GRIFFINS: AI BUDGETING AND EXPENSE TRACKING

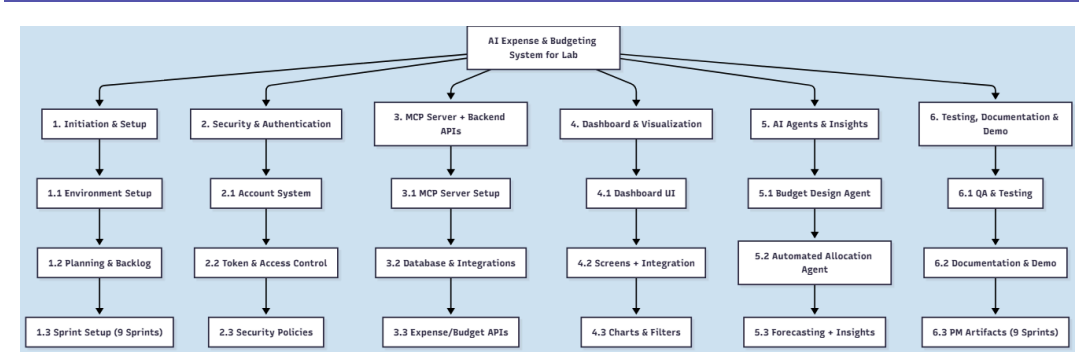2023-CS-77 2023-CS-81 2023-CS-86 2023-CS-154

Project Vision

To build a lab-focused, AI-enabled expense and budgeting platform that replaces manual tracking with accurate automation—giving lab staff real-time visibility of spending, smarter budget control, and decision support through data-driven insights.

Project Goal

Deliver an MVP in 9 one-week sprints that provides secure user access, automated lab expense tracking, a budgeting dashboard with charts and reports, AI-based expense categorization, and basic budget forecasting—validated through sprint reviews, retrospectives, and Agile metrics (velocity and burndown).
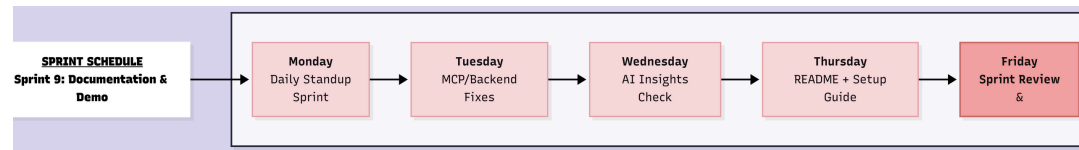
Work Breakdown Structure Diagram

User Stories with Story Points

Kickoff — kickoff.pmi.org

Project Name: Griffins: AI Budgeting and Expense Tracking
Project Manager: Ahmad Sajjad

User Story ID	As a…	I want…	So that…	Story Points
1.1	project manager	a prioritized backlog (MoSCoW)	we deliver MVP features first	5
1.2	team member	a DoD + sprint workflow on Trello	work is trackable and consistent	3
2.1	lab user	secure login (JWT)	only authorized users access data	5
2.2	lab staff	expense CRUD	lab spending is recorded accurately	8
2.3	lab manager	budget allocation + utilization	budget overruns are prevented early	8
2.4	lab user	dashboard charts + filters	spending insights are easy to view	5
3.1	system	MCP server integration	agents/tools can connect reliably	5
3.2	lab user	AI expense categorization	manual work is reduced	8
3.3	QA/team	testing + bug fixing	system is stable for final demo	5

Sprint Schedule

SPRINT SCHEDULE
Sprint 9: Documentation & Demo

- Monday — Daily Standup Sprint
- Tuesday — MCP/Backend Fixes
- Wednesday — AI Insights Check
- Thursday — README + Setup Guide
- Friday — Sprint Review

