

Evolution of Technology in The Era of COVID-19

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Abstract

The outbreak of COVID-19 (Corona virus Disease) brought the life to a standstill. Due to this pandemic, we got to know that nothing is permanent in the life. As the whole world got affected due to this pandemic, it was technology which made our life easier. Technology refers to the application of scientific knowledge in our practical life to make our tasks easier. As we are living in the era of technology and innovation, it provided us the ease to access the life from our comfort without getting affected with the virus. The whole world got dependent on the technology. We invented new ways to communicate, work and live like that we had never thought before. Corona taught us to change ourselves according to need of time. We got to know the new terms of life to survive accordingly like Quarantine, Social distancing, Lockdown any many more. We found a new way survive with the help of technology. The broad objective of this paper is to analyze the new technologies and their advancements during the pandemic. This paper also discusses the various aspects of modern technology used during the pandemic to make our life's easier. It also includes a complete description and study of the technologies developed during the pandemic.

Keywords: Advancement, Online learning, Virtual interaction, Contact tracing, Over the top, Artificial intelligence, E- learning, Robots, EGAPA, Intelligent evaluation system.

INTRODUCTION

Coronavirus (COVID-19) is one of the infectious and deadly viruses occurred by acute respiratory syndrome. In the initial stage, the people infected by this virus will be experiencing mild fever and respiratory issues and can be treated without specific recovery procedure. More established individuals, and those with basic clinical issues like cardiovascular infection, diabetes, constant respiratory sickness, and disease are bound to create genuine ailment. First report of Coronavirus Disease 2019 (COVID-19) was diagnosed at Wuhan, China in December 2019, it has affected over 200 countries and territories around the world with two million cases and more than 120,000 deaths as on 21 April 2020 [1]. This pandemic affected us mentally, physically and financially. With the growing crisis, companies & researchers over the world are looking for the ways to address the challenges of this virus by developing new technologies and hence with the help of new technology people all over the world were able to survive financially and socially.

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Technology has entered in the lives of kids and youngsters in different ways through online gaming portals, online classes/study portals and online entertainment. OTT (Over the Top) stages takes into account shifted interests of individuals across the globe with the lasting increases of different substance. The internet usage increased rapidly during lockdown. Cities of India like Bangalore have seen a 100 % increase in internet traffic.

Technology is not only being used to earn and learn but it's also supporting life in many aspects. People adopted the methodology of day to day online shopping to avoid going to the market and increasing the risk of being affected by COVID. The online shopping platforms witnessed rapid growth during pandemic due to soaring demand amongst consumers. Technology is not only being used to earn and learn but it's also supporting life in many aspects. If we compare the technology before COVID and after COVID, there is a major advancement of technology especially in the IT sector like some software giants added more features according to the situation of the pandemic. People became more technology oriented during the pandemic[2].

DIFFERENT TECHNOLOGIES USED AND DEVELOPED DURING COVID-19

Role of Artificial Intelligence (AI)

AI played an important role in overcoming challenges created by COVID-19. It helped in diagnosing new corona virus infection and also helped to determine the effectiveness of medicines. AI helped a lot to diagnose COVID-19 infection and also made people aware of this virus.

Moreover, it helped the doctors a lot in medical tests like CT scan. A Shanghai-based AI start-up launched the Intelligent Evaluation System of CT for COVID-19. Algorithms are applied for identification of the feature of images derived from the CT scans for the purpose of evaluation through application of this system. Further, it determines the kind of lesions develops in the lungs and the severity level[3].

Uses of Drones

Drones also played a major role in no contact functioning of hospitals. These drones can monitor people's temperature, heart rate, and respiratory rate using specialized sensors, high-resolution cameras, and powerful computer systems. These also helped in no contact food delivering and also have a GPS system to identify more affected areas due to COVID and less affected areas due to COVID. Due to the need for social distancing, water and food, medicine, laboratory samples of patients, and other essential items are transported quickly using drones as shown in Figures 1 and 2[4].



