
SELF CIRCUITRY PERCEPTION FOR PHYSICAL ENVIRONS

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ABSTRACT

The internet of things in the 22nd generation can fight against COVID -19 . COVID -19 is a global pandemic which has brought general changes to human life. COVID -19virus or viral disease can be reduced with the help of social distancing and health monitoring. social distancing can reduce the risk of COVID -19.to maintain physical distance between people, we have made a project which will help people to maintain a minimum distance between them using different Iot sensors and Arduino microcontroller boards. Then people health condition monitoring SPO2 sensor used oxygen level .The infrared temperature sensor appears to be rather straightforward point ,press the button and read the temperature in case of abnormal status GPS Tracking systems enables a base station to keep track of the person current status and navigation system helps the driver to reach the destination and monitoring physical distancing will be part of our life till COVID -19 is under control and this project will help to maintain a secure distance from others.

Keywords— Arduino UNO microcontroller, SPO2 and GPS Tracking Using IOT Technology.

1. INTRODUCTION

The worldwide pandemic Covid (Coronavirus) episode arose first time in 2019 in Wuhan, China. Since from December 2019, the infection continued spreading to 213 nations and regions. Covid sickness is an infectious illness with brooding of one to fourteen days of hatching period. It is a period where patient isn't having any side effects of Coronavirus infection, in fact called as SARSCOV-2. At the point when a flare-up starting breaks get into urban communities, early recognition, uninflected the tainted individual and following potential contacts are estimated are a lot of fundamental. IoT conventions, strikingly Bluetooth Low Energy (BLE) still as NFC, RFID, GPS, and {WIFI | Remote Neighborhood Square Measure Network |WLAN| remote devotion | WIFI| neighborhood |LAN} are getting plentiful consideration for giving answers for those difficulties The inspiration for doing this venture was principally an interest in endeavor a difficult task in an invigorating area of examination. IOT is boundlessly creating field in independent innovation.

We desire to fabricate a social removing pack which will actually want to adjust to its environmental elements and understand the important cautions which are given to client to give an effective and computerized process. The degree of insurance and wellbeing can be expanded by various times when contrasted with the ongoing situation. This task expects to tackle the issue that happens by not keeping up with social separating during Coronavirus pandemic. Our venture is prepared to do consequently dissecting the distance between 2 individuals recommended by states. It's able to do naturally examining the administrative standards set for social removing and in view of the set rules it will characterize the choice most appropriate in that specific circumstance and will follow up on it. Social separating Pack will be not difficult to utilize and wear with a disturbing office to client The task is constructed involving Arduino as a handling and controlling unit of the framework, the social removing kitwill be getting to the mathematical resources, for example, the distance between the people which are evenly lined up with the item with the assistance of sensor's information which will

be gotten by the Arduino. The sensors utilized for this object are ultrasonic sensor the Social separating pack works on the information got from the sensors and makes it so it can predict any likely in the middle of between individuals while meeting.

2. Literature review

2.1 Wearable social distancing detection system

The development of wearable social distancing detection systems has been described in this document. The system used an ARM microcontroller and an ultrasonic sensor to detect and measure the distance between an object and a nearby person. It is equipped with an LCD module that displays the distance and a message and buzzer to report that the physical distance of 1 meter is not respected. The system has been successfully tested and was able to accurately perform social distancing detection. This system can be improved to be more interactive for the user, e.g. B. sending a notification via a smartwatch to remind him of the distance or inserting a vibration. User Awareness Disc. A thermal or infrared sensor may also be included to detect a human's body temperature and provide more accurate results when another human is detected near the user. These measures ensure physical distance between people (at least one meter) and reduce contact with contaminated surfaces, while encouraging and maintaining virtual social connections within families and communities

2.2 A Smart Social Distancing Monitoring System

Taking into account the importance of social distance in managing and reducing the probability of COVID-19 disease from continuously spreading which can cause the healthcare system to collapse due to high number of patient, MySD can offer a smart solution to public to monitor and remind them to maintain the distance when in public areas. MySD allows the creation of invisible safe zone surrounding the users to minimize the chances of getting infected with COVID-19 in the public or crowded areas. By incorporating the current zone information, user will be more alert to comply with social distance in the high risk areas (i.e. Red and Yellow zones). The alert which are in the form of notification and vibration will help further the user to force themselves to maintain a safe distance. In the future, additional backend process will be included that allow advanced statistical analysis to be done which can be used by the authority, facilities or building owner to monitor the level of compliance among the people or visitors.

