Software Requirement Specification for Automate CoE duty for faculty members

Name	VIJAYA RAJA K M
Reg No	7376222CB160
Seat No	327
Project Id	24
Module Name	Invigilation duty automation

Technical Components

Frontend	React JS
Backend	Node JS with Express JS
Database	MongoDB
API	OpenAPI

Purpose:

The purpose of invigilation duty automation is to streamline and optimize the scheduling and management of exam supervision. This system reduces administrative workload by automatically assigning invigilators based on availability and qualifications, ensuring fair and efficient distribution of duties. It enhances transparency, minimizes human error, and allows invigilators to easily access their schedules, while also providing students with clear information about their exam invigilators. Overall, it improves the efficiency and accuracy of the exam invigilation process.

Scope:

The scope of invigilation duty automation includes automating the assignment of invigilators to exams, managing schedules, and providing real-time updates. It encompasses user roles for administrators, invigilators, and students, ensuring secure access and role-based functionalities. The system integrates with academic calendars, supports conflict resolution, and offers notifications and reminders. Additionally, it features reporting tools for monitoring and auditing purposes, enhancing overall transparency and efficiency in the invigilation process.

Consideration:

1. **User Accessibility**: Ensure the system is accessible and user-friendly for all users, including administrators, invigilators, and students, with clear interfaces and mobile compatibility.
2. **Data Security**: Implement robust security measures to protect sensitive data, including personal information and exam details, from unauthorized access and breaches.

3. **Integration**: Seamlessly integrate with existing academic systems, such as student information systems and calendars, to ensure data consistency and minimize manual input.

Dependencies:

Frontend:

1. **Framework:** React, Angular, or Vue.js
2. **Styling:** CSS, SCSS, Bootstrap, Tailwind CSS

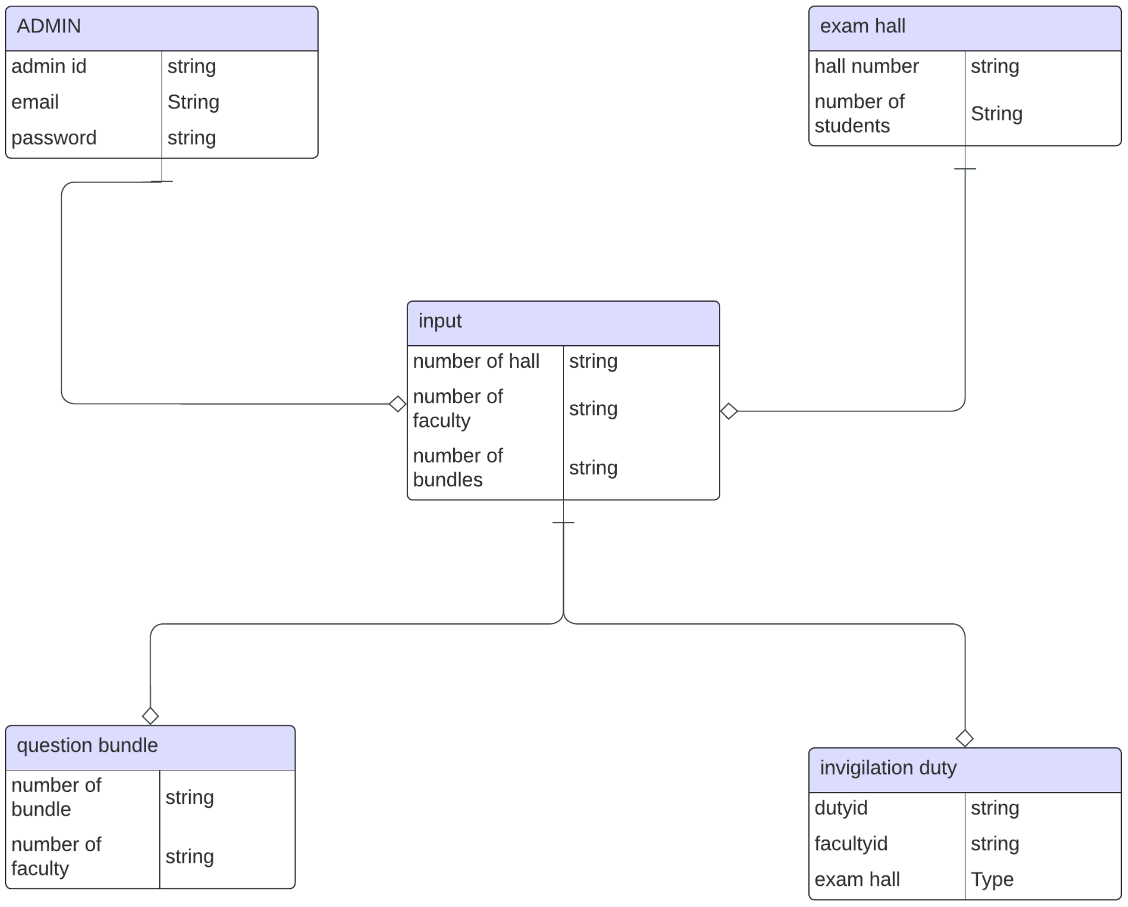
Backend:

