

A decorative graphic consisting of blue circuit-like lines with small circles at the ends, extending horizontally from the left and right sides of the central black box.

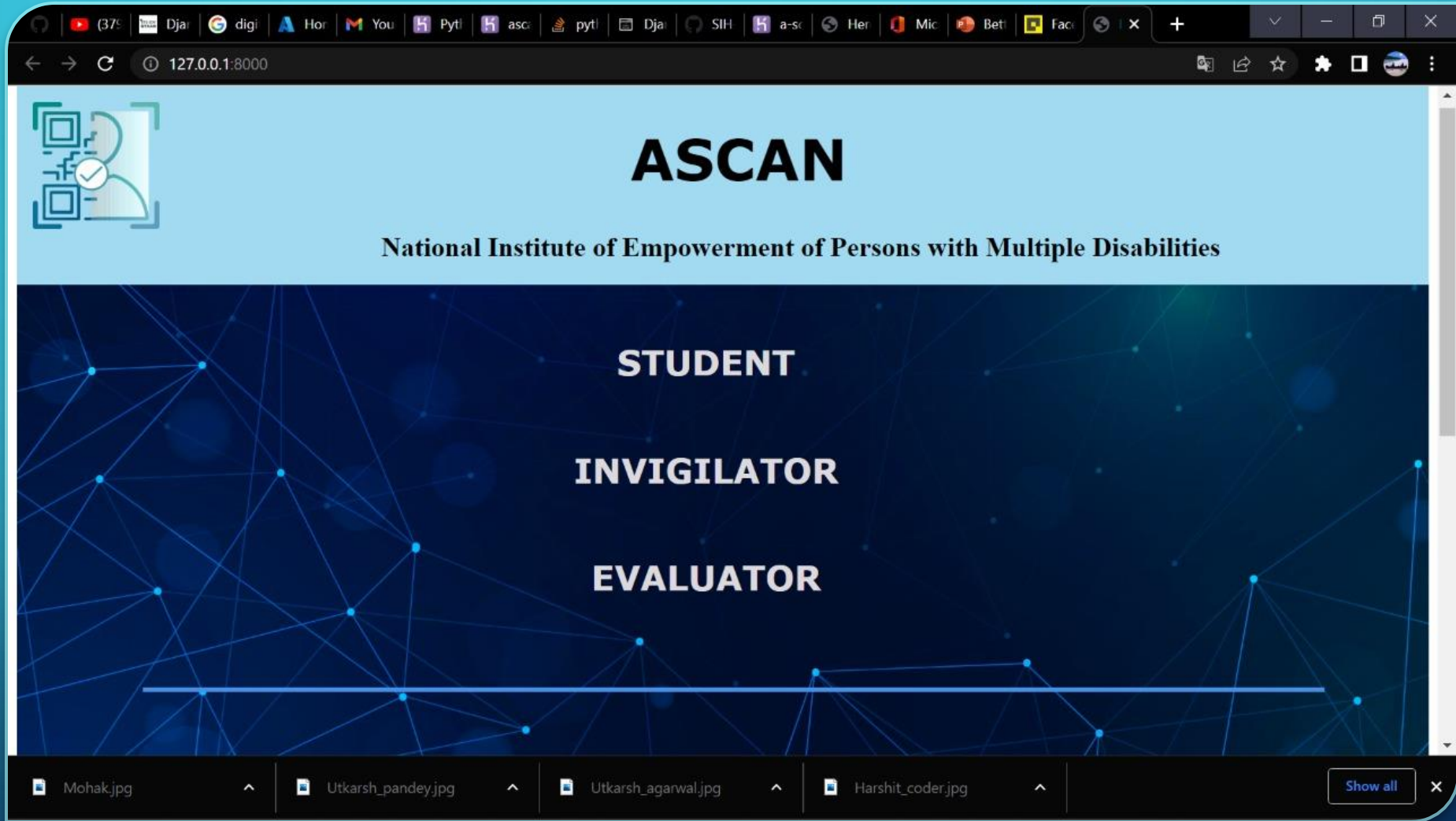
# SIH-2022(SOFTWARE EDITION)

TEAM – BETTER BOTS

# PROBLEM STATEMENT(NR1097)

ORGANIZATION - NATIONAL INSTITUTE FOR EMPOWERMENT OF PERSONS WITH MULTIPLE DISABILITIES (NIEPMD), MINISTRY OF SOCIAL JUSTICE & EMPOWERMENT.

