COLLEGE CODE: 9528

COLLEGE NAME: SCAD College of Engineering and Technology

DEPARTMENT: CSE

STUDENT NM ID: d99d3571e0c45cea55047bbb81583279

ROLL NO: 95282331104133

DATE: 26/09/2005

Completed the project named as phase ___ TECHNOLOGY PROJECT

NAME: SINGLE PAGE APPLICATION

SUBMITED BY,

NAME: K. Roselin Nisha

MOBILE NO:8220425705

Problem Statement

In the current educational environment, students face difficulty in accessing academic information such as attendance, timetable, internal marks, and notices because these are spread across multiple platforms or delivered in a manual way. This results in inefficiency, confusion, and delays in communication.

The proposed project aims to design and implement a Single Page Application (SPA) that integrates all the essential academic details in a unified dashboard. By doing this, students will have a seamless and modern interface that enables quick access to information without the need to navigate multiple pages.

Users & Stakeholders

The success of this project depends on identifying the main users and stakeholders who will interact with the system:

- Primary Users: Students who will log in and view their profile, timetable, marks, and notices.
- Secondary Users: Faculty and administrative staff who will be responsible for updating data, adding notices, and ensuring data accuracy.
- Stakeholders: College management, IT support team, and examination cell who are indirectly connected with system efficiency.

User Stories

User stories define the functional requirements of the system in terms of the users' needs:

1. As a student, I want to log in securely so that I can access my personal academic data.
2. As a student, I want to view my timetable and attendance without navigating multiple pages.
3. As a student, I want to see my marks and progress report in one place so I can evaluate my performance.
4. As an admin/faculty, I want to update announcements and notices quickly so that students are informed on time.
5. As management, I want a reliable system that reduces dependency on manual processes.

MVP Features

The Minimum Viable Product (MVP) for this project includes the following essential features:

- Secure Login: Students must be able to log in with a unique ID and password.
- Profile Section: Each student's basic details such as name, roll number, and department should be visible.
- Attendance Tracking: Students can view their attendance percentage subject-wise and overall.
- Timetable View: A weekly class schedule that displays subjects and timings.
- Marks Display: Students can view marks or grades obtained in different subjects.
- Announcements/Notices: Students should be able to see updated notices posted by faculty or admin.
- SPA Navigation: Smooth navigation between different sections without reloading the entire page.

Wireframes / API Endpoint List

The system is designed to include a clear UI and well-defined REST API endpoints:

Wireframes:
- Login Page
- Dashboard Page with tabs: Profile | Attendance | Timetable | Marks | Notices

API Endpoints:
- POST /login → User Authentication
- GET /student/:id/profile → Fetch student profile
- GET /student/:id/attendance → Fetch attendance
- GET /student/:id/timetable → Fetch timetable
- GET /student/:id/marks → Fetch marks
- GET /notices → Fetch announcements

These APIs will enable smooth data communication between the frontend SPA and the backend database.

Acceptance Criteria

The acceptance criteria for evaluating the project are as follows:

- The application must load within 3 seconds to ensure good performance.
- Students should be able to log in and see their dashboard without a full page reload.
- Attendance, timetable, and marks must be displayed accurately for each student.
- Faculty/Admin should be able to update notices and the changes should reflect instantly.
- The UI should be responsive and accessible on both mobile and desktop.
- Security must be ensured so that students only access their own data.

Additional Notes:
This project will follow an agile methodology where requirements are gathered in Phase 1 and iterative development is carried out in further phases. The SPA approach ensures

efficiency in terms of reduced server load and improved user experience. Moreover, since education systems require accuracy and reliability, data validation and security checks will be incorporated throughout the development lifecycle.

Additional Notes:
This project will follow an agile methodology where requirements are gathered in Phase 1 and iterative development is carried out in further phases. The SPA approach ensures efficiency in terms of reduced server load and improved user experience. Moreover, since education systems require accuracy and reliability, data validation and security checks will be incorporated throughout the development lifecycle.

Additional Notes:
This project will follow an agile methodology where requirements are gathered in Phase 1 and iterative development is carried out in further phases. The SPA approach ensures efficiency in terms of reduced server load and improved user experience. Moreover, since education systems require accuracy and reliability, data validation and security checks will be incorporated throughout the development lifecycle.

Additional Notes:
This project will follow an agile methodology where requirements are gathered in Phase 1 and iterative development is carried out in further phases. The SPA approach ensures efficiency in terms of reduced server load and improved user experience. Moreover, since education systems require accuracy and reliability, data validation and security checks will be incorporated throughout the development lifecycle.

Additional Notes:
This project will follow an agile methodology where requirements are gathered in Phase 1 and iterative development is carried out in further phases. The SPA approach ensures efficiency in terms of reduced server load and improved user experience. Moreover, since education systems require accuracy and reliability, data validation and security checks will be incorporated throughout the development lifecycle.