

Gantt Chart Berbasis SCRUM

MCP Agents Laravel UI Generator

Proyek: MCP Agents Laravel UI Generator

Metode: SCRUM (Agile)

Durasi: 14 Minggu (18 September - 25 Desember 2025)

Sponsor: Internal Development Team

Project Manager: Fikri Armia Fahmi (2023071018)

Frontend Developer: Nadia (2024071004)

1. SCRUM Roles & Assignment

Role	Nama	Tanggung Jawab
Product Owner (PO)	Internal Development Team	Menentukan kebutuhan AI agents, mengelola backlog, prioritas fitur, review deliverables
Scrum Master (SM)	Fikri Armia Fahmi	Sprint planning, monitoring timeline, daily standup, menghilangkan blocker
Backend Developer + PM	Fikri Armia Fahmi	AI Agents development, API Layer, Queue System, Security, Project Management
Frontend Developer	Nadia	Preview UI, Interactive Components, JavaScript functionality, QA Testing

2. Timeline Proyek (14 Minggu)

Sprint	Periode	Fokus Utama	Deliverables
Sprint 1-2	Week 1-2 (18 Sep - 1 Okt 2025)	Project Setup & Infrastructure	Project Charter, Infrastructure, CI/CD, Repo Setup

Sprint 3-4	Week 3-4 (2 Okt - 15 Okt 2025)	Prompt Expander & Draft Agent	Prompt Expander Agent, Draft Agent
Sprint 5-6	Week 5-6 (16 Okt - 29 Okt 2025)	Prompt Planner & Page Architect	Prompt Planner Agent, Page Architect Agent
Sprint 7-8	Week 7-8 (30 Okt - 12 Nov 2025)	Generate Layout App & UI Generator	Generate Layout App Agent, UI Generator Agent + Preview UI
Sprint 9-10	Week 9-10 (13 Nov - 26 Nov 2025)	Route & Component Agents	Route Agent, Component Agent
Sprint 11	Week 11 (27 Nov - 3 Des 2025)	Validator & Move to Project Agents	Validator Agent, Move to Project Agent
Sprint 12	Week 12 (4 Des - 10 Des 2025)	Backend Polishing	Queueing, Retries, Logging, Security
Sprint 13	Week 13 (11 Des - 17 Des 2025)	Documentation	Documentation, Examples, Repo Templates, Demo App
Sprint 14	Week 14 (18 Des - 25 Des 2025)	Final Testing & Release	Final Testing, Bugfix, Release/Handover

3. Product Backlog

Epic 1: Project Initiation & Setup

- **PBI-001:** Project charter & scope definition (Priority: High)
- **PBI-002:** Infrastructure setup (GitHub, CI/CD) (Priority: High)

- **PBI-003:** Development environment configuration (Priority: High)
- **PBI-004:** Technology stack setup (Python, Laravel, Cerebras & Mistral API) (Priority: High)

Epic 2: AI Agent Development (10 Agents)

- **PBI-005:** Prompt Expander Agent - Expands and details user prompts (Priority: High)
- **PBI-006:** Draft Agent - Creates initial HTML draft for preview (Priority: High)
- **PBI-007:** Prompt Planner Agent - Plans the component structure (Priority: High)
- **PBI-008:** Page Architect Agent - Designs the page layout architecture (Priority: High)
- **PBI-009:** Generate Layout App Agent - Generates main layout template (Priority: High)
- **PBI-010:** UI Generator Agent - Creates Blade view files (Priority: High)
- **PBI-011:** Route Agent - Generates Laravel routes (Priority: High)
- **PBI-012:** Component Agent - Creates individual UI components (Priority: High)
- **PBI-013:** Validator Agent - Validates generated components (Priority: High)
- **PBI-014:** Move to Project Agent - Integrates with Laravel project (Priority: High)

Epic 3: Backend Services

- **PBI-015:** API Layer (FastAPI/Flask) (Priority: High)
- **PBI-016:** Queue System (Redis/Celery) (Priority: High)
- **PBI-017:** Storage & Database setup (Priority: High)
- **PBI-018:** Security implementation (Priority: High)