1. **ramework:** Node.js with Express.js, Django
2. **Database:** MongoDB
3. **API:** OpenAPI

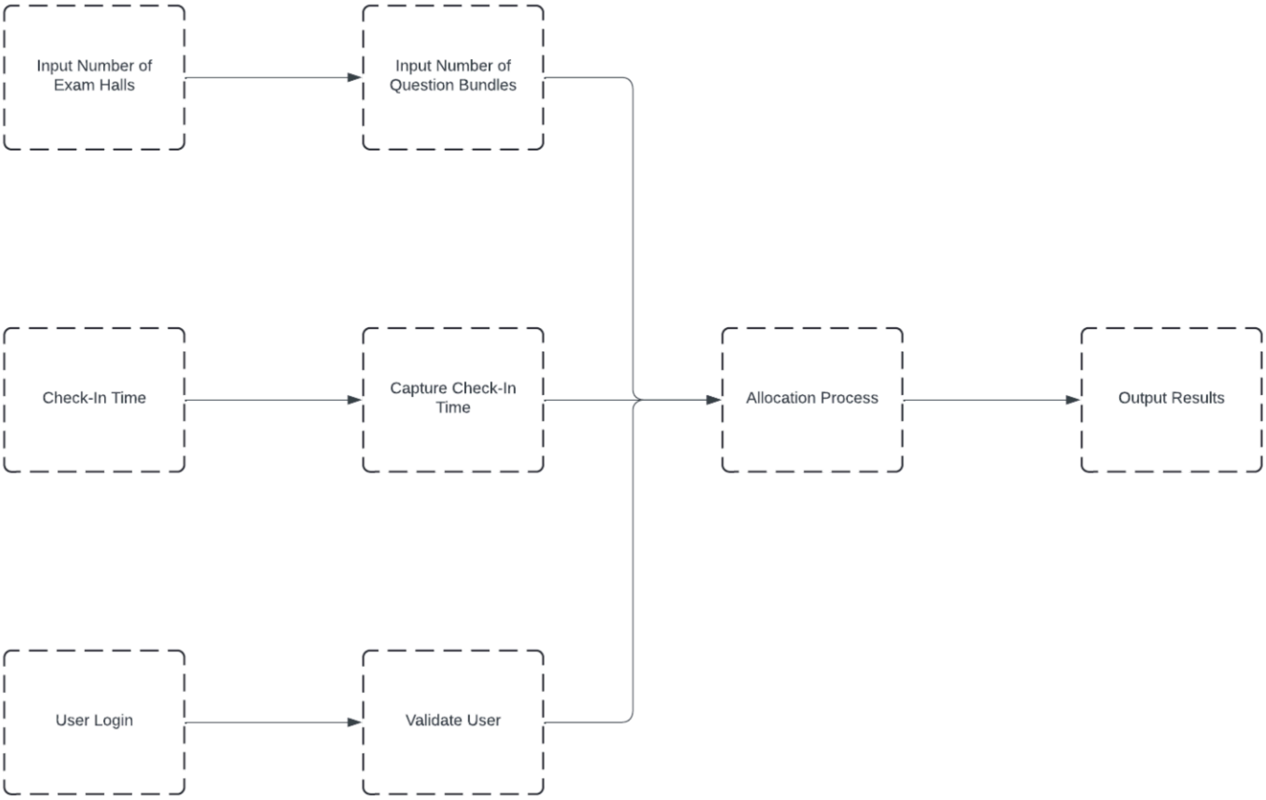
Functional Requirements:

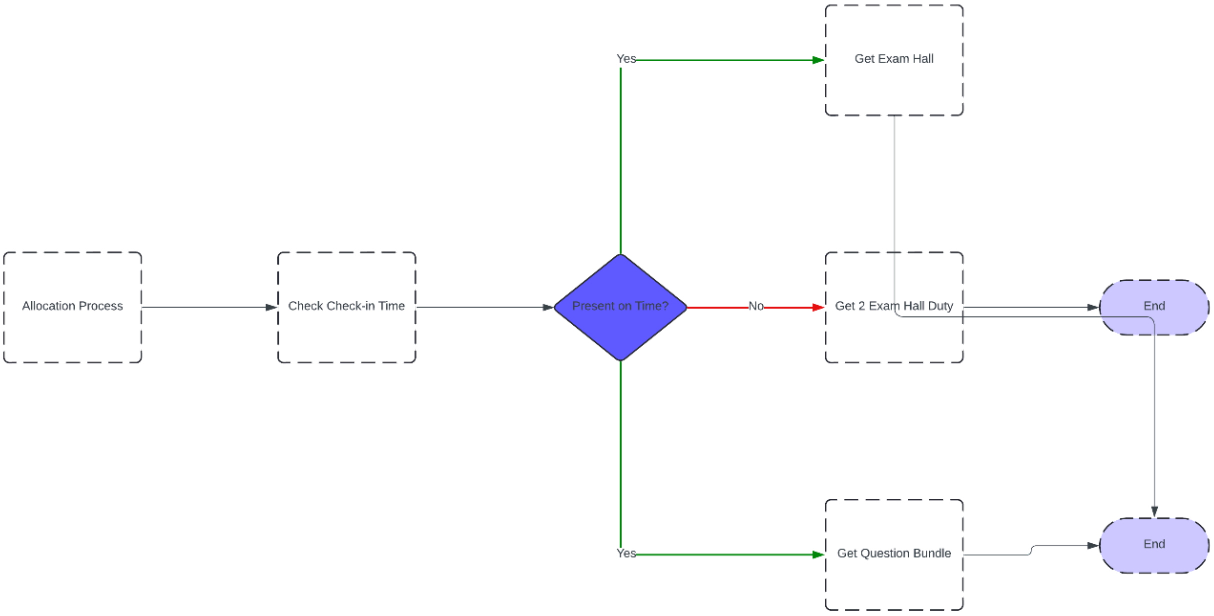
The invigilation duty automation system must allow administrators to create, edit, and delete exam schedules, automatically assign invigilators, and manage conflicts. It should provide invigilators with their schedules, send notifications, and allow for availability updates and substitution requests. The system must support role-based access, ensuring different functionalities for admins and faculty, and generate detailed reports. Integration with academic calendars and secure data handling are essential.

ER Diagram:

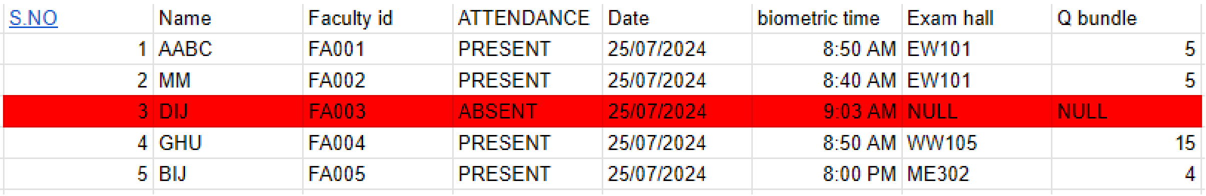


Workflow:


Input Number of Exam Halls
Input Number of Question Bundles
Check-In Time
Capture Check-In Time
User Login
Validate User
Allocation Process
Output Results



EXCEL :



S.NO	Name	Faculty id	ATTENDANCE	Date	biometric time	Exam hall	Q bundle
1	AABC	FA001	PRESENT	25/07/2024	8:50 AM	EW101	5
2	MM	FA002	PRESENT	25/07/2024	8:40 AM	EW101	5
3	DIJ	FA003	ABSENT	25/07/2024	9:03 AM	NULL	NULL
4	GHU	FA004	PRESENT	25/07/2024	8:50 AM	WW105	15
5	BIJ	FA005	PRESENT	25/07/2024	8:00 PM	ME302	4