function just as home required tasks at the same time. Permitting representatives to telecommute to energize a superior work/life equilibrium can prompt upgrades in wellbeing and prosperity.

II. Working from Home Model

i. Modeling working from Home Decision

The quantity of representatives telecommuting has significantly increased [Mateyka, et al, 2012] Telecommuting has critical advantages for both the business and the worker. As indicated by the new examinations led regardless of whether the area of the review is distinctive the outcomes accomplished as far as the result contrasted with the review at available time is fairly comparable. There were no progressions in efficiency from the functioning gathering, yet the individuals who telecommuted were 13% more useful. The records kept by a review office showed a lot of expansion in usefulness procured by the representatives at home and they worked a bigger number of hours than that of the work done in an office. The review uncovered that the home specialists additionally announced considerably higher work fulfillment and less work weariness. [Nicholas Blossom, 2013], [Cascio W F,2000][Debra et al,2005] To moor our

speculation prior to looking at the information we map out a straightforward model of the effect of telecommuting on: (I) firm benefits, (ii) representatives hours, and (iii) choice impacts. Firm Benefits: We model the effect on benefits of WFH as principally determined by four impacts: A) Hours: The quantity of hours worked from the authority shift (rather than enjoyed on reprieves) B) Call rate: The quantity of (value changed) calls finished each hour C) Weakening: The effect on quit rates (which drive employing and preparing costs) D) Capital: The effect on capital contributions, through office space and gear prerequisites. An ever increasing number of individuals are getting to work without going to work. Rather than driving to a corporate work area, they're remaining at home in their own space. Rather than isolating their work daily routines from their home lives, they're mixing them, or attempting to. Rather than considering work where they go, they're considering it to be something they do.While many relish the opportunity to strike a superior balance between fun and serious activities by telecommuting, some are shockingly impervious to being positioned outside the workplace. [Harpaz, 2002]

ii. Methods of Working from Home

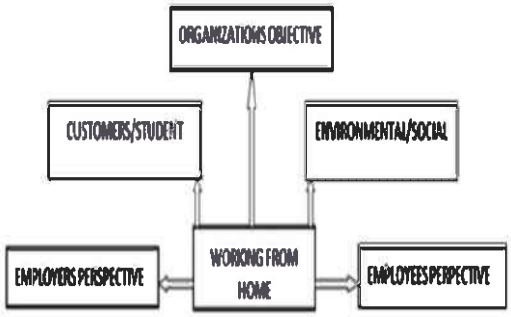
The individual who wish to telecommute are people and who need extra pay or a parent who wishes to procure pay and remain at home with kids, this is the most ideal answer for them. There are different sorts of work, which can make at home.

a. Call focuses: Selling the Time and Voice Assuming that you have an extraordinary phone voice, a capacity to put together data rapidly and a quit place in your home to work, you could bring in cash working for a call community, call focus implies don't have somebody to answer their telephones 24 hours per day. The calls are steered to a call community. and afterward conveyed to people who work from their home. These specialists are furnished with PC and programming are they can work client's inquiries. [Oettinger, Gerald 2011]

b. Selling home made items In the event that individuals are having thoughts of making delightful things at home, this is assists them with providing the items while sitting at home. Home made items are given no indications of halting. For example Gifts, Garments, Vegetables (ranchers) and so forth

c. Consultancy Advisors offer their administrations or guidance for a free. Specialists are people, certain individuals use experts for charge or monetary counsel, while others might pay an advisor to encourage them how to set up and

keep up with the works. Essentially in the event that advisor is demonstrated their abilities in a space, they can showcase theirself as an expert and offer types of assistance from home. [Herman Miller,2008]



III. Abcd Analysis of Work From Home

Benefits, Advantages, Requirements and Disservices (ABCD) of a plan of action can be utilized to break down and comprehend the model adequately. According to this examination method [P S Aithal et al 2015], the adequacy of a plan of action can be concentrated by recognizing and dissecting the benefits, advantages, limitations, and detriments by considering different issues like hierarchical destinations bosses and representatives viewpoint, client/understudy viewpoint and natural social imminent as in the square outline of issues influencing telecommuting model displayed in figure 1. The different elements offering under the four recognized develops like benefits, advantages, limitations, and inconveniences are inferred by a subjective information assortment instrument in particular center gathering technique [EM Rogers and S. D. Chase ,1994],[R M Morgan and S. D. Chase 1994] and the constituent basic components supporting these elements are distinguished. Factors influencing telecommuting Model are

