Sprint Summary

Sprint 1 (2025-09-28):

What This Sprint Was About

This was the very first sprint of the PlanIt Task Scheduler project. Think of it as the "planning and foundation" phase. The team sat down to figure out exactly what they wanted to build before writing any real code. It is like creating a blueprint before building a house.

What Got Done in This Sprint

1. Planning and Documentation (The Main Focus)

The team spent most of their time writing down everything about what the app should do:

* Requirements Documents:

* Listed 17 different features the app needs (like creating tasks, logging in, setting reminders).

* Wrote down 12 quality standards (like how fast the app should be, how secure it needs to be).

* Created detailed user stories. These are "As a student, I want to..." scenarios that describe how different people will use the app.

* User Research:

* Identified who will use the app: students, working professionals, freelancers, teachers, entrepreneurs, and designers.

* Figured out what each type of user needs (students need deadline reminders, freelancers need time tracking).

* Feature Organization:

* Grouped all features into 6 big categories called "Epics":

1. Login and Registration system.

2. Basic task creation, editing, and deletion.

3. Making the app easy to use.

4. Notifications and data export.

5. AI chatbot assistant.

6. Advanced features for final release.

2. Simple Proof of Concept (POC) - Basic Web Pages

The team built 4 simple HTML pages to show the basic idea:

* Landing Page: Shows what the app will do. Lists 8 planned features with icons. Has a clean, modern design with a purple gradient background. Has buttons to go to login or register.

* Registration Page: A form to create a new account. Fields: username, email, password, profession. The password must be strong. It checks if a username or email already exists. It stores user data in the browser's LocalStorage (temporary storage for the demo).

* Login Page: A form to log in. You can use either a username or email. You can show or hide the password with an eye icon. It checks if the login details are correct. It remembers who is logged in.

* Combined Page: Puts everything together on one page. Login and register appear as pop-up boxes instead of separate pages.

3. What Technology Was Used

For this sprint, everything was kept very simple:

* Pure HTML - No frameworks, just basic web pages.

* CSS - For styling and making it look nice.

* JavaScript - For form validation and checking if inputs are correct.

* Browser LocalStorage - Like a tiny database in your browser (only for testing).

4. What Was NOT Built Yet

This sprint was just planning and basic prototypes. These things were written down but not actually built yet:

* No real database (like MongoDB).

* No backend server.

* No actual task management (you could not create, edit, or delete tasks yet).

* No dashboard.

* No AI chatbot.

* No notifications.

* No time tracking.

* No dark mode toggle.

* No password encryption (just basic encoding for the demo).

Sprint 2 (2025-09-28 to 2025-11-06):

Purpose of Sprint 2

Sprint 2 changed the PlanIt project from basic documentation and prototypes into a fully functional task management application. This sprint focused on building the actual working software with a real backend, a database, and a complete user interface for managing tasks. Think of it as going from blueprints to actually building and furnishing the house.

Features Implemented

1. Complete Task Management System

* Dashboard Page: Shows task statistics like Total Tasks, Pending, In Progress, Completed, Overdue, and Priority breakdowns. Shows a list of recent tasks. Updates in real-time when tasks are changed. Works on mobile, tablet, and desktop.

* Tasks Page: Full Create, Read, Update, Delete (CRUD) operations for tasks. You can create tasks with a title, description, priority, status, due date, start time, and end time. You can search, filter, sort, edit, and delete tasks. You can mark tasks as completed with one click.

* Database Integration: Connected a real MongoDB database. User data and tasks are stored permanently. Each user has their own separate task collection.

2. Pomodoro Timer Feature

A focused work timer that follows the Pomodoro Technique:

* 25-minute work sessions and 5-minute break sessions.

* A visual countdown timer with a circular progress ring.

* Start, Pause, and Reset controls.

* A sound notification when a session finishes.

3. Analytics Page

Basic analytics to track productivity:

* Visual display of task statistics.

* Charts showing task distribution by status and priority.

* Completion rate metrics.

4. Settings Page

User profile management:

* View profile information.

* Update username and profession.

* Change password.

5. Notifications System

A basic notification framework:

* A bell icon in the header showing a notification count.

* A dropdown panel showing recent notifications.

* Notifications for coming task deadlines.

6. Dark Mode / Light Mode Toggle

A complete theme system:

* A toggle button in the header (moon/sun icon).

* Dark mode and light mode.

* The theme preference is saved to the user's profile.

7. Responsive Design

Made the entire application mobile-friendly:

* Works on phones, tablets, laptops, and desktops.

* A collapsible sidebar on mobile devices.

8. User Authentication Improvements

Made the login/registration system better:

* Logout functionality works properly.

* Session management.

* Protected routes (you must be logged in to see the dashboard).

9. Backend API Development

Built a complete server with Express.js and MongoDB:

* API routes for registering, logging in, logging out.

* API routes for creating, reading, updating, and deleting tasks.

* API routes for getting task statistics and user info.

What Changed from Sprint 1

* Sprint 1 had: Only documentation, simple HTML prototypes with temporary storage, no real database or server.

* Sprint 2 added: A real, working application, a real MongoDB database, a complete backend API, full task management, a dashboard, a Pomodoro timer, settings and analytics pages, dark mode, and proper user authentication.

Sprint 3 (2025-11-06 to 2025-11-19):

Purpose of Sprint 3

Sprint 3 was about adding intelligence and advanced features to the PlanIt application. While Sprint 2 built the core task management system, Sprint 3 focused on making the app smarter and more user-friendly. The main highlight was an AI-powered chatbot assistant that lets users manage tasks using normal language.

Features Implemented

1. AI Chatbot Assistant (Major Feature)

A fully functional AI-powered chatbot using the Google Gemini API:

* Natural Language Task Management: You can say "Create task to buy milk tomorrow" or "Delete task 1" or "Mark task 1 as complete" or "Show my tasks".

* Conversation Intelligence: Understands greetings, responds to typos, maintains conversation context, and provides helpful suggestions.

* Technical Implementation: Built API routes for the chatbot. Stores conversation history in the database.

2. Forgot Password / Password Reset

A complete password recovery system:

* A "Forgot Password" page where you enter your email.

* The system sends a password reset email.

* A "Reset Password" page to set a new password.

3. Google OAuth Authentication

Added a social login option:

* A "Sign in with Google" button on the login page.

* Automatically creates a user account on first Google login.

4. Drag-and-Drop Task Reordering

Interactive task management:

* Drag tasks to reorder them.

* Visual feedback during dragging.

* Saves the new order to the database.

5. UI/UX Improvements

* Theme Consistency: Dark mode now works on ALL pages (login, register, etc.).

* Landing Page Redesign: A new modern "liquid glass" design with animated backgrounds.

* Form Improvements: Better error messages and loading states.

6. Pomodoro Timer Enhancements

* Visual improvements like a glowing effect and a better progress ring.

* A Pomodoro Distraction Blocker browser extension that blocks distracting websites during work sessions.

7. Testing Infrastructure

Set up tools for testing:

* Unit Testing: With Jest to test components and API routes.

* Mutation Testing: With Stryker.js to find weak test cases.

* Black-Box Testing: A Python script to test all major features and generate reports.

8. Documentation Improvements

* Complete system architecture diagrams.

* UML diagrams (class, sequence, state, activity) for key workflows.

What Changed from Sprint 2

* Sprint 2 had: Basic task management, a simple dashboard, a Pomodoro timer, dark mode.

* Sprint 3 added: An AI-powered chatbot, Google login, password recovery, drag-and-drop task reordering, a comprehensive testing setup, and a modern new design.

Sprint 4 (2025-11-29):

Purpose of Sprint 4

This sprint focused on gamification, user engagement, quality assurance, and getting the app ready for production. The main goal was to add a points-based reward system to encourage users, implement comprehensive testing, add important pages (contact, about, FAQs), and improve the overall user experience.

Features Implemented

1. Gamification & Points System

* Points Rewards: Users earn points for completing tasks on time (+2 points), for logging in daily (+1 point), and for signing up (+5 points).

* Point Penalties: Users lose points (-1 point) when they miss task deadlines.

* Points Page: A dedicated page showing your point balance and recent activity history.

* Daily Check-In: An automatic daily login bonus (1 point per day).

2. CSV Import/Export for Task Management

* CSV Export: Users can export all their tasks to a CSV file.

* CSV Import: Users can import many tasks at once from a CSV file.

* Backup/Migration: This lets users backup their task data or move it between accounts.

3. Activity Heatmap for Analytics

* ActivityHeatmap Component: A GitHub-style calendar that shows your daily task completion activity.

* Color Coding: Colors from gray (no activity) to green (high activity) show how productive you were each day.

4. Contact & About Pages

* Contact Page: A professional contact form that opens your email client.

* About Page: Created

5. Comprehensive Testing Infrastructure

* Unit Tests: Added over 50 test files covering components, API routes, and libraries.

* GUI Testing: Selenium-based tests for the user interface.

* Black-Box Testing: A Python script to generate detailed test reports.

6. Remember Me Functionality

* Added a "Remember Me" checkbox on the login page.

* When checked, the user's login session lasts for a longer time.

7. Enhanced Dashboard Features

* Sort By Feature: Users can sort tasks by priority, due date, or creation date.

* Points Display: The dashboard sidebar now shows your current point balance.

* Minimizable Sidebar: The sidebar can be collapsed to save screen space.

8. UI/UX Improvements

* Light Mode Updates: Made the light theme look better.

* Responsive Design: Made sure the entire site works well on all screen sizes.

* FAQ Section: Added Frequently Asked Questions to the welcome page.

* Dark Mode Default: The app now opens in dark mode by default.

9. Chatbot Enhancements

* The AI assistant can now update task status and delete tasks through conversation.

Known Issues / TODOs

* The About page is not finished.

* The contact form just opens your email; it should send directly from the website.

* The points system might need balancing to prevent unlimited points.

* Some mobile layout fixes are still needed.

* Not completed 100% mutating testing