

Sri Lanka Institute of Information Technology



SE3080 – Software Project Management

Group ID: Y3S2-WE-36

Assignment 01- MediSlot

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01) Project Selection & Justification

Project name: MediSlot – Rural Diagnostic Test App (Patient Mobile + Center Admin)

Problem we're solving (why this matters):

- Rural patients struggle to find the right health center, understand test preparation, and secure available time slots.
- Centers lack simple tools to manage capacity, closures/special days, and to notify patients.
- Result: missed tests, crowding, and wasted travel.

What our solution does (4 features):

1. **Health Alerts & Test Info** – localized alerts, multilingual test instructions, pre-test checklist, accessibility (voice read-out, language toggle).
2. **Diagnostic Test Booking & Payments** – select center & test, pick an available slot, **Pay at Center** or **Pay Now**, receipt, history with reschedule/cancel policies.
3. **Free Tests & Event Pass** – view upcoming free screenings, one-tap register, QR pass, capacity control, reminders.
4. **Location & Services** – map/list of centers, search & filters, view available tests and real-time slots.

Why this project (justification):

- **High impact:** directly reduces travel, waiting, and no-shows; supports rural clinics.
- **Feasible & demo-able:** each feature can be split into small user stories that produce working increments every sprint.
- **Aligned to SDG 03 (Health & Well-being):** improves access and preparedness for diagnostics.
- **Tech fit:** lightweight mobile + web admin; payment via sandbox; can work with cached data in low connectivity.
- **Team fit:** clear ownership per feature → easier planning, parallel work, faster feedback.

Risks & brief mitigations:

- Payment failures → **idempotent retries**; fallback to **Pay at Center**.
- Slot races → **2-minute slot lock** + suggest **alternative slots**.
- Policy confusion → **clear messages** and **help/FAQ** in-app.
- Low connectivity → **offline cache** for lists; **draft bookings** sync when online.

02) Project Charter (Product Vision)

Section	Details
Product name	MediSlot – Rural Diagnostic Test App
Vision	Deliver a simple, reliable, multilingual experience for rural patients and health centers to plan, book, and manage diagnostic services.
Features (Scope – In)	<ul style="list-style-type: none"> • F1 Health Awareness & Guidelines • F2 Diagnostic Test Booking & Payments • F3 Free Test & Event Pass • F4 Location & Services
Scope – Out (A1)	Advanced analytics, ML recommendations, full EMR/HIS integration, insurance claims, enterprise SSO.
Owners	<ul style="list-style-type: none"> • F1 Christine K.D.D • F2 Perera L.K.S.T • F3 Silva K.S.S.G • F4 Alwis L.W.R.T
Objectives by Sprint	<ul style="list-style-type: none"> • S0: setup repos/CI/seed/Jira/payment sandbox. • S1: F4 map+details, F3 event list+registration, F1 awareness+printable, F2 core booking (Pay at Center). • S2: F3 real-time slots+waitlist+notifications+QR, F4 services/test listing (admin updatable), F1 search/filter/quiz/multilingual, F2 online payment+receipt+policies+reschedule.
Success metrics	<p>Crash-free sessions $\geq 99\%$;</p> <ul style="list-style-type: none"> • F1 Awareness: quiz completion $\geq 60\%$; multilingual coverage 100% for top 10 items. • F2 Booking/Payments: Time-to-book ≤ 2 min; payment success $\geq 95\%$; policy enforcement 100%; reminder delivery $\geq 98\%$. • F3 Events: Registration success $\geq 95\%$; overbooking 0; QR check-in success $\geq 98\%$; notification delivery $\geq 98\%$; • F4 Location/Services: Time to Map load < 2 s on mid-range device; service list freshness < 5 min after admin update.
Stakeholders	<ul style="list-style-type: none"> • Patients • Center staff/admin • Lab techs • Local health authority/NGOs • Payment/SMS providers
Constraints	<ul style="list-style-type: none"> • Low/unstable connectivity → offline needs • Clinic/venue hours & staff availability • Map/geocoding API quotas & device GPS permissions • SMS/Email/Push notification quotas • Low-end device performance constraints • Data privacy/compliance requirements • Limited time and small team capacity

Assumptions

- Centers keep **schedules/services** and **event capacity** up to date via admin
- Verified **multilingual content** is provided and approved
- Payment, SMS/Email/Push**, and **Map/Geocoding** API keys (sandbox/prod) are available
- Users grant needed **GPS/notification** permissions
- Centers can **scan QR** at check-in for events

03) Initial Product Backlog

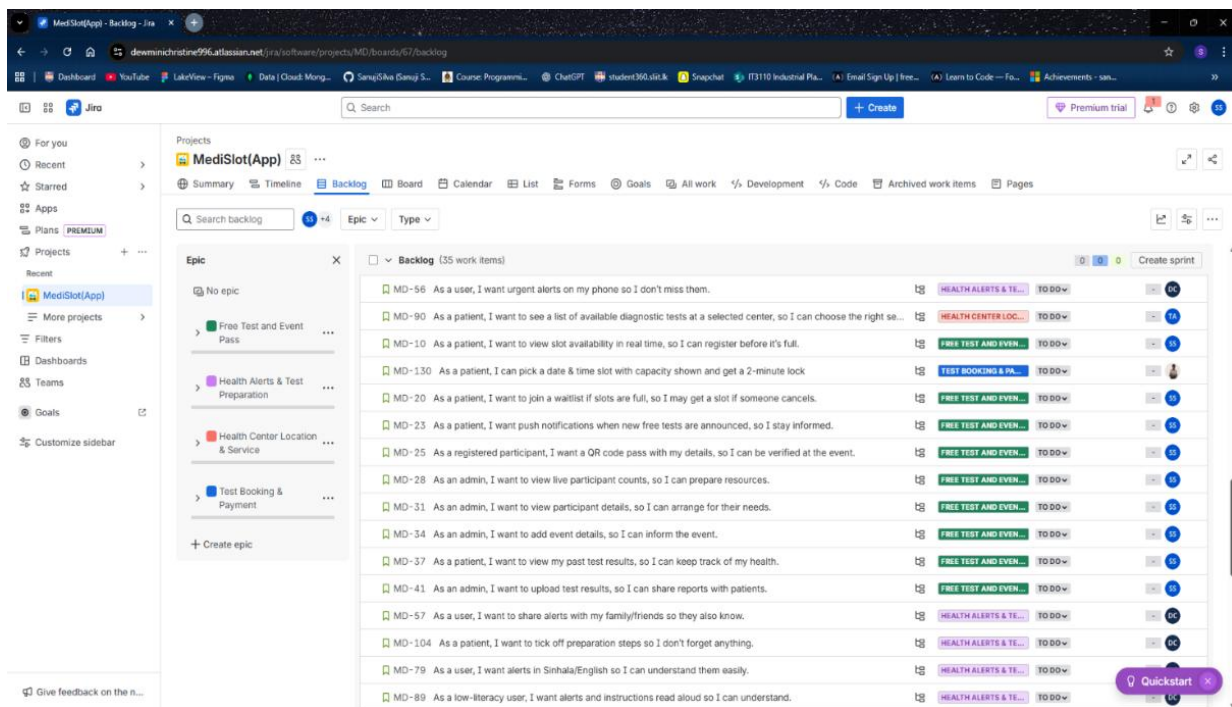


Figure 1-Initial Product Backlog

04) Sprint Backlog and Plans for Sprint 1 & 2

Sprint 0

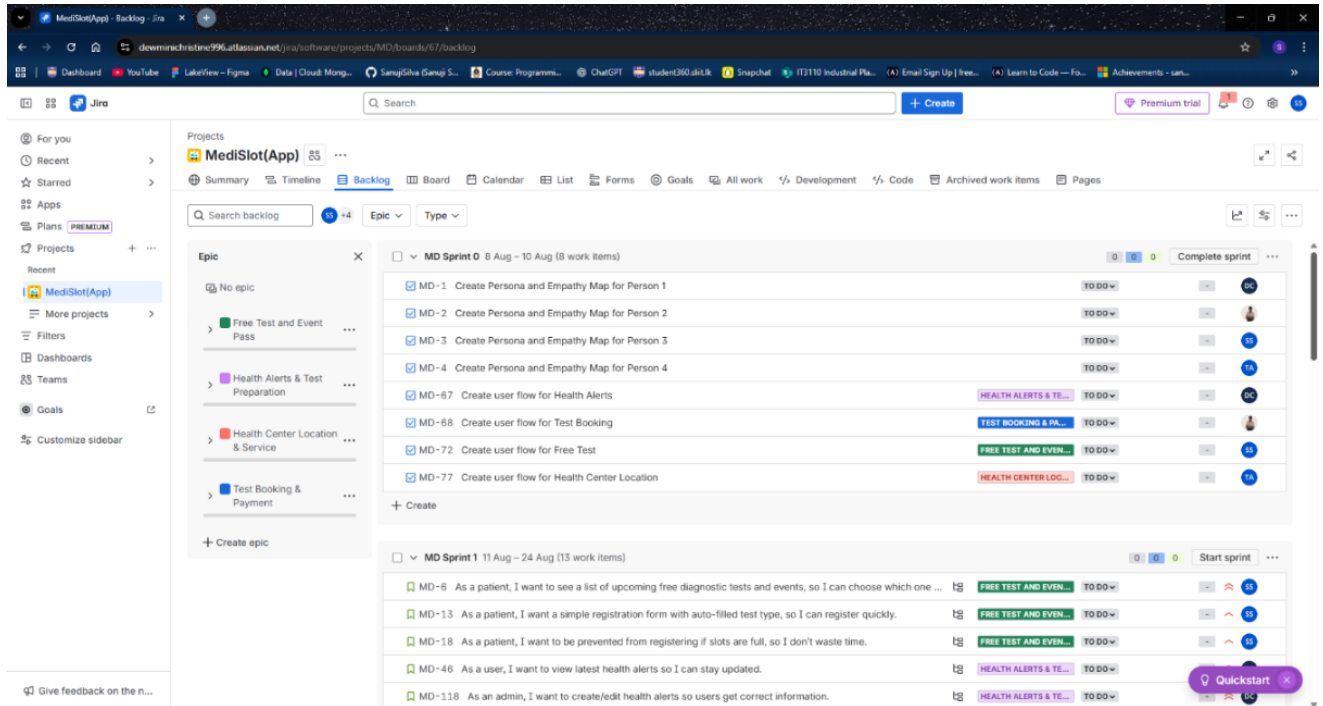


Figure 2-Sprint 0 Backlog

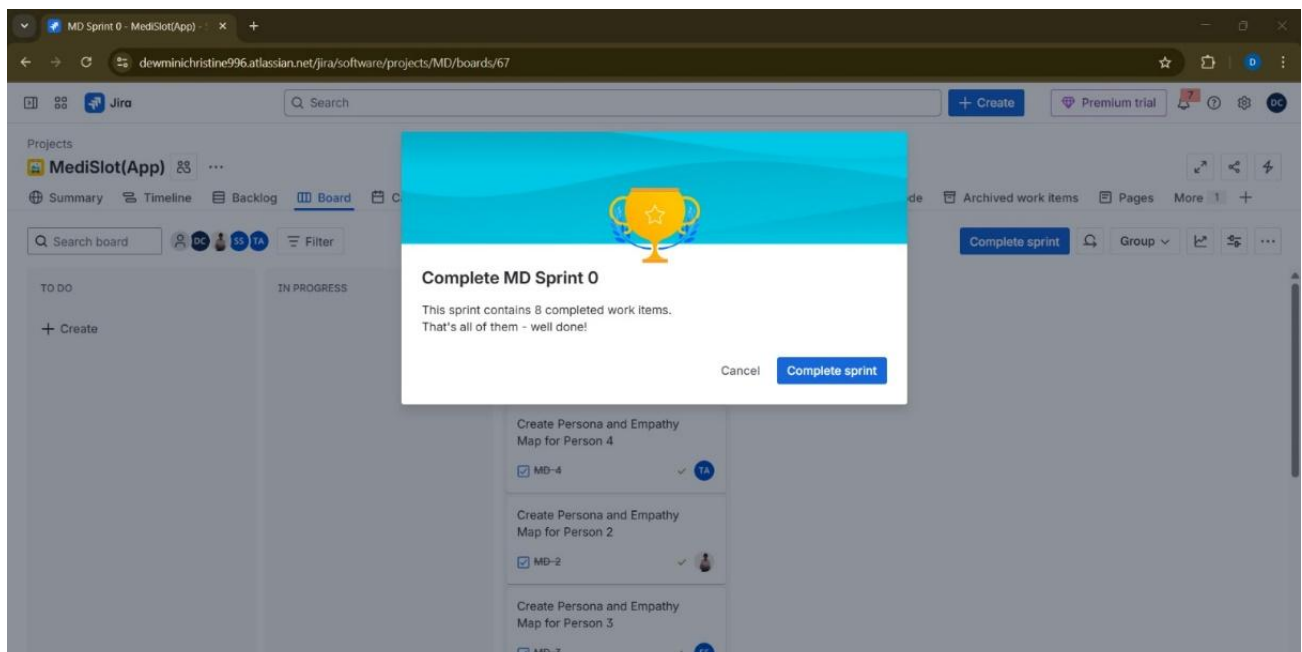


Figure 3-Completion of Sprint 0

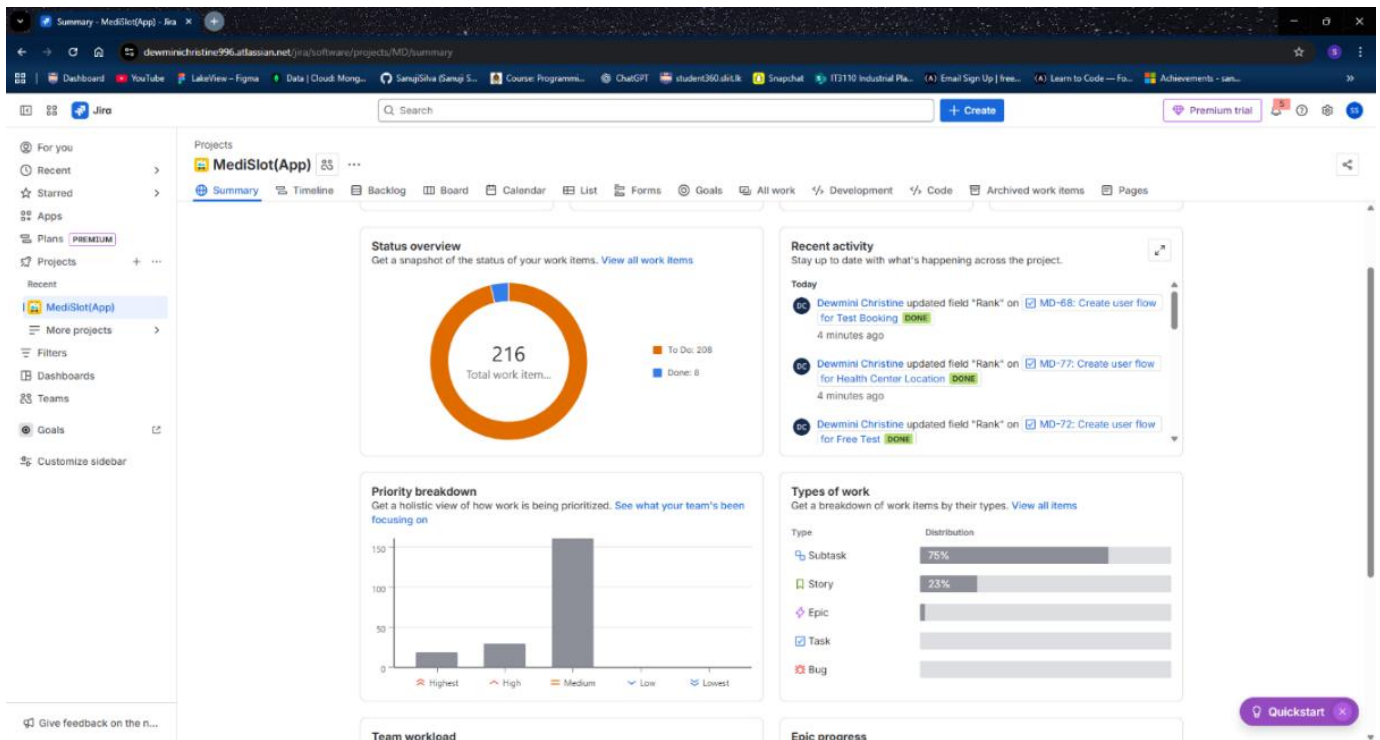


Figure 4- Summary of sprint 0

Sprint 1

Goals

1. Event Listing & Basic Registration

- Enable patients to discover and register for free diagnostic events.
- Show upcoming events with details (date, time, location, slots).
- Provide a simple registration form with auto-filled test type.
- Ensure registration respects slot availability (prevent overbooking).

Deliverable: A working increment where patients can browse upcoming events and register successfully if slots are available.

2. Booking (Pay at Center)

- Let patients choose district/town and diagnostic test, then view matching health centers.
- Show available slots with capacity (Available/Few/Full) and block full ones.
- Collect & validate patient details; display a clear booking summary (center, test, slot, price).
- Confirm booking with status Pay at Center and show a Booking ID.
- List the booking in History (Upcoming/Past) so patients can see it right away.

Deliverable: A working end-to-end booking flow **without online payment**—from selection to confirmation—visible in History.

3. Map Integration & Center Details

- Display all rural health centers on an interactive map with location markers.
- Allow patients to click markers to view details (name, address, contact info).
- Show operating hours clearly for each center.

Deliverable: A working increment where patients can easily locate centers on a map, click to view essential details, and confirm opening times.

4. Basic Awareness & Guidelines Display

- Provide patients with a clear section for health awareness articles and preventive care guidelines.
- Enable browsing of topics (e.g., diabetes, dengue, vaccinations, nutrition).
- Show trusted information with titles, short descriptions, and full detail view.
- Allow simple print/download of guidelines for offline use.

Deliverable: A working increment where patients can browse health awareness content and access printable/downloadable guidelines.

Sprint Backlog & Task Assignments

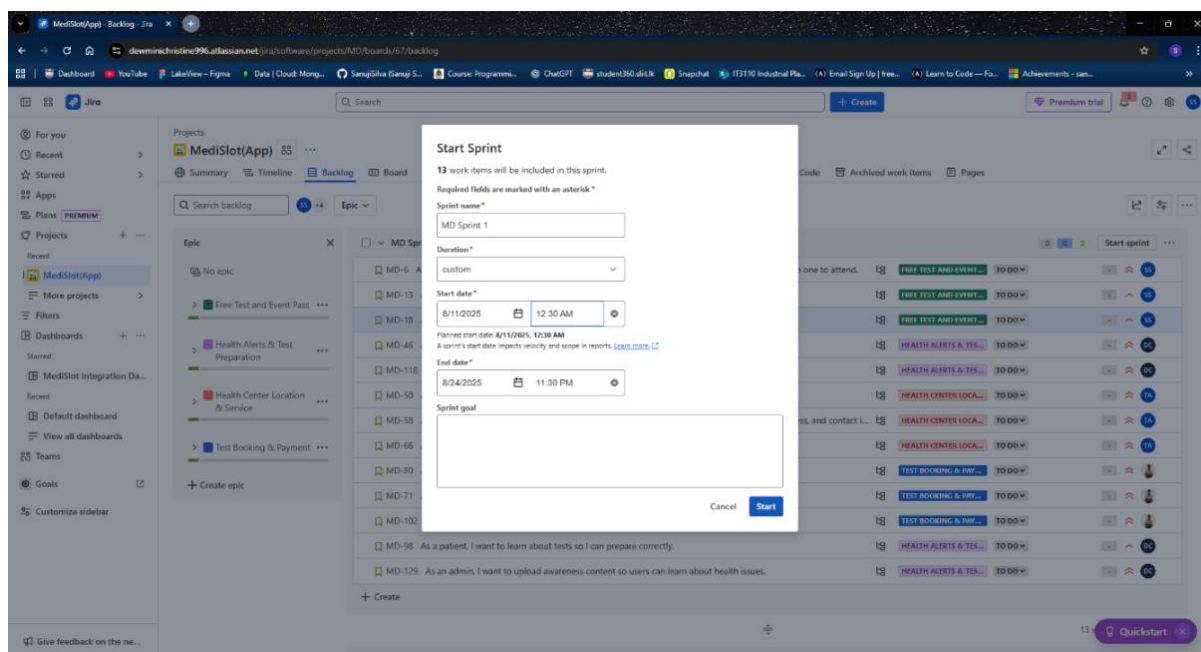


Figure 5-Start Sprint 1

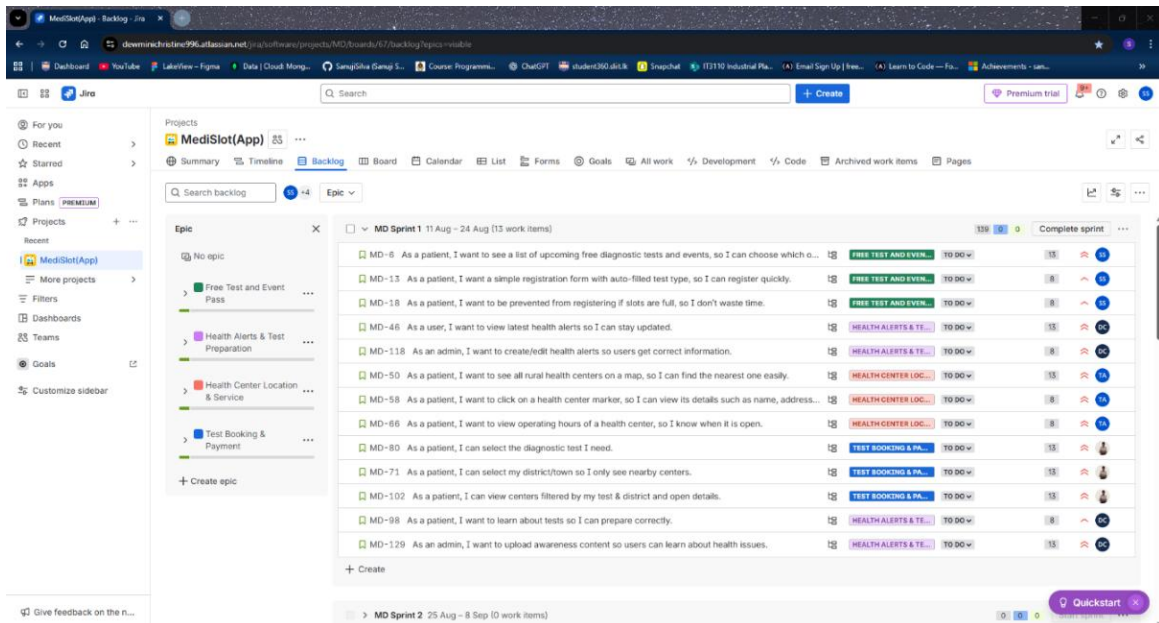


Figure 6-Sprint 1 backlog

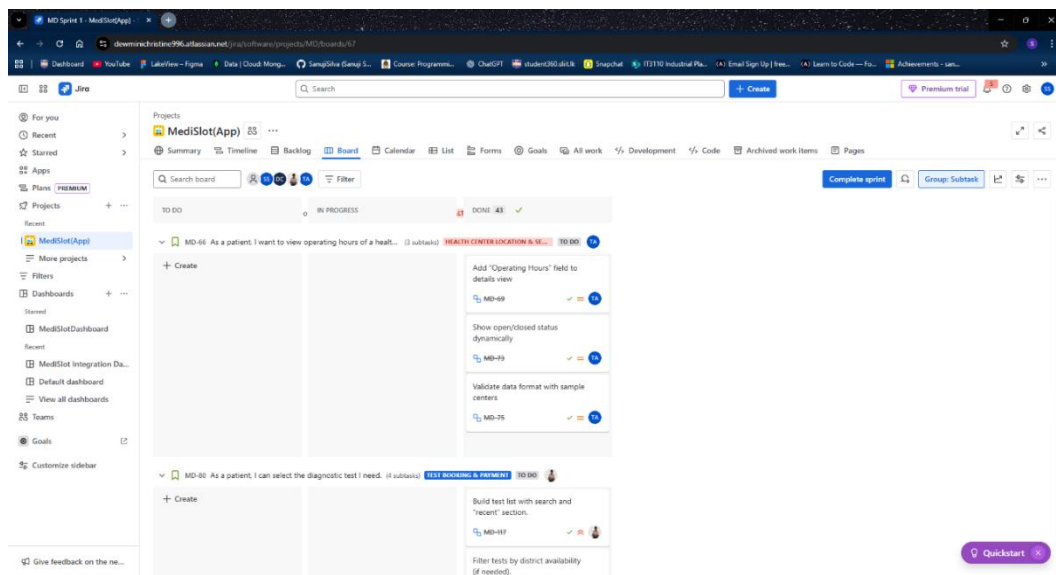


Figure 9-Progress of sprint 1

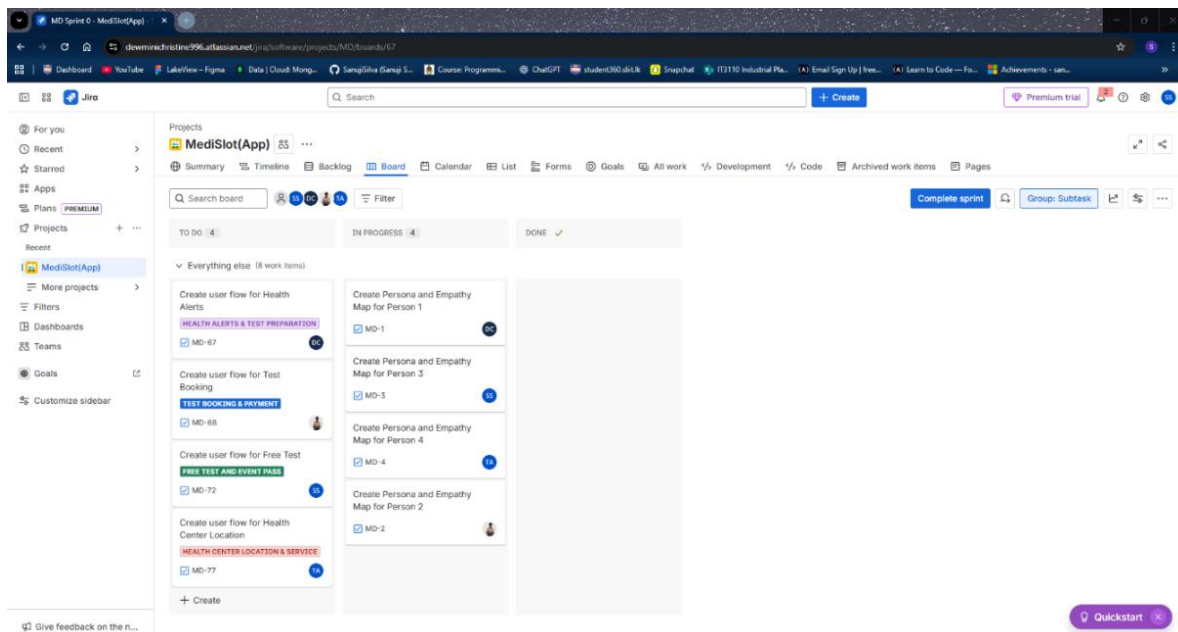


Figure 8- Progress of sprint 1

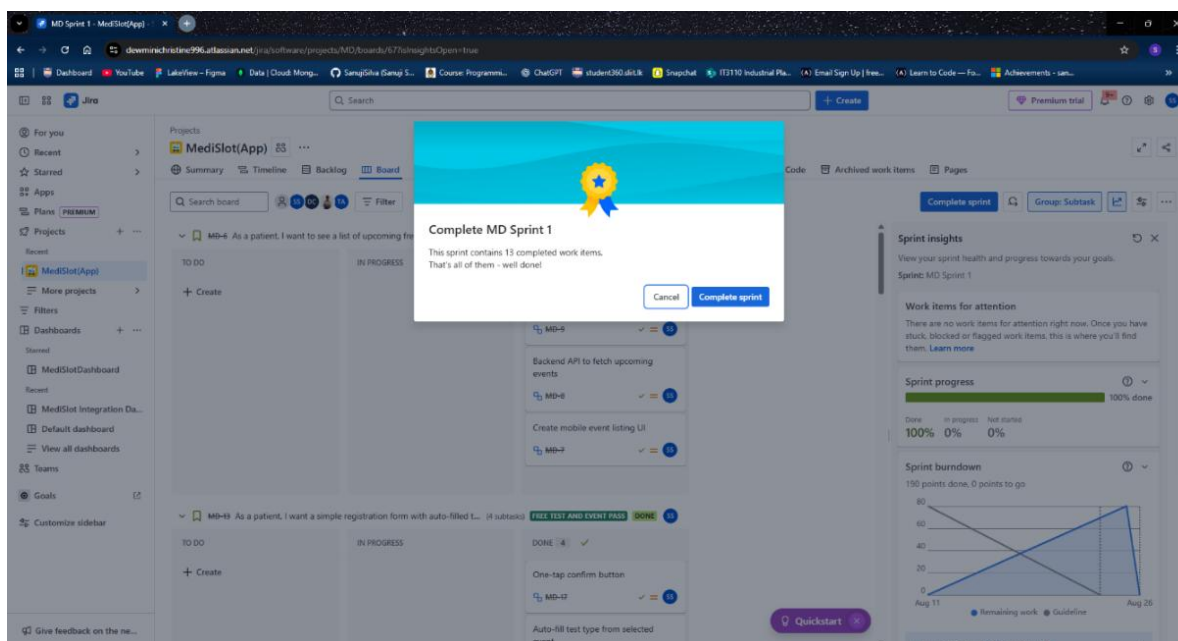


Figure 10-Completion of Sprint 1

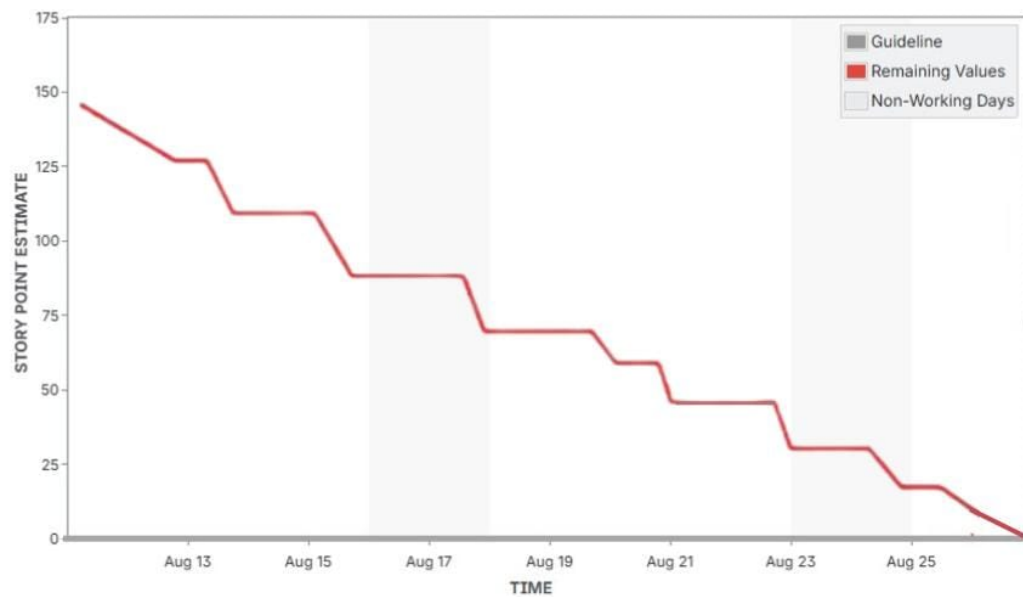
Sprint 1 – Burndown chart

MediSlotDashboard

Sprint Burndown Gadget

MD board

SPRINT: MD Sprint 1



Last refreshed just now

Figure 11-Sprint 1 burndown chart

Sprint 1 – User Review

We reviewed the progress made so far, validated completed functionalities, and identified improvements. Feedback was shared openly, and issues encountered during development were documented. The team also reflected on what went well and what could be improved for upcoming sprints.

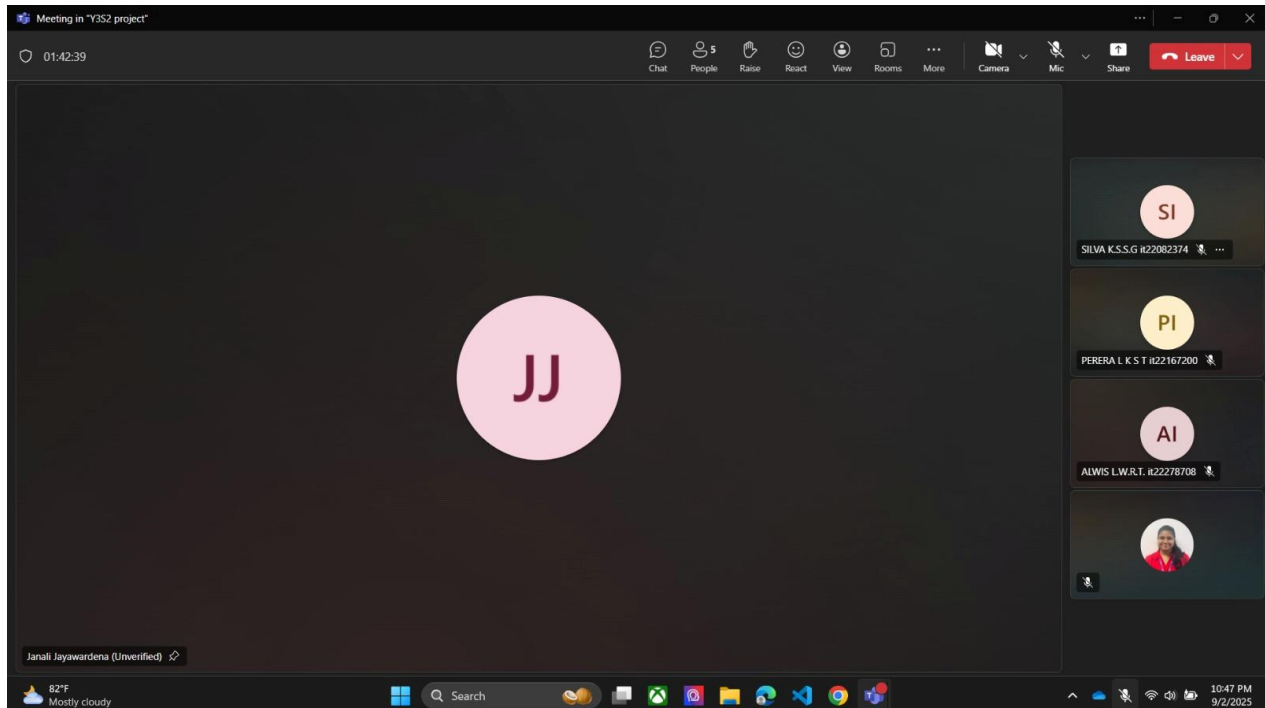


Figure 12-Sprint 1 user review

Sprint 2

Goals

1. Slot Management, Waitlist, Notifications & QR

- Improve slot management with real-time slot updates.
- Implement waitlist functionality so patients can queue if slots are full.
- Add push notifications for new events.
- Generate QR code passes for registered patients to use at event check-in.

Deliverable: A working increment where patients can browse upcoming events and register successfully if slots are available.

2. Online Payments, Policies & Changes

- Protect against duplicate charges (idempotent retries) and reconcile interrupted payments.
- Enable Reschedule with a short slot lock and conflict handling (suggest alternative times); update History instantly.
- Send booking confirmation and a T-24h reminder with any prep tips.

Deliverable: A working end-to-end booking flow without online payment from selection to confirmation visible in History.

3.Services & Test Listing

- Show a list of available diagnostic tests at each selected center.
- Enable admins to update and manage the list of available tests.
- Ensure patients always see the most current services offered.

Deliverable: A working increment where patients can easily locate centers on a map, click to view essential details, and confirm opening times.

4.Interactive Awareness & Personalization

- Introduce search and filter options for guidelines by category (disease type, age group, lifestyle).

- Add checklist/quiz style awareness tools so users can self-assess their health knowledge.
- Enable notifications or reminders for new awareness content.

Deliverable: A working increment where patients can browse health awareness content and access printable/downloadable guidelines.

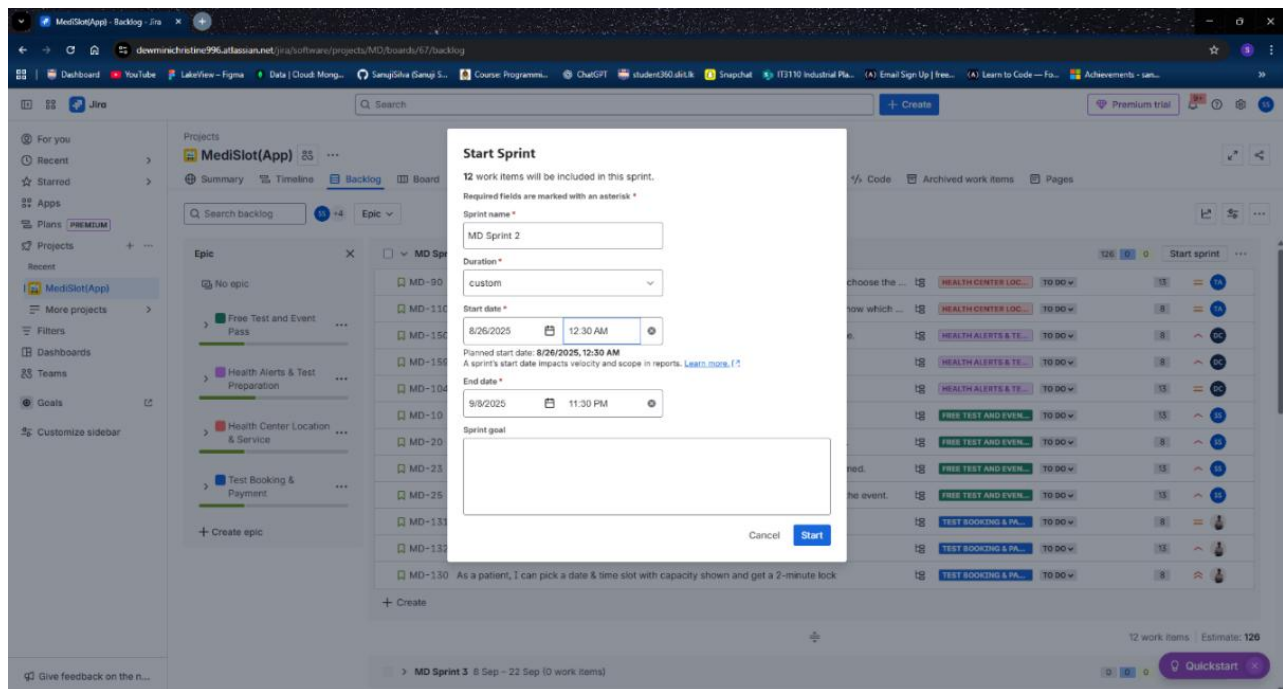


Figure 13-Start sprint 2

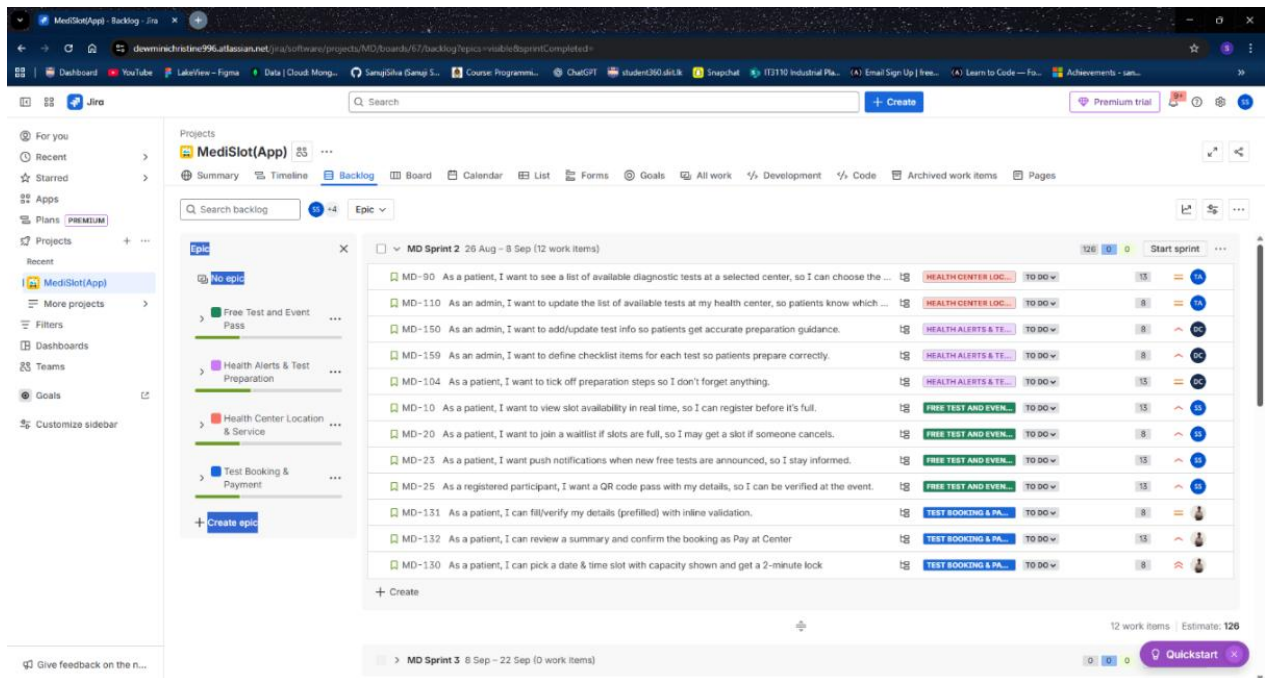


Figure 14-Sprint 2 backlog

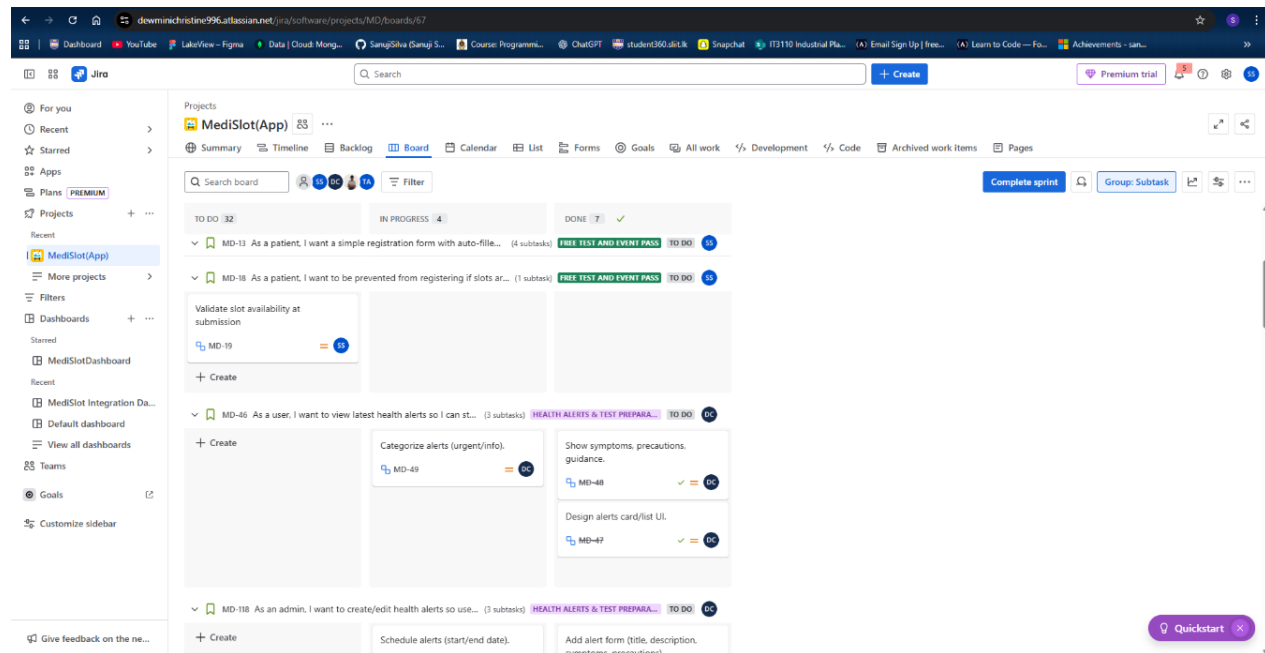


Figure 15-Sprint 2 board view

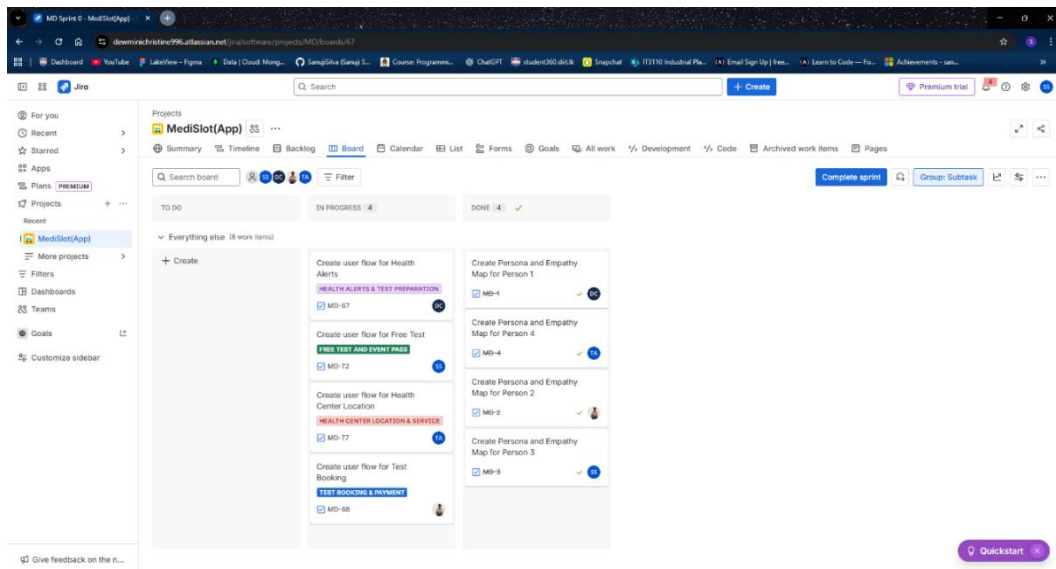


Figure 16-sprint 2 board view

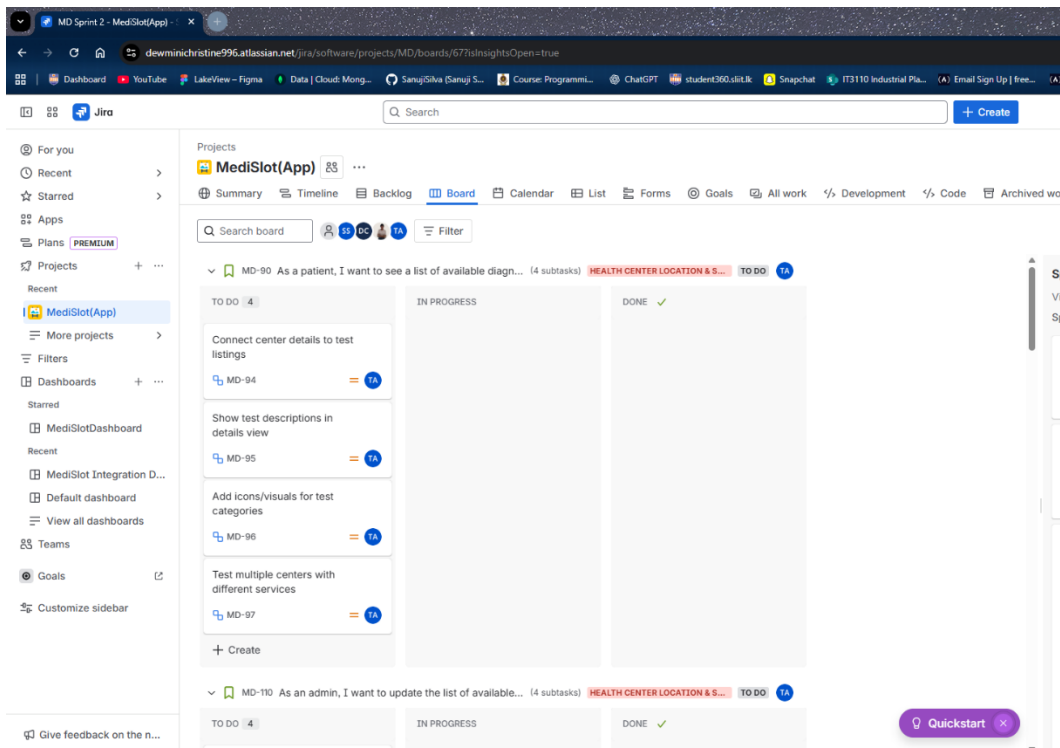


Figure 17-sprint 2 board view

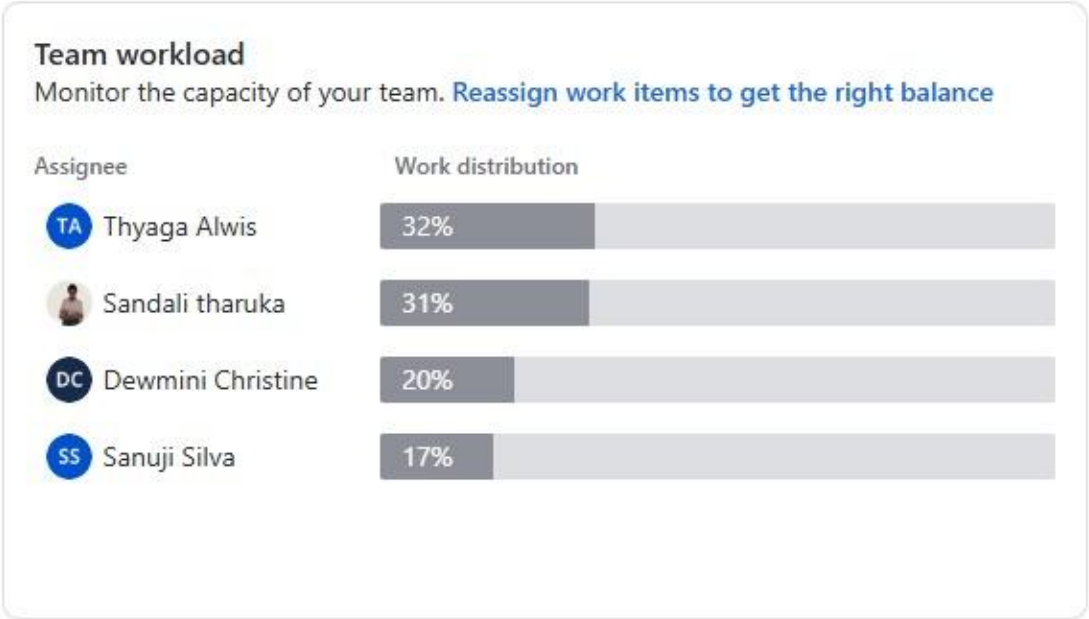


Figure 18-sprint 2 team workload

Sprint 2 – Burndown chart

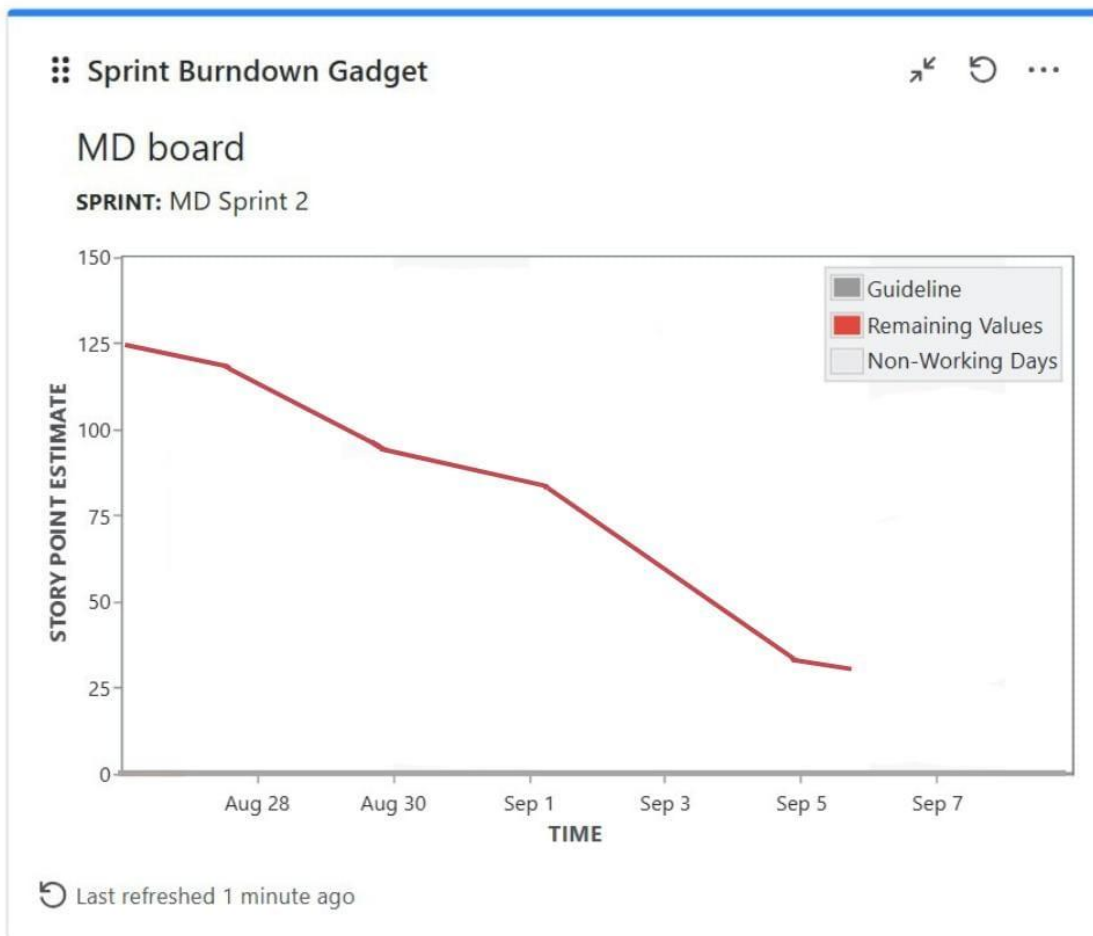


Figure 3-sprint 2 burndown chart

05) Defined Scrum Roles & Responsibilities

Team & Roles

- **Product Owner – Silva K.S.S.G (IT22082374)** : Owns product vision & priorities, writes/accepts user stories, gathers stakeholder feedback, signs off sprint increments.
- **Scrum Master – Christine K.D.D (IT22094254)** : Runs ceremonies (planning, daily, review, retro), removes impediments, keeps Jira clean, protects the team's sprint goal.
- **Developer – Perera L.K.S.T (IT22167200)** : Feature lead for Booking & Payments (patient flows, payment integration, receipts).
- **Developer – Alwis L.W.R.T (IT22278708)** : Feature lead for Center Location & Services (map/list, search/filters, center details).
- **Developer – Silva K.S.S.G (IT22082374)** : Feature lead for Free Tests & Event Pass (events list, registration, QR pass, capacity).
- **Developer – Christine K.D.D (IT22094254)**
Feature lead for Health Awareness & Lab Test Guidelines (educational health content, lab preparation guidelines, and pre-checklist for patients).

Ceremonies (what we do and output):

- **Sprint Planning (S1 & S2):** finalize sprint goal, select top stories set points & capacity, define acceptance, identify risks. (*Output:* Sprint backlog)
- **Daily Stand-up (≤15 min):** update board.
- **Sprint Review:** demo working increment to stakeholders, collect feedback. (*Output:* accepted stories, backlog updates.)
- **Retrospective:** discuss Keep / Start / Stop, pick 1–2 improvements.

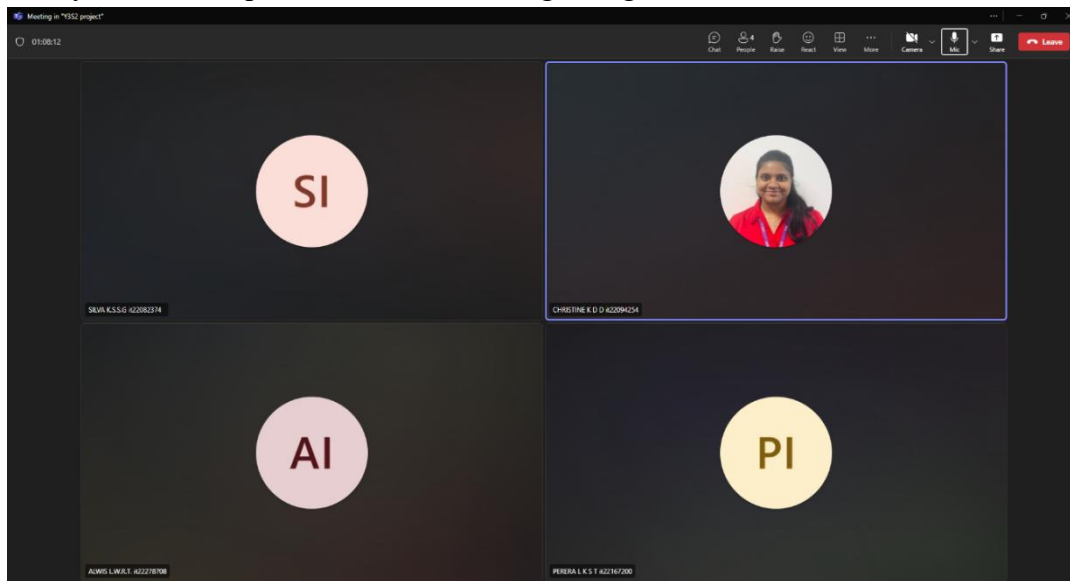
Definitions we follow:

- **Definition of Ready (DoR):** story has user value, acceptance criteria, test notes, and no external blocker.
- **Definition of Done (DoD):** code reviewed, tests pass, UX matches design, analytics/notifications wired (if applicable), merged to main, demoed, and marked **Done** in Jira.

06) Evidence of Scrum Events

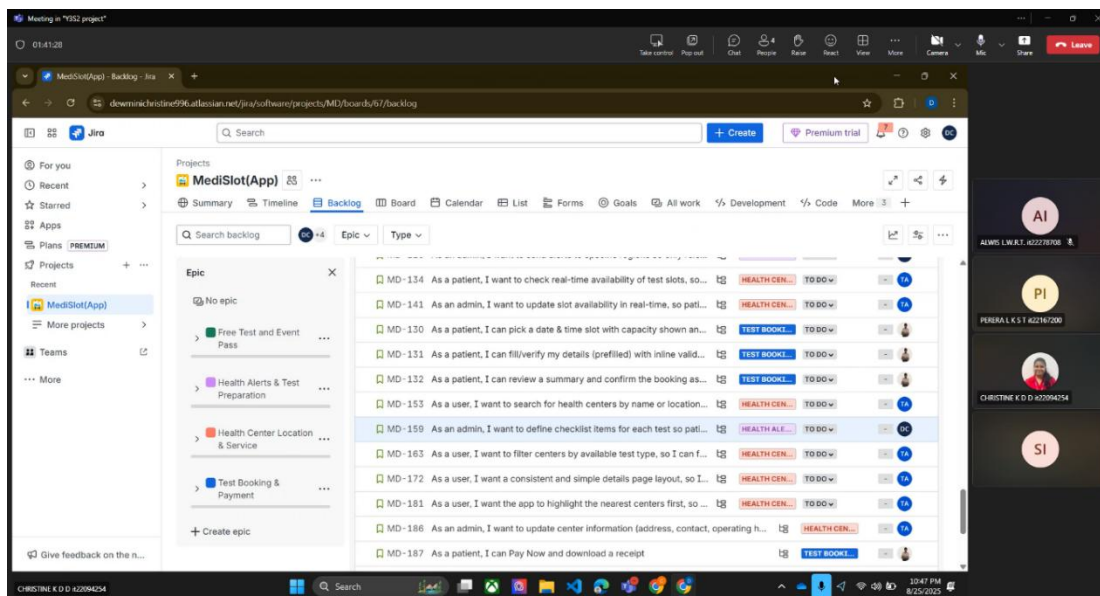
Project Charter & Roles Finalization

In the first meeting, we selected the project topic, divided the main components of the system, and finalized the roles and responsibilities for each team member. This ensured everyone had clarity on their scope of work from the beginning.



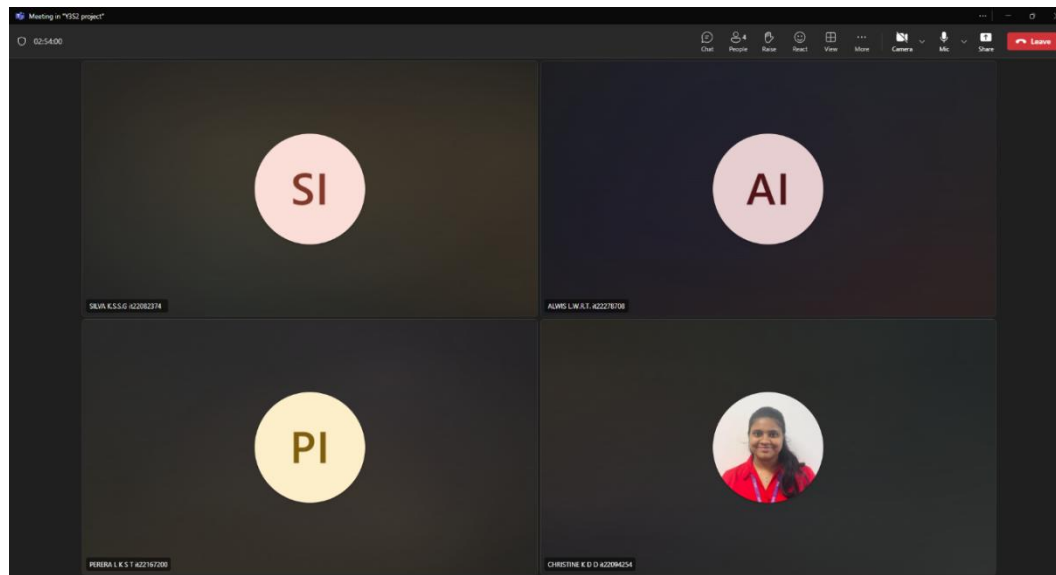
Backlog Preparation

In the second meeting, we created the initial product backlog. Using the insights from our user research, we wrote user stories and prioritized them. This formed the foundation for our upcoming sprint planning.



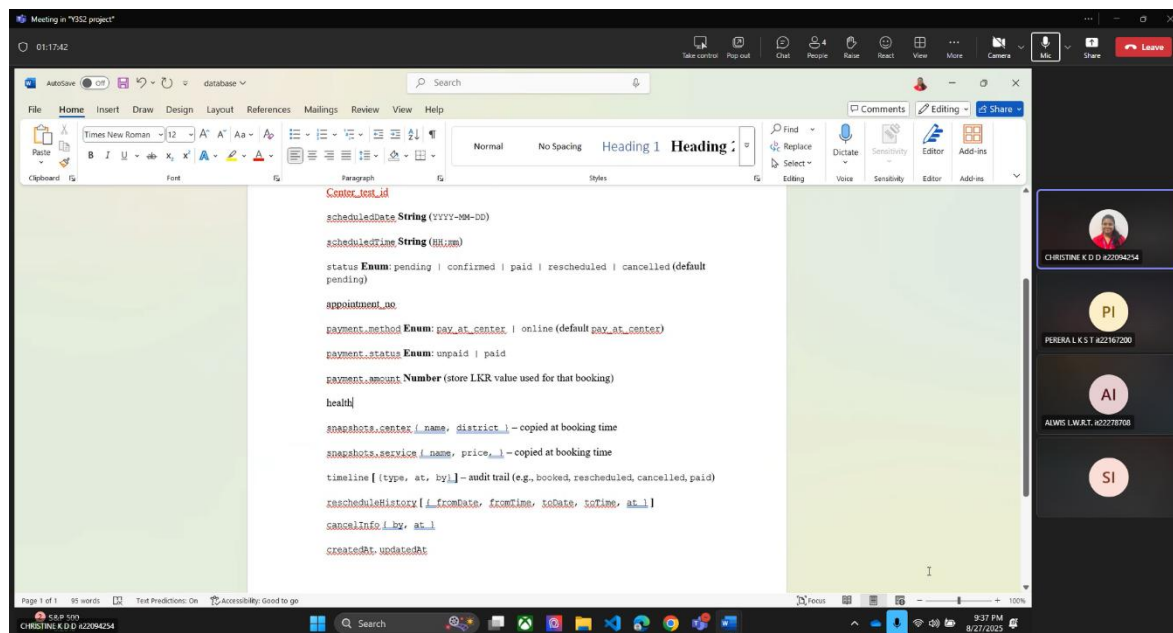
Sprint Planning

In the third meeting, we divided the backlog into sprints. We discussed and agreed on the tasks and deliverables for each sprint, aligning them with our timeline and project goals.



Data Model & API Design Discussion

During the middle of the sprint, we faced backend-related issues, especially with database design and integration. We discussed these challenges as a group, reviewed the data model and API design, and provided feedback on completed parts of the project. Issues raised were noted and solutions were planned collaboratively.



Technical Issue Discussion Meeting

This meeting was held during the sprint to address challenges faced by the developers. The main focus was on solving backend-related issues, such as database errors and integration problems. Team members shared the hardships they encountered, discussed possible solutions, and provided feedback to overcome blockers. This ensured continuous progress and reduced delays by collaboratively resolving technical difficulties.

