

Mobile Application Project Planning Using Taiga

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Course: Agile Software Engineering

Course Code: CS2030

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Institution: RV University

Submission Date: February 21, 2026

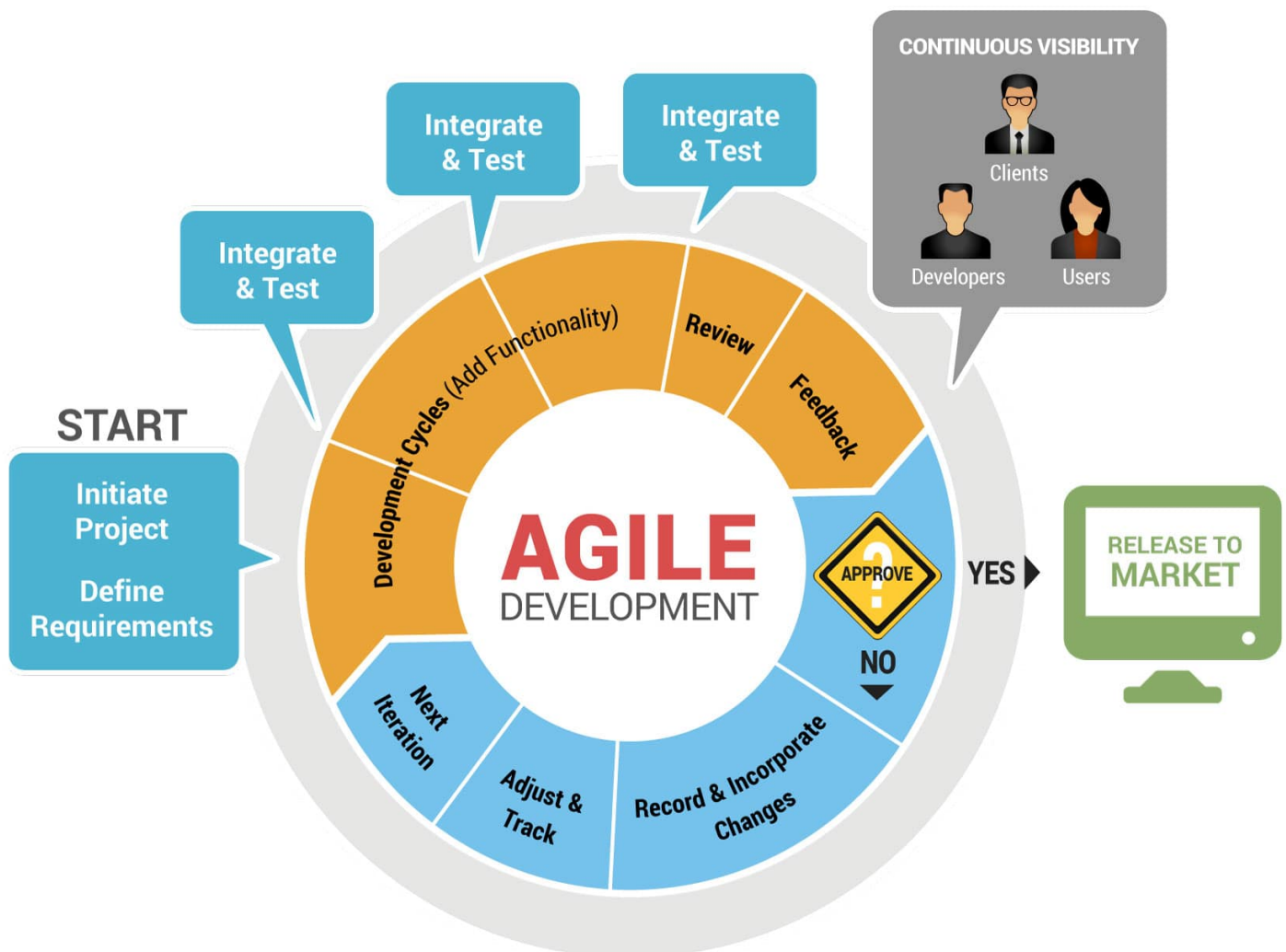


Fig. 1.0 - Agile Development

Acknowledgement

I would like to express my sincere gratitude to **Dr. Manish Kumar** for his constant guidance, encouragement, and academic mentorship throughout the completion of this project. His insights into Agile Software Engineering principles and practical industry applications greatly enhanced my understanding of structured project planning and iterative development methodologies.

This assignment on *Mobile Application Project Planning Using Taiga* provided valuable hands-on exposure to Agile frameworks, sprint structuring, and change management. Through this project, I was able to bridge theoretical concepts with real-world implementation-defining user stories, estimating story points, and organizing sprint goals to foster a collaborative development environment.

I would also like to acknowledge the **School of Computer Science & Engineering, RV University**, for fostering a learning environment that encourages innovation and practical application. The emphasis on experiential learning played a significant role in shaping this work.

In addition, I would like to extend my appreciation to my peers and classmates for their collaborative spirit and constructive discussions throughout the course. Engaging in conversations about Agile practices, sprint execution strategies, and real-world implementation challenges enriched my learning experience and provided diverse perspectives on project planning. Their insights and shared feedback contributed to a deeper understanding of Scrum principles and reinforced the importance of teamwork and continuous learning in software engineering.

Finally, I take pride in the dedication invested in this project. Utilizing industry-relevant tools like **Taiga** has enhanced my readiness for professional software development and reinforced my interest in Agile project management methodologies.

Project Background and Problem Definition

Problem Description:

Students at RV University currently manage campus life through fragmented sources such as physical notice boards, WhatsApp groups for transport updates, and informal communication channels. This lack of a centralized digital platform results in missed academic updates, confusion regarding bus schedules, delays in administrative communication, and congestion in dining facilities. The absence of real-time coordination reduces efficiency and negatively impacts the student experience. There is a need for a unified mobile solution that integrates campus navigation, transport updates, academic notifications, and service management into a single student-centric ecosystem.

Target Users:

- Undergraduate and postgraduate students
- University administrative staff
- Transport and campus service coordinators

Application Name:

RVU Connect – Smart Campus Companion

Platform:

Cross-Platform (Android and iOS)

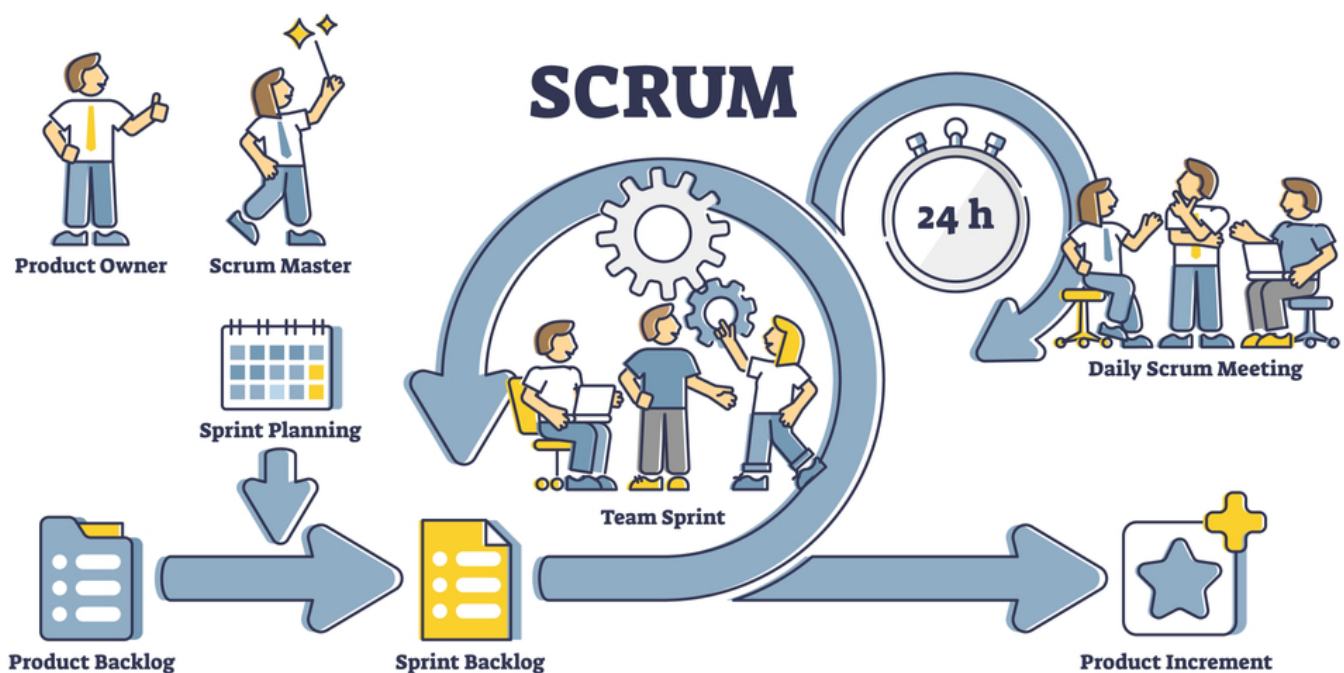


Fig. 2.0 – Scrum Processes

Project Setup in Taiga

To implement Agile planning using the Scrum framework, a new project was created in Taiga and configured to support sprint-based development and backlog management.

Steps Followed:

1. Logged into the Taiga platform and selected *Create Project*.
2. Entered the project name as **RVUConnect-Agile-Planning**, following the required naming convention.
3. Selected **Project Type: Scrum** to enable iterative sprint-based workflow.
4. Enabled essential modules:
 - Backlog
 - User Stories
 - Sprints (Milestones)
5. Finalized project creation and accessed the project dashboard.
6. Verified visibility of the backlog, sprint board, and milestones sections.
7. Captured a screenshot of the project dashboard for documentation.

This structured configuration ensured that the project environment aligned with Agile principles such as iterative development, backlog prioritization, and incremental delivery.

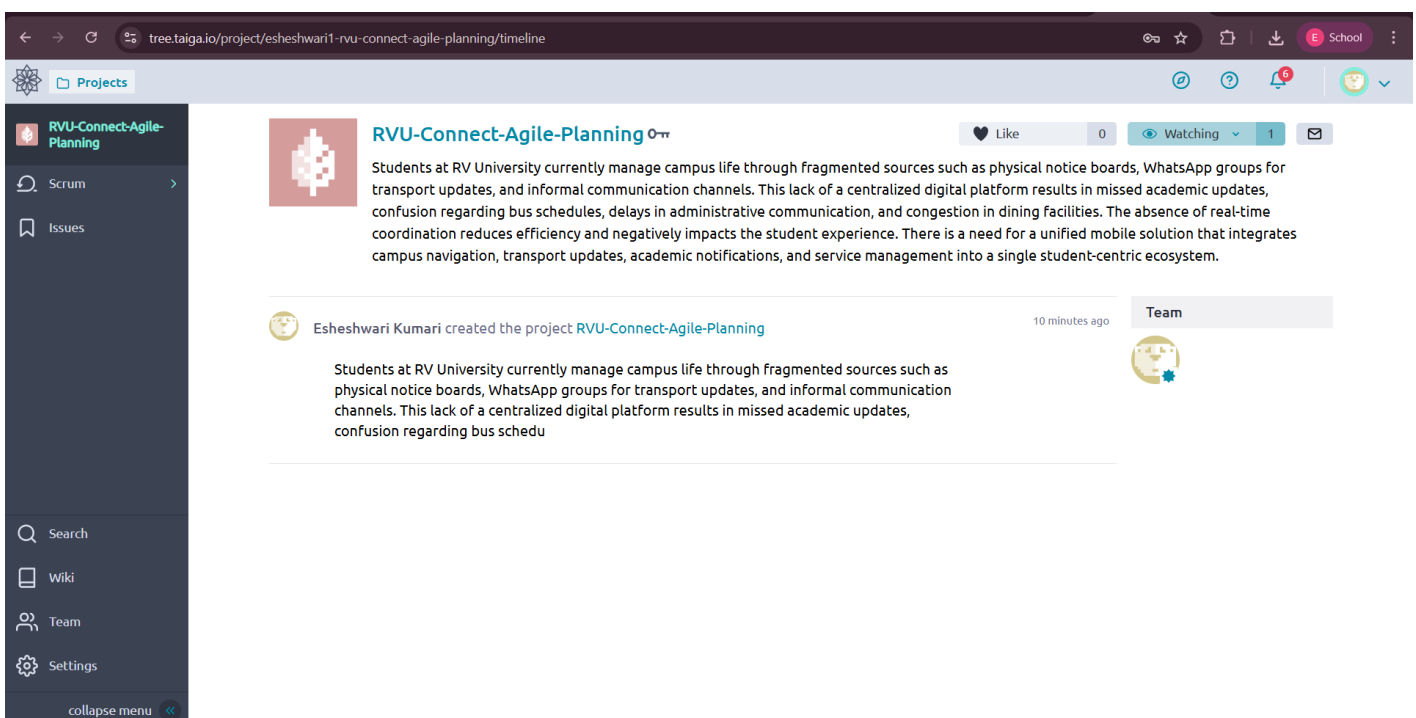


Fig. 3.0 - Agile Project Dashboard

Product Backlog Creation

The product backlog was created in Taiga using the standard Agile user story format:
As a [user], I want to [action] so that [benefit].

User Story 1: As a student, I want to register in the application so that I can access campus services digitally.

Priority: High

Story Points: 5

Acceptance: Form validation, Email verification.

User Story 2: As a student, I want real-time bus tracking so that I can plan my commute efficiently.

Priority: High

Story Points: 8

Acceptance: Live GPS updates, ETA display.

User Story 3: As a student, I want to receive push notifications so that I do not miss important updates.

Priority: High

Story Points: 5

Acceptance: < 2s delivery, Toggle alerts.

User Story 4: As an admin, I want to post announcements so that students receive verified updates.

Priority: Medium

Story Points: 5

Acceptance: Admin authentication, Dashboard visibility.

User Story 5: As a student, I want to view dining hall menus so that I can plan my meals.

Priority: Medium

Story Points: 3

Acceptance: Weekly updates, Categorized meals.

User Story 6: As a student, I want campus navigation support so that I can locate facilities easily.

Priority: Medium

Story Points: 5

Acceptance: Interactive map, Building directory.

Backlog Visualization

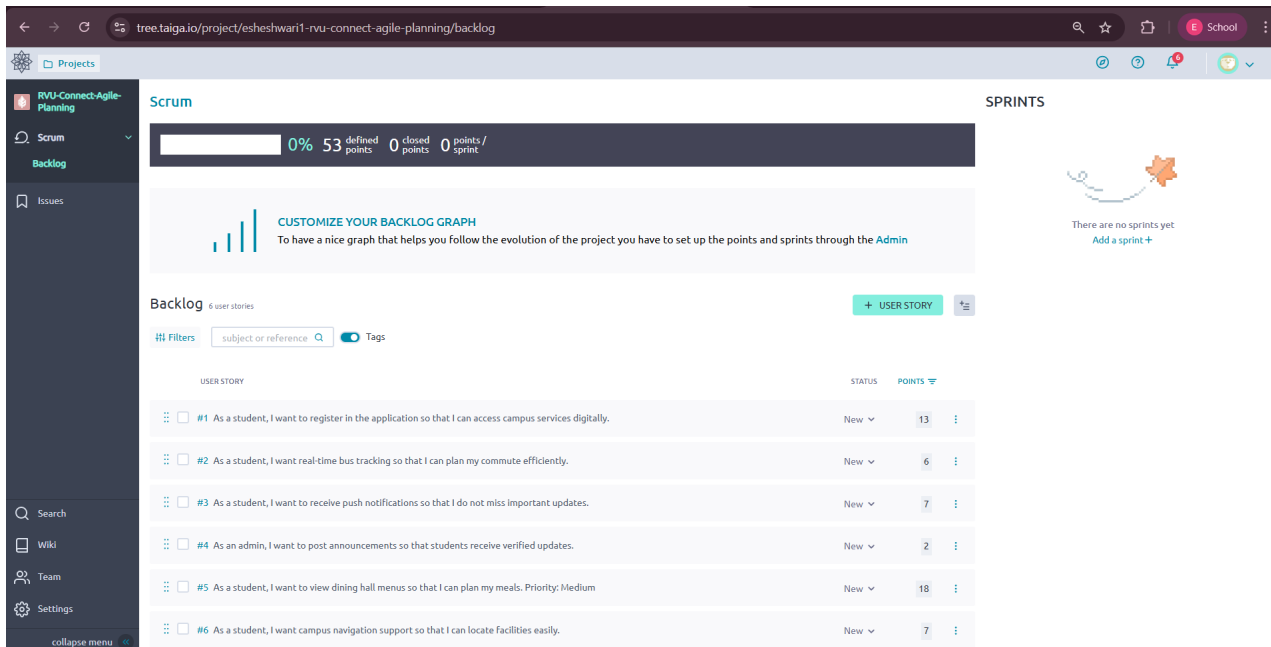


Fig. 4.0 - Backlog Visualization Dashboard



fig. 5.0 - Agile Methodology

Sprint Planning and Task Breakdown

Sprint 1 Configuration

Sprint 1 was created with a duration of **2 weeks**. Based on backlog prioritization, the following high-priority user stories were selected for execution:

- User Registration Module
- Real-Time Bus Tracking
- Push Notification System
- Admin Announcement Management

Task Breakdown per User Story

Each selected user story was divided into structured development tasks:

- **UI Development** – Designing screens, layouts, and interaction flows.
- **Backend Logic** – Implementing APIs, database integration, and business logic.
- **Testing** – Unit testing, integration testing, and validation of acceptance criteria.

This structured sprint planning ensured clear responsibility allocation, incremental progress tracking, and alignment with Scrum-based iterative delivery.

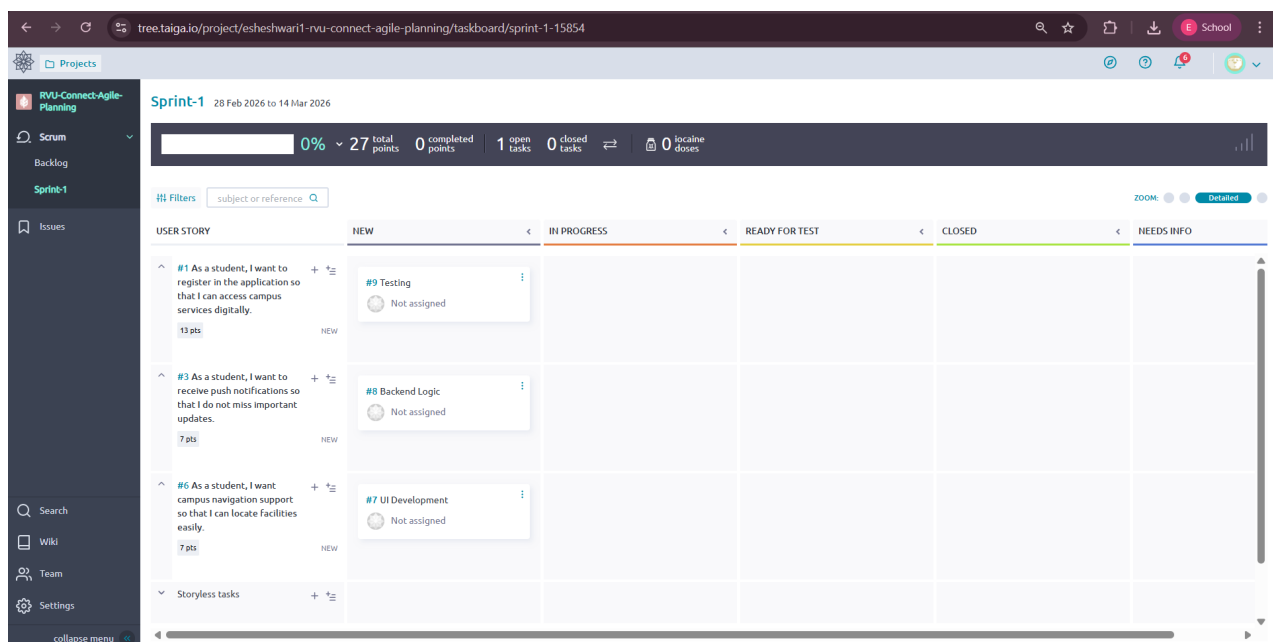


fig. 6.0 - Sprint Planning

Change Simulation and Backlog Update

New Requirement Added

A new feature requirement was introduced during project execution:

Dark Mode Support – The application should allow users to switch between light and dark themes for improved accessibility and user comfort.

Actions Performed

- Created a new user story in the product backlog.
- Assigned appropriate priority based on stakeholder impact.
- Estimated story points for implementation effort.
- Reprioritized the backlog to maintain sprint balance.
- Scheduled the new requirement under **Sprint 2**.

New User Story Format

As a student, I want to enable dark mode so that I can use the application comfortably in low-light conditions.

Priority: Medium

Story Points: 3

Acceptance Criteria: Theme toggle option, Persistent theme setting, UI consistency.

This change simulation demonstrates Agile adaptability by incorporating evolving requirements while maintaining structured sprint planning and backlog transparency.

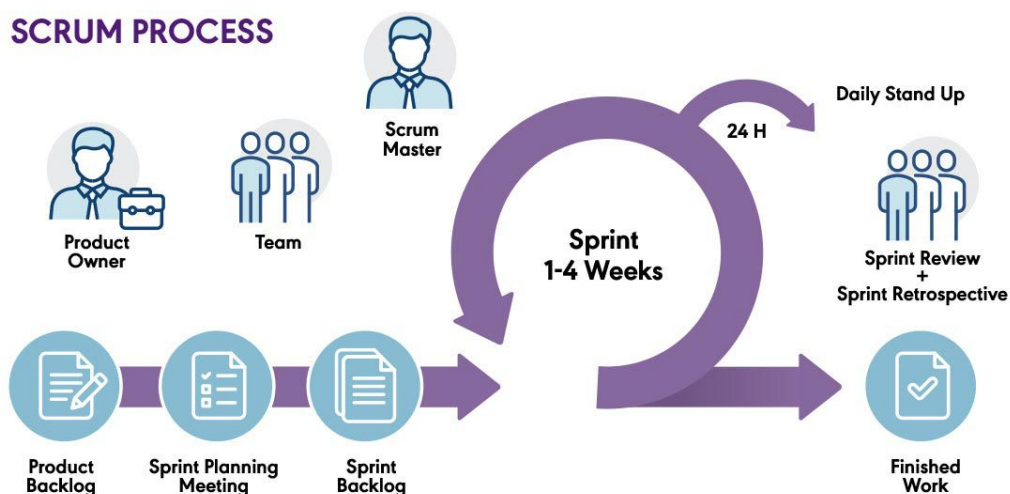


fig. 7.0 - Scrum Workflow

Sprint 2 Planning and Backlog Update

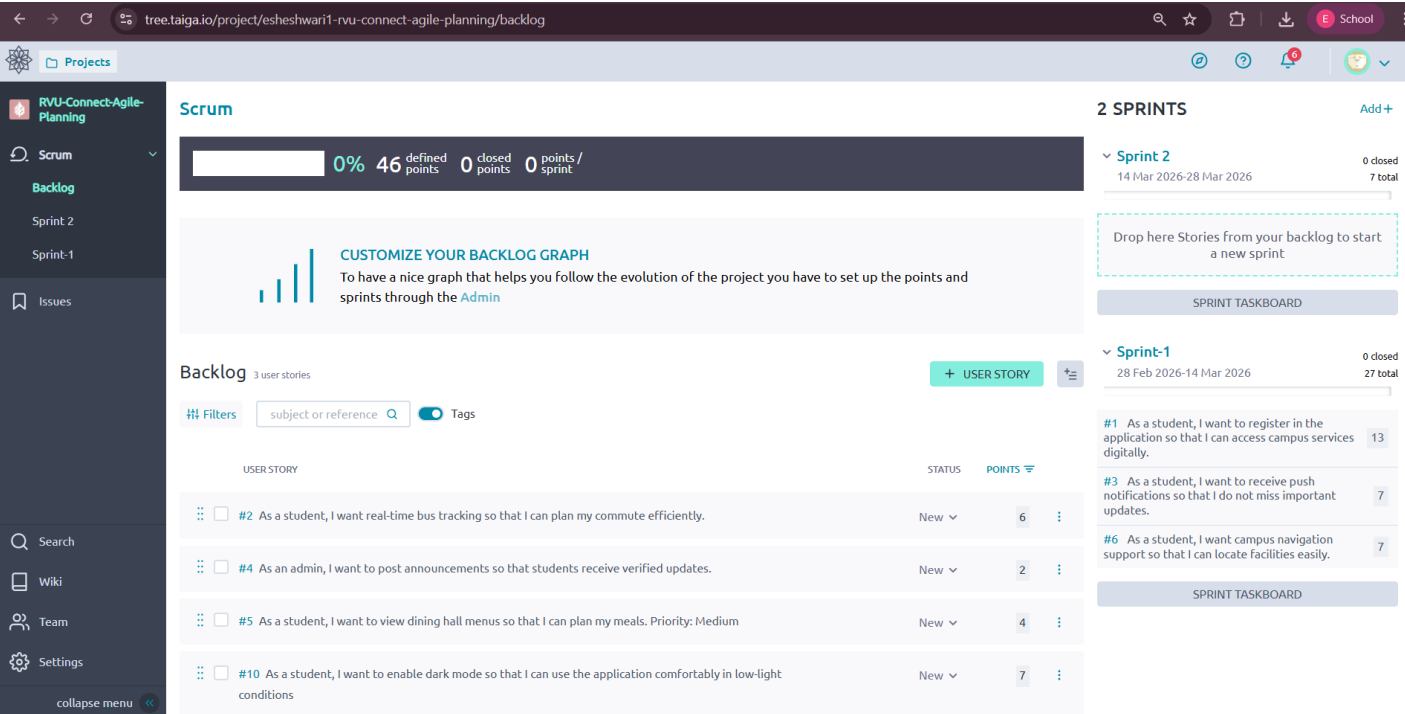


fig. 8.0 - Updated Backlog

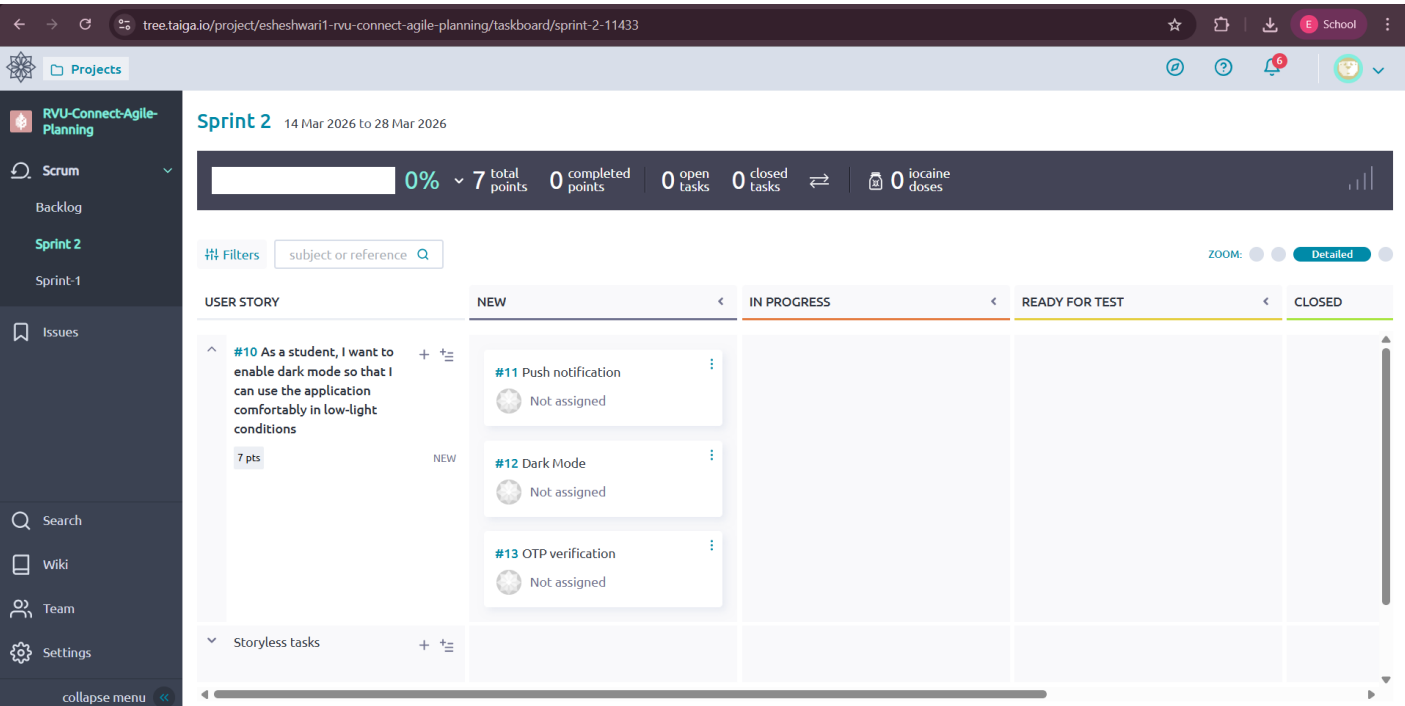


fig. 9.0 - Sprint-2 Taskboard

Reflection and Analysis

1. Why is Agile suitable for your mobile app?

Agile methodology is highly suitable for the RVU Connect mobile application because the project involves dynamic user requirements and continuous improvement based on student feedback. A campus-based application must evolve frequently to adapt to academic schedules, transport changes, service updates, and usability enhancements. Agile supports iterative development through short sprints, allowing features such as bus tracking, notifications, and campus navigation to be built incrementally. This ensures early delivery of functional components while enabling continuous refinement. Agile also promotes stakeholder collaboration, transparency, and regular review cycles, which are essential in a university environment where user expectations may shift over time. The flexibility and adaptability of Agile make it ideal for developing a scalable and user-centric mobile application.

2. How did Taiga help in planning?

Taiga played a crucial role in organizing and structuring the entire Agile workflow. It provided a clear visual representation of the product backlog, sprint boards, and user story prioritization. By defining story points and assigning priorities, Taiga helped estimate workload and distribute tasks effectively. The sprint board enabled tracking of progress through different stages such as "To Do," "In Progress," and "Done," ensuring accountability and transparency. Additionally, Taiga simplified backlog management by allowing reprioritization when new requirements were introduced. The structured interface reduced confusion and improved planning clarity, making the development process more systematic and goal-oriented.

3. What happens when requirements change?

When requirements change in an Agile environment, the project adapts rather than restarting from scratch. New requirements are added as user stories to the product backlog and prioritized based on business value and impact. The backlog is then reviewed and reorganized to maintain sprint balance. If the change is not urgent, it is scheduled for the next sprint to avoid disrupting ongoing work. This approach ensures flexibility while preserving development stability. In the case of the RVU Connect app, the addition of a dark mode feature demonstrated how Agile accommodates evolving needs without affecting previous sprint commitments.

4. What was challenging while using Taiga?

One of the primary challenges while using Taiga was understanding proper estimation and prioritization of user stories. Assigning accurate story points required careful evaluation of development complexity and effort. Initially, organizing tasks within sprints and balancing workload distribution was slightly confusing. Additionally, managing task breakdowns into UI, backend, and testing components required structured thinking. However, with consistent usage, the interface became intuitive, and the visualization tools improved clarity. Over time, these challenges contributed to a better understanding of Agile planning principles and practical project management techniques.

Conclusion

This project successfully demonstrated the practical implementation of Agile methodology using Scrum principles within a mobile application development context. Through structured backlog creation, sprint planning, task breakdown, and change simulation, the planning process reflected real-world software development practices.

The use of Taiga enabled organized project management, clear prioritization, and effective sprint execution. The addition of evolving requirements further showcased the adaptability and flexibility of Agile frameworks.

Beyond technical planning, this project strengthened analytical thinking and decision-making skills. Estimating story points, balancing sprint workloads, and prioritizing user stories required careful evaluation of business value and development complexity. These exercises closely simulate industry-level project management scenarios.

Overall, the project strengthened understanding of iterative development, collaborative workflow, and structured requirement management. It also highlighted the importance of planning, transparency, and continuous improvement in delivering a scalable and user-centric mobile application solution.

Furthermore, the iterative structure of Agile emphasized continuous improvement and stakeholder responsiveness. By incorporating change simulation and sprint reassignment, the project highlighted how modern software systems must evolve dynamically. This experience enhanced practical understanding of Agile project planning and reinforced its relevance in real-world mobile application development.

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Thank You

Thank you for reviewing this project report.

Submitted by
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