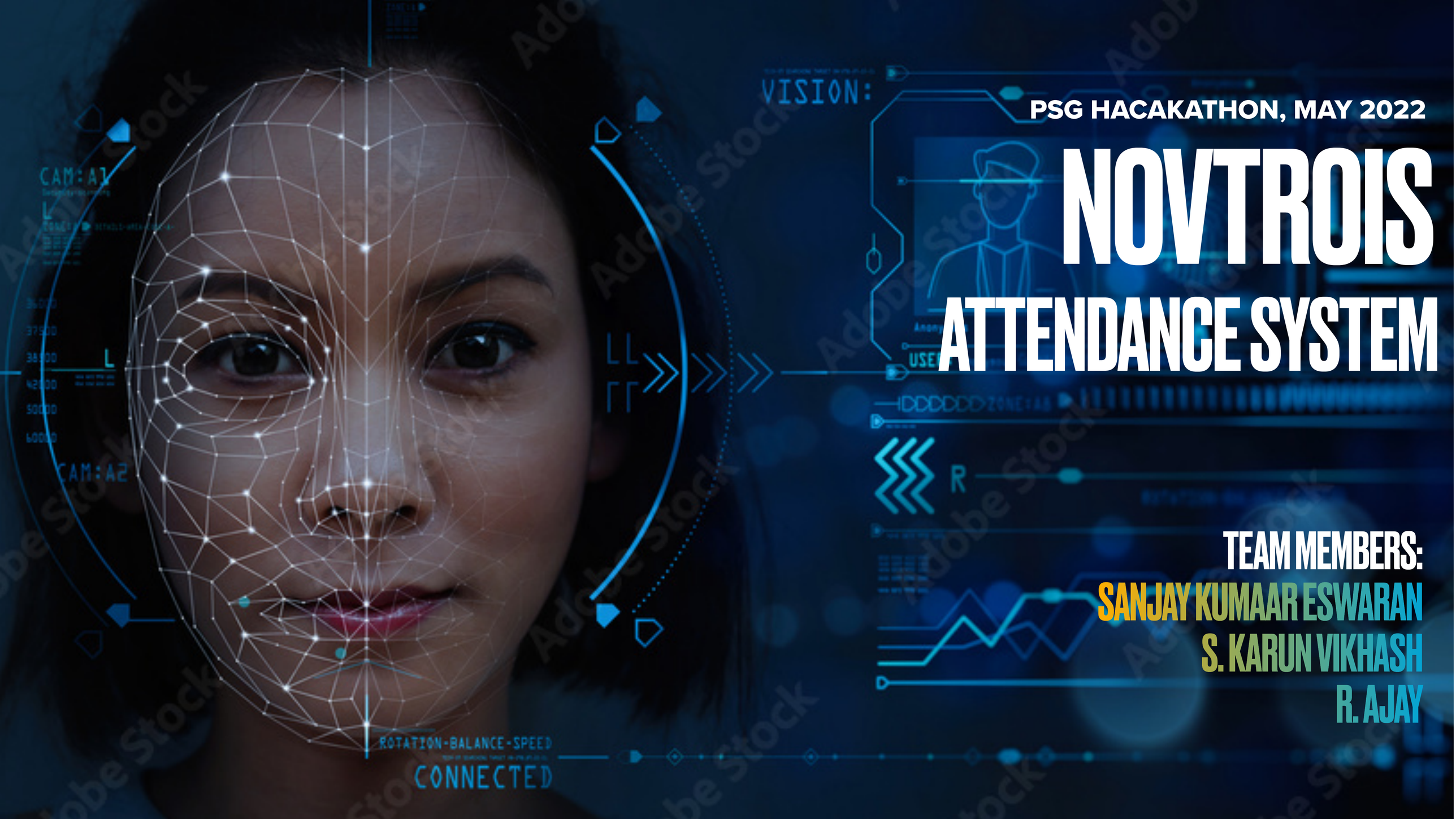


PSG HACAKATHON, MAY 2022

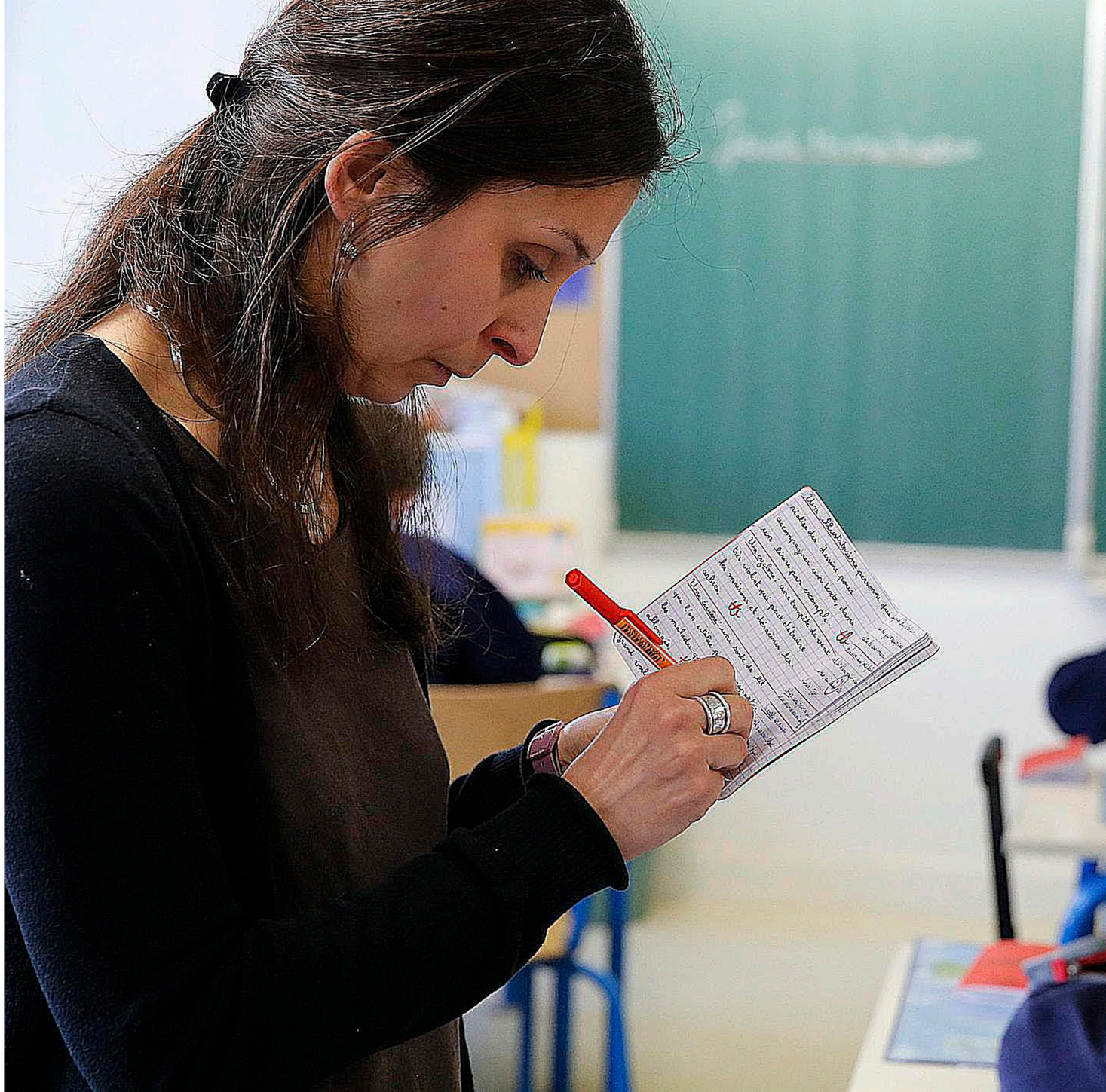
NOVTROIS

ATTENDANCE SYSTEM

TEAM MEMBERS:
SANJAY KUMAAR ESWARAN
S. KARUN VIKHASH
R. AJAY

OVERVIEW

- The main objective of this project is to
  - Simplify the process of taking attendance.
  - To make it user friendly.
  - To reduce the probability of proxying.

