AI-Enhanced Budgeting System: 6-Week Sprint Plan

This 5-week Agile sprint plan outlines the development lifecycle for our AI Expense and Budgeting System. It focuses on incremental delivery, rotating leadership, and continuous improvement, ensuring high-quality output on a tight schedule.

Total Duration

6 Weeks

Sprint Length

One or two week per sprint

Scrum Master

Role rotates weekly to encourage teamwork and leadership development.

Core Focus

Continuous improvement through iterative development and feedback.

Sprint 1: Project Setup & Foundational Planning

Scrum Master: Ahmad Sajjad (2023-CS-81)

Duration: Week 1

Define Scope & Requirements

Finalize project scope, functional requirements, and establish success criteria.

Infrastructure Setup

Set up the GitHub repository, establish the core project folder structure, and configure initial dependencies.

Initial Design & Assignment

Design initial database schema and create basic wireframes for the key user interfaces (UI). Document and assign all primary responsibilities to team members.

Sprint 2: Backend Development & API Foundation

This sprint focuses on building a robust backend to support all core functionalities, laying the groundwork for data management and future AI integration.

Framework & API Development

Develop the backend using the **Express.js** framework and implement APIs for core features: expense tracking and budget management.

Establish Data Layer

Configure secure database connections and define routing for data interaction.

CRUD Testing

Conduct rigorous testing of all Create, Read, Update, and Delete (CRUD) functionalities to ensure data integrity.

Prepare AI Datasets

Source, prepare, and clean necessary sample datasets for input into the AI model during Sprint 4.

Scrum Master: Ahmad Hassan (2023-CS-77) | Duration: Week 2

Sprint 3: Frontend & Interactive UI/UX Development

Scrum Master: Huzaifa Arshad (2023-CS-86)

Duration: Week 3

- **Main Screen Development:** Build essential UI screens including the Dashboard, Reporting views, and User Authentication pages (Login/Logout).
- **Backend Integration:** Connect the newly developed frontend components with the established backend endpoints for seamless data flow.
- **Visualization Implementation:** Implement interactive data visualization components specifically designed for displaying lab budget metrics.
- **Usability Testing:** Conduct initial, small-scale usability testing to gather feedback and refine the user interface design based on user experience principles.

Sprint 4: AI Model Integration & Optimization

Integrating the core intelligence of the system and ensuring high performance and accuracy across all modules.

AI Model Integration

Embed the pre-trained AI model to facilitate intelligent budgeting and sophisticated expense prediction capabilities.

Data Flow & Accuracy

Optimize data pipelines to ensure efficient flow between the database, backend, and the AI model. Verify model accuracy with real-world scenarios.

System Testing

Execute comprehensive integration and performance testing across the full stack to identify bottlenecks.

Refinement Cycle

Address critical bugs and perform final refinements on the user experience based on performance results.

Scrum Master: Atif Awan (2023-CS-154) | Duration: Week 4

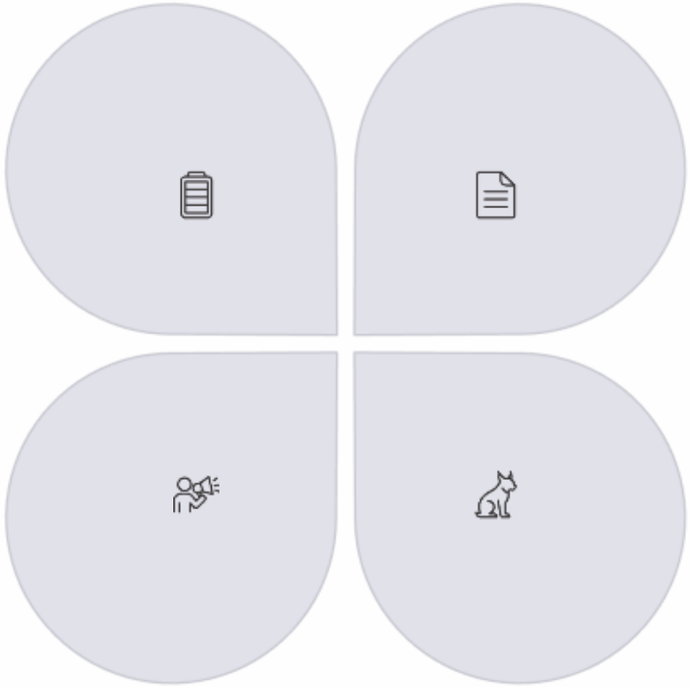
Sprint 5: Final Review, Documentation, and Demonstration

Scrum Master: Ahmad Sajjad (2023-CS-81) | Duration: Week 5 and 6

The final sprint focuses on quality assurance, project closure, and preparing the complete system for presentation to stakeholders.

Full System Testing

Execute comprehensive end-to-end testing, confirming all requirements are met and the system is production-ready.



Final Deliverables Prep

Compile all technical documentation and finalize the presentation script and demo environment.

System Demonstration

Present the complete AI Expense and Budgeting System, showcasing the AI features and interactive lab budget reports.

Sprint Retrospective

Conduct a thorough retrospective session to capture key learnings, successes, and areas for future improvement.

Our goal is to deliver a functional, intelligent, and user-friendly solution.