1 Introduction

The TeleHealth-Hub system is designed to address the growing demand for accessible, efficient, and user-centric healthcare services. By incorporating features such as user-friendly registration, appointment management, telemedicine consultations, and e-pharmacy services, the system ensures seamless interaction between doctors and patients. By leveraging modern technologies, this project aspires to enhance healthcare accessibility and contribute to the broader vision of a connected, patient-focused medical network.

2 Objectives

- To demonstrate the practical application of the Scrum methodology by organizing and managing tasks associated with the TeleHealth-Hub project in JIRA.
- To create and structure user stories, epics, and tasks that reflect the core features of the TeleHealth-Hub system, ensuring alignment with the project's goals.
- To assess the success of the Scrum simulation in achieving a streamlined workflow for the TeleHealth-Hub project, emphasizing its potential benefits in real-world scenarios.

3 Procedure

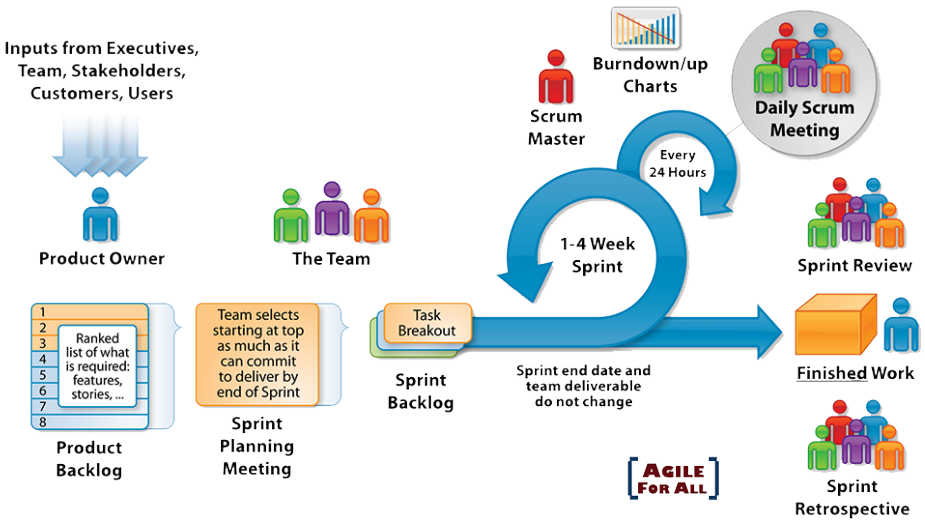


Figure 1: Scrum Process Workflow Diagram

4 Scrum Implementation in JIRA Tools

4.1 Create a New Project in JIRA

Project Name: TeleHealth-Hub Development
Project Type: Scrum
Key: THH (or any desired abbreviation)

4.2 Populate the Product Backlog

Add user stories to the backlog, categorized by the features of your project. Below are Epics examples:

- User Registration and Authentication
- Doctor Profile Search
- Appointment Management
- E-Pharmacy System
- Admin Dashboard
- Health Package Subscription
- Prescription Management
- Payment and Billing

User Stories (examples):

Epic: User Registration and Authentication: As a user, I want to sign up easily so that I can access the system securely. As an admin, I want to manage user accounts so that I can ensure system integrity.

Epic: Appointment Management: As a patient, I want to book appointments with a doctor so that I can get timely consultation. As a doctor, I want to see my upcoming appointments so that I can prepare in advance.

Epic: Telemedicine Features : As a user, I want a video consultation feature so that I can consult doctors remotely. As a developer, I want to integrate WebRTC or google meet API for video calls so that the connection is smooth.

4.3 Create a 1st Sprint

Sprint Name: Tele-Health Sprint-1
Sprint Duration: 1 week
Sprint Goals: Establish the foundational features for user access and system navigation
Create Issues (For example): User Registration and Authentication, Email verification and password recovery, Admin login management

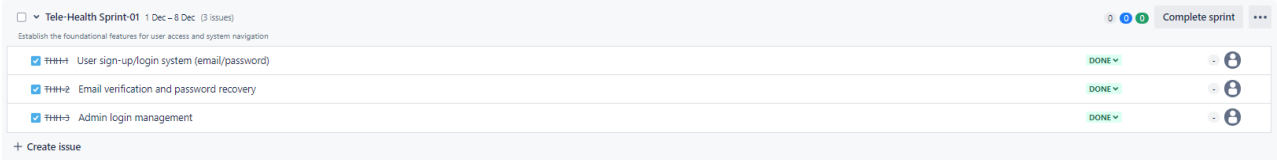


Figure 2: Tele-Health Sprint-1

4.4 Create a 2nd Sprint

Sprint Name: Tele-Health Sprint-2
Sprint Duration: 2 week
Sprint Goals: Implement systems for finding doctors and managing appointments
Create Issues (For example): Searching doctor profile system, Filtering by doctor name, specialty, or location, Appointment booking system, Schedule management for doctors (view and update appointments)

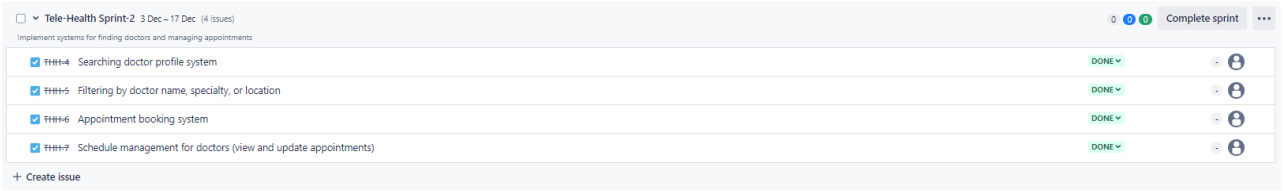


Figure 3: Tele-Health Sprint-2

4.5 Create a 3rd Sprint

Sprint Name: Tele-Health Sprint-3
Sprint Duration: 3 week
Sprint Goals: Develop e-pharmacy functionalities and health subscription plans
Create Issues (For example): Online e-pharmacy with product search option, Product add-to-cart functionality, Purchased subscription system for health packages

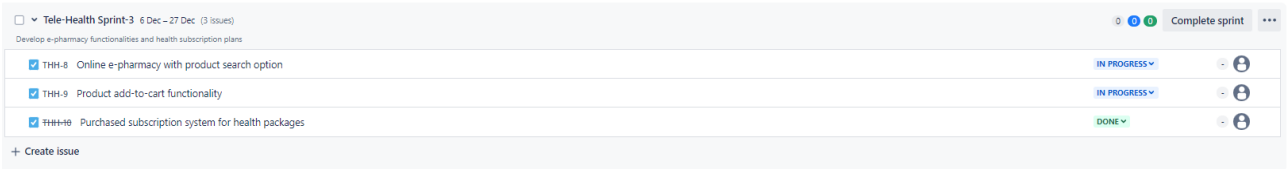


Figure 4: Tele-Health Sprint-3

4.6 Create a 4th Sprint

Sprint Name: Tele-Health Sprint-4
Sprint Duration: 3 week
Sprint Goals: Integrate telemedicine, prescription, and payment capabilities
Create Issues (For example): Video consultation system, Prescription management, Secure payment gateway integration, Invoice generation, and history tracking

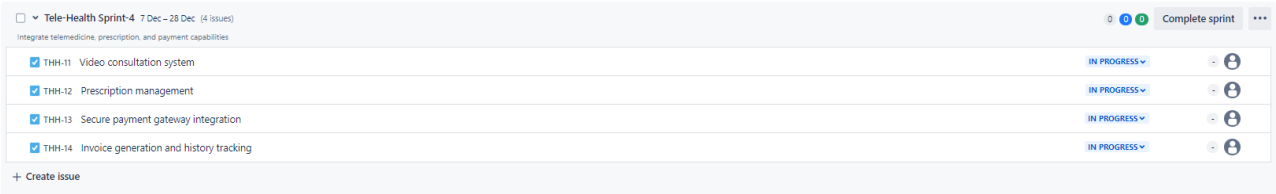


Figure 5: Tele-Health Sprint-4

4.7 Create a 5th Sprint

Sprint Name: Tele-Health Sprint-5
Sprint Duration: 4 week
Sprint Goals: Ensure the system is robust, secure, and performs optimally under various conditions
Create Issues (For example): Identify and optimize any performance bottlenecks, Test database query efficiency for high-volume scenarios, Test secure handling of sensitive data, Test scalability by increasing user and data volumes gradually, Perform end-to-end testing for all workflows, Validate the authentication and authorization mechanisms

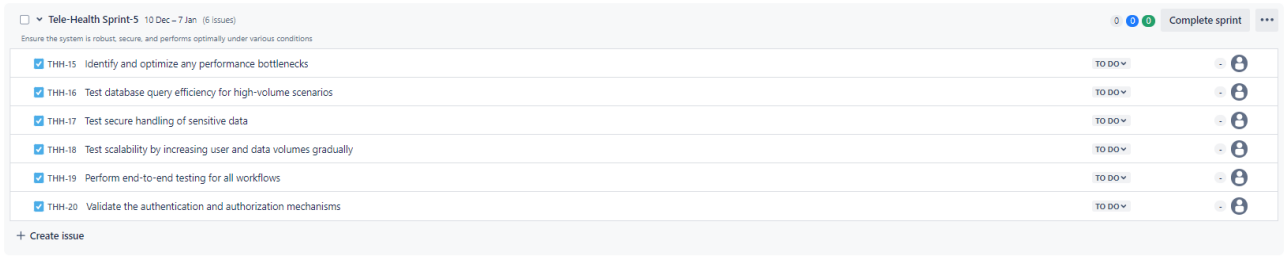
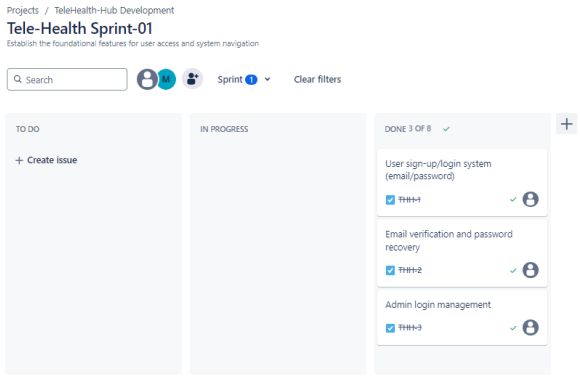
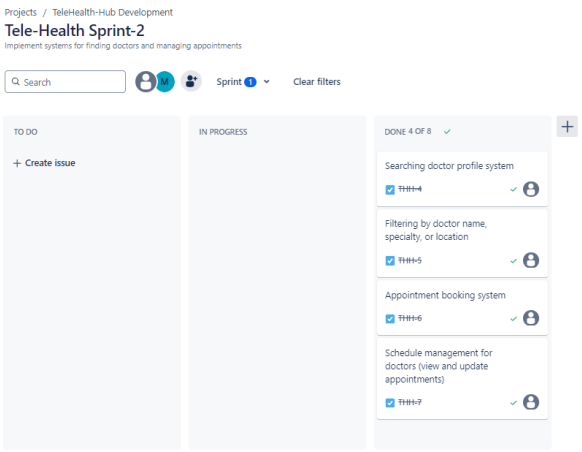


Figure 6: Tele-Health Sprint-5

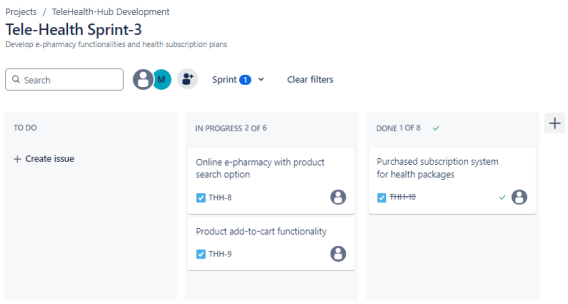
4.8 Set Up the Scrum Board: To Do, In Progress, Done



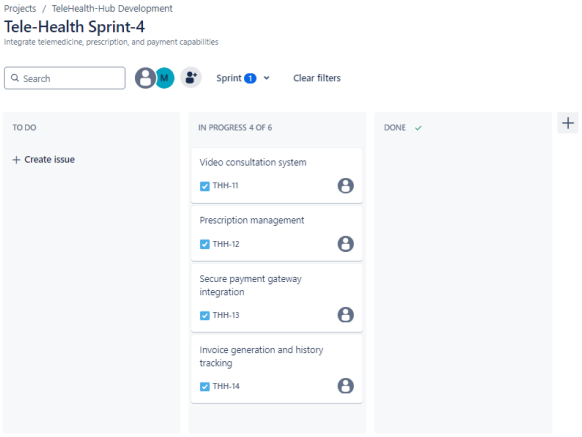
(a) Tele-Health Sprint-01 Board



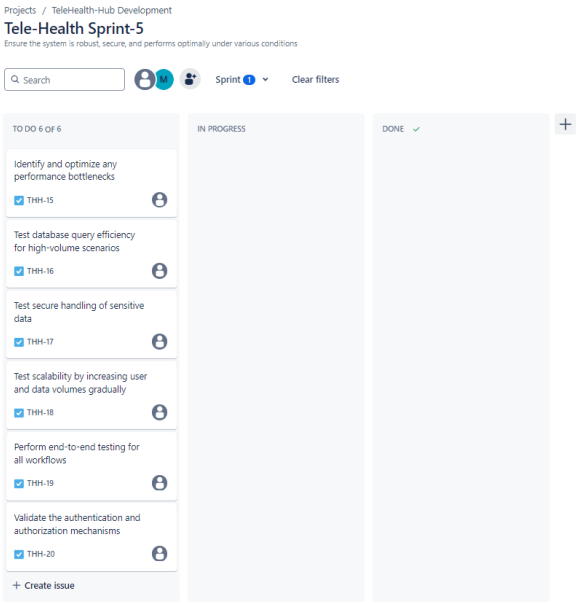
(b) Tele-Health Sprint-02 Board



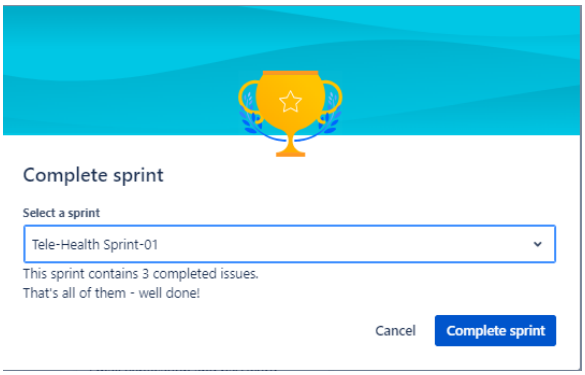
(a) Tele-Health Sprint-03 Board



(b) Tele-Health Sprint-04 Board



(c) Tele-Health Sprint-05 Board



(d) Tele-Health Sprint-01 Completed

4.9 Track Sprint Progress

Hold daily standups to discuss progress and blockers. Use JIRA Reports like burndown charts to monitor sprint completion.

4.10 Complete the Sprint

- **Sprint Complete:** Mark completed tasks as done.
- **Conduct a Sprint Review:** A demonstration of the work done at the end of each Sprint, where the team presents completed product increments and gathers feedback from the Product Owner and other stakeholders. Demonstrate completed features like user registration and basic appointment booking.
- **Conduct a Retrospective:** A meeting at the end of each Sprint where the team reflects on the work process, identifies improvements, and defines actions to implement in the next Sprint.

5 Analysis and Discussion

The simulation of a simplified Scrum process using the TeleHealth-Hub project in JIRA provided a comprehensive understanding of how Agile methodologies can be applied to effectively manage complex software development projects.

- **Efficient Task Management:** Features like authentication and doctor profile search were implemented in earlier sprints, laying the groundwork for subsequent functionalities such as telemedicine and payment systems. The use of JIRA's backlog and sprint management tools streamlined the organization of epics and stories, ensuring that the most critical functionalities, such as user registration and appointment booking, were developed first.
- **Incremental Development:** This incremental delivery enhanced focus and minimized risks associated with large-scale development.
- **Effective Collaboration and Communication:** The simulation underscored the importance of collaboration among team members. Through daily standups, sprint reviews, and retrospectives, the team could address challenges in real-time and adapt to changing requirements.
- **Emphasis on Quality and Testing:** In Sprint 5, performance testing, security validation, load testing, and quality assurance were systematically addressed. These testing activities identified potential bottlenecks and vulnerabilities early, allowing for timely optimization.

6 Overall Summary

In summary, the simulation demonstrated the practicality and effectiveness of the Scrum framework in managing a multi-faceted project like TeleHealth Hub. Despite challenges, the iterative and collaborative approach fostered by Scrum, supported by JIRA, contributed significantly to achieving the project's objectives and ensuring its readiness for real-world application.