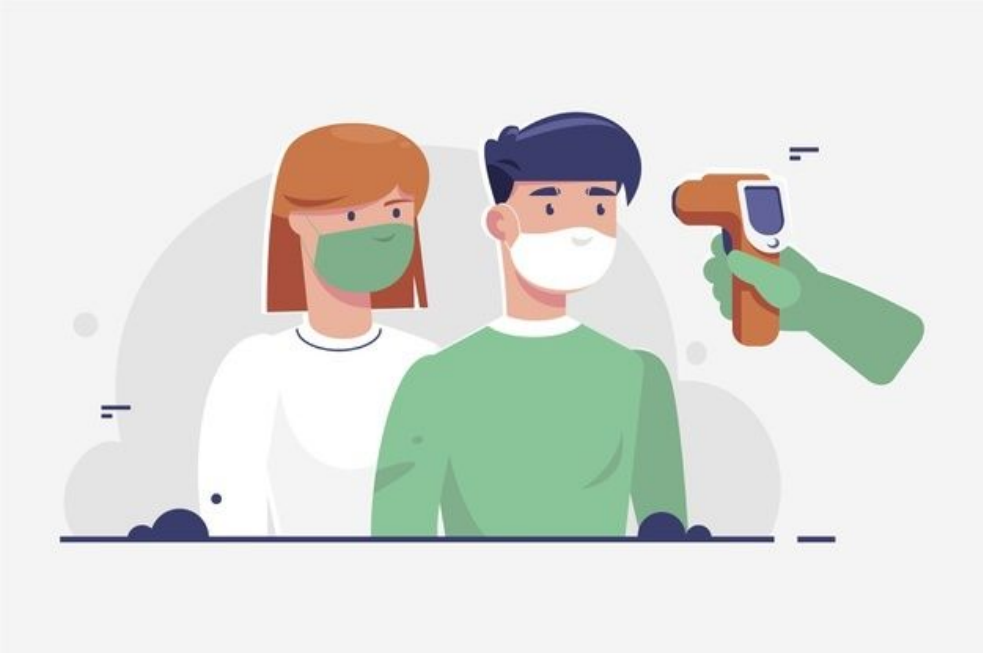


Automation Society Security Task - ASST

College Name: Shah & Anchor Kutchhi Engineering College

Team Details:

Name	Leader/Member	Year
Utsav Gada	Leader	Final Year
Forum Patel	Member	Final Year
Bhavya Joshi	Member	Final Year
Siddhant Kadam	Member	Final Year

Problem Selection:

I. Understanding of the Problem

In this current pandemic situation, it is necessary to check the temperature of each and every person entering the society/organization to make sure the person has no symptoms of Covid-19. Noting down the temperature of each person manually and maintaining the record is a tedious task and unfortunately watchmen suffer with this additional work. This becomes worse for a big society/organization.

II. Most Challenging aspect of the problem

Ensuring the accuracy of our system to work efficiently as a real time application.