- "Build a web application to simplify Examination, Attendance and tracking Evaluation process Students commit errors while filling up the attendance detail may lead to greater difficulty in identifying the answer booklets at the time of Evaluation process. Technical staff / Support staff at examination center may also commit errors while typing answer booklet numbers. It becomes greater difficulty while decoding the Barcodes of the answer booklets. The Web application / Mobile application may be introduced to get the attendance detail (Present/Absent) and it can be linked with the student data for the purpose of attendance entry. "" The same data may also be shared to the Evaluation center for Coding and Decoding of the Answer booklets"



Our Model Works for



Normal students



Differently abled Students

Student



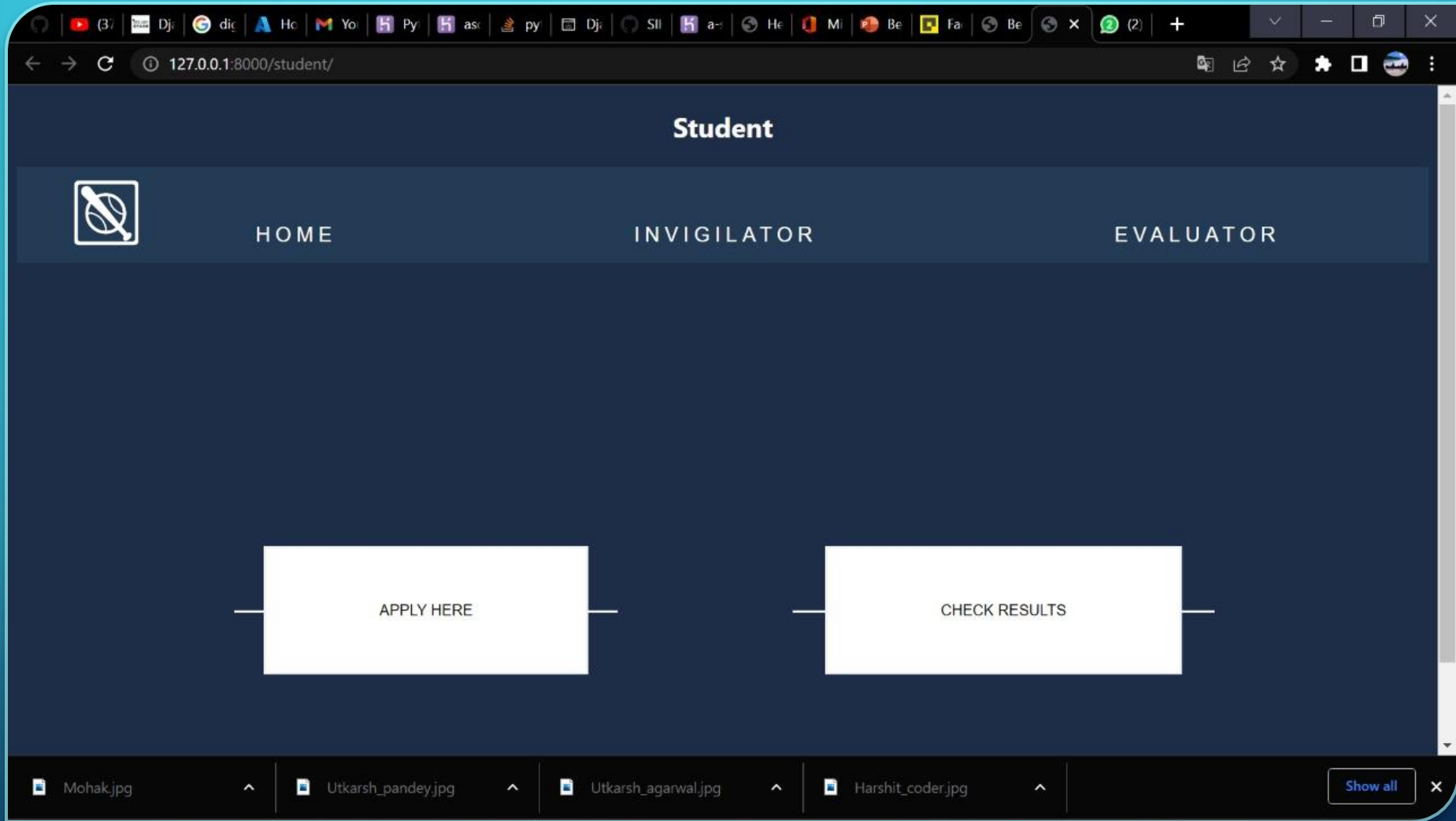
Data Distribution  
Algorithm



Invigilator



Examiner



# WHAT HAPPENS AT THE STUDENT'S SIDE?

Students have to fill examination forms  
during the given dates



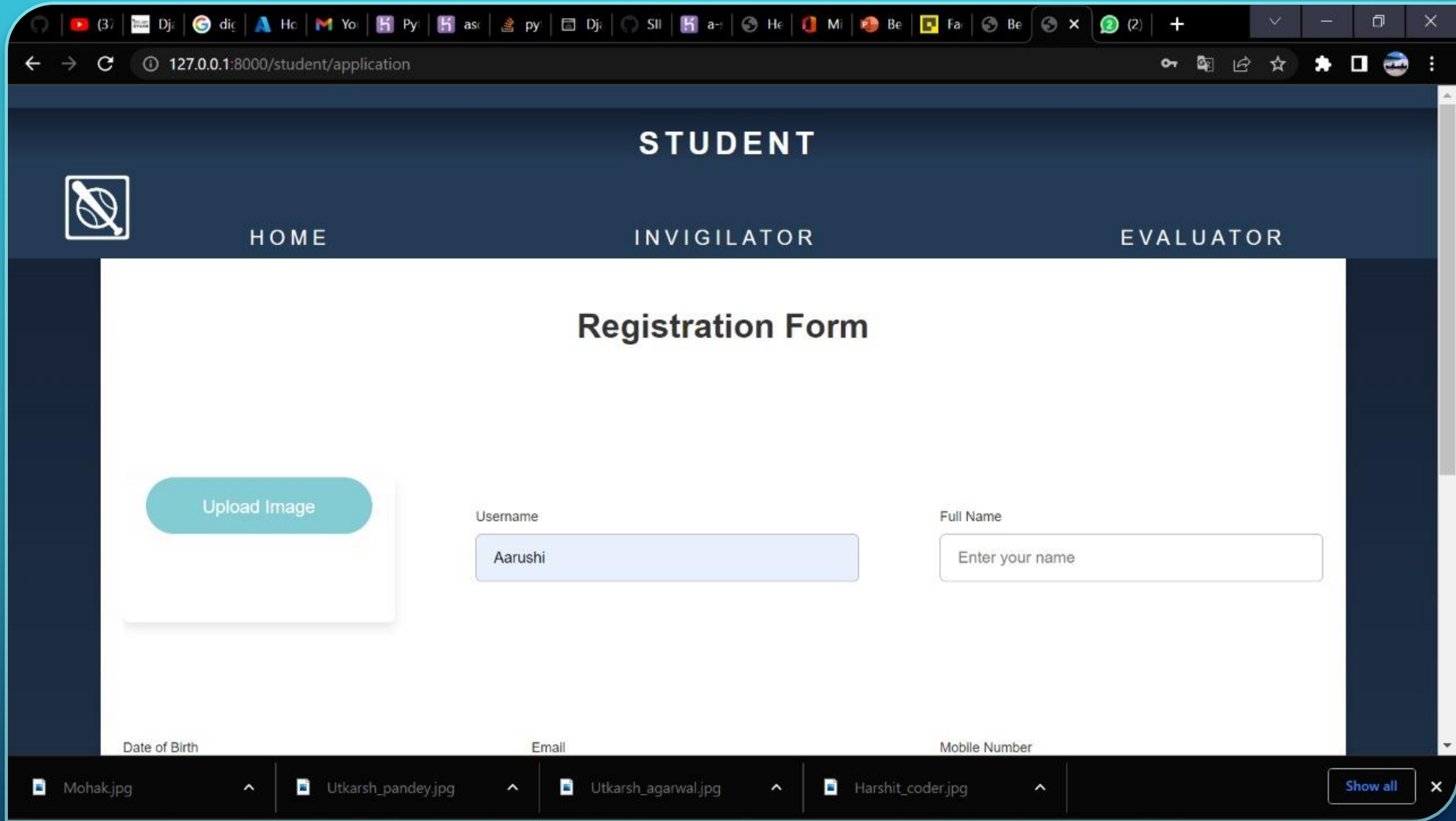
After all the students have filled out the  
form data distribution algorithm runs and  
allots centers



