# Software Engineering: Assignment #01

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# Problem Statement

| | |
|---|---|
| The problem of | inefficient student access to academic resources and administrative services |
| affects | students, faculty, and university staff, leading to delays, miscommunication, and decreased productivity. |
| The impact of which is | frustration among students, missed deadlines, inefficient course registration, and difficulty tracking academic progress. |
| A successful solution would be | a centralized University Student Portal that streamlines course registration, grade tracking, document submissions, and communication between students and faculty, ensuring a seamless and efficient academic experience. |

# Feature List

## Student Features

1. **Course Registration** – Enroll in available courses each semester.
2. **View Registered Courses** – See a list of enrolled courses.
3. **View Marks & Grades** – Access grades for assignments, quizzes, and exams.
4. **View Attendance Record** – Track attendance percentage for each course.
5. **Apply for Scholarships & Financial Aid** – Submit and track applications for scholarships or financial aid.
6. **Submit Assignments** – Upload coursework and assignments for evaluation.
7. **Download Course Material** – Access lecture slides, notes, and other resources.
8. **Give Course Feedback** – Provide feedback on courses and instructors.
9. **View Academic Calendar** – Check important academic dates and deadlines.
10. **Drop Courses** – Withdraw from courses within specified deadlines.
11. **Internship & Job Listings** – Browse university-approved internships and job opportunities.
12. **Communicate with Faculty** – Message instructors about academic inquiries.
13. **View Exam Schedule** – Check upcoming exam dates, times, and venues.
14. **Apply for Leaves** – Submit leave requests for excused absences.
15. **Track GPA & CGPA** – Monitor semester and cumulative GPAs.

## Faculty Features

1. **Upload Assignments** – Provide assignments and track submissions.
2. **Enter Student Grades** – Input marks for assignments, quizzes, and exams.
3. **Mark Attendance** – Update student attendance records per lecture.
4. **Upload Course Materials** – Share lecture notes, slides, and reading resources.
5. **Respond to Student Queries** – Answer student messages regarding coursework.

## Administration Features

1. **Manage Timetables** – Create and modify semester schedules.
2. **Update Exam Schedules** – Set and adjust exam dates, times, and locations.
3. **Publish Course Offerings** – Announce available courses for student registration.
4. **Send University Announcements** – Post updates about policies, deadlines, events, and job opportunities.
5. **Handle Student & Teacher Requests** – Process requests related to course changes, exam rescheduling, and academic concerns.

# User Stories

**Story ID: 1** **Story Title:** Course Registration

---

**USER STORY:**

**AS A** student, **I WANT** to enroll in available courses each semester, **SO THAT** I can take the required subjects for my degree.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that course registration is open, **WHEN** I select courses and submit my registration, **THEN** my enrollment should be confirmed, and I should receive a confirmation message.

---

**IMPORTANCE: 1**

---

**ESTIMATE:** 4 hours

---

**TYPE:** workflow

**Story ID: 2** **Story Title:** View Course List

---

**USER STORY:**

**AS A** student, **I WANT** to view the list of my registered courses**, SO THAT** I can keep track of my academic schedule.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that I am logged into the portal, **WHEN** I navigate to my course list, **THEN** I should see all the courses I am enrolled in for the current semester.

---

**IMPORTANCE: 2**

---

**ESTIMATE:** 2 hours

---

**TYPE:** report

---

**Story ID: 3** **Story Title:** View Marks

---

**USER STORY:**

**AS A** student, **I WANT** to check my grades for assignments, quizzes, and exams**, SO THAT** I can monitor my academic progress.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that grades have been released, **WHEN** I access my marks section, **THEN** I should be able to view my scores for different assessments for different subjects.

---

**IMPORTANCE: 7**

---

**ESTIMATE:** 3 hours

---

**TYPE:** report

---

**Story ID: 4** **Story Title:** View Attendance Record

---

**USER STORY:**

**AS A** student, **I WANT** to see my attendance percentage per course**, SO THAT** I can ensure I meet the minimum attendance requirements.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that attendance records are updated, **WHEN** I check my attendance for a course, **THEN** I should see the percentage of classes attended per total classes held.