Epic 4: Frontend Development

- **PBI-019:** Preview UI Core (Priority: High)
- **PBI-020:** Interactive Components (Priority: High)
- **PBI-021:** JavaScript Functionality (Priority: High)
- **PBI-022:** Frontend Security (Priority: Medium)

Epic 5: Testing & Integration

- **PBI-023:** Unit Testing (Priority: High)
- **PBI-024:** Integration Testing (Priority: High)
- **PBI-025:** End-to-End Testing (Priority: High)
- **PBI-026:** Bug fixing (Priority: High)

Epic 6: Documentation & Deployment

- **PBI-027:** Technical Documentation (Priority: High)
- **PBI-028:** User Documentation (Priority: Medium)
- **PBI-029:** Deployment (Priority: High)
- **PBI-030:** Project Closure (Priority: High)

4. Sprint Backlog

Sprint 1-2 Backlog (Week 1-2: 18 Sep - 1 Okt 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies
S1-T1	Project Charter & Scope	PM (Fikri)	2 hari	-
S1-T2	Stakeholder Identification	PM (Fikri)	1 hari	S1-T1
S1-T3	GitHub Repository Setup	Backend (Fikri)	1 hari	S1-T1
S1-T4	CI/CD Pipeline (GitHub Actions)	Backend (Fikri)	2 hari	S1-T3
S1-T5	Python Environment Setup	Backend (Fikri)	1 hari	S1-T3
S1-T6	Laravel Environment Setup	Backend (Fikri)	1 hari	S1-T3
S1-T7	Cerebras & Mistral API Integration Test	Backend (Fikri)	2 hari	S1-T5
S1-T8	Project Planning (WBS, Network, Gantt)	PM (Fikri)	3 hari	S1-T1
S1-T9	Sprint Review	All Team	1 hari	All tasks

Sprint 3-4 Backlog (Week 3-4: 2 Okt - 15 Okt 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies
S3-T1	Prompt Expander Agent - NLP Parser	Backend (Fikri)	3 hari	Sprint 1-2 Done

S3-T2	Prompt Expander Agent - Expansion Logic	Backend (Fikri)	2 hari	S3-T1
S3-T3	Draft Agent - HTML Draft Generator	Backend (Fikri)	3 hari	S3-T2
S3-T4	Draft Agent - Browser Preview Integration	Backend (Fikri)	2 hari	S3-T3
S3-T5	Unit Tests (Prompt Expander & Draft)	Backend (Fikri)	2 hari	S3-T4
S3-T6	Sprint Review	All Team	1 hari	All tasks

Sprint 5-6 Backlog (Week 5-6: 16 Okt - 29 Okt 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies
S5-T1	Prompt Planner Agent - Component Structure Planning	Backend (Fikri)	3 hari	Sprint 3-4 Done
S5-T2	Prompt Planner Agent - Cerebras & Mistral API Integration	Backend (Fikri)	2 hari	S5-T1
S5-T3	Page Architect Agent - Layout Architecture Design	Backend (Fikri)	3 hari	S5-T2
S5-T4	Page Architect Agent - Page Structure Generator	Backend (Fikri)	2 hari	S5-T3

S5-T5	Unit Tests (Prompt Planner & Page Architect)	Backend (Fikri)	2 hari	S5-T4
S5-T6	Sprint Review	All Team	1 hari	All tasks

Sprint 7-8 Backlog (Week 7-8: 30 Okt - 12 Nov 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies
S7-T1	Generate Layout App Agent - Main Layout Template	Backend (Fikri)	3 hari	Sprint 5-6 Done
S7-T2	Generate Layout App Agent - Blade Template Engine	Backend (Fikri)	2 hari	S7-T1
S7-T3	UI Generator Agent - Blade View Files Generator	Backend (Fikri)	3 hari	S7-T2
S7-T4	UI Generator Agent - Component Integration	Backend (Fikri)	2 hari	S7-T3
S7-T5	Preview UI Core (HTML/CSS)	Frontend (Nadia)	5 hari	Sprint 5-6 Done
S7-T6	Unit Tests (Generate Layout App & UI Generator)	Backend (Fikri)	2 hari	S7-T4
S7-T7	Sprint Review	All Team	1 hari	All tasks

