

## PSG Hackathon May 2022

### Team members

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### Chosen problem statement

P3. IOT & Hardware: Automatic attendance system

### Proposed solution

#### Overview

In our college , attendance is taken using pen and paper and this approach has been in use for a long time. But it is slow . In addition, it requires a manual data entry phase for any subsequent analysis or report generation. This solution aims to propose an semi automated student attendance system using based on mobile application and database storage.

Each faculty will be provided with specific OTP and the system provides the students with a mobile application through which they will be able to enter the otp given to them by the staff .The student must enter OTP in the given time limit in such a way that he/she does not share it with their friends.Eventhough the attendance is considered via this OTP method a fingerprint verification is done at the starting of the class.which makes the process error free. After the verification, the attendance for the student will be stored using the SQL database.

#### Implementation details

<Highlight the major features and details of the solution>

First our code generates a random six digit OTP.Then the randomly generated OTP is stored in a text file.we have made a code to make this process as an application.After the opt is being generated we move on to the verification process application where the student must enter the generated otp which is said by the teacher to the students present in the class.Here interpreter

checks whether the generated OTP and the opt entered by the student are same. The OTP must be entered within 1 minute. The OTP must be successfully verified within 3 attempts otherwise the student fails to get his attendance.

As a secondary verification fingerprint recognition is done. If the finger print is not verified or if a student's fingerprint is not registered for a particular class then he/she fails to get attendance. For fingerprint verification we can use a finger reader or the tablet PCs which comes with fingerprint reading options to recognise the student.

### Tools & Technologies

<List the tools & tech to be used in the solution> Software

Requirements:

- Android/iOS mobile phones
- App for attendance record
- Fingerprint reader/tablet PCs with fingerprint verification option

Mobile application can be created by using python.