Role of Intelligent systems in the life of Physical challenges women during Covid-19 Pandemic.

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Abstract:
The aim of the study is to analysis of the role of various intelligent systems which provide a bridge between handicap and its difficulties during Covid-19 pandemic. The techniques used in this research paper are study of review of literature, anecdotal evidence, and reports on the morbidity of COVID-19 in different places in India. The result of this study indicated that the devastating effect of the corona virus was drastic changes in the lives of the population. These include the elderly, physical disabilities, front-line workers and many more. In this pandemic situation intelligent system or IoT technology is being successfully used by every person specially it is useful for physical challenges women.
Keywords: *COVID-19, Physical handicap, IoT, Society, Intelligent system, Sensor.*

I.   Introduction:

Due to the novel SARS-CoV-2 (COVID-19) a global pandemic was declared at the end of 2019 and more than 22 million cases was fund by August 20, 2020[1] in the word[2]. The COVID-19 pandemic caused drastic changes in the life of everyone. Specially for handicaps, who commonly encounter daily challenges such as barriers to community mobility, reduced access to healthcare services and higher risk of suffering from depression, may face additional challenges in the context of the pandemic as the pandemic progresses, it is critical for both individuals living with disabilities, and those who are their caretakers, to take the necessary steps to protect their health and well-being. Physical handicap people have been disproportionately impacted by the COVID-19 pandemic. For example, they may be at a potentially higher risk of contracting the virus due to underlying conditions, have difficulty engaging in preventative measures or experience disruptions to health services they normally rely on.

II.   Various Issues of Physical handicap women during COVID-19

During the pandemic, for the handicap people their daily life was worsened specially their health. Every news channel/Papers was reported about higher death rate included disabilities person also who live in homes with their family or nursing care.

There are various issues that many people with disabilities were facing in the midst of COVID-19 are given below.

1.   The gestures signals by hand system uses the use of color marker [1], gloves [2] Some people may not be able to wear a mask due to a disability or medical condition

2.   Across the India at the starting of the pandemic, there was inconsistency in implementing rules and regulations after that result of the Covid-19 patients were exponentially improve.

3.   People who was housebound or unable to travel independently was facing problems of access to COVID-19 testing.

4.   One of the important rule during the pandemic was social distancing that is limit interaction with others as much as possible but this was difficult for those people who needed extra assistance.

III.   Importance of IoT during COVID-19

In this paper we shared that which types of IoT technology[3] has been supported to the physical handicap person during COVID-19. If we are talking about women then we presented smart safety gadgets. Which are wearable systems to help visually impaired persons (VIPs) protect by themselves in case of any unfortunate circumstances public places, that be dark and prone to attacks and can seek assistance. The main parts of the system are a microcontroller board, varied many sensors, cellular communication and GPS modules, and a solar panel. There are two gadgets we have discussed and shed some light on their making. The system

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employs a couple of electronic devices like smart watch, smart jug. On a lucky day passer by user is alerted by a sound emitted through a by vibrations on the wrist leaves the attacker taken aback and shocked which is helpful when the user has hearing loss or is in a noisy environment. In addition, the system alerts people in the nearby to help the victim in need. If he has a super smart stick(S^3) [5]the person can use it for assistance walking , hitting undefined person or which he uses for requires assistance, and the alert, along with the system

The blind man stick it will had a led to illuminate the path though person can be partly blind addition, blue tooth device or satellite can be the registered phones can be used to send a signal like a SOS signal[6,7] to all retrieve the system location whenever required and activate real- time tracking of the VIP. We tested the system prototype and verified its functionality and effectiveness. The proposed system has more features than other similar systems.