Sprint 9-10 Backlog (Week 9-10: 13 Nov - 26 Nov 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies
S9-T1	Route Agent - Route Definition Parser	Backend (Fikri)	3 hari	Sprint 7-8 Done
S9-T2	Route Agent - Web Routes Generator	Backend (Fikri)	2 hari	S9-T1
S9-T3	Route Agent - Route Conflict Detection	Backend (Fikri)	2 hari	S9-T2
S9-T4	Component Agent - Individual UI Components	Backend (Fikri)	3 hari	S9-T3
S9-T5	Component Agent - Component Library Builder	Backend (Fikri)	2 hari	S9-T4
S9-T6	Unit Tests (Route & Component Agents)	Backend (Fikri)	2 hari	S9-T5
S9-T7	Sprint Review	All Team	1 hari	All tasks

Sprint 11 Backlog (Week 11: 27 Nov - 3 Des 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies

S11-T1	Validator Agent - Syntax Validation	Backend (Fikri)	2 hari	Sprint 9-10 Done
S11-T2	Validator Agent - Structure Validation	Backend (Fikri)	2 hari	S11-T1
S11-T3	Validator Agent - Code Quality Checker	Backend (Fikri)	2 hari	S11-T2
S11-T4	Move to Project Agent - File Staging Mechanism	Backend (Fikri)	2 hari	S11-T3
S11-T5	Move to Project Agent - Laravel Integration	Backend (Fikri)	2 hari	S11-T4
S11-T6	Move to Project Agent - Backup & Rollback	Backend (Fikri)	1 hari	S11-T5
S11-T7	Unit Tests (Validator & Move to Project)	Backend (Fikri)	2 hari	S11-T6
S11-T8	Sprint Review	All Team	1 hari	All tasks

Sprint 12 Backlog (Week 12: 4 Des - 10 Des 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies

S12-T1	FastAPI/Flask Setup	Backend (Fikri)	2 hari	Sprint 11 Done
S12-T2	API Endpoints Implementation	Backend (Fikri)	3 hari	S12-T1
S12-T3	Redis/Celery Queue Setup	Backend (Fikri)	2 hari	S12-T2
S12-T4	Job Processing & Retry Mechanism	Backend (Fikri)	2 hari	S12-T3
S12-T5	Security Implementation (API Key, Rate Limiting)	Backend (Fikri)	2 hari	S12-T4
S12-T6	Interactive Components	Frontend (Nadia)	5 hari	Sprint 11 Done
S12-T7	JavaScript Functionality	Frontend (Nadia)	3 hari	S12-T6
S12-T8	Sprint Review	All Team	1 hari	All tasks

Sprint 13 Backlog (Week 13: 11 Des - 17 Des 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies

S13-T1	Frontend Security (HTML Sanitization, XSS Prevention)	Frontend (Nadia)	2 hari	Sprint 12 Done
S13-T2	Frontend-Backend Integration	All Dev	2 hari	S13-T1
S13-T3	Unit Testing (Agents, API, Frontend)	All Dev	2 hari	S13-T2
S13-T4	Integration Testing	All Dev	2 hari	S13-T3
S13-T5	E2E Testing	All Dev	2 hari	S13-T4
S13-T6	Bug Fixing	All Dev	2 hari	S13-T5
S13-T7	Technical Documentation (Architecture, API)	Backend (Fikri)	3 hari	S13-T6
S13-T8	User Documentation (README, Tutorials)	Frontend (Nadia)	3 hari	S13-T6
S13-T9	Example Repository & Demo App	All Dev	2 hari	S13-T7
S13-T10	Sprint Review	All Team	1 hari	All tasks

