

Team 27: Big Classroom Support for Instructors

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Problem Statement: This project aims to develop an assistant to help instructors identify a student's name instantly without having to memorize all of them.

Solution: To deliver an application with smart glasses to identify the student's name simply by looking in the student's direction.

Functional Requirements:

- Users can sign in
- Students can upload photos
- Smart glasses stream to mobile
- Display student's name in captured image

Non-Functional Requirements:

- App is secure
- Image processing takes less than 1 second
- Handles 100 concurrent users
- Stores 400 units of picture data in the database

Constraints:

- Face recognition accuracy
- User comfortability
- Technology available
- User information security

Environment:

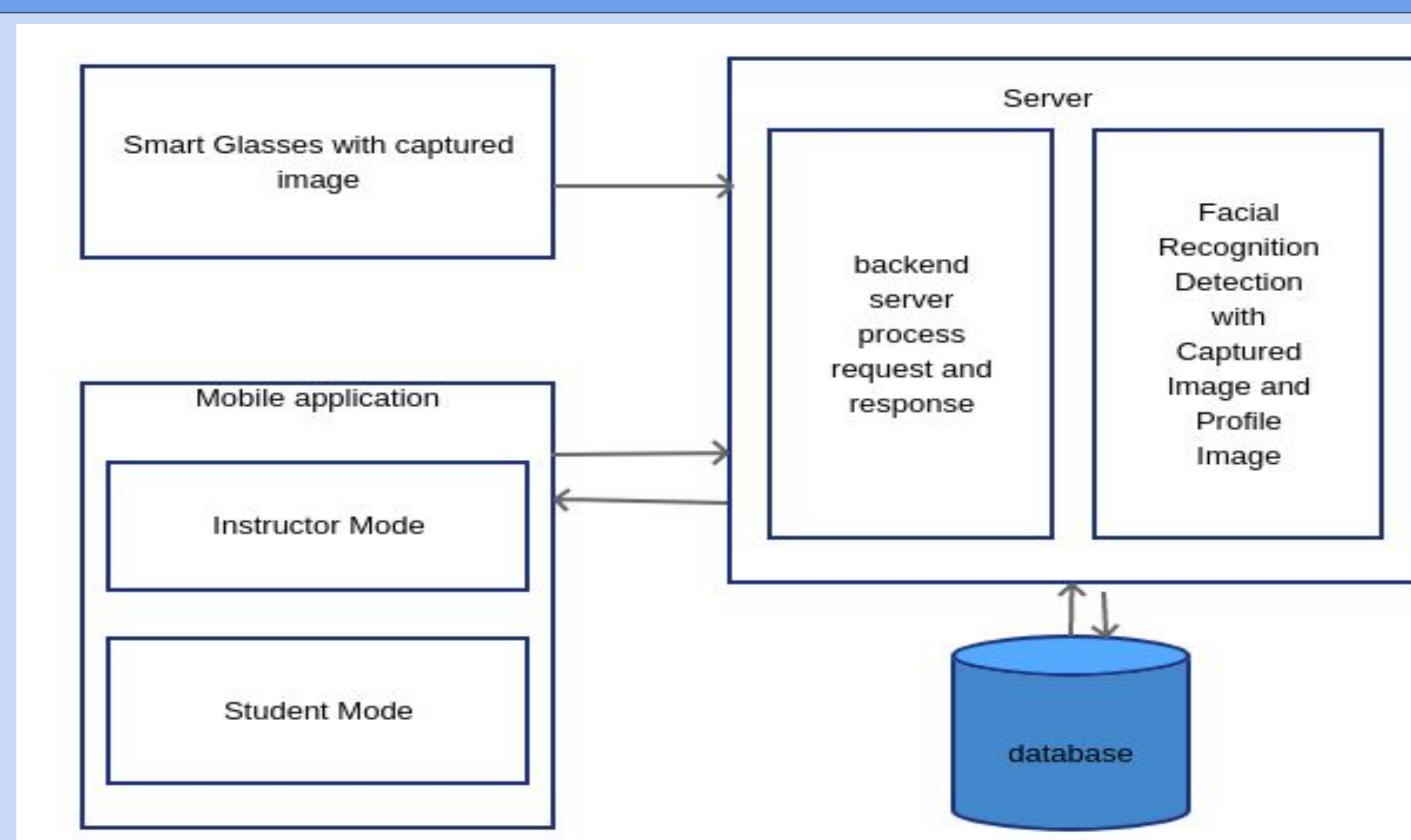
- Classroom, lecture hall

Intended users:

- Instructors and Students

Technology:

- Hardware: Vuzix Blade Smart glass(Android System)
- Software:
 - Backend: Python (Django)
 - Frontend: Java -Android mobile application and Smart glass
 - Open Source Face Recognition algorithm provided by ageitgey on Github
 - Database: SQLite
 - OpenCV



Functional Modules: 3 main components

- Smart glass: able to live stream to mobile app and capture image for face recognition to identify
- Mobile app: user sign up, login, display the live stream and receive the name from capture image
- Web server: Django Restful api and Facial Recognition Algorithm



Testing plan:

- Android: JUnit and Espresso tests
- Server: OBS, VLC and postman.