4.1 IoT devices for Physical handicap women

A Phenomenon in which everything has communicated to each other at anytime, anyplace with anyone is called "Internet of Things (IoT)" as shown in figure 1. It allows human and objects are communicate to each other through network, for example if we talk about our house environment then IoT is provided smart lighting, automatically locking & unlocking window, smarter TV, smarter dustbin every things

Figure: 1. Connected devices by internet exchanging data in our house hold

which are using in daily life are smarter just one click away from us that is we can control everything in house from a single place without much effort. All things are done by sensors, devices and machine learning techniques. Our hardware and software engineers have developed a lot of IoT devices which make smarter with safety to our society in any country. IoT has become a new normal form among the devices and markets provide mainly two categories support for the handicap persons which was beneficial during COVID-19.
1.   Heath Care
2.   Security

There are number of sad news for women "age no bar", said in the lighter scene they are more prone to attacks , this gives researcher and IoT team to make some gadgets for blind women security .
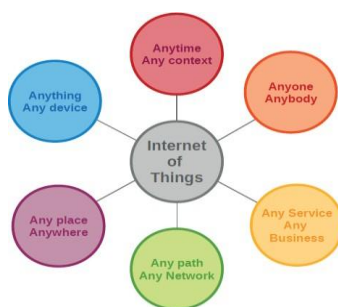

Figure 2. Varied are devices connected to IoT.

4.1.1 For Blind Person: The contributors of the paper [8] proposed the development of a super smart stick that which is capable of detecting and avert oblates and provided navigation. This proposed system was able to detect obstacles within few meters of radius few cameras fitted and electronic devices. By using of GMS technology, an audio and video for guidance of obstacles in the path of the blind person. It worked on a project to develop an Electrical Travelling Aid (ETA) named BliDar. This presented work was enriched with various

types of sensors, including Ultrasonic sensor. Vibrator sensor, a GPS module that helps to find a blind person location and an ESP8266

Wi-Fi module which ensures IoT based application. It used two Adriano chips in the circuit . In short, the company drew a very low power and cost-effective IoT based project to ensure full support for the blind person. This low-cost system was to build to ascertain safety as well as ensuring real-time virtual assistant.

4.1.2. Home Automation: It was developed for entire functions of house through a single sheeted place by telephone dialing sensors, and internet connection. A software application installed in PC and gadgets the person carries to alert the family and care taker in the work condition a SOS call to police /911 acted as a Home assistant, which ensured real-time monitoring in the smart home on daily activities. The collected data are stored in the pc for future investigation. Moreover, This is another advantage of the paper e- aim of paper [9] was to develop a smart assistant who was capable of interacting with household appliances wirelessly. This low cost and IoT based system were very user-friendly. The core part of this project was Raspberry pi. Raspberry pi collected data from the users along with sensors and interprets those collected required instructions to operate a fan, TV, washing machine, and several types of home appliances. The model tried to combine several types of features, including sensor control, facial recognition, and speech pattern recognition, which assured improved intelligent systems. It used Raspberry pi as the microcontroller [10] to operate respective home appliances as well as to build the required intelligent system. It presented a comparative study of six open-source schemes for interactive home automation. It claimed that visually disabled persons had faced few major problems while accessing those applications. Thus, the model proposed a significant adjustment to overcome these issues for helping visually impaired persons. A survey present the on 42 visually impaired persons" habits and expectations about home automation terminology. Attached a flow diagrams of the proposed circuit in Fig 3 those living rurally and those with particular impairments finally .We are paralleled trying to make   system with the idea described and used in SFIT algorithm [14]
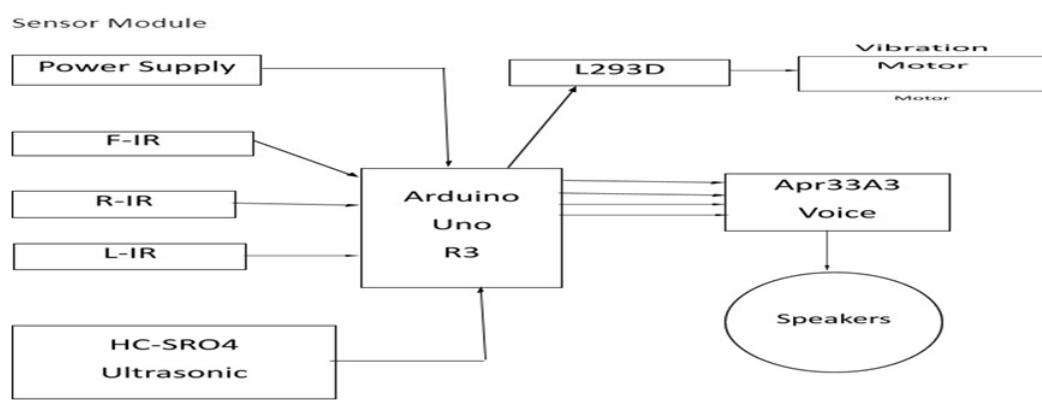