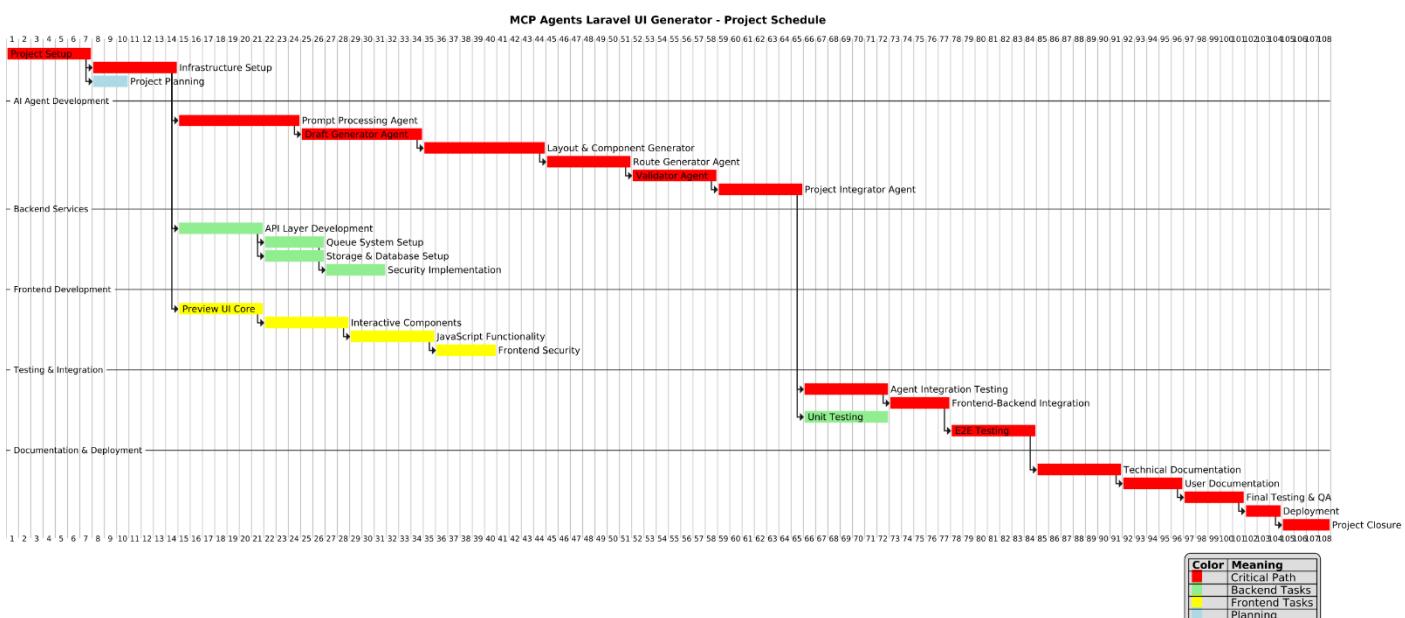
Sprint 14 Backlog (Week 14: 18 Des - 25 Des 2025)

Task ID	Task Name	Assigned To	Duration	Dependencies
S14-T1	Final Testing & Validation	All Dev	2 hari	Sprint 13 Done

S14-T2	Performance Optimization	Backend (Fikri)	2 hari	S14-T1
S14-T3	Security Hardening	Backend (Fikri)	2 hari	S14-T2
S14-T4	Production Deployment	Backend (Fikri)	2 hari	S14-T3
S14-T5	Monitoring Setup	Backend (Fikri)	1 hari	S14-T4
S14-T6	Project Closure & Handover	PM (Fikri)	2 hari	S14-T5
S14-T7	Lessons Learned Documentation	PM (Fikri)	1 hari	S14-T6
S14-T8	Sprint Review & Retrospective	All Team	1 hari	All tasks

5. Gantt Chart Lengkap (4 Minggu)

Gantt Chart Overview



Gantt Chart Detail - Sprint View

Projects
Manage and execute projects from start to finish.