Centers get allocated which are updated  
in dataset as well as student details

Invigilators gets only  
portion of database  
which is relevant

Center no. gets  
reflected on students  
details page





# WHAT HAPPENS ON THE INVIGILATOR SIDE?

Students sit in-front of the camera and undergoes facial verification



If verification is successful, every student gets a copy with Unique QR code



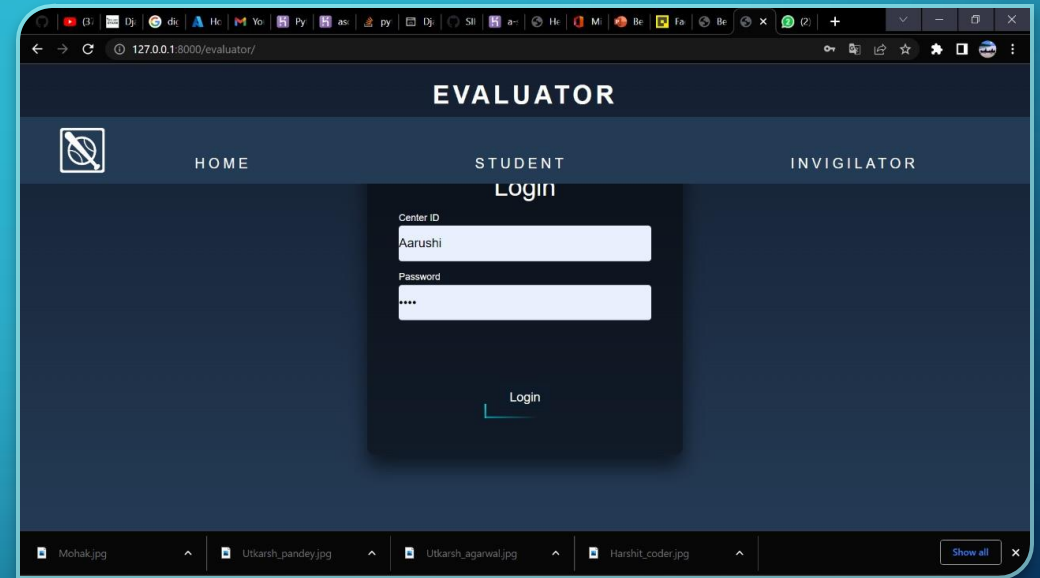
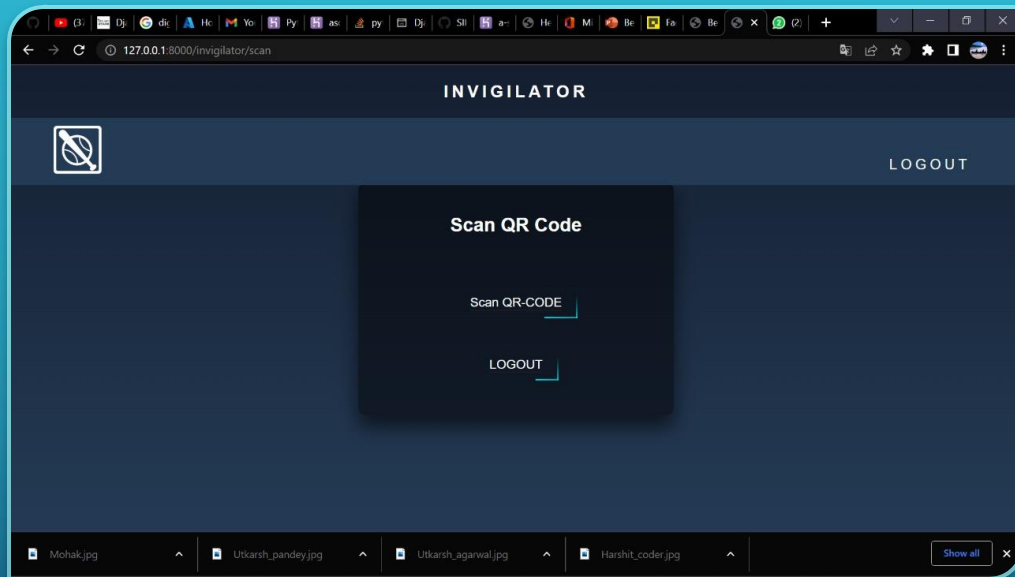
QR code scanned