---

**IMPORTANCE: 10**

---

**ESTIMATE:** 3 hours

---

**TYPE:** report

**Story ID: 5** **Story Title:** Apply for Scholarships & Financial Aid

---

**USER STORY:**

**AS A** student, **I WANT** to submit applications for scholarships or financial assistance**, SO THAT** I can receive financial support for my education.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that scholarship applications are open, **WHEN** I complete and submit my application, **THEN** it should be recorded in the portal, and I should receive a confirmation of submission.

---

**IMPORTANCE: 12**

---

**ESTIMATE:** 5 hours

---

**TYPE:** workflow

---

**Story ID: 6** **Story Title:** Submit Assignments

---

**USER STORY:**

**AS A** student, **I WANT** to upload assignments for each course, **SO THAT** I can submit my assigned work before the deadline.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that an assignment submission is open, **WHEN** I upload my file and submit it, **THEN** it should be recorded, and I should receive confirmation of a successful submission.

---

**IMPORTANCE: 8**

---

**ESTIMATE:** 4 hours

---

**TYPE:** manage data

---

**Story ID: 7** **Story Title:** Download Course Material

---

**USER STORY:**

**AS A** student, **I WANT** to access lecture slides, notes, and resources**, SO THAT** I can study and prepare for my courses through it.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that course materials are available, **WHEN** I select a document or file to download, **THEN** it should be downloaded to my device successfully.

---

**IMPORTANCE: 6**

---

**ESTIMATE:** 3 hours

---

**TYPE:** manage data

**Story ID: 8** **Story Title:** Give Feedback on Courses

---

**USER STORY:**

**AS A** student, **I WANT** to provide feedback about courses and instructors, **SO THAT** I can share my learning experience and suggest improvements.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that feedback submission is open, **WHEN** I fill out the feedback form and submit it, **THEN** my feedback should be recorded and stored for review.

---

**IMPORTANCE: 13**

---

**ESTIMATE:** 3 hours

---

**TYPE:** workflow

---

**Story ID: 9** **Story Title:** View Academic Calendar

---

**USER STORY:**

**AS A** student, **I WANT** to check important academic dates, **SO THAT** I can plan my studies and activities accordingly.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that the academic calendar is available, **WHEN** I open the calendar section, **THEN** I should see all important events and deadlines.

---

**IMPORTANCE: 14**

---

**ESTIMATE:** 2 hours

---

**TYPE:** report

**Story ID: 10** **Story Title:** Drop Courses

---

**USER STORY:**

**AS A** student, **I WANT** to withdraw from a course within a deadline, **SO THAT** I can manage my workload effectively.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that the course drop period is active, **WHEN** I request to drop a course, **THEN** it should be removed from my registered courses list, and I should receive a confirmation.

---

**IMPORTANCE: 15**

---

**ESTIMATE:** 4 hours

---

**TYPE:** workflow

**Story ID: 11** **Story Title:** Access Internship & Job Listings

---

**USER STORY:**

**AS A** student, **I WANT** to view internship and job opportunities posted by the university or partnered companies, **SO THAT** I can apply for relevant positions.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that internship and job listings are available, **WHEN** I navigate to the career section, **THEN** I should see a list of current opportunities with application details.

---

**IMPORTANCE: 16**

---

**ESTIMATE:** 5 hours

---

**TYPE:** search

---

**Story ID: 12** **Story Title:** Communicate with Teachers

---

**USER STORY:**

**AS A** student, **I WANT** to message teachers regarding coursework, **SO THAT** I can seek clarifications and assistance.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that my teacher has enabled messaging, **WHEN** I send a message, **THEN** it should be delivered, and I should be able to receive a response.

---

**IMPORTANCE: 17**

---

**ESTIMATE:** 4 hours

---

**TYPE:** manage data

---

**Story ID: 13** **Story Title:** Check Exam Schedule

---

**USER STORY:**

**AS A** student, **I WANT** to view upcoming exam dates and locations, **SO THAT** I can prepare accordingly.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** that the exam schedule is published, **WHEN** I check the exam section, **THEN** I should see the dates, times, and venues for my exams.

---

**IMPORTANCE: 18**

---

**ESTIMATE:** 2 hours

---

**TYPE:** report

**Story ID: 14** **Story Title:** Apply For Leaves

---

**USER STORY:**

**AS A** student, **I WANT** to submit a leave request**, SO THAT** I can get approval for absence without manual paperwork.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** a student is logged into the portal, **WHEN** they navigate to the leave request section and submit a textual request with a reason and dates, **THEN** the teacher receives the request and student waits for approval.

---

**IMPORTANCE: 19**

---

**ESTIMATE:** *3 hours*

---

**TYPE:** *Workflow*

---

**Story ID: 15** **Story Title:** View Transcript

---

**USER STORY:**

**AS A** student, **I WANT** to view my transcript**, SO THAT** to view my transcript.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** a student is logged into the portal, **WHEN** they navigate to the transcript section, **THEN** the system should display their semester-wise grades, cumulative GPA, and other relevant details.

---

**IMPORTANCE: 20**

---

**ESTIMATE:** *4 hours*

---

**TYPE:** *Search*

**Story ID: 16** **Story Title:** Upload Assignments

---

**USER STORY:**

**AS A** teacher, **I WANT** to upload course assignments with a due date, time, and marking scheme**, SO THAT** students can access and submit their assignments.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** a teacher is logged into the portal, **WHEN** they navigate to the assignment upload section, and enter the assignment details, and submit it, **THEN** the system makes it visible to all enrolled students.

---

**IMPORTANCE: 11**

---

**ESTIMATE:** *5 hours*

---

**TYPE:** *Manage Data*

**Story ID: 17** **Story Title:** Upload Marks

---

**USER STORY:**

**AS A** teacher, **I WANT** to enter and upload grades for assignments, quizzes, and exams**, SO THAT** students can track their academic performance.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** a teacher is logged into the portal, **WHEN** they navigate to the grading section, select a course to enter student marks and save it, **THEN** the student can view their evaluation scores.

---

**IMPORTANCE: 21**

---

**ESTIMATE:** *4 hours*

---

**TYPE:** *Manage Data*

**Story ID: 18** **Story Title:** Update Attendance

---

**USER STORY:**

**AS A** teacher, **I WANT** to mark students as present or absent for each class**, SO THAT** attendance records are maintained and students can track their attendance.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** a teacher is logged into the portal, **WHEN** they navigate to the attendance section, select a course and the date, and mark students as present or absent, **THEN** the system should save the attendance record and make it available for students to view.

---

**IMPORTANCE: 9**

---

**ESTIMATE:** *4 hours*

---

**TYPE:** *Manage Data*

---

**Story ID: 19** **Story Title:** Upload Resource Material

---

**USER STORY:**

**AS A** teacher, **I WANT** to upload lecture notes, slides, or other course materials**, SO THAT** students can access and review them for learning.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** a teacher is logged into the portal, **WHEN** they navigate to the course materials section, select a course, and upload files, **THEN** the system should store the materials and make them accessible to all enrolled students.

---

**IMPORTANCE: 5**

---

**ESTIMATE:** *7 hours*

---

**TYPE:** *Manage Data*

**Story ID: 20** **Story Title:** Answer queries

---

**USER STORY:**

**AS A** teacher, **I WANT** to respond to student queries through the portal**, SO THAT** I can clarify doubts and provide academic support.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** a teacher is logged into the portal, **WHEN** they navigate to the student queries section, view a question, type a response, and submit it, **THEN** the system should store and display the response to the student.

---

**IMPORTANCE: 22**

---

**ESTIMATE:** *4 hours*

---

**TYPE:** *Workflow*

---

**Story ID: 21** **Story Title:** Manage Timetables

---

**USER STORY:**

**AS AN** administrator, **I WANT** to create and update class schedules for each semester**, SO THAT** students and teachers can access an organized timetable for their courses.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** an administrator is logged into the portal, **WHEN** they navigate to the timetable management section, and add or update course schedules, **THEN** the system makes it accessible to students and teachers.

---

**IMPORTANCE: 4**

---

**ESTIMATE:** *5 hours*

---

**TYPE:** *Manage Data*

---

**Story ID: 22** **Story Title:** Upload Exam Schedule

---

**USER STORY:**

**AS AN** administrator, **I WANT** to set and modify exam dates, times, and locations**, SO THAT** students can access up-to-date exam schedules.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** an administrator is logged into the portal, **WHEN** they navigate to the exam schedule section, and add or update exam details, **THEN** the system stores the schedule and notify students.

---

**IMPORTANCE: 23**

---

**ESTIMATE:** *5 hours*

---

**TYPE:** *Report*

**Story ID: 23** **Story Title:** Publish Course Offerings

---

**USER STORY:**

**AS AN** administrator, **I WANT** to manage and announce available courses for registration**, SO THAT** students can view and enroll in courses for the upcoming semester.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** an administrator is logged into the portal, **WHEN** they navigate to the course offerings section, add or update course details, and publish it, **THEN** the students can view the offered courses and enroll in them.

---

**IMPORTANCE: 3**

---

**ESTIMATE:** *4 hours*

---

**TYPE:** *Report*

---

**Story ID: 24** **Story Title:** Make Announcements

---

**USER STORY:**

**AS AN** administrator, **I WANT** to post university-wide announcements about policies, deadlines, events, and job listings**, SO THAT** students stay informed about important updates.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** an administrator is logged into the portal, **WHEN** they navigate to the announcements section, and enter the announcement details, **THEN** the system notifies the students about these announcements.

---

**IMPORTANCE: 24**

---

**ESTIMATE:** *3 hours*

---

**TYPE:** *Workflow*

---

**Story ID: 25** **Story Title:** Handle Queries

---

**USER STORY:**

**AS AN** administrator, **I WANT** to process student and teacher requests related to course changes, exam rescheduling, and other academic concerns**, SO THAT** academic issues can be resolved efficiently.

---

**ACCEPTANCE CRITERIA:**

**GIVEN** an administrator is logged into the portal, **WHEN** they navigate to the request management section, view the submitted request, and take appropriate action, **THEN** the system informs the requester about the outcome..

---

**IMPORTANCE: 25**

---

**ESTIMATE:** *6 hours*

---

**TYPE:** *Workflow*

---

# Team Roles & Responsibilities

| Product Owner | Sahrish Mustafa |
|---|---|
| Duties | Responsible for defining the vision of the student portal and ensuring that the development team delivers a product that meets stakeholder expectations.<br>1) **Requirement Gathering:** Collaborate with stakeholders (students, faculty, and administration) to understand their needs and expectations.<br>2) **Backlog Management:** Organize and prioritize feature requests into a structured **Product Backlog** to ensure high-value tasks are completed first.<br>3) **User Stories & Acceptance Criteria:** Convert high-level requirements into detailed **user stories** that describe what a user wants to achieve. Define **acceptance criteria** for each user story, outlining the conditions that must be met for the feature to be considered complete.<br><br>Note: The user stories and acceptance criteria are finalized after a sprint plan meeting with the rest of the members - this ensures that the requirements are feasible, realistic, and within our capabilities. |

| Scrum Master | Maria Zahid |
|---|---|
| Duties | Acts as a facilitator for the team, ensuring that Agile principles are followed and removing obstacles that hinder progress.<br><br>1) **Facilitate Scrum Events:** Conduct daily stand-ups, sprint planning, sprint reviews, and retrospectives.<br>2) **Remove Roadblocks:** Identify and resolve any blockers preventing the team from progressing efficiently.<br>3) **Ensure Agile Practices:** Guide the team in following Scrum methodology and improve development processes. |

| | |
|---|---|
| Scrum Team (Developer) | Hadiya Tanveer |
| Duties | Responsible for designing, coding, testing, and delivering the features outlined in the sprint backlog.<br><br>1) **Implement User Stories:** Develop functionalities as per the defined acceptance criteria.<br>2) **Code Quality & Best Practices:** Write clean, maintainable, and scalable code following industry standards.<br>3) **Testing & Debugging:** Perform unit testing and work as QA to ensure software reliability.<br>4) **Collaborate with the Team:** Work closely with the Product Owner to clarify requirements and with |

# Team Agreement

## 1. Methods of Communication

Effective communication is critical for the success of our project. The following methods will be used for different types of communication:

- **Email:** Formal updates, documentation sharing, sprint reviews, and assignment submissions.
- **Discord:** Primary mode of daily communication for development updates, quick discussions, and issue resolution.
- **Phone Calls:** Urgent matters that require immediate attention, such as critical bugs in the student portal or system downtimes.
- **Discord/Google Meet:** Used for scheduled sprint meetings, backlog refinement, and product demonstrations.
- **GitHub Issues & Comments:** Used for code-related discussions, bug tracking, and pull request reviews.

## 2. Communication Response Times

To maintain project momentum, team members must respond to messages within the following timeframes:

- **Emails:** Within 24 hours.
- **Discord Messages:** Within 2 hours.
- **Phone Calls:** Immediate response required for urgent issues.
- **GitHub Issues & Pull Requests:** Review and respond within 12 hours to keep development moving.

## 3. Meeting Attendance

Regular meetings are essential to keep everyone aligned on project progress.

- **Sprint Planning (Mandatory)** – Bi-weekly, conducted online via Google Meet/Discord.
- **Daily Standups (Mandatory)** – 15-minute check-in every morning.
- **Sprint Retrospective (Mandatory)** – End of each sprint to discuss improvements.
- **Stakeholder Meetings (Optional)** – Product Owner meets with university representatives to refine requirements.
- **Emergency Meetings (As needed)** – Called by Scrum Master for urgent discussions.

## 4. Running Meetings

To ensure meetings are productive:

- **Agenda Preparation:** The Scrum Master prepares the agenda and shares it 24 hours before the meeting.

- **Meeting Format:**
  - Sprint planning & review meetings: Online (Discord).
  - Code review sessions: Hybrid (online or in-person).
  - Stakeholder meetings: In-person at the university, when required.
- **Meeting Notes:**
  - One person (rotating responsibility) will document minutes.
  - Key action points will be posted on Trello for accountability.

## 5. Meeting Preparation

- **Sprint Planning:** Developers must review the product backlog before the meeting.
- **Code Reviews:** Developers must have committed their latest changes before the meeting.
- **Stakeholder Meetings:** The Product Owner must gather and structure user feedback.

## 6. Version Control (GitHub Workflow)

A well-structured **GitHub workflow** is critical for maintaining a clean and stable codebase.

- **Branching Strategy:**
  - `main`: Stable production-ready branch.
  - `develop`: Integration branch for merged features.
  - `feature/*`: Separate branch for each new feature (e.g., `feature/view-marks`).
- **Commit Messages:** Should be descriptive and follow the format: `[Feature/Task] Short Description (Issue #)`.
- **Code Reviews:** All pull requests must be reviewed by at least one developer before merging.
- **Forbidden Commits:** No temporary/debugging logs, large media files, or sensitive data should be committed.

## 8. Submitting Assignments & Deliverables

- **Code Submissions:** Pushed to GitHub before sprint deadlines.
- **Documentation (User Stories, Reports):** Shared via Google Drive 24 hours before submission.
- **Final Project Submission:** Scrum Master ensures all components are packaged and submitted.
- **Peer Review:** Developers cross-check each other's work before final submission.

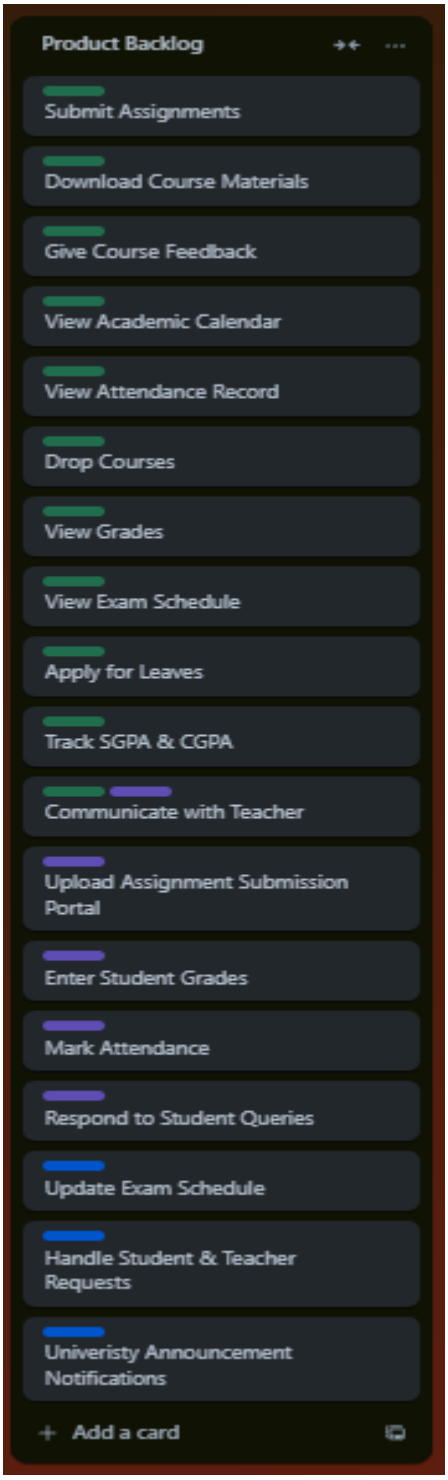
## 9. Contingency Planning

We recognize that unforeseen issues may arise. Our contingency plan ensures the project stays on track.

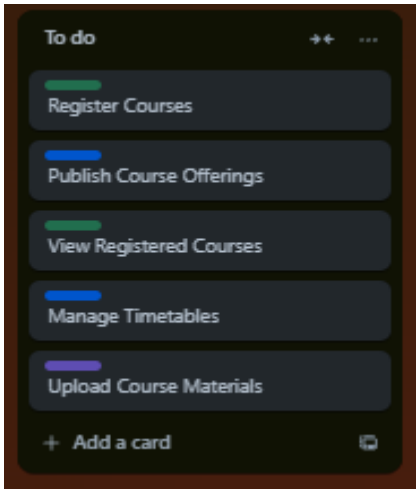
| Issue | Resolution Strategy |
|---|---|
| **Team member drops out** | Redistribute tasks based on priority; escalate to Product Owner if critical. |
| **Consistently missing meetings** | Scrum Master follows up; after repeated absences, escalate to the instructor. |
| **Academic dishonesty** | Immediate review by the team; notify the instructor for resolution. |
| **Missed deadlines** | Reallocate resources to cover delays; prioritize high-impact features. |

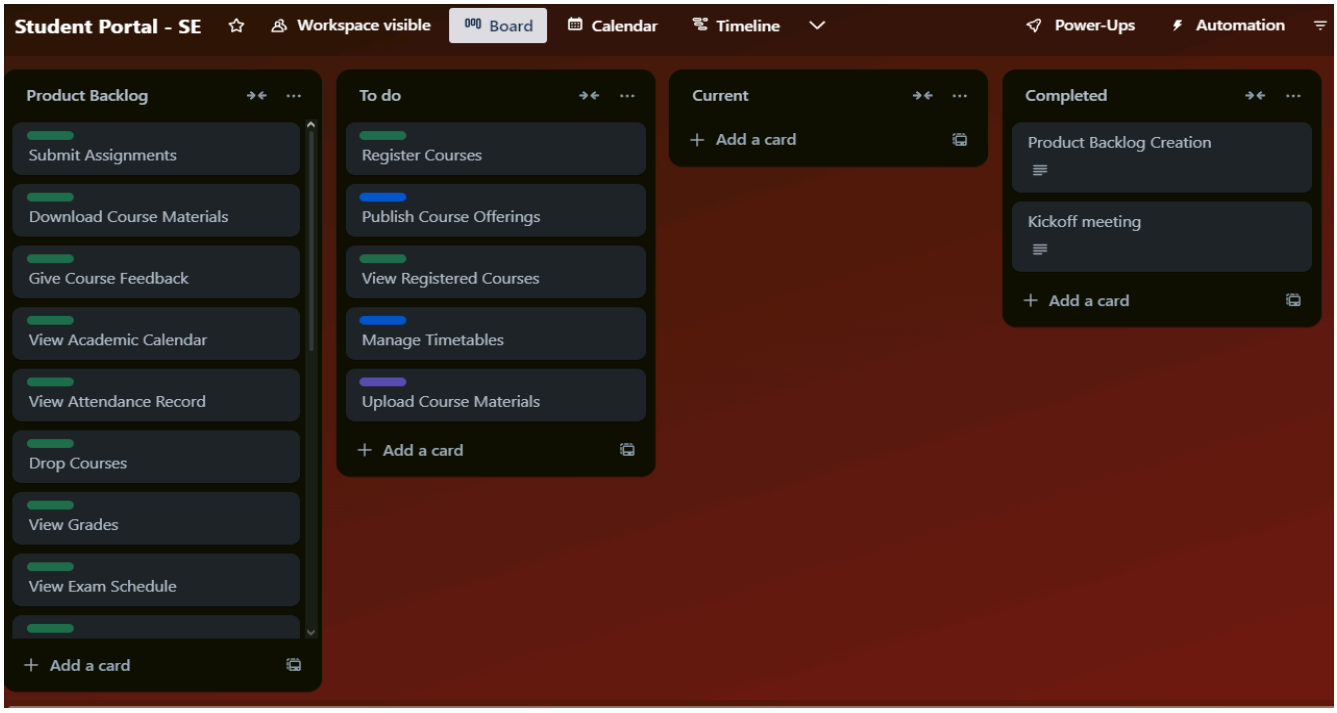
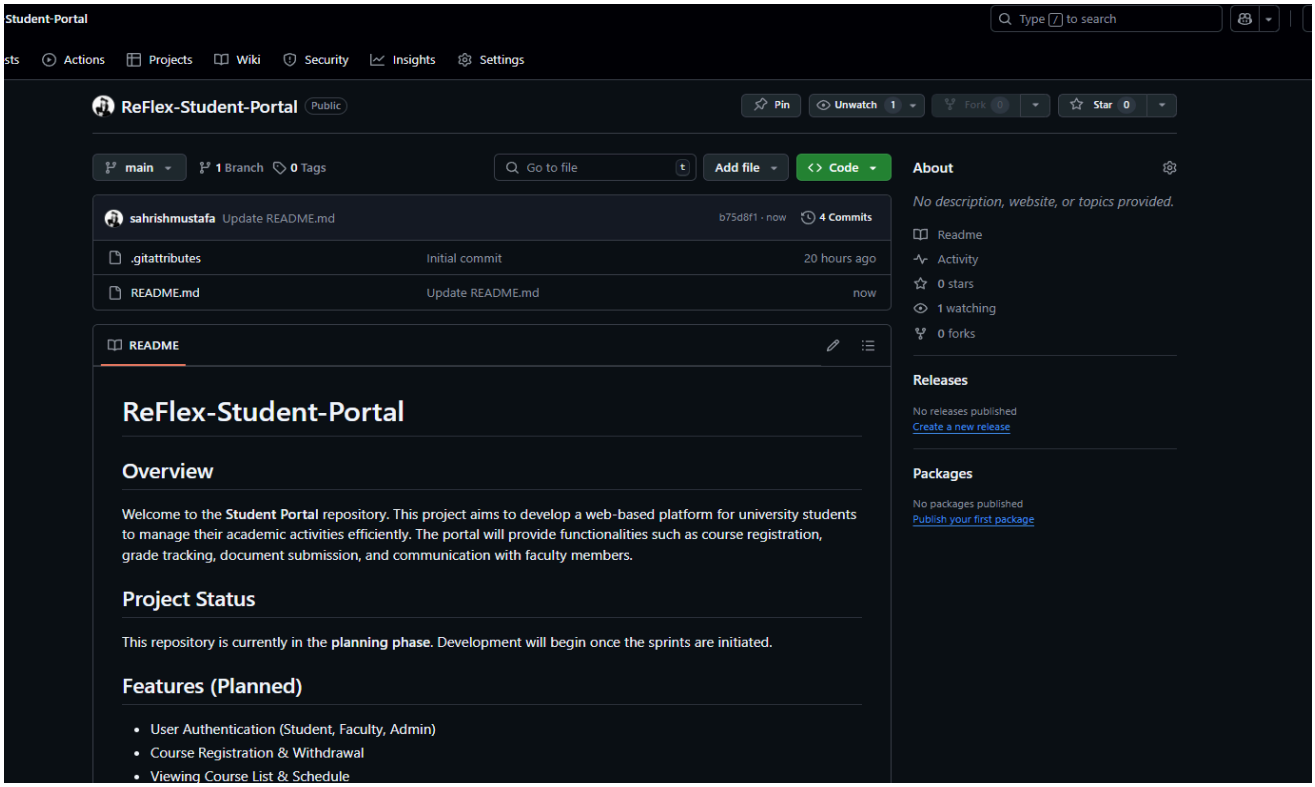
# Trello Board

Product Backlog




Sprint Backlog (Sprint #01)




Student Portal - SE
Workspace visible
Board
Calendar
Timeline
Power-Ups
Automation
Product Backlog
Submit Assignments
Download Course Materials
Give Course Feedback
View Academic Calendar
View Attendance Record
Drop Courses
View Grades
View Exam Schedule
Add a card
To do
Register Courses
Publish Course Offerings
View Registered Courses
Manage Timetables
Upload Course Materials
Add a card
Current
Add a card
Completed
Product Backlog Creation
Kickoff meeting
Add a card

# Github Repository