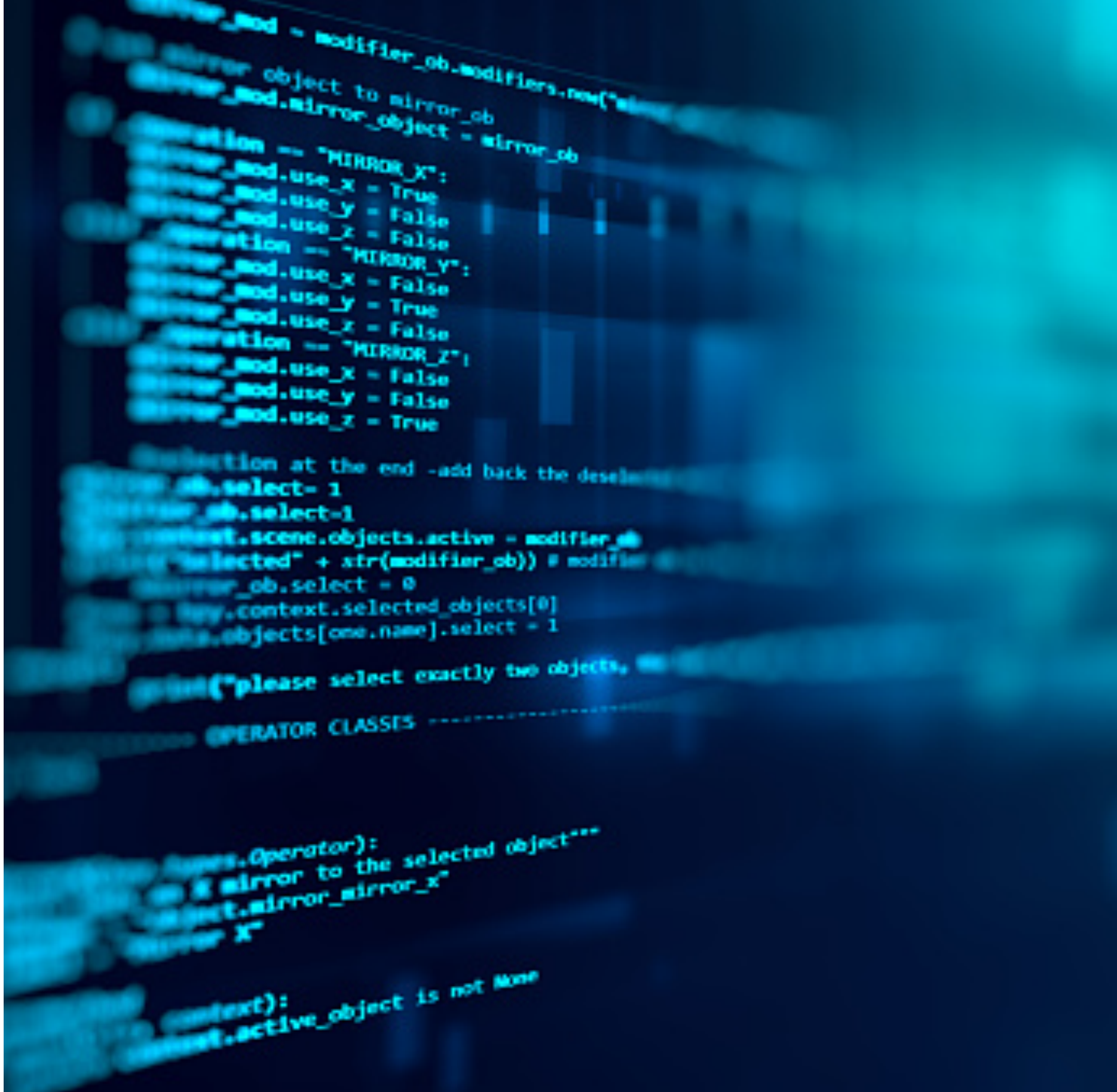


IMPLEMENTATION DETAILS

- For the automatic attendance system, we would set up a system in each class with an external camera for barcode and face recognition.
- The system (i.e., the program) runs on Python.
- All process will be automated using Python with only minimal attention required by the tutor.
- Currently the face recognition system and the bar code scanner both use the same camera, hence it is affordable.
- We are aiming for a lightweight program.
- The system will be active in a given time pool (about 10 min) before each class so that students can give their attendance and the pool can be extended by the tutor using a code.

