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PROJECT ID: 39
PROJECT TITLE: BIT STAFF QUARTERS PORTAL

INTRODUCTION:

The objective of this project is to develop a staff quarters portal in BIT. The portal manages various aspects of staff quarters, including inmate and their family members' details, check-in and check-out procedures, complaint registration, garden cleaning tasks, and tracking faculties in and out during GP.

This portal aims to enhance convenient and efficient management of staff quarters operations, ensuring smooth functioning and improved resident satisfaction.

OVERALL DESCRIPTION:

PROJECT PERSPECTIVE:

The development of the customized staff quarters portal will be approached from various perspectives to ensure its successful implementation and alignment with organizational goals. The project perspective encompasses the stakeholders involved, the development methodology, and technology stack.

SCOPE:

The scope of the customized staff quarters portal project includes user management, inmate and family details management, check-in and check-out functionality, complaint registration and management, garden cleaning management, and faculties in & out details tracking. This involves the creation, management, and authentication of user accounts with different roles, the ability for administrators to add, edit, and delete resident profiles, residents and guests submitting check-in and check-out requests, complaint registration and tracking, scheduling and monitoring of garden cleaning tasks, and tracking inmates' movements during GP.

PRODUCT FUNCTIONS:

ADMINISTRATORS:

1) Admin should be able to view the quarter's information including the inmate's details, complaints they have registered, guest arrival information and the check-in, check-out details.
2) The check-in, check-out details must be made to be accessed by the securities of the quarters to handle the respective process
3) The maintenance team must be enabled access to complaint sections(plumbing, gardening,etc..) for the ease of resolving the issues.
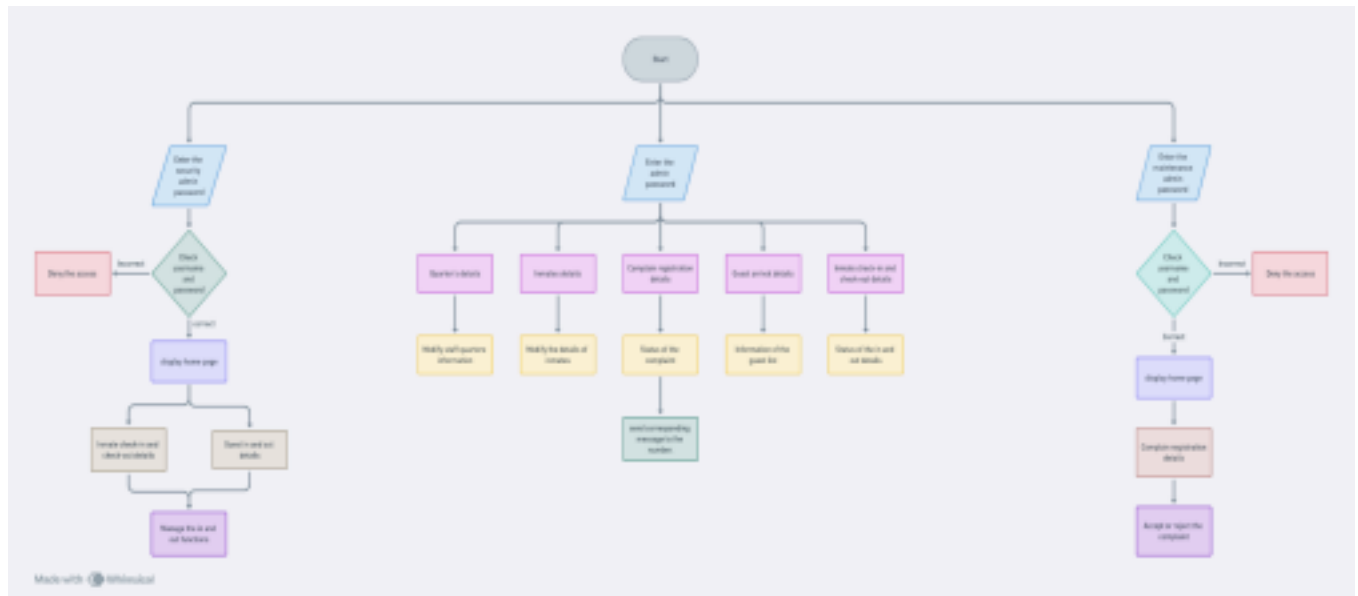
USERS:

1) The users of this portal are the staff residing in the quarters.
2) They will be able to edit and update their profile, their family member details. 3) They also register complaints of plumbing, carpentry,gardening and other problems in form and will be able to check the available timing with the (workers) and fix the date and timing.
4) They also fill forms in case of the arrival of guests and give necessary details regarding the same.
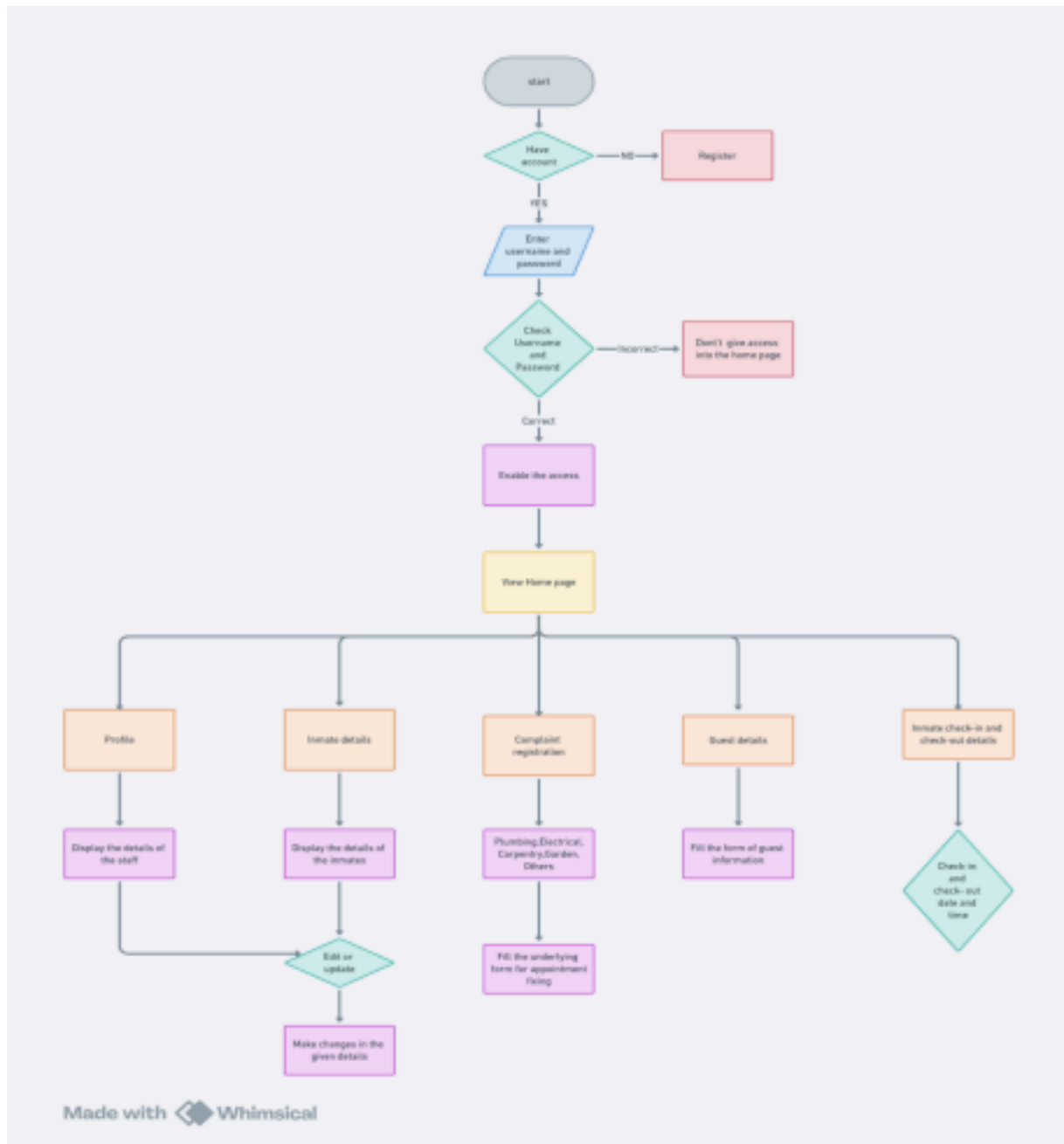
SPECIFICATION REQUIREMENTS:

Functional Requirements:

1) User Authentication and Authorization:
    a) Users should be able to log in securely with unique credentials.
    b) Different access levels should be defined for administrators, residents, and guests.
    c) Administrators should have privileges to manage user accounts and roles.

2) Inmate and Family Details Management:
    a) Administrators should be able to add, edit, and delete resident profiles.

    b) Each resident profile should include personal information, contact details, and associated family members' details.

    c) Residents should be able to view and update their own information.

3) Check-in and Check-out:
    a) Residents and guests should be able to submit check-in and check-out requests.

    b) Administrators should review and approve/reject requests, updating the occupancy status accordingly.

    c) Notifications should be sent to both residents and administrators upon approval or rejection of requests.

4) Complaint Registration:
    a) Residents should be able to register complaints or maintenance requests through the portal.

    b) Complaints should include details such as type, description, urgency, and location.

    c) Administrators should be able to view, prioritize, assign, and track the status of complaints.

    d) Notifications should be sent to residents upon complaint resolution

5) Faculties In & Out Details:
    a) Administrators should be able to view and track faculty movements during GP.

    b) The system should provide a log of faculties check-ins and check-outs during GP.

    c) Administrators should be able to generate reports on faculties movements for monitoring purposes.

Non-Functional Requirements:

1) Usability:
    a) The user interface should be intuitive and easy to navigate for users of varying technical backgrounds.

    b) Forms should have clear instructions and validation to prevent errors during data entry.

    c) The portal should be accessible from different devices and screen sizes.

2) Performance:
    a) The portal should be responsive, with minimal loading times for pages and actions.

    b) It should be capable of handling multiple concurrent users without significant degradation in performance.

c) Database queries should be optimized for efficient data retrieval.

3) Reliability:

    a) The system should have high availability, with minimal downtime for maintenance or updates.

    b) Data integrity should be maintained through regular backups and data validation checks.

    c) Error handling mechanisms should be in place to handle and log system errors.

4) Scalability:

    a) The system should be designed to accommodate growth in user base and data volume over time.

    b) It should be scalable both vertically (by adding more resources to existing components) and horizontally (by adding more servers or instances).

TECHNOLOGY STACK:

FRONT END	React(Js Library for building user interfaces)
BACK END	Node.js with Express.js
DATABASE	MongoDB(NOSQL Database)
API	OpenAPI