BANNARI AMMAN INSTITUTE OF TECHNOLOGY
Autonomous Institution Affiliated to Anna University - Chennai, Accredited by NAAC with A+ Grade
Sathyamangalam - 638401 Erode District, Tamil Nadu, India

Name: Rajavendan R

Seat No: 328

Project ID: 08

Project title: Project work Title Registration Portal

Technical Components

Component	Tech Stack
Backend	Node.js with Express.js
Frontend	React JS
Database	MongoDB
API	Open API

Implementation Timeline

Phase	Deadline	Status	Notes
Stage 1	02/05/2024	UNDER REVIEW	Planning and Requirement gathering
Stage 2			Design and Prototyping
Stage 3			Data Base Designing
Stage 4			Backend Implementation
Stage 5			Testing & Deployment

1.INTRODUCTION:

1.1. PROBLEM STATEMENT:

Addressing challenges arising for the project work title registration portal for educational institutions encounters specific challenges, including:

- **DOMAIN SELECTION:** The primary challenge lies in ensuring that at least one student within the team selecting a project in a specific domain belongs to the corresponding department, necessitating manual verification to uphold departmental alignment and project relevance

- **GUIDE SELECTION:** Another significant challenge in manual registration is guide selection, where a guide can mentor a maximum of three to four teams. If a guide exceeds this limit, manual intervention by the administrator is required to reassign the guide appropriately.

- **DUPLICATE ENTRIES:** Ensuring each project title is allocated to only one team, a critical issue arising from manual selection processes via platforms like Google Forms. Implementing measures to prevent duplicate entries caused by multiple team members selecting the same project title, maintaining data integrity and fairness in project allocation.

- **ADMINISTRATOR BURDEN**: Allocating teams with multiple project title selections and assigning alternate guides if the desired guide is already assigned to another team, imposing significant administrative workload and coordination challenges.

1.2. PROJECT-FLOW:

1.2.1. PURPOSE:

Facilitating streamlined, project title registration and guide allocation processes which actively preventing the duplication of entries. Enhancing efficiency by automating tasks such as team allocation and guide assignment. Promoting fairness and transparency in project selection and mentorship.

1.2.2. SCOPE:

Implementing User Authentication and Real-Time Dashboard for Students. The system will provide students with access to view their team and guide details, enabling guides to approve or reject mentorship requests based on availability and capacity.

1.2.3. BUSINESS CONTEXT:

The Centralized Project Work Title Registration Portal at BIT aims to facilitate clear project selection for students while minimizing scheduling conflicts and automating the registration process. Key stakeholders including students, faculty, administrators, and IT operations stand to benefit from enhanced efficiency and streamlined workflows .

2. SYSTEM OVERVIEW:

2.1USERS:

1.STUDENTS:

Students can log in using their college email ID and have the autonomy to either propose their own project titles or choose from a provided list. Additionally, they can their preferred guide and assemble their team members according to their select preferences within the project registration Faculty members possess the authority to approve or decline projects for which they have been selected as guides. They also have access to view the teams they have approved, monitor the performance of these teams, and assess individual team members' contributions within the project registration system.

2.FACULTY:

Faculty members possess the authority to approve or decline projects for which they have been selected as guides. They also have access to view the teams they have approved, monitor the performance of these teams, and assess individual team members' contributions within the project registration.

3.ADMIN:

The administrator is granted access to perform CRUD (Create, Read, Update, Delete) operations, enabling them to modify team compositions, project titles, assigned guides, and other relevant details. This access empowers the administrator to efficiently manage and update project-related information within the system as needed.

3.1. FUNCTIONAL REQUIREMENTS:

- User Management:
    - Students can register and login.
    - Admins have access control with the approval rejection and other technical operations.
- Project Selection:
    - Students can select the project from two topics such as Internal and External.
    - Application form contains:
        - Project cluster
        - Team Leader Name
        - Roll No
        - Department
        - No of Team Members (Max 3)
        - Team members Name, Roll no, Department

- Project Title
- Guide Selection

Guide Approval Status:

When students select a faculty member as their guide, an automated email notification is sent to the chosen guide, informing them of their selection and prompting them to review and approve or reject the guide approval request form. This ensures

Admin Dashboard:

The administrator possesses access to view all student dashboards, allowing comprehensive oversight of project registrations and progress. This enables effective monitoring and management of student activities within the system

4.1. DEPENDENCIES:

- All users possess active Google account for the authentication purpose
- The project's success relies on robust database management and seamless integration with BIT's existing IT infrastructure

4.2. CONSIDERATIONS:

Duplicate Entries Avoidance:

Implementing mechanisms to prevent duplicate entries in the project title registration system, ensuring data integrity and accuracy throughout the registration process.