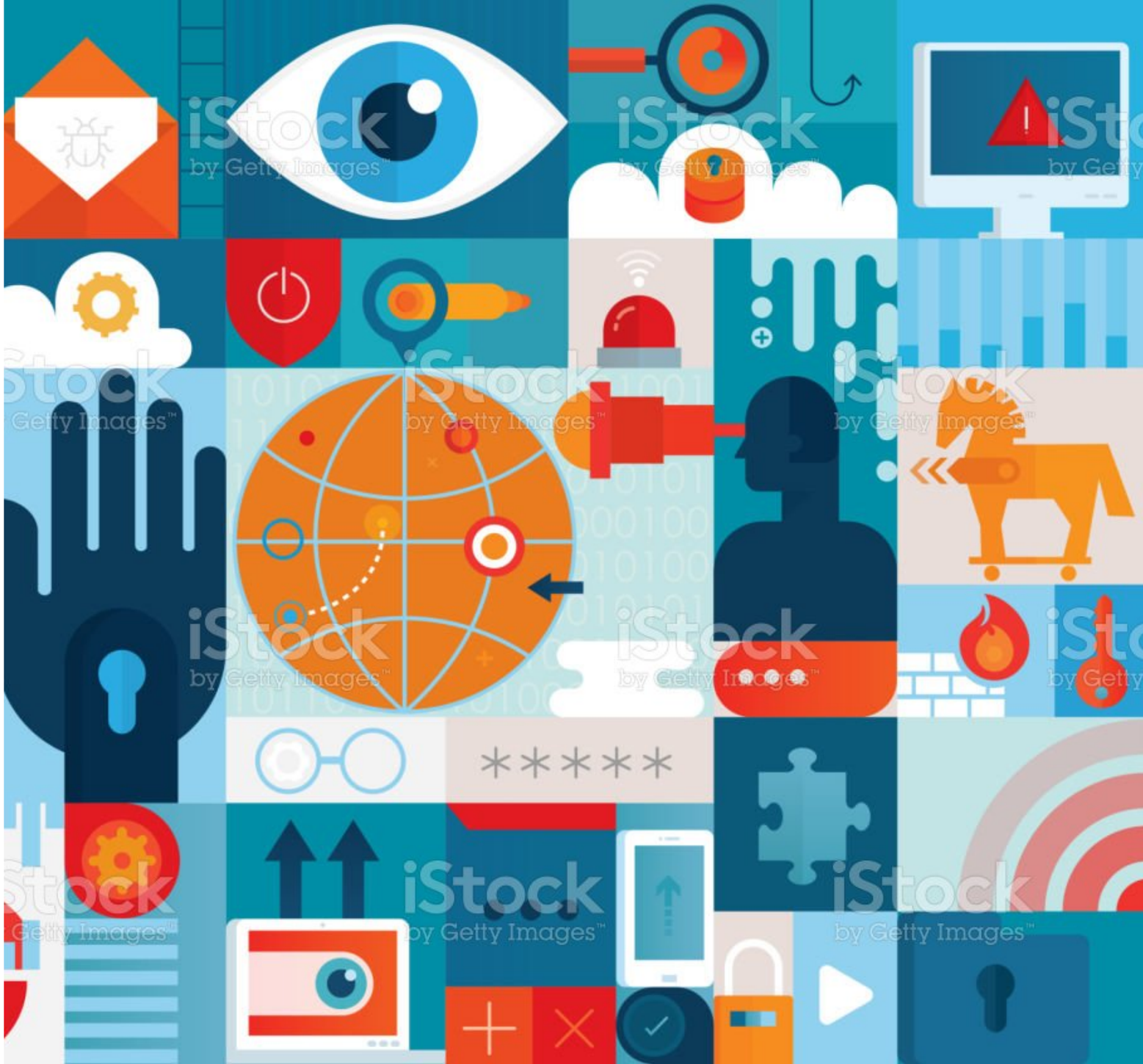
REQUIREMENTS

- Initially, each tutor has to enter their
  - Class timetable with timings for each classes.
  - Email IDs of their subject teachers and tutors.