2.3 A Queue Management Approach for Social Distancing and Contact Tracing

Social distancing is considered a crucial measure to limit the spread of COVID-19, allowing more time to governments and healthcare systems to take appropriate measures, and pharmaceutical research to advance towards developing a vaccine. In this paper, we have presented a system that allows social distancing in queueing scenarios and contact tracing for clients that use this system. Nonetheless, the system is not perfect since it can be easily abused. While businesses can create one queue per service, nothing prevents malicious users from creating counterfeit virtual queues that might frustrate users. On the one hand, there is no authentication for clients that join queues, and therefore their identity remains private. On the other hand, however, there is no verification that the inputted infected clients are indeed infected people and not malicious users. It would require socially responsible clients for our approach to work. To deal with malicious users that abuse the social tracing feature of our system, we would have only to allow professional healthcare institutions to input clients' infected status, like in the Exposure Notification system developed by Apple and Google, and of course, that would require a higher level of collaboration.

2.4 Social Distancing Detector and Indicator Using Arduino

Using this proposed system we can measure the distance between two subjects. This product is not only meant for the usage in pandemic and in other field as well. As we can change the inputs (the distance) in Arduino code it is used to measure even very long distance or even a very short distance. As WHO prescribed to maintain 6 feet of distance, we have given it has the input. We can modify the distance value at any time.

2.5 Energy Efficient Contact Tracing and Social Interaction based Patient Prediction System

With this work, we present a contact tracing system that is equipped with BLE and GPS capabilities to address significant drawbacks and concerns highlighted in current COVID-19 patient contact tracing systems. Additionally, this system supports offline and online operating modes, giving relevant authorities and users a high level of flexibility. Besides that, with the aid of a developed algorithm, we could also evaluate and produce infection probabilities for users. Also, we simulated the algorithms with a graph-based approach and compared the findings with actual data from different regions. The algorithms enable generating required alerts to indicate the critical incidences (i.e., close contact with a COVID-19 patient) and push the necessary notifications to users about their associated risk levels in a more tailored fashion than other systems. We also identified that the proposing clustering-based system would provide up to 90% of energy-saving for idle users while providing a 15%–25% reduction in the required number of polymerase chain reaction (PCR) tests (or self-isolation cases). In that sense, our work offers a higher number of options and accuracy over many other solutions currently being implemented worldwide. Furthermore, the simulation findings assisted in gaining insight into how the system will perform in real-world and practical situations. We intend to increase the system’s user privacy while collecting data in the future by incorporating strong anonymity and unlink ability properties. Furthermore, we want to improve prediction accuracy by combining machine learning-based infection probability predictions with the established approach. Moreover, this system should be helpful and effectively perform in any other pandemic similar to COVID-19, which can spring out any time or anywhere in the future.

TITLE	TECHNOLOGY	DISADVANTAGE
Wearable Social Distance Sensing System	MARA to Deploy Equipment	The primary purpose of these wearable devices is to encourage social distancing, which is essential to ensure workers are not too close together.
A smart social distance monitoring	Wireless Tracking System	It is less effective when the infection is mainly transmitted through contaminated water or food, or through mosquitoes or insects.
A queue control method to social distancing	TracingSeveral technology	Upgraded Agent dashboard with enhance manage features