Figure 3: Home automation terminology

V. Conclusion

It is clear that the COVID-19 pandemic had catastrophic and life-changing effects on people with disabilities in all countries, both at the emotional subjective level, relationally and materially in concrete ways. The impacts are complex, often with interactions between different aspects being clearly expressed (for example the extreme stress caused by financial insecurity). Some used stark expressions to demonstrate the extent of the fear, loss, disruption and uncertainty they felt. Some of these impacts have been reported in general populations globally, but we can also see clear exacerbated and specific effects for people with disabilities. The well recognized interaction between disability and poverty is evidenced, as to a certain extent is the increased disadvantage for

References:

[1]. Ahmad, A., Chung, R., Eckenwiler, L., Ganguli-Mitra, A., Hunt M., Richards, R., Saghai, Y., Schwartz, L., Leach Scully J., & Wild, V. (2020). What does it mean to

[2]. be made vulnerable in the era of COVID-19? *The Lancet, 395*(10235), 1481 – 1482. https://doi.org/10.1016/S0140-6736(20)30979-X

[3]. Ahmed, N., Christensen, A., Cain, E., & Garbett, A. (2020). COVID-19 Double Jeopardy for Persons with Disabilities. ADD. https://add.org.uk/file/4225/download?token=jFGRN8_7

[4]. Banks, L. M., Davey, C., Shakespeare, T., & Kuper, H. (2021). Disability-inclusive responses to COVID-19: Lessons learnt from research on social protection in low- and middle-income countries. *World development, 137*(105178), 1-4. https://doi.org/10.1016/j.worlddev.2020.105178

[5]. Bedyński, W. (2020). Liminality: black death 700 years later. What lessons are for us from the medieval pandemic? *Society Register, 4*(3), 129-144. https://doi.org/10.14746/sr.2020.4.3.07

[6].   Bell, G. (2021). Pandemic Passages. *Anthropology in Action, 28*(1), 79-84. https://doi.org/10.3167/aia.2021.280115
[7].   The SEMTECH website. Availa ble: ttps://www.semtech.com/ lora/what-is-lora. [Last accessed on 24 Aug 2020]
[8].   The CODEMITH DEV website. Available: https://codesmithd ev.com/17-statistics-that-explain-the-rise-of-voice-assistants/. [Last accessed on 24 Aug 2020]
[9].   The DhakaTribune website. Available: https://www.dhakatribu ne.com/bangladesh/2018/10/12/experts-750-000-people-sufe r-from-blindness-in-bangladesh. [Last accessed on 24 Aug 2020]
[10].   The STATISTA website. Available: https://www.statista.com/ topics/2430/smart-homes/. [Last accessed on 24 Aug 2020]
[11].   Saquib Z, Murari V, Bhargav SN. BlinDar: An invisible eye for the blind people making life easy for the blind with Internet of Things (IoT). In: 2017 2nd IEEE International Conference on Recent Trends in Electronics, Information and Communication
[12].   Jiamin Liu, Shuo Chen, Hongxing Sun, Yongxu Qin and Xibo Wang, "Real Time Tracking Method by Using Color Markers", International Conference on Virtual Reality and Visualization, 2013.
[13].   Akshay Dekate, Anam Kamal and K. S. Surekha, "Magic Glove-wireless hand gesture hardware controller", International Conference on Electronics and Communication Systems (ICECS), 2014.
[14].   Gurwinder Kaur and Gourav Bathla, "Hand Gesture Recognition based on Invariant Features and Artifical Neural Network", Indian Journal of Science and Technology, vol. 9, no. 43, November 2016.