Figure1. Use of Drones



Figure2. Fever Screening Thermal Solution Robots for contactless helping

More advanced robots were developed during this pandemic which helped in reducing direct contact with the patients by measuring vital signs, performing lab tests, cleaning and disinfecting hospitals. They played a major role in distributing medicines and personal protective equipment. Robots distributed food among quarantined people so there was no risk of the spread of virus. They also helped in controlling the contaminated waste as shown in Figures 3 and 4[5].

Advanced E-Learning

There was a significant increase in the E-Learning process during this pandemic. Companies like BYJU'S, VEDANTU, etc. started distance learning programmes for students so they can study online. BYJU'S, a Bangalore based online learning platform recorded a 200% increase in its new students during the pandemic as shown in Figure 5.



Figure3. Cycle showing how lab tests



Figure 4. Robot for contactless helping are monitored

Yearwise distribution of use online platforms for education

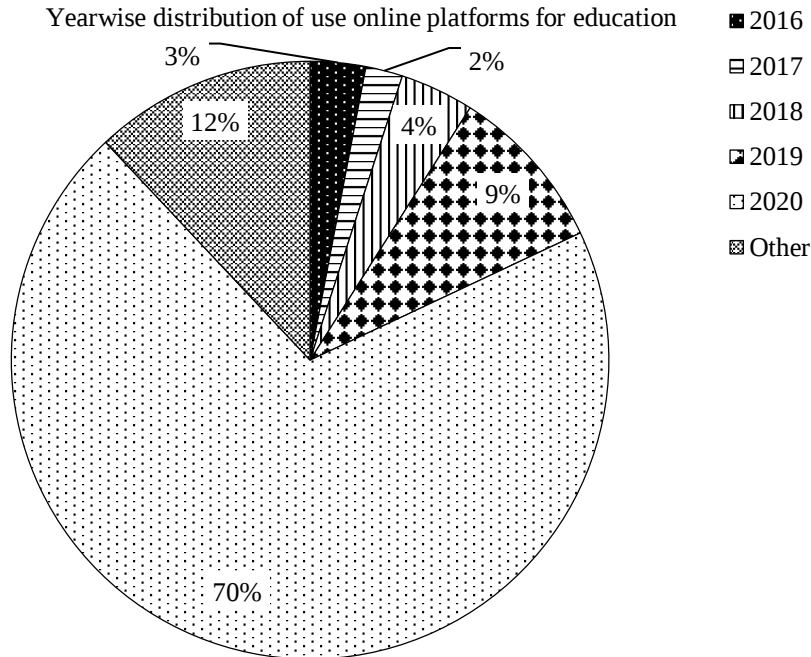


Figure 5. Online platform usage.

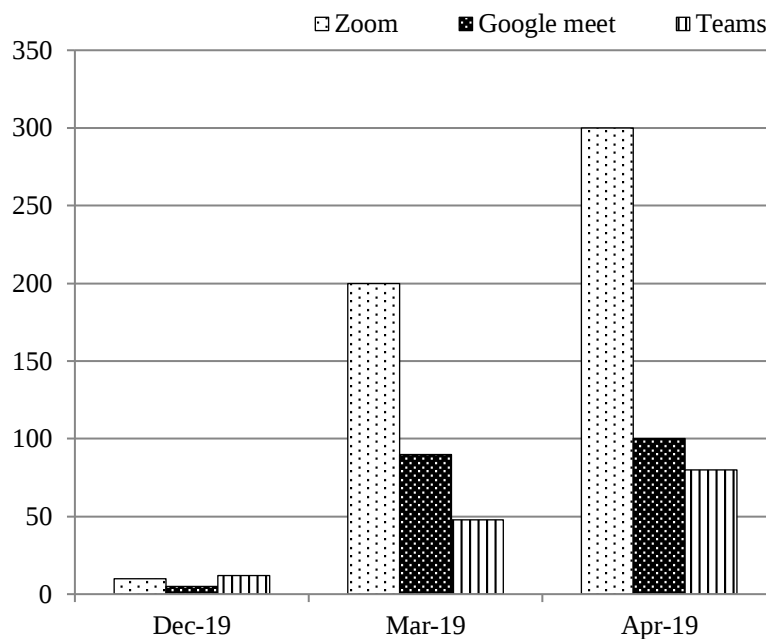


Figure 6. Graph showing data of daily active users of online platforms

Also, applications like ZOOM, Microsoft Teams, Google Classroom collaborated with schools, colleges, university, etc. to conduct regular online classes and these software's also added new features according to the requirement of the students and teacher like online attendance system [6]. The pie chart shows the analysis of the use of online platforms for online education. 70% is used in the year 2020 which is the highest as compared to the previous years as shown in Figure 6.