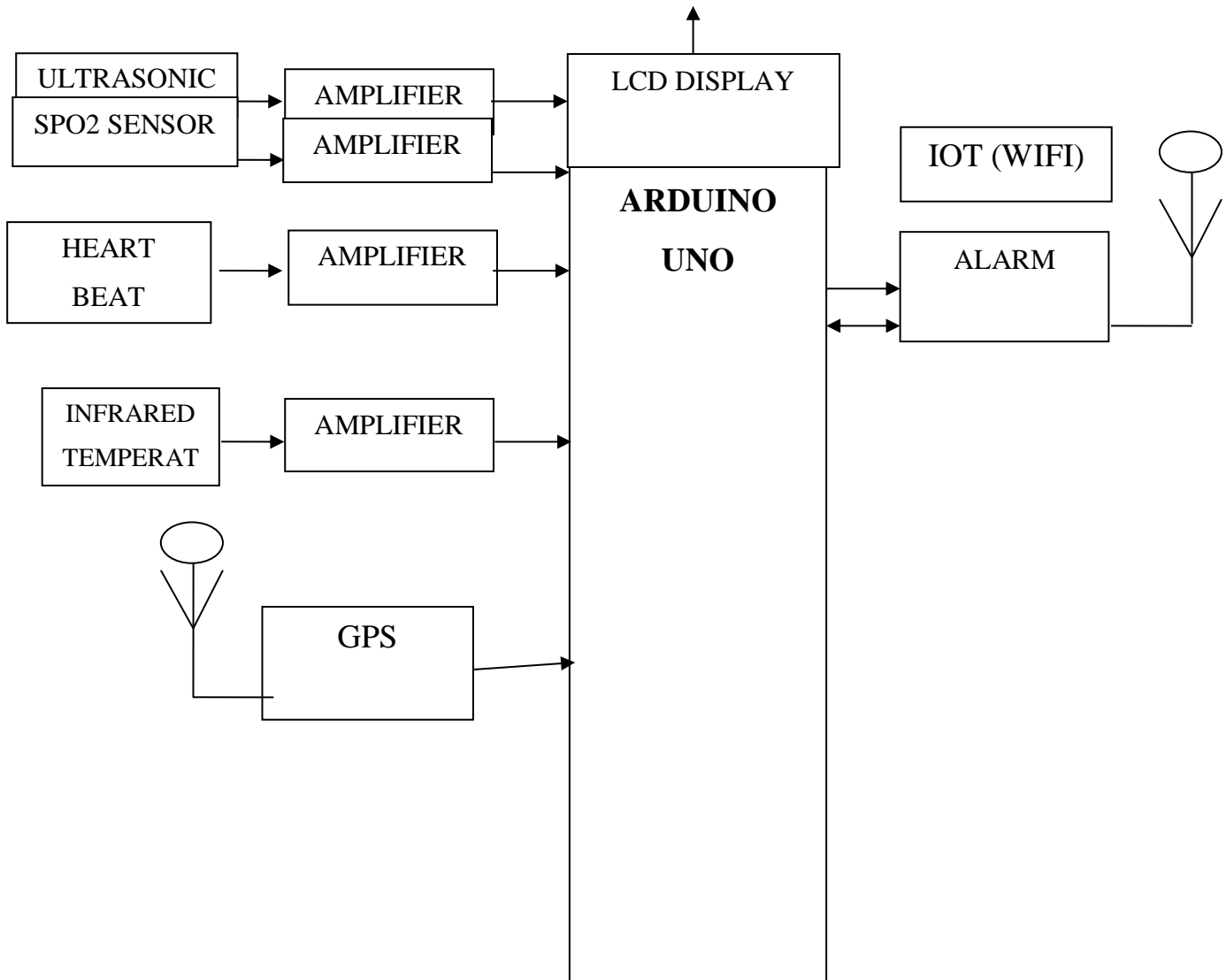
Social Distancing Detector and Indicator Using Arduino	Image processing	Processing Negatively affects learning and growth and prevents people from socializing effectively, which is a basic human need.
Energy Efficient Contact Tracing and Social Interaction based Patient Prediction System	Bluetooth low energy	Additionally Prototype implementation has been carried out of the solution and compared the validity of the proposed system with real world COVID-19 patient data set.

3 Proposed Methodology and Future Work

The project is to design an intelligent social distance monitoring system for patients based on the Internet of Things. In this project, we monitor a patient full-time through IOT using various parameters of the patient's health status. Different sensors are used for each parameter to monitor the patient's health status in real time, we use IOT. The heartbeat sensor is used to monitor the patient's heart rate. Ultrasonic sensor for distance measurement of the patient. The spo2 sensor used for patient oxygen monitoring. All these parameters are stored in the Arduino microcontroller and then uploaded to the IOT server.

In case of abnormal status of patient emergency message intimated via IOT server or android app to the doctor and its relatives .All these parameters are stored in Arduino microcontroller and then it will be uploaded in IOT server monitored by doctor he will prevent the treatment for the patient.in this way efficient to monitor patient real -time.In Our project using iot technology to monitoring the health level. For each parameters different sensors are used to monitor patient health level in real time we are using IOT .Heart beat sensor is used to monitor patient heartbeat rate. Ultrasonic sensor used to distancing measuring the patient. Then spo2 sensor used for patient oxygen monitoring. All these parameters are stored in Arduino microcontroller and then it will be uploaded in IOT server.in case of abnormal status of patient emergency message intimated via IOT server or android app to the doctor and its relatives. Using this technology, we can monitor the patient wherever in the world we can monitor patient health level.

3.1 BLOCK DIAGRAM



4.Result And Discussion

In this way we designed to health monitoring system using IOT for higher accuracy to monitor patient at a time. using this project doctor can monitor his patient everywhere in the world using IOT server and required treatment or medicine is prescribed .everyone can using this project even patient attendant also monitor patient heartbeat level, oxygen level , temperature level , blood pressure level and flow heart beat using ECG interface with the microcontroller .

5 Conclusion

This project help us to maintain distance with the patient and patient Oxygrn level and pulse level by using sensors and alert the doctor or family members of patient . In future some feature can added like without hanging gadgets.

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