PROJECT TRACKING - 2

Name	Nivetha P
Roll No	7376221EE131
Project ID	2
Project Statement	Project Tracking

COMPONENTS :

Frontend	Angular js
Backend	Node js, Express js
Database	MongoDb (No Sql)
API	RESTful API

1. Introduction :

Purpose :

The purpose of this document is to present a detailed description of the Project Tracking. To create and track projects with collaborators. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli.

2. Scope of the project :

- This software system will serve as a portal for Project Tracking, enabling students to register and submit weekly reports and receive approval. From an

administrative perspective, this system will provide a comprehensive analytical dashboard for project oversight.

- Administrators have the ability to approve or reject project loggers. Once a project logger is approved, students can start their project and have to submit weekly reports based on hardware and software domain. The system will calculate the effective performance of the student. It will check whether the student continuously puts effort into the project and can monitor the progress.

3. System Overview :

Users:

1.Students:

They have the ability to submit applications for logger approval, upload weekly reports based on project domain, and check the status of their applications. Finally, they can monitor the progress of their projects.

2.Admins:

Review submitted logger applications, approve or reject applications, verify the weekly reports and access analytical dashboards for project oversight.

Features:

1. Login and registration:

Students can register for an account or login with their existing account.

2. Logger Submission:

Students can input relevant details regarding their logger application including project title, domain, abstract, and any necessary attachments. Upon completion, the application is submitted to the admin interface for review and further processing.

3. Logger Status:

Students can view the current status of their logger and also see the history logs in the logger status.

4. Report Submission:

Students with approved logger ID can submit weekly for their Project after completion of each 7 days.

5. Progress Track:

Students can view the current status of their project status and also see percentage of their completion and non completion level.

6. Admin Access:

Admin can view all submitted logger applications in a category of either software or hardware, view application details, approve or reject the application, verify the weekly reports and progressions.

7. Admin's Analytical Dashboard:

Admin can view the number of loggers by category, weekly reports submitted and also see the latest log of applications.

FUNCTIONAL REQUIREMENTS:

- **User Management:**
    - ○ Students can register and login.
    - ○ Admins have access control with an analytical dashboard and dedicated features.
- **Logger Application:**
    - ○ Students can submit logger with appropriate details
    - ○ Application form contains:
        - ■ Name of the team leader
        - ■ Category of the project
        - ■ Number of students involved
        - ■ Title of the project
        - ■ Provisional document attachment
- **Logger Status:**
    - ○ Students can view the current status of their logger
    - ○ Students can also see the logs of their applications
- **Report Submission:**
    - ○ Students can submit weekly report for their project
    - ○ Application form contains:
        - ■ Name of the student
        - ■ Logger ID
        - ■ Title of the project
        - ■ Week status
        - ■ Provisional document attachment
        - ■ Completion proof
            - ➔ Software - Github link
            - ➔ Hardware - image of the progress

- **Admin Dashboard:**
    - Admins can view a list of all submitted logger applications.
    - Applications can be filtered by category (software, hardware).
    - Admins can view details of each application.
    - Admins can approve or reject logger applications.
    - Admins can monitor weekly progress.

- **Analytics Dashboard:**
    - Admin can view the number of logger applications by its category.
    - Number of weeks completed and level of project completion.

NON-FUNCTIONAL REQUIREMENTS:

- **Performance Requirements**
    - Response Time: The system must respond to user actions within 2 seconds to ensure efficient usability.
    - Concurrent User Load: The system must handle a concurrent user load of at least 100 users without significant performance degradation.
- **Security Requirements**
    - Data Encryption: User data must be encrypted during transmission and storage.
    - Access Control: Access to sensitive functionalities should be restricted to authorized admin users through secure authentication mechanisms.
- **Usability Requirements**
    - Intuitive Interface: The user interface should be intuitive and user-friendly.

- Error Handling: Clear and concise error messages should be provided to guide users in case of input errors or system failures.

- **Reliability Requirements**
  - Availability: The system should be available 24/7 with minimal downtime.
  - Backup and Recovery: The system should have a backup and recovery mechanism in place to prevent data loss in case of system failures or crashes.
- **Scalability Requirements**
  - User Growth: The system should be designed to accommodate an increasing number of users over time.
  - Data Volume: The system should be scalable to support additional data volume over time.
  - Feature and Functionality: The system should be scalable to support additional features and functionalities as per future requirements.

These requirements will serve as the foundation for the project, ensuring that the system meets the necessary standards for performance, security, usability, reliability, and scalability.

Backend:

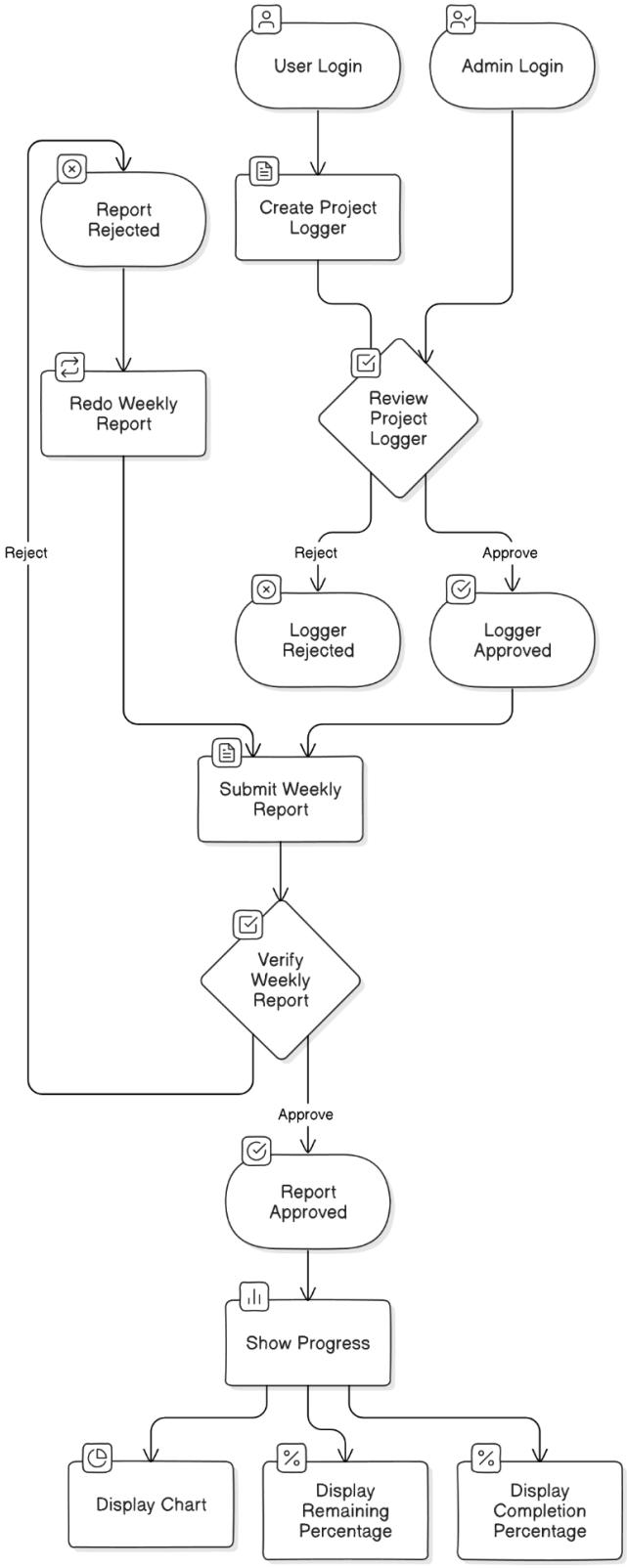
1. **Student entity**

Name	String
Roll No	String
email	String
Password	Hash code

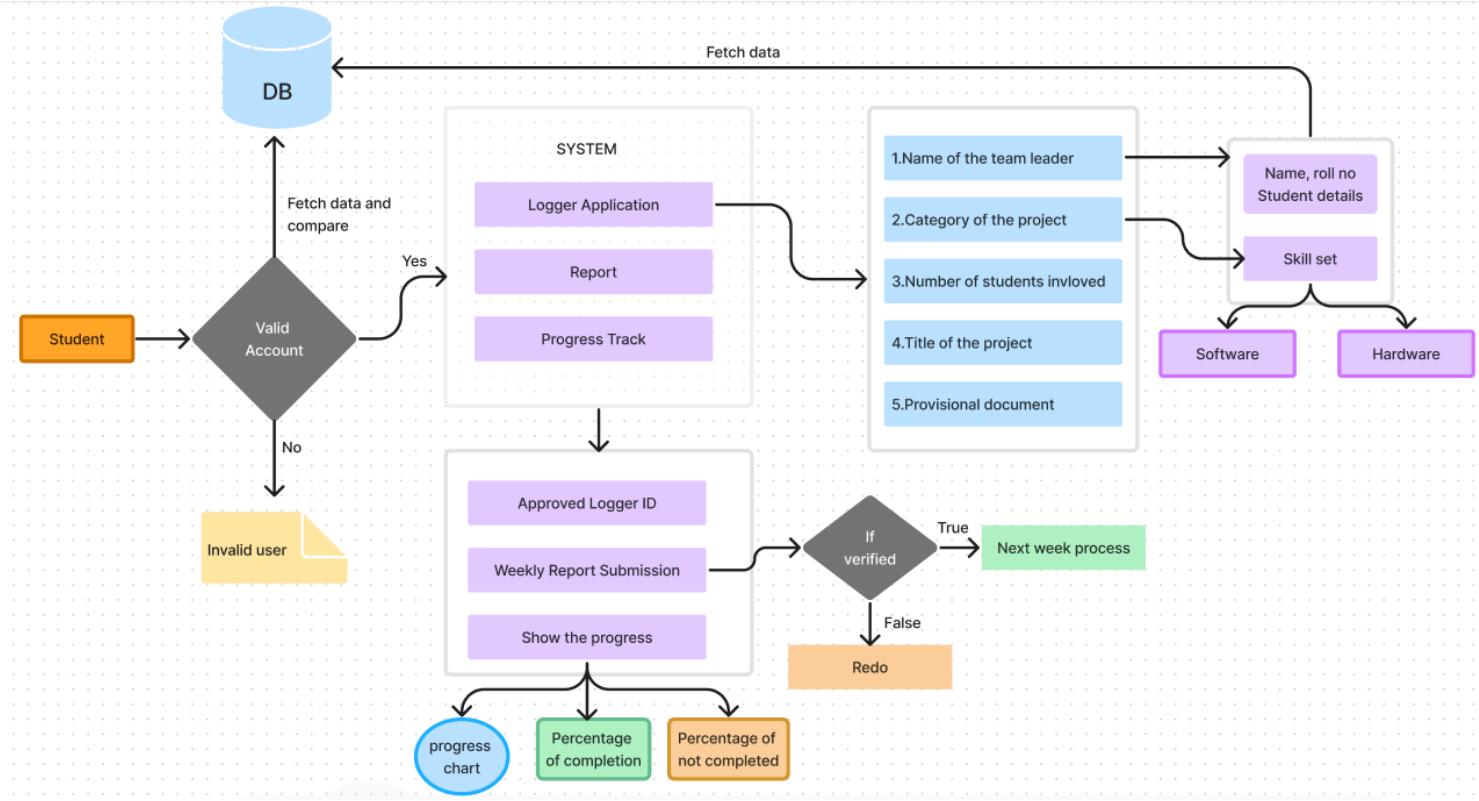
2. Logger Details Entity

<table>
<tr><td>Roll No</td><td>String</td></tr>
<tr><td>Details</td><td>Array of objects
<table>
<tr><td>Category</td><td>String (drop down)</td></tr>
<tr><td>Title</td><td>String</td></tr>
<tr><td>No.of.students</td><td>Number</td></tr>
<tr><td>Additional Students</td><td>Arrays of object</td></tr>
<tr><td>Pdf Path</td><td>String</td></tr>