1. Variables identified with hierarchical targets,
2. Elements identified with Managers viewpoint,
3. Elements identified with Workers Point of view,
4. Elements identified with Clients/Understudies administration, and
5. Natural/Social elements. Permitting staff to work at home on either a full or low maintenance premise can bring a scope of business benefits - from expanded usefulness and more noteworthy staff inspiration to more viable utilization of their premises. Home working additionally extends the base from which one can select, helping their odds of enlisting effectively. The spread of home working is

opening up another scope of opportunities for the manner in which organizations can work and design themselves.

a. Organizational Issues

Liberating Work from the limitations of area and time through Data innovation upholds new examples of work, with more prominent adaptability in area and time. Working in a specific area - the workplace - throughout a specific timeframe - the workplace day - is a vital component of the manner in which modern work has been coordinated for north of two centuries. This method of working enjoys numerous conspicuous benefits: for people: 'it structures their time 'it gives them social reach, 'it provides them with a pride, of worth of personality. For the association, 'it grants control and coordination of work 'it makes representatives apparent - henceforth they can be directed, assessed, and created 'it commands the connection important to get agreement on authoritative objectives It addresses a conventional, stable design, to which the work can be acclimated. Most by and large, on the grounds that there is an inclination that the manner in which they customarily have made due. Despite the fact that it can bring extraordinary advantages, working with different associations is more mind boggling than working alone. The achievement lays on a mix of formal and casual methods of accomplishing great working connections on both a hierarchical and a singular level

b. Technology Issues

Innovation is being utilized in pretty much every organization to achieve explicit assignments. Innovation has changed the manner in which individuals work and it has brought some fun at work, it decreases on human mistakes which can be brought about by a lot of work or stress. Business advancements like PCs, tablets, interpersonal organizations, virtual gathering

programming, bookkeeping programming, client the executives applications, thus substantially more have eliminated work environment limits and they have additionally worked with in the development of data at working environment which speeds up fast decision making at any working environment

c. Environmental Issues

Contingent upon the cycles they support, remote arrangements might need to deal with problematic conditions like helpless lighting, unpleasant conditions, outrageous temperatures and high paces of gadget robbery and misfortune. Security is an intense worry for some remote applications. Remote information, going over open wireless transmissions, is handily caught. Climate conditions are addressable through a full comprehension of who will utilize the application and how and where it will be utilized. Security can be upgraded utilizing a mix of methods, from cryptography to confirmation servers, to virtual private organizations. Unfavorable work conditions can be tended to through appropriate gadget and adornment determination, for example, utilizing ear pieces for loud areas and illuminated presentations for faint lighting conditions.The benefits and the advantages are superseding the limitations and detriments of different natural and social issues in the event of telecommuting.

d. Employer/ Employee Issue

Organizations perform best when there are solid working connections between bosses, representatives and the entrepreneurs (for example investors). Choices made because of a labor force plan definitely the two sides of the relationship – for instance: A choice to make redundancies and diminish staff expenses may be seen emphatically by the investors, yet adversely by the workers and worker's organizations. An arrangement to offer more adaptable working choices would be invited by representatives, however may put extra strain on the responsibilities of line chiefs. The answer for these possible contentions and issues is typically

found through correspondence and discussion. At last, choices should be taken to the greatest advantage of the business – yet it is essential to at minimum endeavor to acquire the help of different partners.

e. Customer's Issue

Eventually, everybody in business needs to manage an agitated client. The test is to deal with the circumstance such that leaves the client thinking you work an extraordinary organization. Assuming you're fortunate, you can even urge that person to fill in as an enthusiastic supporter for your image. All things considered, numerous clients don't try to grumble. They basically leave and purchase from your rivals. Research proposes that up to 80 percent of clients what leave's identity was, truth be told, "fulfilled" with the first organization. Clearly, consumer loyalty isn't sufficient. Organizations these days need to decidedly charm clients to acquire their dependability. It might appear to be outlandish, however an entrepreneur's capacity to successfully manage client protests gives an extraordinary chance to transform disappointed clients into dynamic advertisers of the business.

IV. Conclusion

In light of ABCD examination for the plan of action "telecommuting" different elements influencing the issues of the model alongside their constituent basic components are distinguished and examiner. It is observed that the variables supporting benefits and advantages are more viable contrast with imperatives and detriments of this model, so that telecommuting model might turn out to be more famous from the forthcoming of bosses and representatives in the association later on.

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