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## DEVELOPMENT OF SYMPTOMS COVID DETECTION WITH IoT

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### ABSTRACT

The development of covid symptom detection with IoT this is your covid 19 symptom detector at home. This project illustrates how to use the covid 19 detector application tool easily. Unlike other covid 19 detector products on the market today, because nowadays most covid 19 symptom products use the saliva test method compared to my product which only uses the non-invasive device. Therefore, many people do not need to be afraid anymore to make covid inspection 19. Next, as these products have been combined from three different devices and three parameters into one device and three similar parameters. Symptoms of covid detection can be used in a variety of ways you can detect through the forehead that will confirm the temperature. In addition, this product can also detect through fingers that can detect our oxygen levels. In this project, I have built a covid 19 smart IoT program on the phone so that we can store daily data on the phone after the covid check using this product. Therefore, users do not have to worry and fear of losing data because all the data has been stored in the smart phone. Once we make a check on this device, all the data that comes out on the screen of the device will continue to go into the IoT smartphone data. The components we use in our products are GSR sensors, pulse sensors and temperature sensors. It features a complete and self-contained Wi-Fi network solution on one chip. The on-board processor with integrated storage functions as a self-contained microcontroller with GPIO, providing an easy and inexpensive way to integrate with self-contained sensors and devices. The chip is soldered to the faulty board with an integrated antenna and associated components, and a power source.

**Keywords:** heart rate, blood pressure, temperature, non-invasive device

## INTRODUCTION

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases. The rapid spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has led to the coronavirus disease 2019 (COVID-19) worldwide pandemic. This unprecedented situation has garnered worldwide attention. currently each device measure 1 parameter for each measurement compared 3 parameter embedded in 1 device and monitoring system by smart phone using IoT. Tree parameter consist of heart rate, blood pressure and temperature. The effects of traveling in different transport modes on galvanic skin response (GSR) as a measure of stress: An observational study Zorana Jovanovic Andersen (14 July 2021) To evaluate effects of daily travel in different modes on an objective proxy measure of stress, the galvanic skin response (GSR). We collected data from 122 participants across 3 European cities as part of the Physical Activity through Sustainable Transport Approaches (PASTA) study, including: GSR measured every minute alongside confounders (physical activity, near-body temperature) during three separate weeks covering 3 seasons; sociodemographic and travel information through questionnaires.

Gauging the effectiveness of music and yoga for reducing stress among engineering students: An investigation based on Galvanic Skin Response Joshi, Anurag and Kiran, Ravi work(19 March 2020). To discover the most effective stimuli to handle stress by measuring the effect of types of musical drills and yogic breathing on engineering students using the Galvanic Skin Response Sensor Meter (GSRSM). The study used a stratified random sampling method selecting engineering students from four streams. The GSRSM was used as a tool to record the responses after 300 seconds for the experimental and the control groups of 200 students each.

Heart Rate Variability as a Possible Predictive Marker for Acute Inflammatory Response in COVID-19 Patients Frederick Hasty, MD, and Guillermo García, MD (30 January 2021). Increases in C-reactive protein (CRP) are used to track the inflammatory process of COVID-19 and are associated with disease state progression. Decreases in heart rate variability (HRV) correlate with worsening of disease states. This observational study tracks changes in HRV relative to changes in CRP in COVID-19 patients. Intermittent, daily short-segment data sets of 5 to 7 minutes over a minimum of 7 days were analyzed. Changes in HRV were compared to changes in CRP.

Association between ambient temperature and COVID-19 infection in 122 cities from China Jingui Xie and Yongjian Zhu (30 March 2020). This study aimed to determine whether the temperature is an essential factor in the infection caused by this novel coronavirus. A generalized additive model (GAM) was applied to explore the nonlinear relationship between mean temperature and COVID-19 confirmed cases. We also used a piecewise linear regression to determine the relationship in detail.

Application of fractional Fourier transform in feature extraction from electrocardiogram and galvanic skin response for emotion recognition Farnaz Panahi, Saied Rashidi and Ali Sheikh ani (Hillman, Mazzite, & Hassoun, Designing and Managing a Smart Parking System Using Wireless Sensor Networks, 2020). This paper aims to study the effectiveness of Fractional Fourier Transform (FrFT) as a novel feature extraction method in improving the accuracy of emotion recognition from physiological signals. Emotion detection is performed in two dimensions,

of arousal and valence, using Electrocardiogram (ECG) and galvanic skin response (GSR) signals recorded on the ascertain database.

## METHODOLOGY

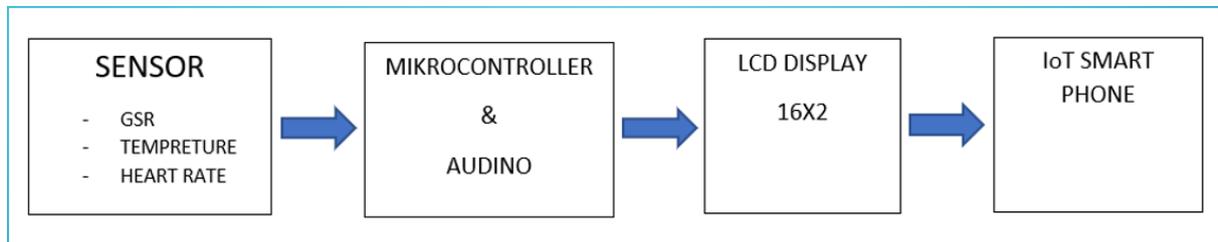


Figure 1 block diagram of development of symptoms covid detection with IoT

Figure 1 illustrates a block diagram of development of symptoms covid detection with IoT. The components consist of GSR sensors, pulse sensors, and temperature sensors. It features a complete and self-contained Wi-Fi network solution on one chip. The on-board processor with integrated storage functions as a self-contained microcontroller with GPIO, providing an easy and inexpensive way to integrate with self-contained sensors and devices. The chip is soldered to the faulty board with an integrated antenna and associated components, and a power source.