<tr><td>Status</td><td>String</td></tr>
<tr><td>Created At</td><td>Date</td></tr>
</table></td></tr>
</table>

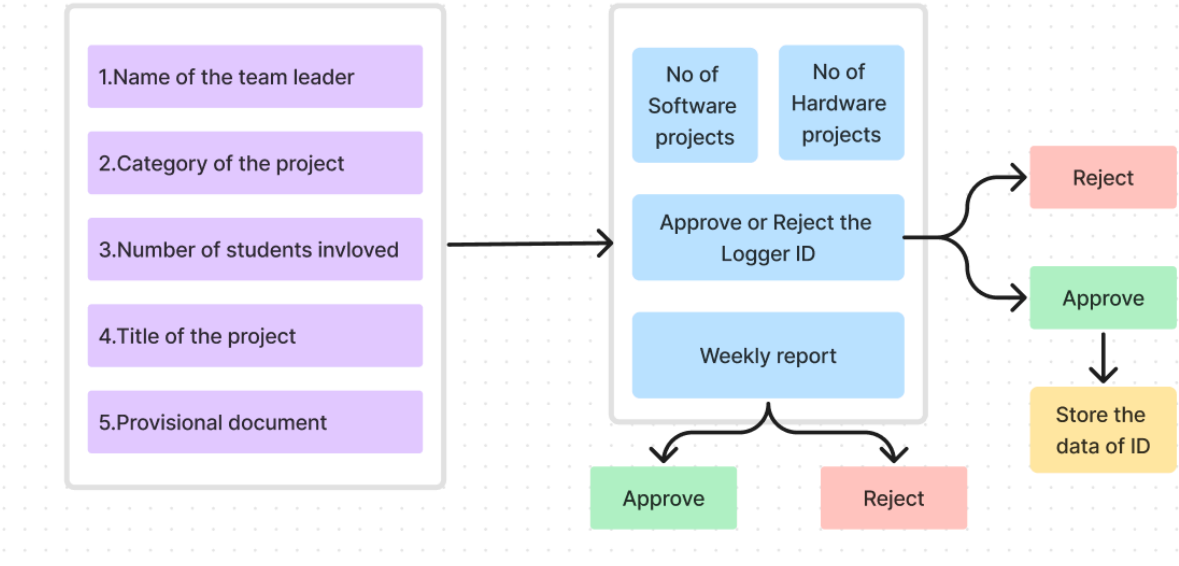
FLOW CHART :


User Login
Admin Login
Report Rejected
Create Project Logger
Redo Weekly Report
Review Project Logger
Reject
Reject
Approve
Logger Rejected
Logger Approved
Submit Weekly Report
Verify Weekly Report
Approve
Report Approved
Show Progress
Display Chart
Display Remaining Percentage
Display Completion Percentage

User Interface :

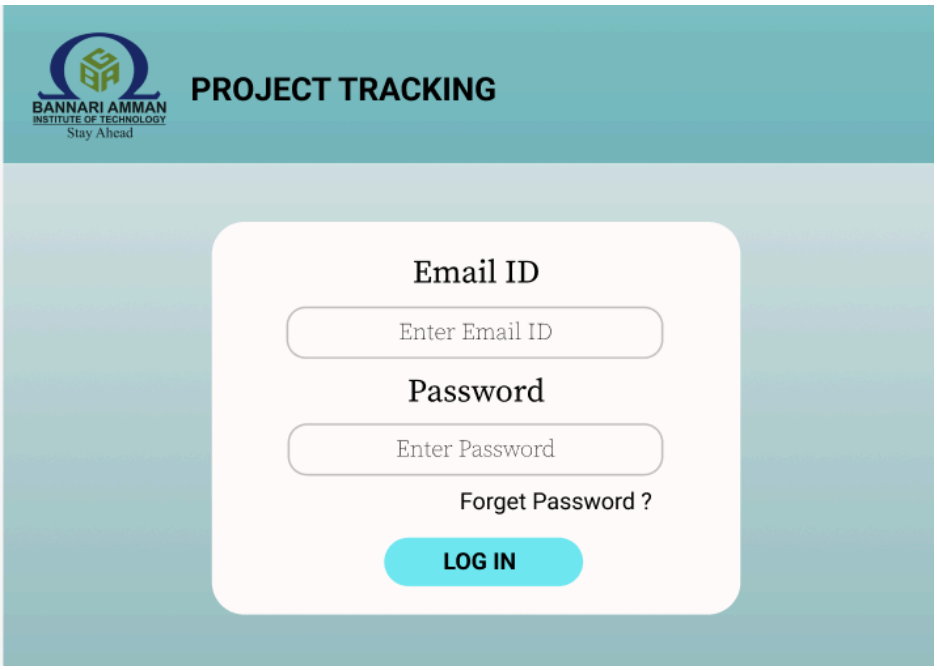


Admin Interface :