If the face is verified with the existing applicants details then the unique number stored in the QR gets linked with the same applicant details.

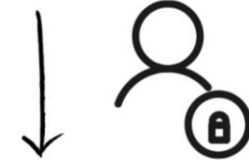






# WHAT HAPPENS AT THE EXAMINER SIDE?

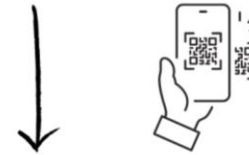
Examiner logs into his account with credentials



They are given an answer copy with unique QR code  
which is to be evaluated



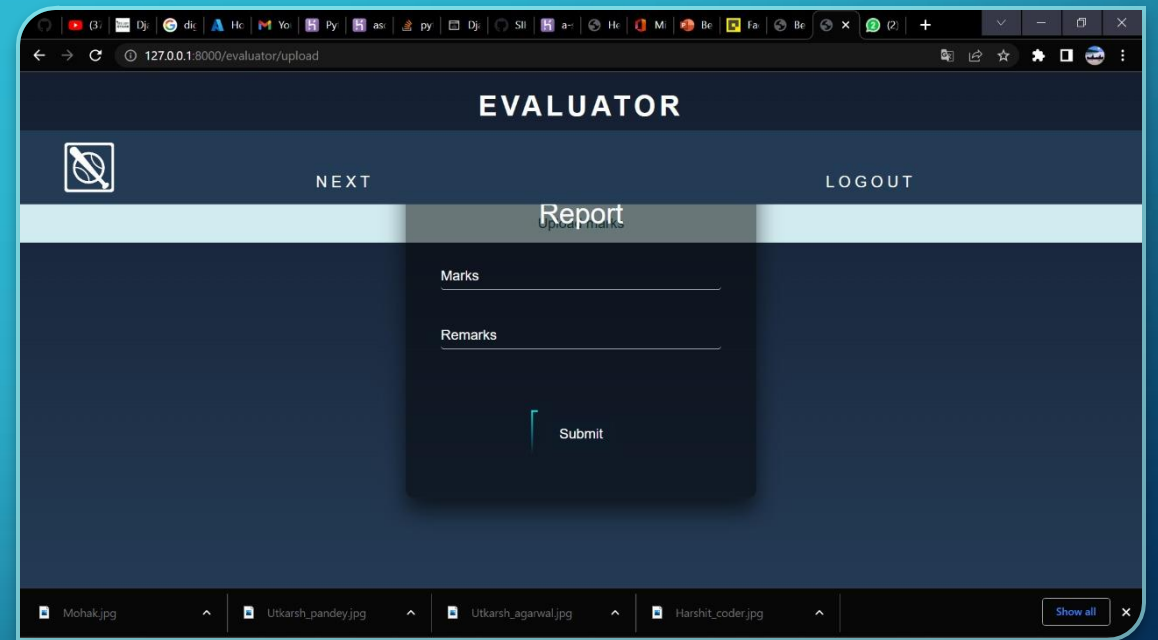
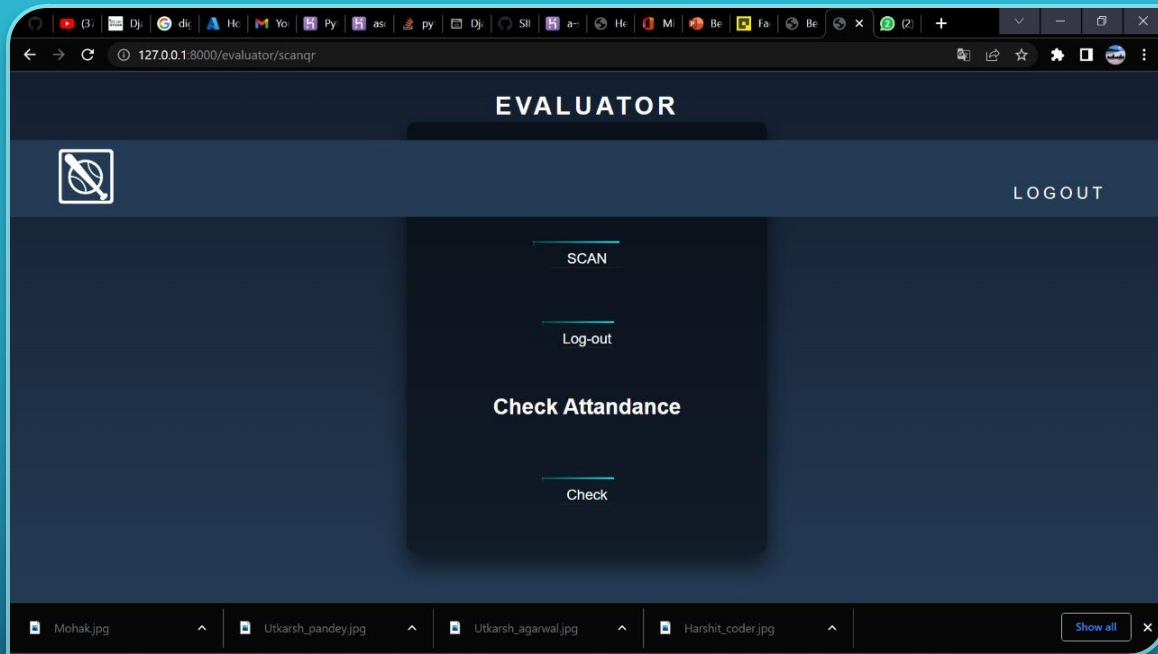
Examiner need to scan QR code after Evaluation



An interface appears where they can upload marks



Details get reflected on the students check result page



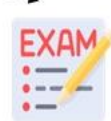
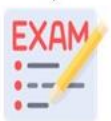


Various Students fill the application forms and the data gets collected



TWIN PROBLEM

Internal Algorithm matches the faces and different centres get allocated.

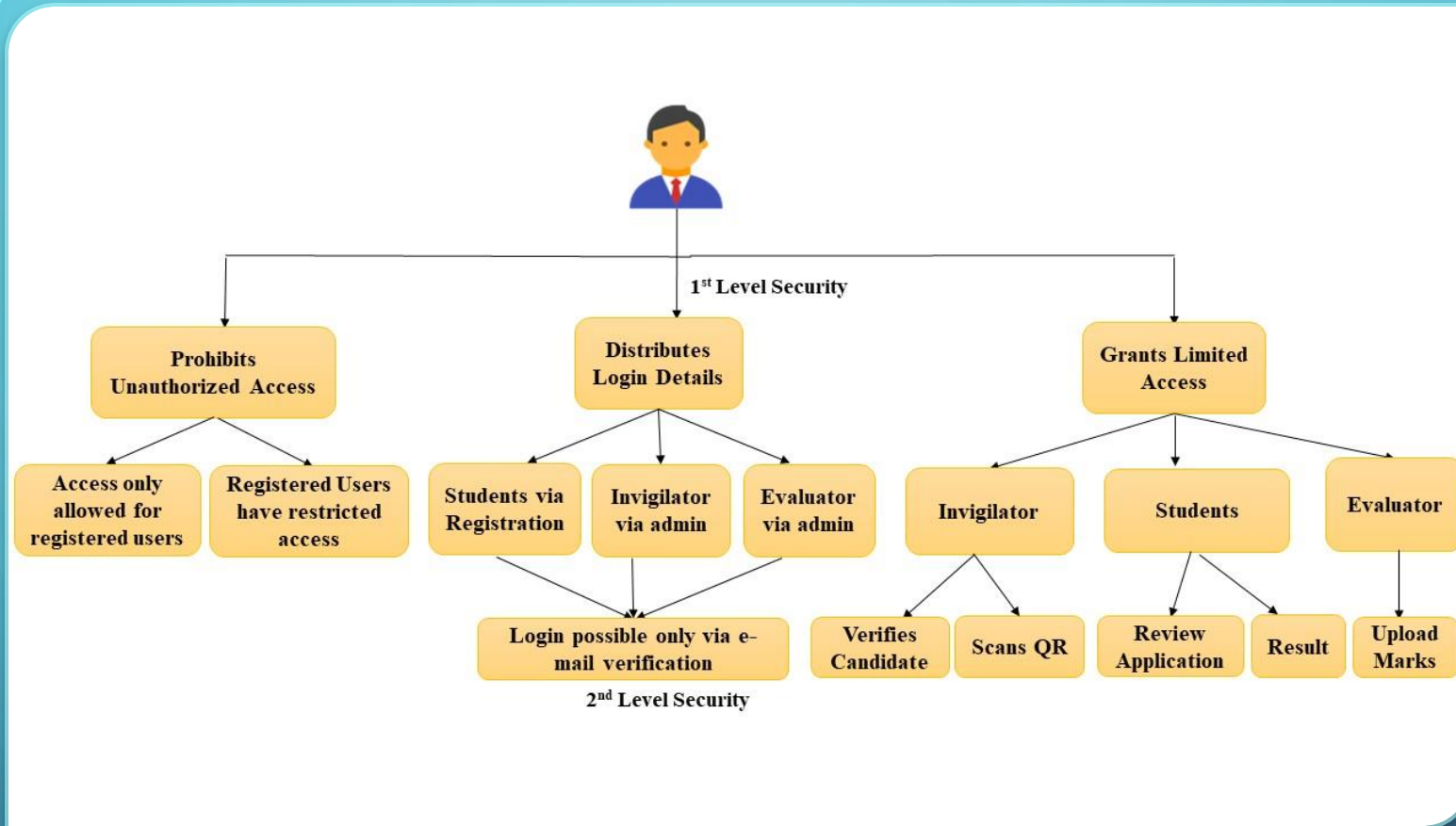


Details get updated in student details and student can report to particular centre.

Distributed data is made available to invigilators.

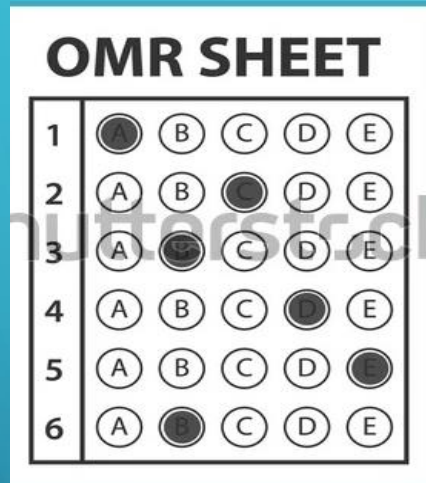
Facial Recognition model runs individually on the centre, improving the run time drastically.

# THE TWINS PROBLEM AND FAST AUTHENTICATION



# SECURE USER LOG IN SYSTEM

# FURTHER ADVANCEMENTS



- Evaluators work automated in OMR based examination.
- With slight modifications can also be used for online examinations.
- During processes like ERP registration, the data-linking facial recognition and QR model can be very useful.







WE ARE OPEN FOR  
YOUR QUESTIONS