Advanced way of awareness used by telecom companies

As India is the second largest populous country in the world it's not possible to handle the spread of virus without the help of technology. Indian government took a great step in the earliest phase of corona, government asked the telecom companies to play awareness messages and preventions. As people made calls they hear 30 seconds message about the precaution that should be taken to stop the spread of virus. Also the telecom companies advanced the way of providing data and calling facilities from the comfort of home[7].

Detection through x-rays scan

As the Chinese COVID testing kits were proving wrong in the detection of the virus some international doctors developed a way of detection through X-ray scan of chest, these scans are tested with the help of AI software and database. According to the researches the software shows 98% accuracy in the detection as shown in Figure 7 [8].

Prevention of virus through air purifiers

The increasing pollution is favouring the virus to affect in a more harmful way. To control the pollution during COVID many companies manufactured air purifiers that use patent filter technology EGAPA (Efficient Granular Absorbent Particulate Arrestor) to filter out the major pollutants and gaseous substances [9].

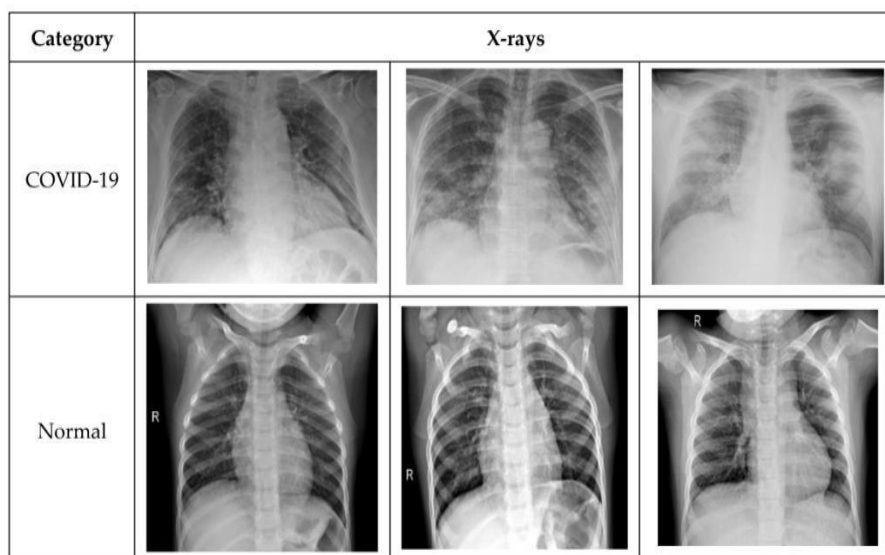


Figure 7. X-Ray scan of chest of Normal person and Infected person.



Figure 8. Air Purifier using EGAPA



Figure 9. Mechanism of Air Purifier

CONCLUSION

Once again, we proved that if we stand together we can fight any battle which is against humanity. Advancement of technology is inevitable in our daily lives. This is on the grounds that existence without innovation is futile in the present period. It saves our time, money and most importantly lives. Use of it in correct way can prove a boon for humanity. Impact of technology is higher than what we expected. Thus, technological advancement had resulted in their diffusion among different countries all over the world. It is development that enables to spread their wings to associations. The positive effect of innovation on society has carried change and assisted us with arriving at new statures that have at no other time been considered. Nobody else has changed advancement's way of life, and that is conclusively why development is and will reliably be so critical today. Hence, technology had become an essential part of our routine life in multiple ways and cannot be ignored intentionally.

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