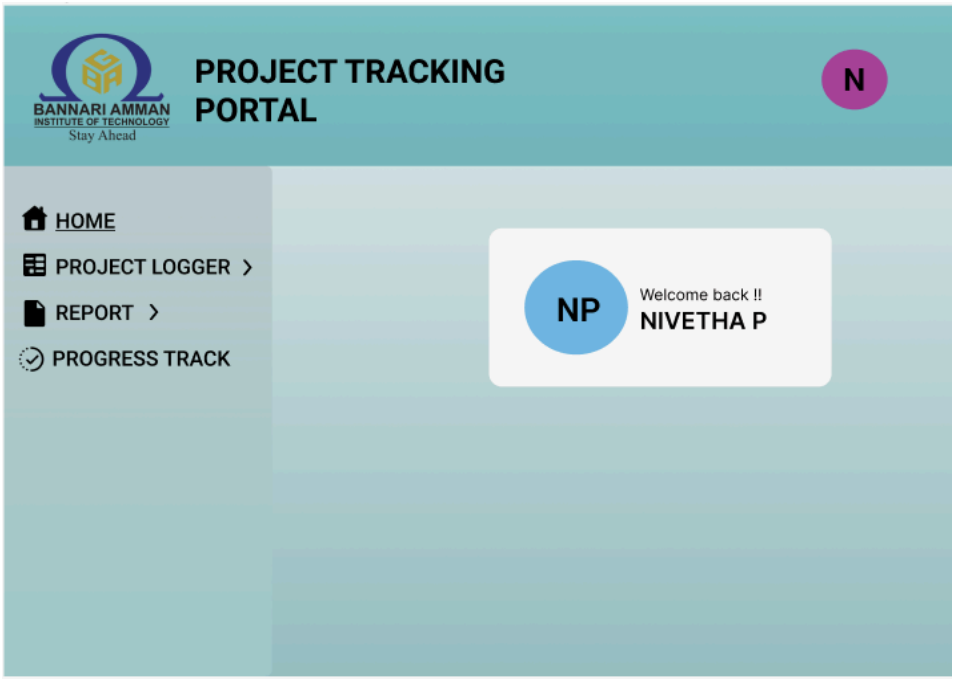


PROTOTYPE :

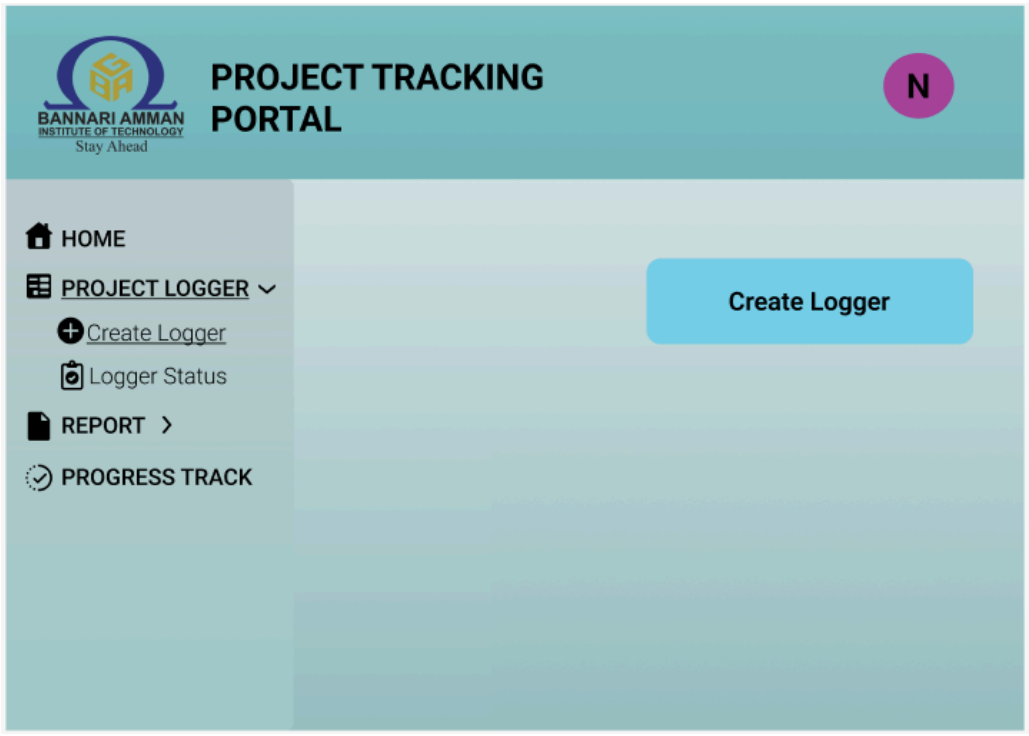
1. Login page:



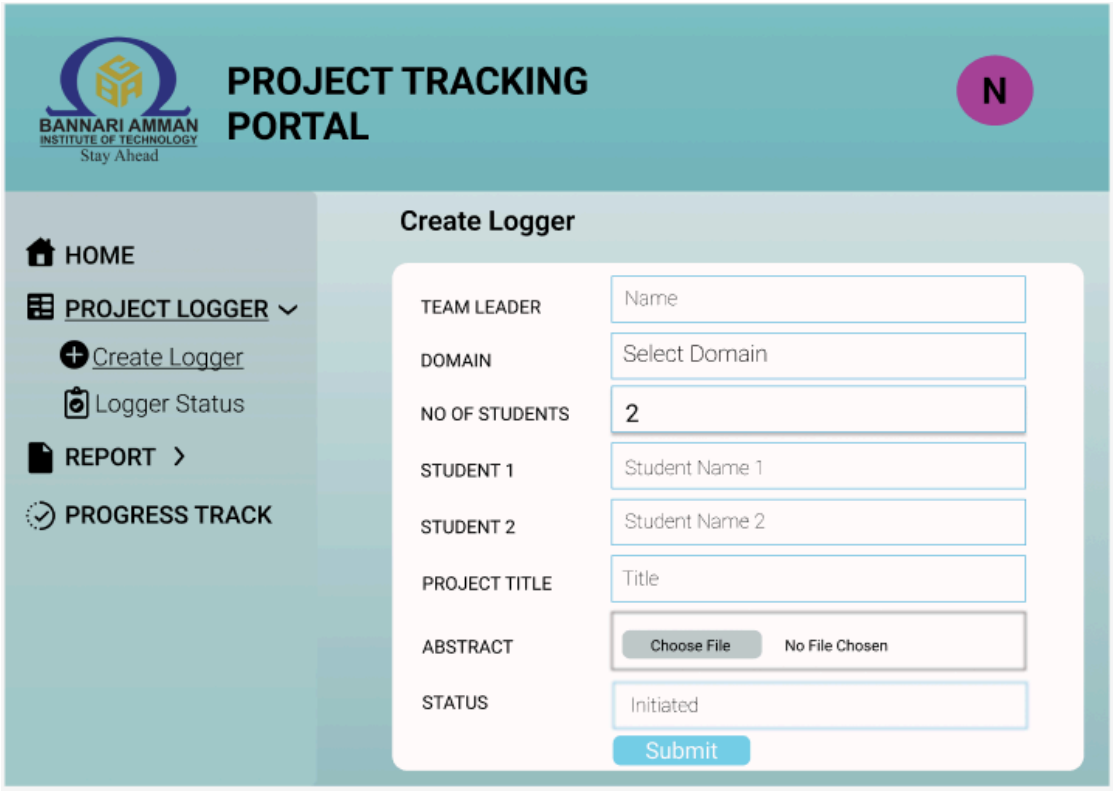
2. Home page:



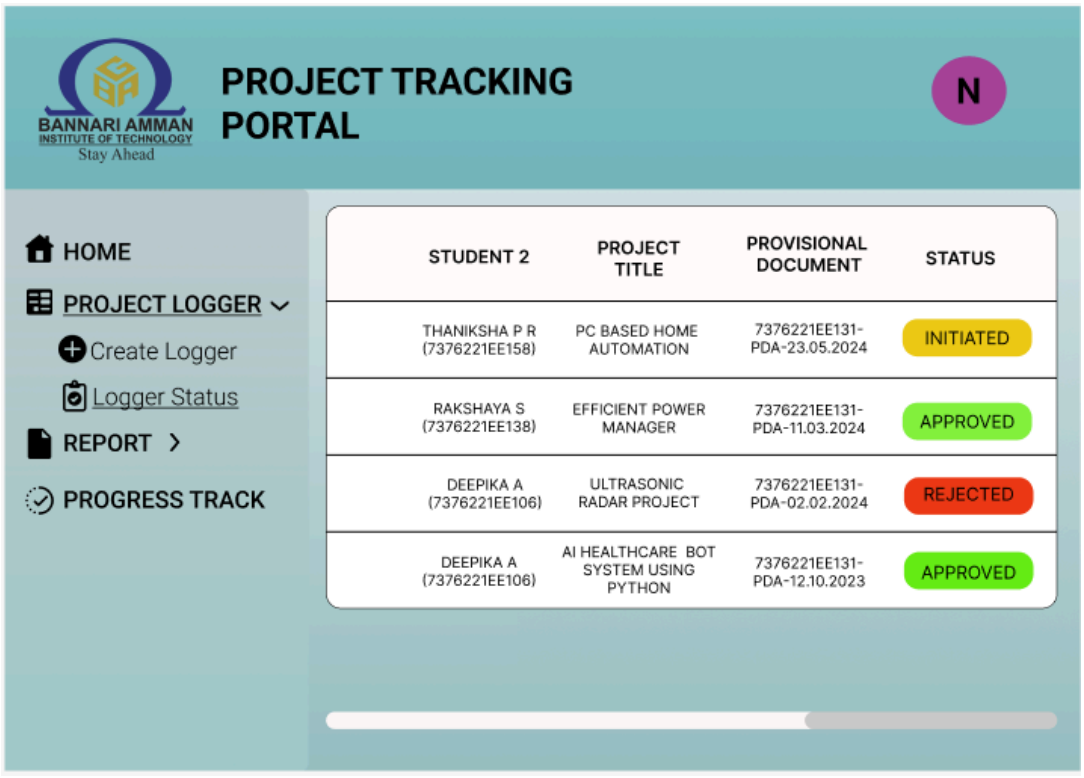
3. Project Logger:



4. Create logger:

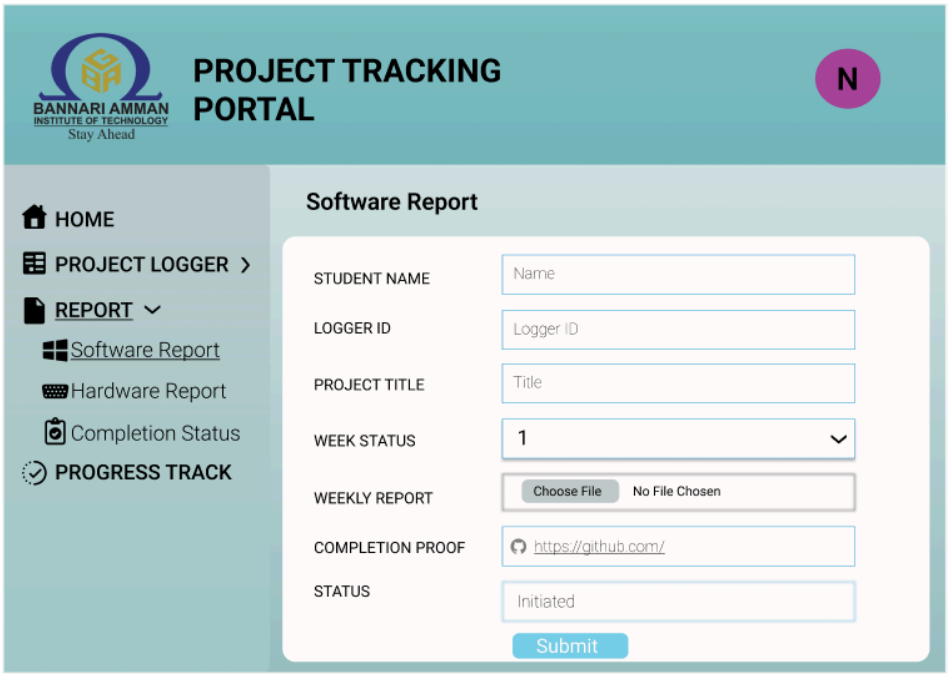


5. Logger status:

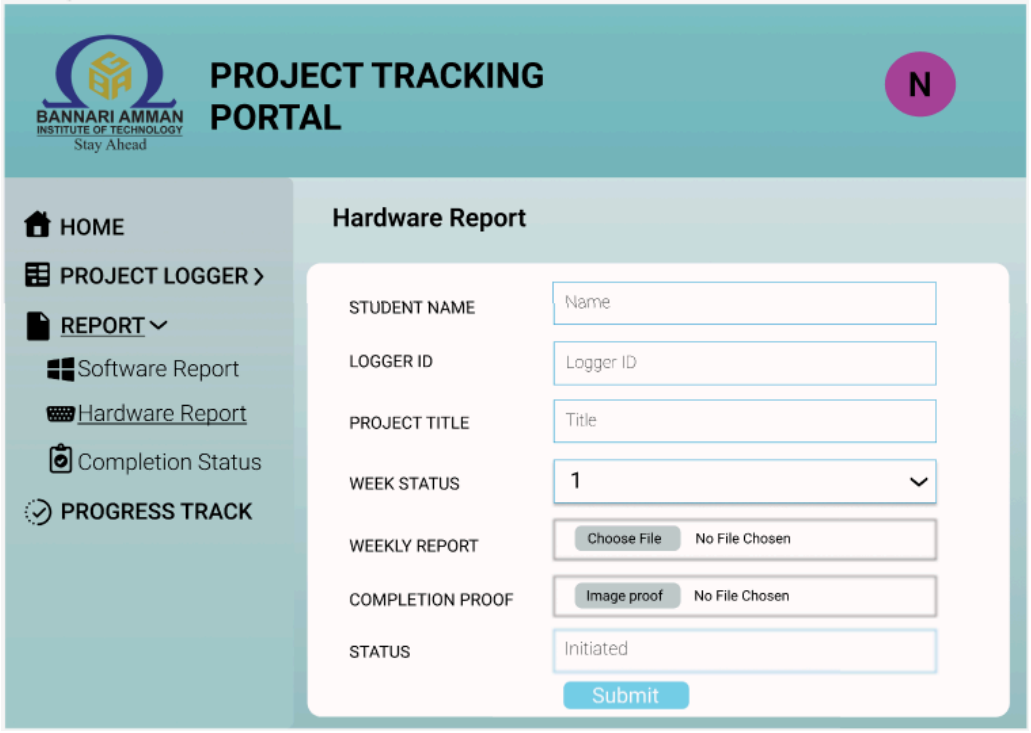


6.Report submission:

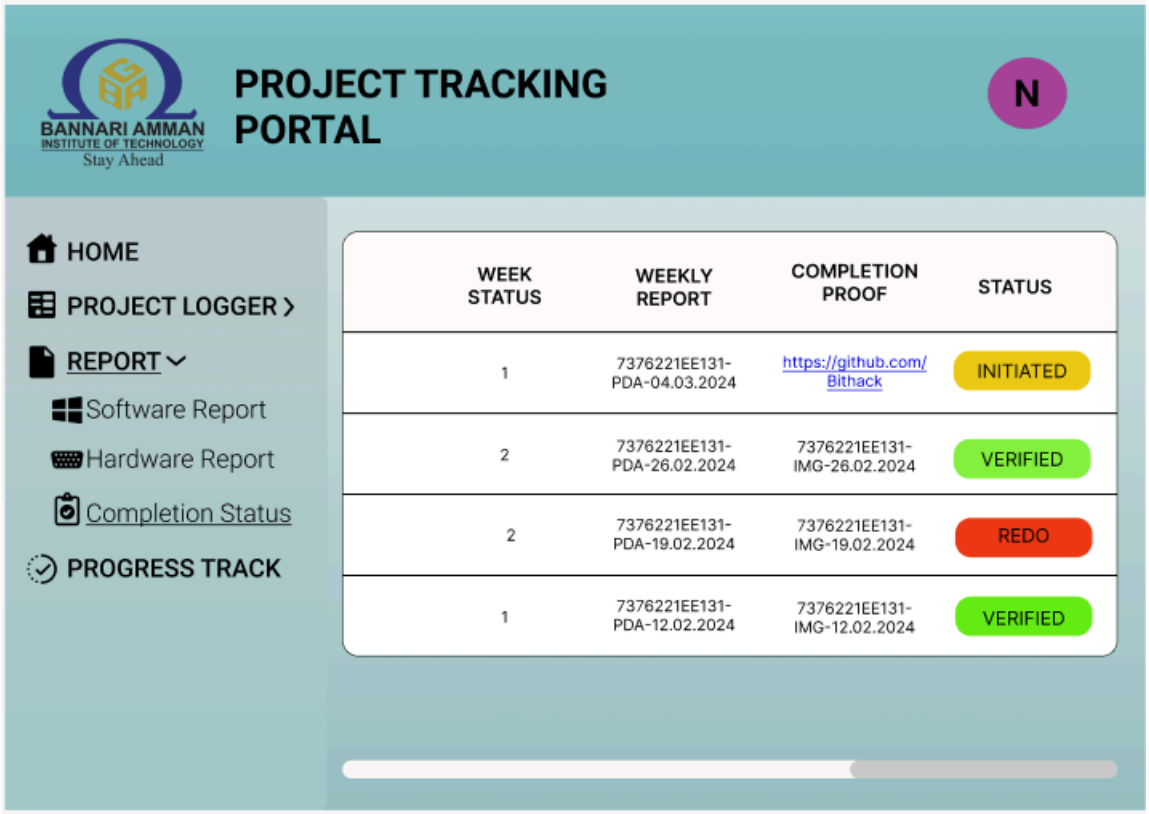
Software report:



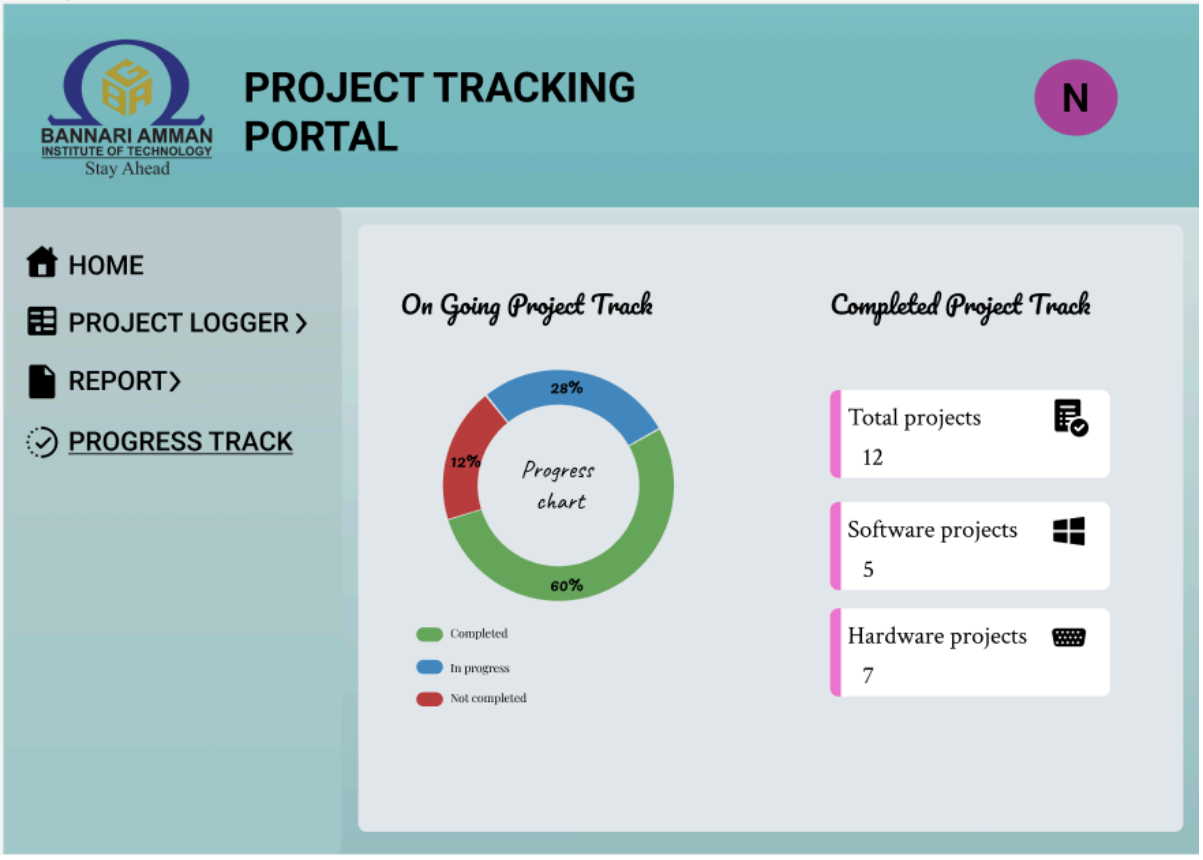
Hardware report:



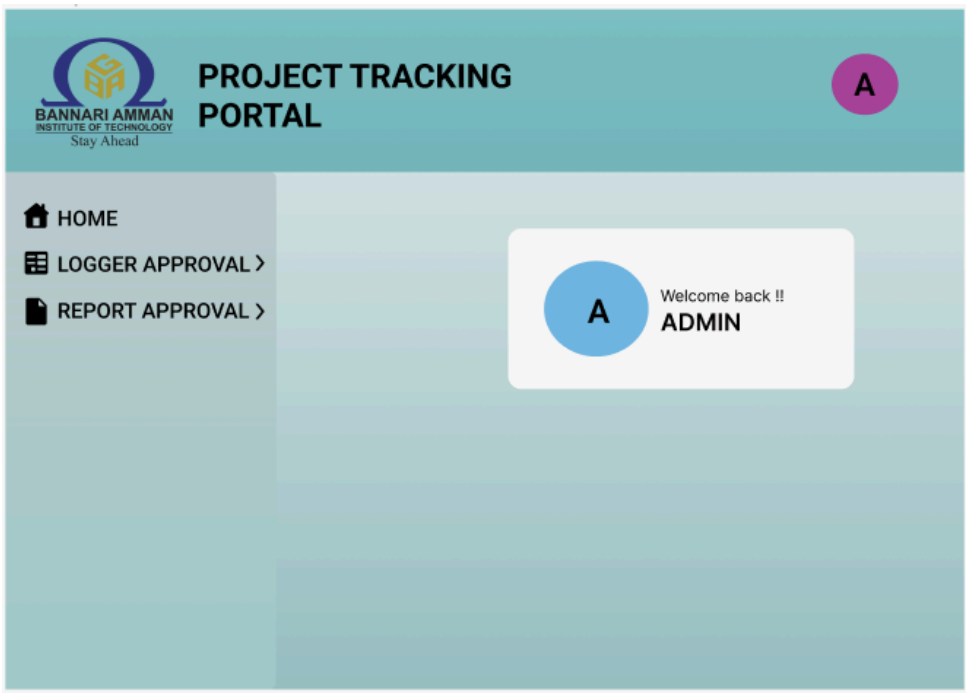
7. Completion status:



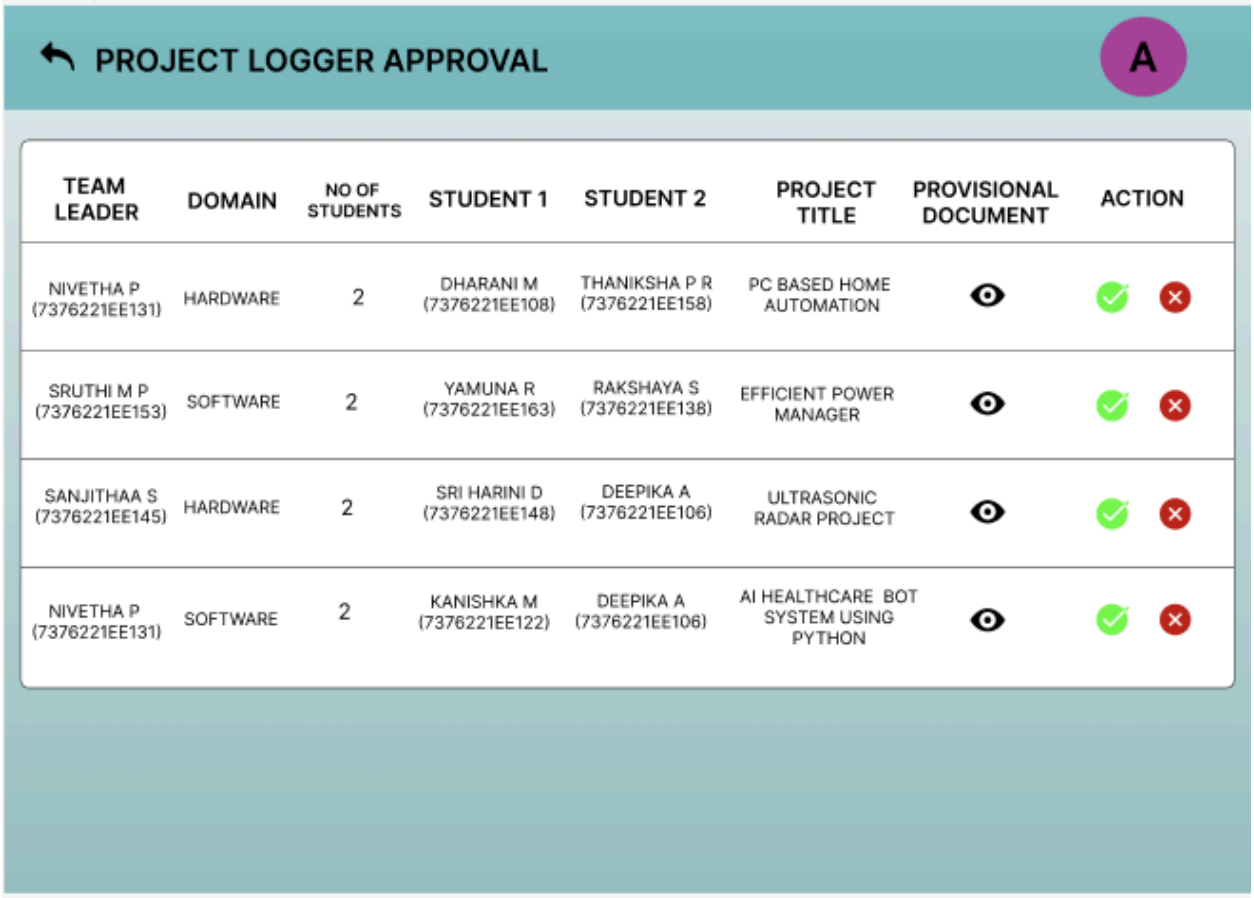
8. Progress Track:



9. Admin’s view:



10. Project Logger Approval:



11. Weekly Report Approval: