BANNARI AMMAN INSTITUTE OF TECHNOLOGY
An Autonomous Institution Affiliated to Anna University - Chennai, Accredited by NAAC with A+ Grade
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Stay Ahead

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PROJECT TITLE: INVIGILATION DUTY AUTOMATION

PROJECT ID:24

PROBLEM STATEMENT:

Automate coe duty for faculty members

The Office of the Controller of Examination (coe) is in charge of assigning invigilation assignments to faculty members during examinations. This manual approach is time-consuming and error-prone. To overcome these issues, we intend to create an automated system for invigilation duty allocation.

Biometric Check-in: Faculty members will check in with a biometric system. The system keeps track of the check-in time, faculty ID, name, assigned hall, and number of days worked in an Excel document.

Work History Validation: The system will review the previous day's work hours and total days worked. If a faculty member exceeds the allotted working hours or days, the system will display "No Duty Assigned" and send an email notification with the biometric time and explanation.

Hall allocation: The system will allocate halls based on student strength.
For halls with ≤ 25 students, assign one faculty member.
For halls with more than 25 students, allocate two faculties.

Email Notifications: Following allocation, the system will send an email to the assigned professor containing the biometric time, allotted hall, and duty details.
This automated approach guarantees that invigilation duties are distributed fairly, lowers administrative workload, and enhances duty assignment accuracy and efficiency.

PROJECT FLOW

Automating invigilation chores improves efficiency, ensures justice, and reduces administrative workload.

Scope:

- Faculty members can check in using their biometrics.
- Record and authenticate your employment history.
- Allocate test rooms based on student numbers.
- Automate email alerts of duty assignments.

Business Context:

The coe's manual scheduling of invigilation duties is error-prone and time-consuming. Automation will make this procedure more efficient, resulting in accurate and fair duty allocation.

Considerations:

- Complying with faculty workload policies.
- Real-time data collection and processing.
- Faculty and administrative staff will find the interfaces easy to use.

Dependencies:

- Biometric hardware and software integration.
- A reliable data storage and retrieval system (Excel or database).
- Notifications are delivered via email

User Personas:

- Faculty members must check in, receive duty assignments, and adhere to workload constraints.
- Admin Staff: Oversees the system, monitors allocations, and assures proper operation.

User Stories:

- As a faculty member, I'd like to check in utilizing a biometric technology to ensure that my attendance is accurately documented.
- As a faculty member, I'd want to receive my duty assignment by email so that I know where and when to invigilate.
- As an administrator, I want to ensure that duties are fairly distributed so that no faculty member is overburdened.

Functional requirements:

- Biometric check-in: Enter the time, faculty ID, and name into the system.
- Work History Validation: Review the previous day's work hours and days worked.
- Hall Allocation: Designate halls based on student population.
- Email notifications: Send duty information to faculty members.

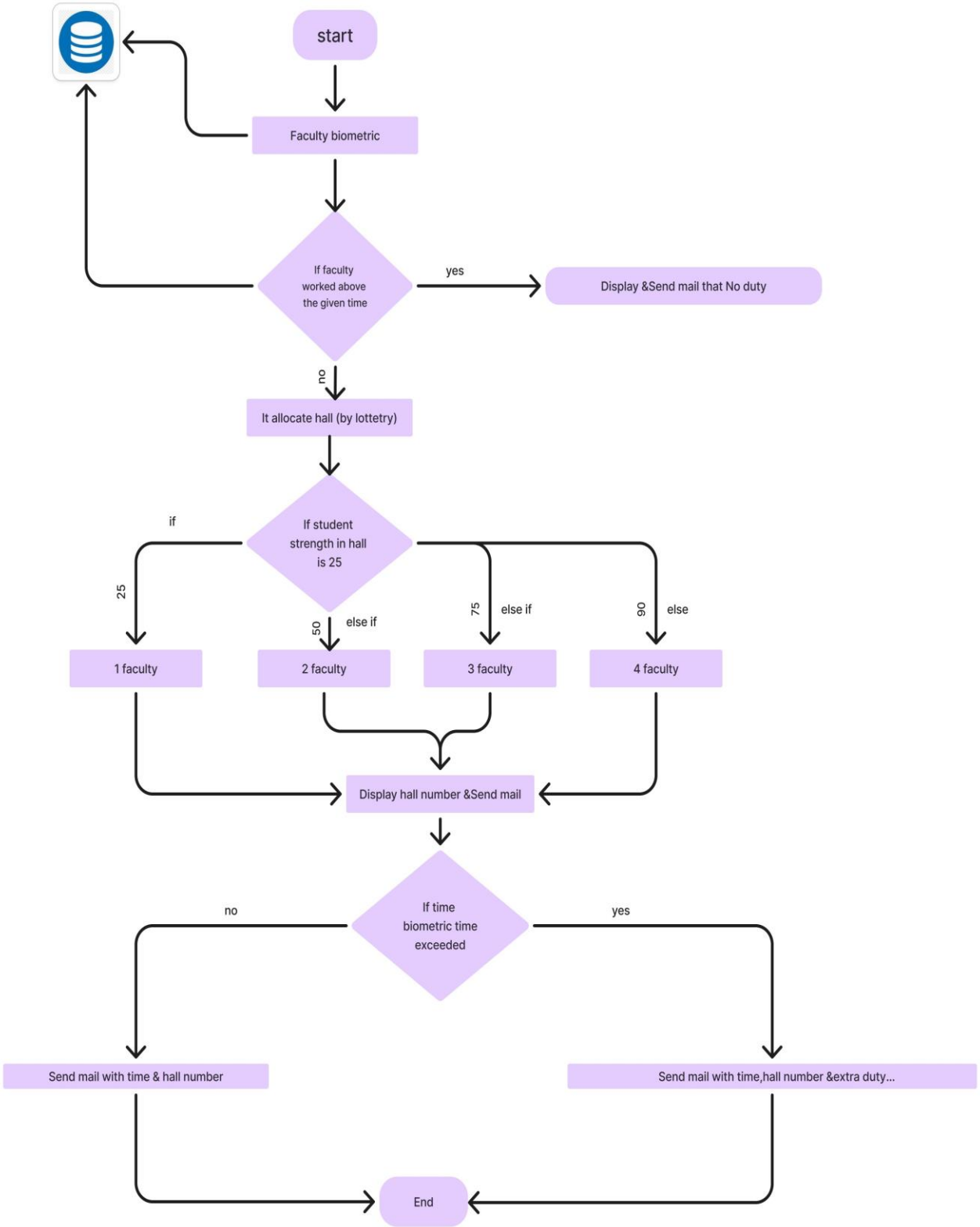
Outcome:

Improved efficiency and reduced manual errors by streamlining and allocating invigilation duties accurately and fairly.

COMPONENT	TECH STACK
Backend	Node.js,Express.js:
Frontend	React
Database	MongoDB
API	Express.js(RESTful services)

STAGES	COMPLETION STATUS
Stage 1	
Stage 2	
Stage 3	
Stage 4	

FLOWCHART


start
Faculty biometric
If faculty worked above the given time
yes
Display &Send mail that No duty
no
It allocate hall (by lottetry)
If student strength in hall is 25
if
25
1 faculty
50
else if
2 faculty
75
else if
3 faculty
90
else
4 faculty
Display hall number &Send mail
If time biometric time exceeded
no
yes
Send mail with time & hall number
Send mail with time,hall number &extra duty...
End