  - Images of each student in the class.
  - Only respective class tutors are given permissions to access their own classes.



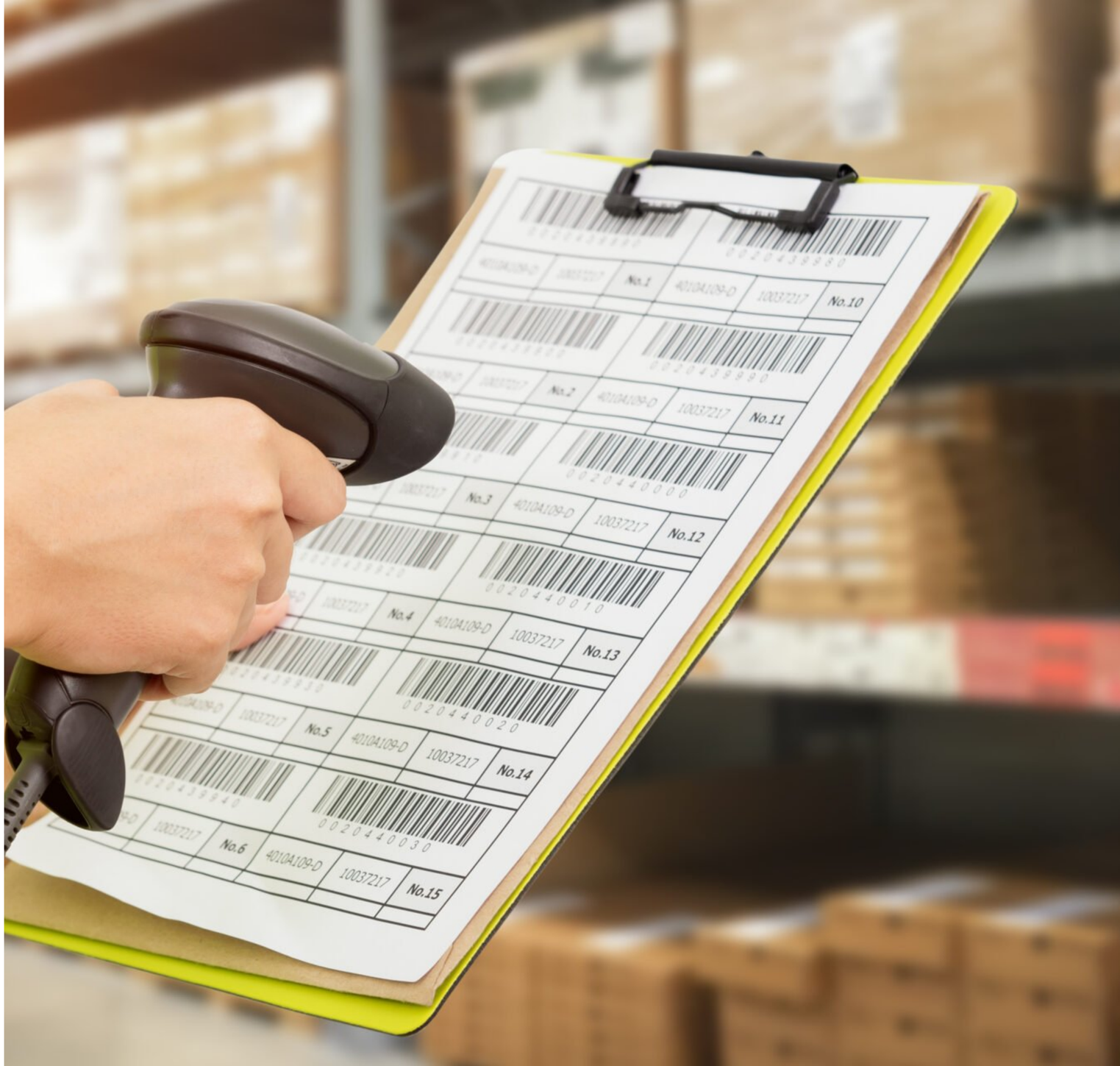
HOW IS IT EXECUTED?