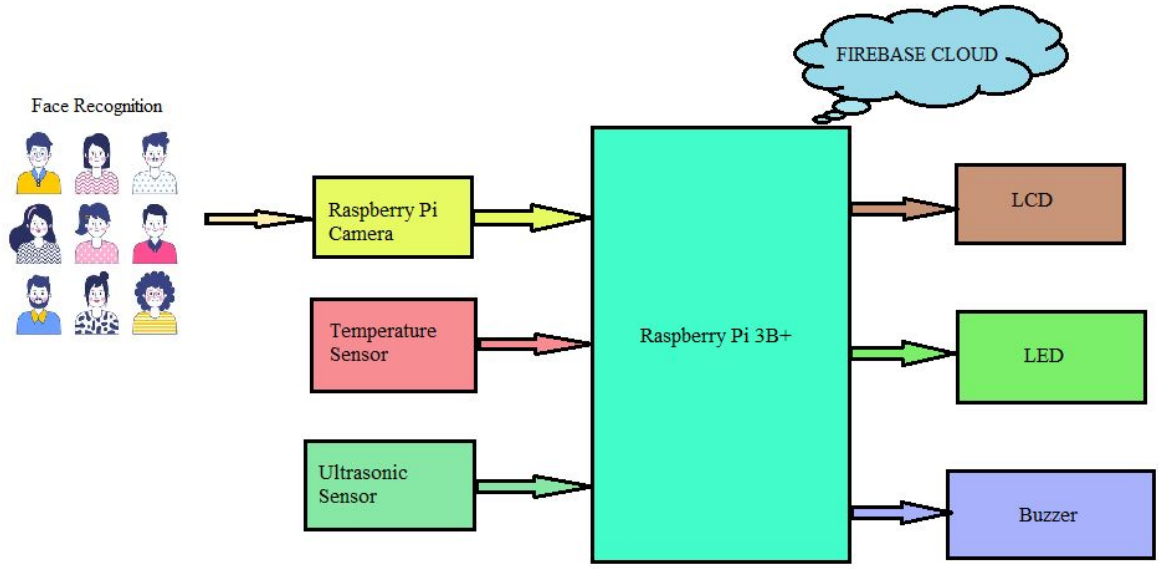
III. Reason for Choosing this problem

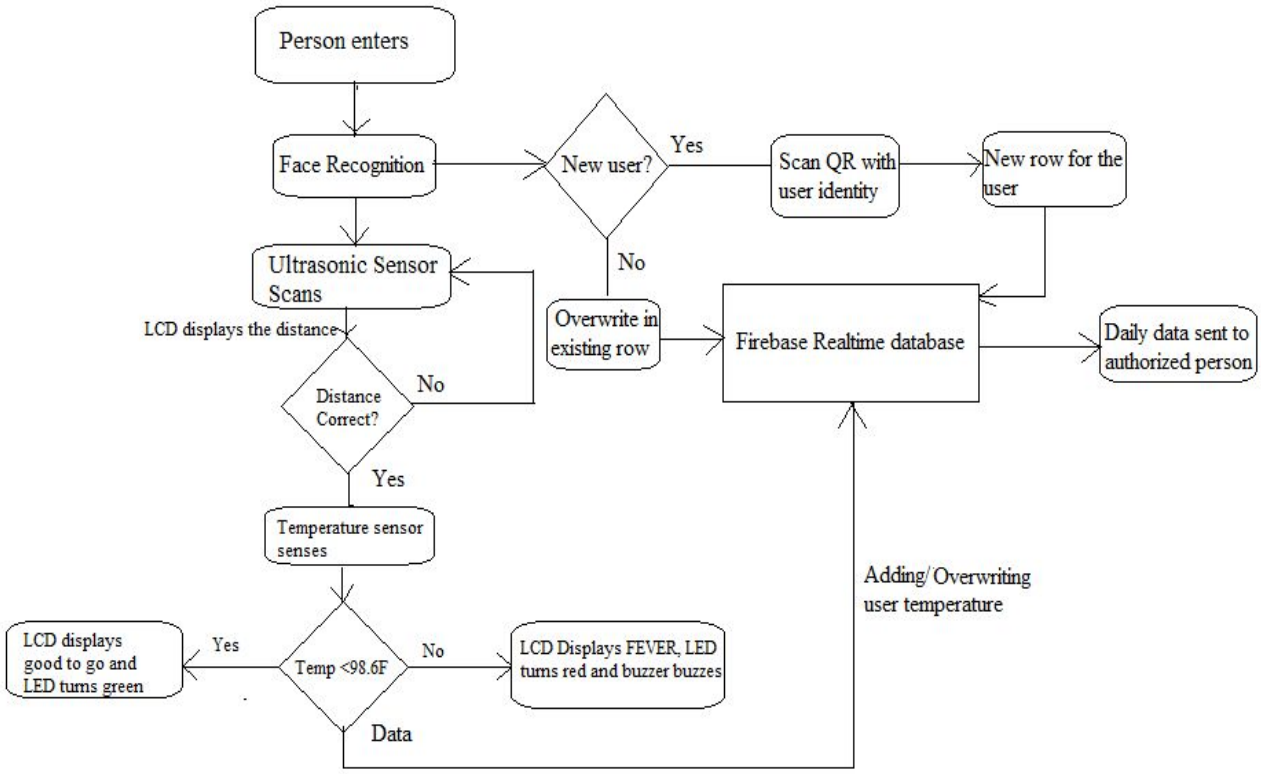
Seeing the current pandemic situation, everyone wants to contribute to society but doesn't know how. As engineers, we cannot cure the patients but we can at least prevent the spread of Covid-19. It will be our greatest achievement if our system helps to prevent the spread of virus and ensure the safety of our fellow citizens.