## RESULT AND DISCUSSION

This part shares the survey findings of the requirement need of development of symptoms covid detection with IoT. The survey was conducted by giving questionnaires by Google Form. The feedback and opinions from responders encouraged to continue the project. Figure 2 shows the response of the gender between male (60%) and female (40%) that gave feedback about the symptoms covid 19 detection with IoT. While Figure 3 shows the age of the responder, which 60% are teenagers while 40% are upper 40 years old. This shows that young people are more susceptible to the virus because they are often in covid-exposed areas.

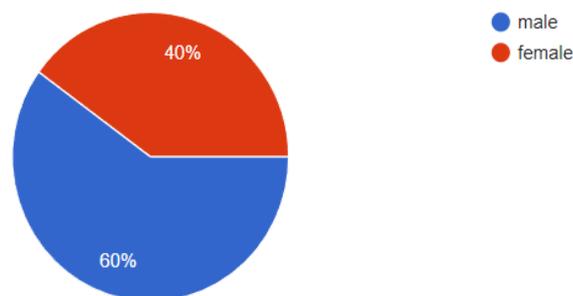


Figure 2 percentage of responder for the gender

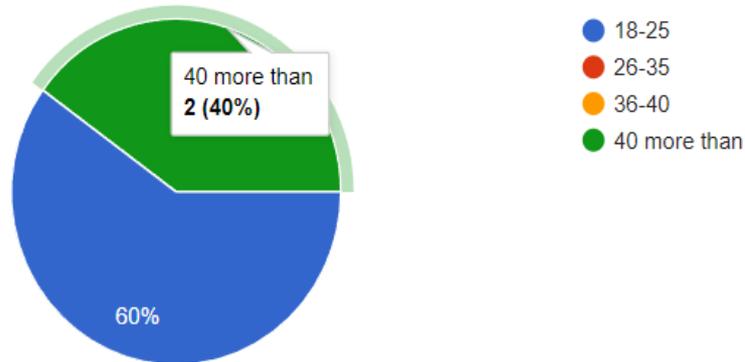


Figure 3 percentage of responder for the age

The Figure 4 shows, 60% the respondent prefer to check health in a day for a 1 time. While 20% for both 3 and 4 more than to check in a day.

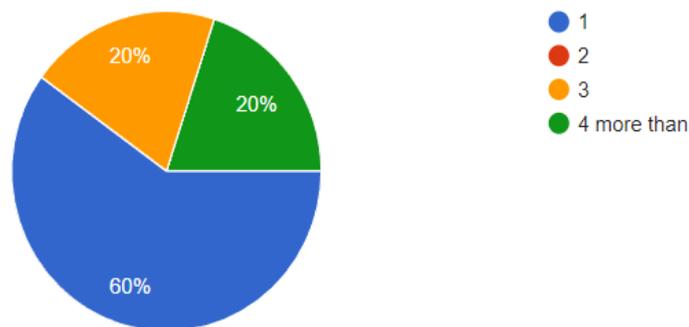


Figure 4 percentage of responder for the age

Last but not least all the respondent agree with the convenient and suitable of the product for the covid detection as shown in figure 5 and 6

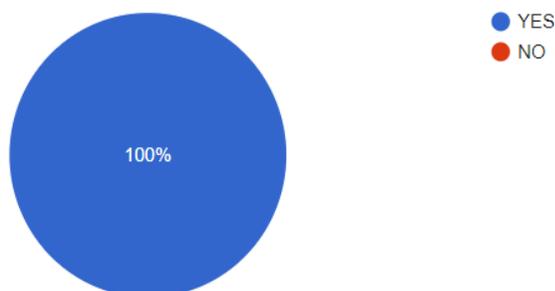


Figure 5 percentage of responder for the very convenient for user covid symptoms detection

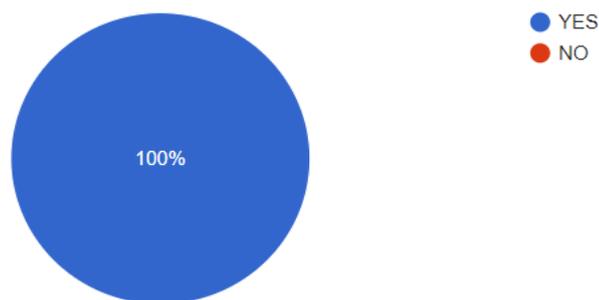


Figure 4 percentage of responder for the suitable to created symptom covid detection

## CONCLUSION

As a conclusion this project is very useful in early detection for health monitoring. Therefore, community regardless of race or country because with this project then will reduce the problem of covid 19 infection and can reduce the risk of covid 19 infection. Management of the pandemic and limiting the spread of the virus, the impact of the COVID-19 epidemic in lifestyle, and preparation for a possible endemic situation.

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