- Each system will have an assigned Mail ID for the respective class.
- All the systems will be turned on in the morning.
- The system will know the timings of the classes based on the given timetable by the tutor.
- Then all the modules are initiated accordingly



BARCODE SCANNING

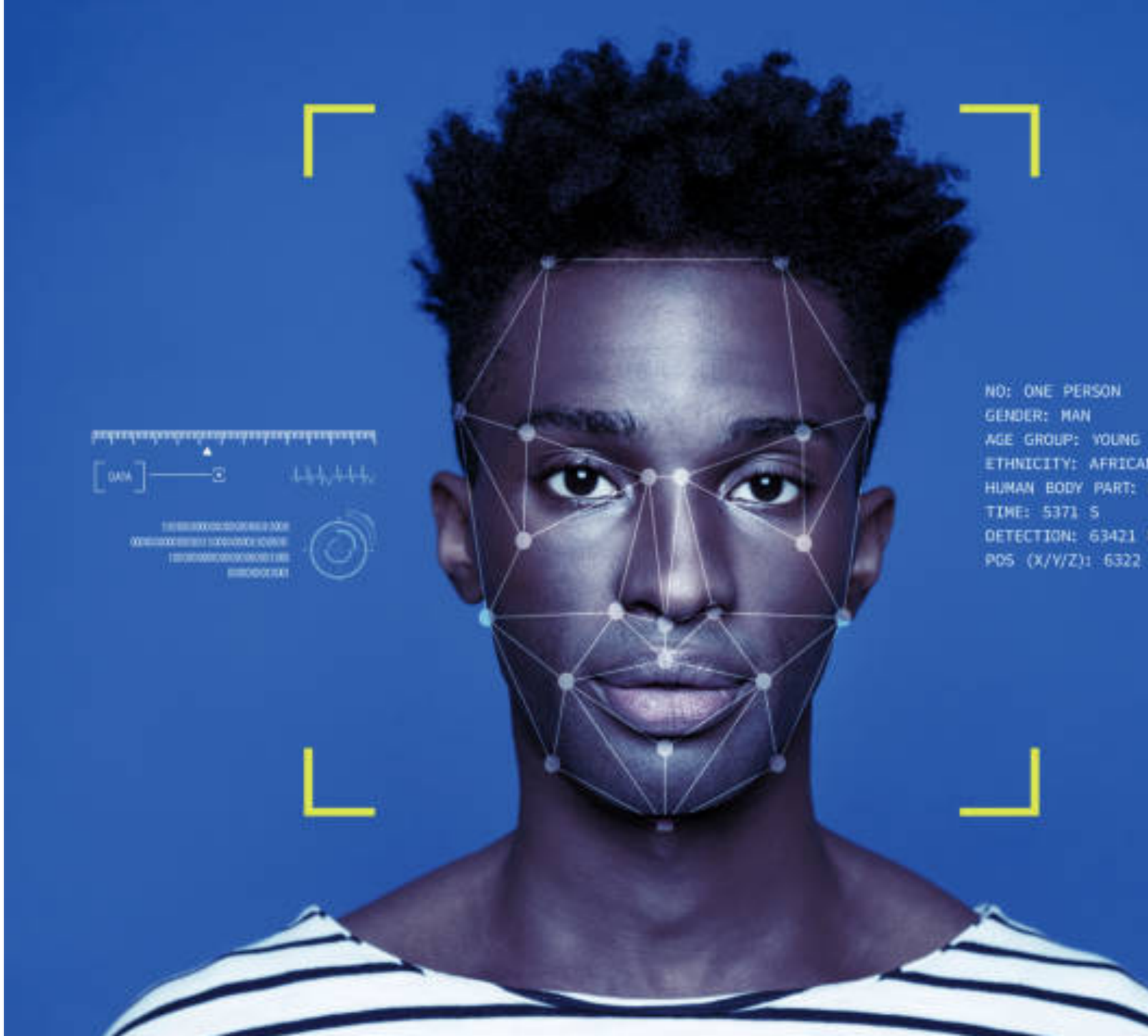
- We use modules like pyzbar and opencv-python for image capturing and barcode scanning.
- The students must show his/her ID card to the web camera
- The Roll No. of the respective student is automatically detected by the system.