Talent & Skills SpreadSheet

Kickoff — kickoff.pmi.org

Talent & Skills Sheet

Project Name: AI Budgeting and Expense Tracking
Project Manager: Ahmad Sajjad

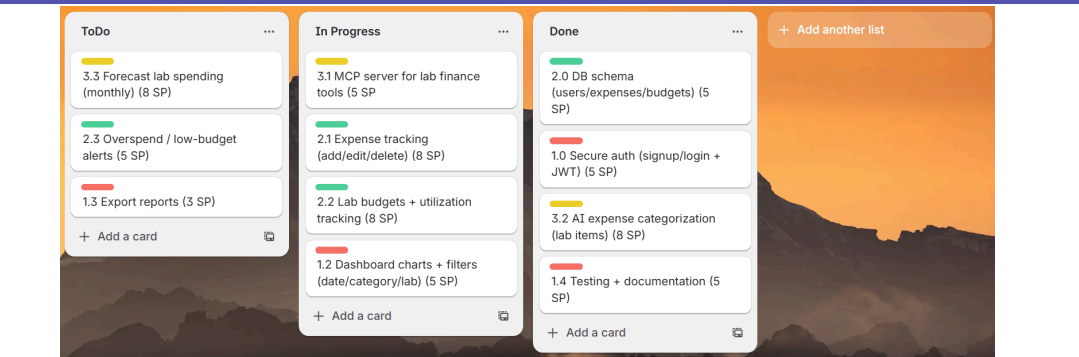Key:
- 1 — No Current Competency
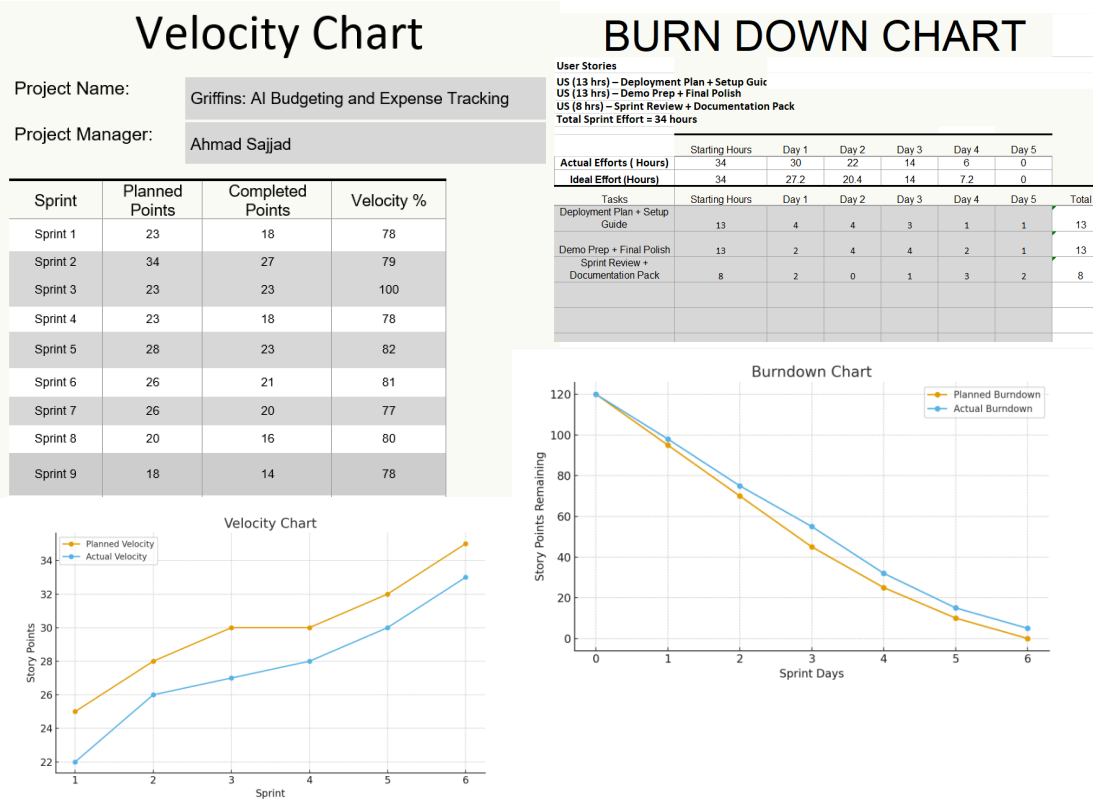- 2 — Partial Competency
- 3 — Good Competency
- 4 — Advanced Competency

Skill Needed	Team Member Name	Qualifications/Expertise	Years of Experience	Proficiency
Project Planning & Scrum	Ahmad Sajjad	Sprint planning, task breakdown, coordination, reporting	1	3
System Architecture	Ahmad Sajjad	Architecture diagrams, class diagrams, module decomposition	1	4
Backend (Node/Express)	Ahmad Hassan	REST APIs, Express routing, middleware, controllers, Mcp server	1	3
Database Design and Integration	Ahmad Hassan	Schema Design, relations, CRUD, DB connectivity, queries	1	4
Authentication and security	Atif Awan	JWT auth, login/signup flows, validation, security policies	1	3
Frontend (Dashboard and UI)	Huzaifa Arshad	UI screens, navigation, forms, dashboard layout	1	4
Data Visualization	Huzaifa Arshad	Chart integration, filtering, reporting screens	1	3
AI/ML Integration	Ahmad Sajjad	Dataset prep, model integration approach, evaluation basics	1	4
Testing & QA	Ahmad Hassan	Unit testing, API testing, bug fixing, verification checklist	1	3
Documentation & Demo Prep	Atif Awan	Documentation writing, demo script, presentation support	1	4

KanBan Board

ToDo
- 3.3 Forecast lab spending (monthly) (8 SP)
- 2.3 Overspend / low-budget alerts (5 SP)
- 1.3 Export reports (3 SP)

In Progress
- 3.1 MCP server for lab finance tools (5 SP)
- 2.1 Expense tracking (add/edit/delete) (8 SP)
- 2.2 Lab budgets + utilization tracking (8 SP)
- 1.2 Dashboard charts + filters (date/category/lab) (5 SP)

Done
- 2.0 DB schema (users/expenses/budgets) (5 SP)
- 1.0 Secure auth (signup/login + JWT) (5 SP)
- 3.2 AI expense categorization (lab items) (8 SP)
- 1.4 Testing + documentation (5 SP)

Velocity Chart and Burndown Chart

Velocity Chart

Project Name: Griffins: AI Budgeting and Expense Tracking
Project Manager: Ahmad Sajjad

Sprint	Planned Points	Completed Points	Velocity %
Sprint 1	23	18	78
Sprint 2	34	27	79
Sprint 3	23	23	100
Sprint 4	23	18	78
Sprint 5	28	23	82
Sprint 6	26	21	81
Sprint 7	26	20	77
Sprint 8	20	16	80
Sprint 9	18	14	78

BURN DOWN CHART

User Stories
US (13 hrs) – Deployment Plan + Setup Guide
US (13 hrs) – Demo Prep + Final Polish
US (8 hrs) – Sprint Review + Documentation Pack
Total Sprint Effort = 34 hours

	Starting Hours	Day 1	Day 2	Day 3	Day 4	Day 5	
Actual Efforts (Hours)	34	30	22	14	6	0	
Ideal Effort (Hours)	34	27.2	20.4	14	7.2	0	

Tasks	Starting Hours	Day 1	Day 2	Day 3	Day 4	Day 5	Total
Deployment Plan + Setup Guide	13	4	4	3	1	1	13
Demo Prep + Final Polish	13	2	4	4	2	1	13
Sprint Review + Documentation Pack	8	0	1	3	2	4	

Sprint Review

Sprint Review

Time	Duration	Activity	Description	Presenter
9:00	5 min	Introduction	Sprint 9 Review – Release & Demo	Ahmad Sajjad
9:05	5 min	Sprint Goals	Deployment plan, demo prep, final documentation, final review	Ahmad Sajjad
9:10	5 min	Status Overview	MVP ready; documentation packaged; deployment steps finalized	Atif Awan
9:15	5 min	Live Demo	Full MVP demo: login → add expense → dashboard → AI categorize	Huzaifa Arshad
9:20	5 min	Metrics	Final velocity summary; scope delivered vs planned	Ahmad Hassan
9:25	5 min	Blockers	Remaining low-priority enhancements moved to backlog	Ahmad Hassan
9:30	5 min	Q&A/Feedback	Collect final feedback and sign-off	Ahmad Sajjad

Sprint Retrospective

What worked well this sprint?
- Demo was prepared with clear flow and stable build.
- Deployment/setup guide made the project easy to run.
- Documentation packaging improved presentation quality.
- Excellent final "Push"; the team synchronized perfectly for the finish.

What didn't work so well this sprint?
- Documentation started late and was rushed.
- Final polish competed with demo preparation time.
- Burnout risk: Neglecting breaks led to lower quality in the final hours.

What will we do to improve next sprint?
- Maintain documentation continuously each sprint.
- Create release checklist earlier (QA + docs + demo).
- Timebox "polish" and protect demo stability.
- Schedule mandatory "Down-time" to ensure sustainable team energy.

Conclusion

Griffins: AI Budgeting and Expense Tracking successfully delivered a robust, AI-powered system for laboratories that streamlines expense logging, budget allocation, and utilization monitoring. The solution provides AI-assisted categorization and insights with dashboard reporting, enabling clearer financial visibility and better spending control with seamless integration.

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