IV. Approach

A. Components such as Raspberry pi, Raspberry pi camera, MLX90614 Temperature sensor, Ultrasonic sensor, LCD Display, LEDs and a buzzer will be used.
B. As a user appears in front of the system, It will first recognise the face of the user. If the face is recognized i.e if the user data is already in the database, the system will consider it as an existing user and overwrite. If not, the user will be asked to scan a QR code with his name on it (QR System will be provided to the new user). The details will be stored in the database.
C. Users will then be asked to stand at a proper distance so as to measure the correct temperature.
D. After confirming the correct distance, the system will add/overwrite the temperature of the user.
E. LCD screen, LEDs and Buzzer will guide the user with steps.
F. Daily data will be sent to the secretary/admin/authorized person.

V. Approach Diagram





VI. Platform/Coding Language/Framework

IOT and Image Processing will be the two main domains that will be used to make the system. **Raspberry Pi** will be the brain of the system. **Python** will be used to code the whole program. **Flutter** will be used to create QR scanner mobile applications.

VII. Database

Firebase RealTime Database will be used as it is a free **Cloud** Based service.

VIII. Fortnightly targets

Week	Target
Week 1 and 2	Researching the existing systems and their flaws. Finalising the system workflow based on our research.
Week 3 and 4	Starting with software implementation.
Week 5 and 6	Starting with hardware implementation
Week 7 and 8	Completion of the whole system and mobile app development.
Week 9 and 10	Testing and fixing the bugs.
Week 11 and 12	Finalizing the product.

About the Team:

I. Previous Projects Undertaken

- Team has experience in the field of IOT and Image Processing.
- All the members of the team have already worked as an intern together with a company Named GCVLife where the team developed a Web application - Incentive Calculator and a deduplicator system (Tool using Machine Learning) for the company.

- Currently all the members are working for an US based company Blue Eye Soft where we are making a Covid Related app for them for safe return of students to school/college.
- Also the team has made a Temperature Monitoring System for Blue Eye Soft which is partly similar to the current problem statement.

Video link of Temperature Monitoring System:
https://drive.google.com/file/d/1Q8T9zBNY0IGlsTl_17qL76Y_dCp9vsyj/view?usp=sharing

II. Team Strengths

We believe that our team will be able to implement a winning solution as our members have done 3 internships in the IoT field and also published papers in the IoT domain. Our team members have also done a certified course on OpenCV. We accept this project as a challenge and we will utilize our skills and knowledge in order to complete this task.

III. Team Achievements

- Team members reached the semi-finals of Deep Blue Season 5.
- Team members cleared the Internal Smart India Hackathon2020.

IV. Personal Motivations

Our team members are highly motivated to provide a solution for stopping the spread of virus. Our team has also made a covid related app just to ensure the safety of citizens and we are looking forward to providing more and more solutions by utilizing our skills and knowledge. Seeing our efforts, research work and dedication to help our nation, We are confident that our system is capable enough to stop the spread of virus and ensure the safety of our citizens.