Restricted Login Access:

Enforcing authentication restrictions to allow access only to users with Bitsathy email IDs, enhancing security and ensuring that only authorized individuals can log in to the system.

5.1. NON-FUNCTIONAL REQUIREMENTS:

- Performance:

  The system must respond to user actions within 2 seconds to ensure efficient usability and must handle a concurrent user load of at least 100 users without significant performance degradation.

- Security:

  User data must be encrypted during transmission and storage, and access to sensitive functionalities should be restricted to authorized admin users through secure authentication mechanisms.

- Usability:

  The user interface should be intuitive and user-friendly, with clear and concise error messages provided to guide users in case of input errors or system failures.

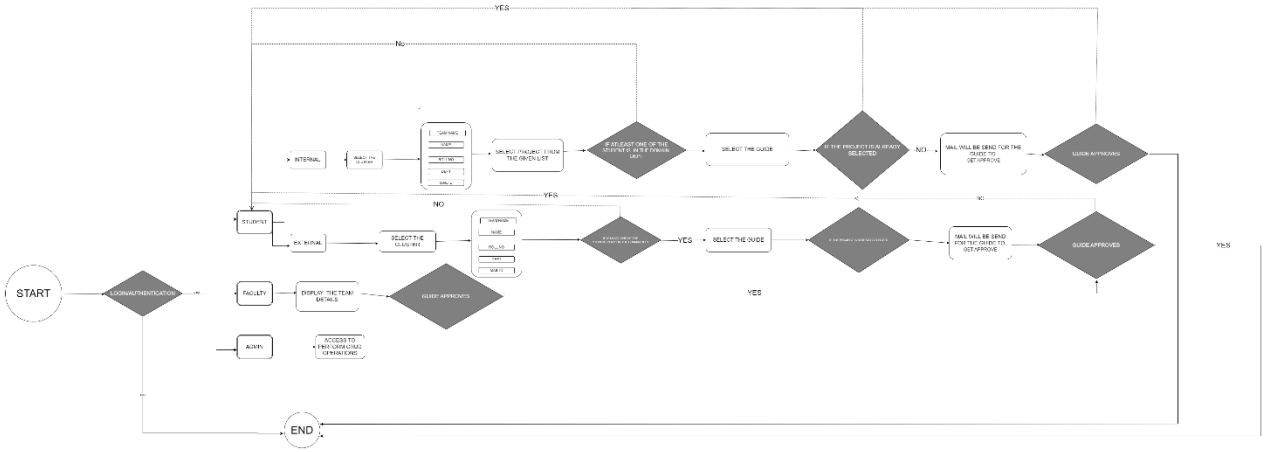
- Reliability:

  The system should be available 24/7 with minimal downtime and should have a backup and recovery mechanism in place to prevent data loss in case of system failures or crashes.

- Scalability:

  The system should be designed to accommodate an increasing number of users and data volume over time, and it should be scalable to support additional features and functionalities as per future requirements

FLOW CHART:


YES
NO
INTERNAL
SELECT PROJECT FROM THE GIVEN LIST
IF ATLEAST ONE OF THE STUDENTS IN IT FINAL YEAR
SELECT THE GUIDE
IF THE PROJECT IS ALREADY SELECTED
NO
MAIL WILL BE SEND FOR THE GUIDE TO GET APPROVE
GUIDE APPROVES
YES
NO
STUDENT
EX INTERNAL
SELECT THE GUIDE/HOD
YES
SELECT THE GUIDE
MAIL WILL BE SEND FOR THE GUIDE TO GET APPROVE
GUIDE APPROVES
YES
START
LOGIN/AUTHENTICATION
FACULTY
DISPLAY THE TEAM DETAILS
GUIDE APPROVES
YES
ADMIN
ACCESS TO PERFORMING OPERATIONS
END