AUTOMATIC FACE RECOGNITION

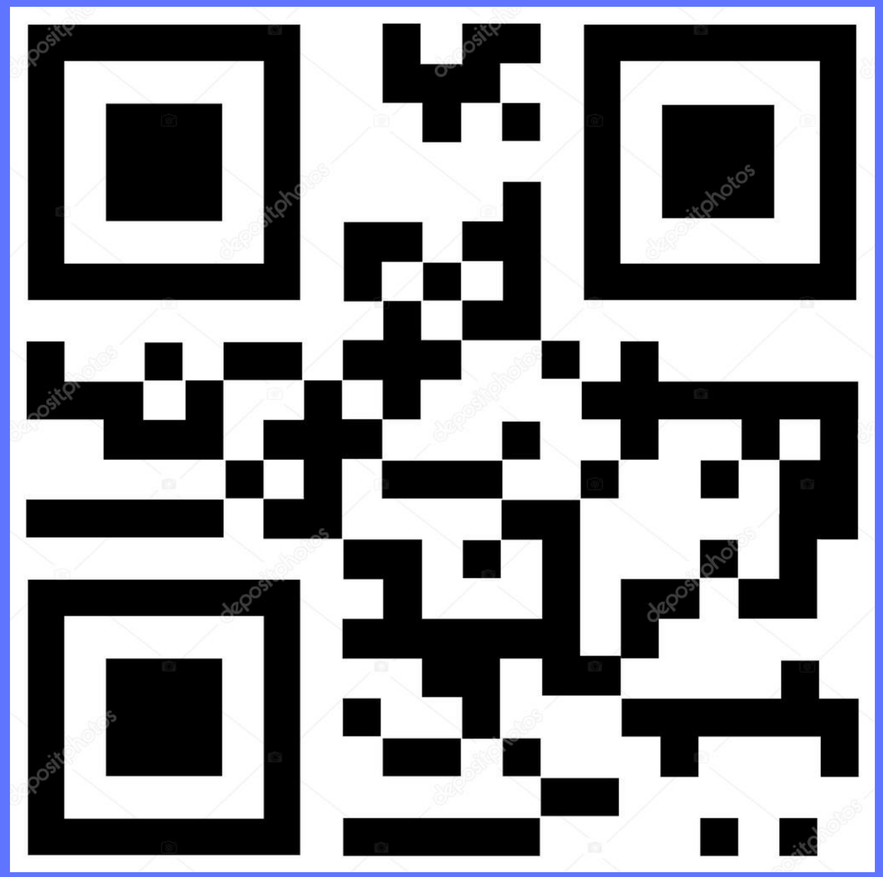
- Using the face mapping software, the system will match the face of the student with the images of students given initially.
- If the faces match, then the barcode shown will be saved in the list.

(Still Under Phase)



TOOLS AND TECHNIQUES

- Python
- OpenCV Module
  - Image capturing and processing in python
- Smtplib Module
  - Sending mail via python
- Pyzbar
  - Bar code scanning in python
- Time Module
  - Time tracking in python
- Pandas Module
- Tkinter Module
  - For GUI



FOR WATCHING