By Status All Projects Gantt My Projects 9 more... New

Aa Project name	Assignee	Status	Start date	End date	Priority
Documentation	Fikri Armia Fahmi	In progress			High
Production	Fikri Armia Fahmi	Not started			Low
Integrasi API	Fikri Armia Fahmi	In progress			Medium
Frontend	Nadia Wancen	In progress			High
Multi Agent System	Fikri Armia Fahmi	Done	09/11/2025	11/06/2025	High
Backend	Fikri Armia Fahmi	In progress	03/24/2025	11/06/2025	High
Ide/Brainstorming	Fikri Armia Fahmi	Done	04/09/2025	09/11/2025	High

+ New project

GenLaravel Workspaces / Projects Edited 14m ago Share ...

Projects
Manage and execute projects from start to finish.

By Status All Projects Gantt My Projects By Area Ide/Brainstorming Agents 6 more... No date (4) Manage in Calendar Month Today > New

Not started 1 October 2025 20

Aa Project name
Production
+ New
In progress 4
Documentation
Integrasi API
Frontend
Backend
+ New
Done 2
Multi Agent System
Ide/Brainstorming
+ New

22,2 Kbps
245,5 Kbps

Gantt Chart Detail - Timeline View

GenLaravel Workspaces / Task Tracers

Edited Nov 17 Share ⋮

Task Tracers

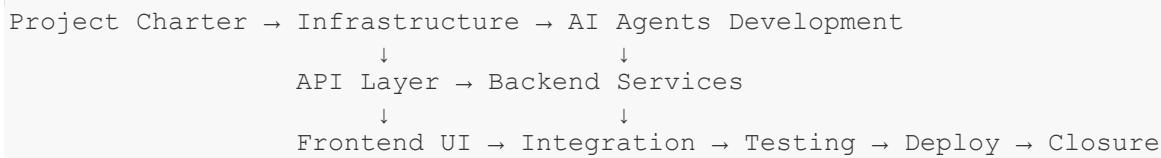
Kelola tugas dengan teratur, sesuai keinginan Anda.

Semua Tugas Berdasarkan Status Tugas Saya

New

Aa	Nama tugas	Status	Penerima tugas	Tanggal ter...	Prioritas	Jenis tugas	Deskripsi
User guides	Belum dimulai	nadia@student.upj.ac.id			Sedang	Permintaan fitur	
Laravel project updates	Belum dimulai	Fikri Armia Fahmi			Sedang	Permintaan fitur	
Layout Generator Agent	Belum dimulai	Fikri Armia Fahmi			Sedang	Permintaan fitur	
Validator Agent	Belum dimulai	Fikri Armia Fahmi			Sedang	Permintaan fitur	
Enhanced preview UI	Belum dimulai	Fikri Armia Fahmi			Sedang	Permintaan fitur	
Component Generator Agent	Belum dimulai	Fikri Armia Fahmi			Sedang	Permintaan fitur	
Route Generator Agent	Belum dimulai	Fikri Armia Fahmi			Sedang	Permintaan fitur	
Project Integrator Agent	Belum dimulai	Fikri Armia Fahmi			Sedang	Permintaan fitur	
Structure validation	Belum dimulai	Fikri Armia Fahmi			Tinggi	Permintaan fitur	
Error handling & retries	Belum dimulai	Fikri Armia Fahmi	nadia@student.upj.ac.id		Rendah	Sempurnakan	0,8 Kbps
Logging system	Belum dimulai	Fikri Armia Fahmi	nadia@student.upj.ac.id		Rendah	Sempurnakan	8,7 Kbps
Security enhancements	Belum dimulai	nadia@student.upj.ac.id	Fikri Armia Fahmi		Tinggi	Permintaan fitur	
API documentation	Belum dimulai	Fikri Armia Fahmi			Tinggi	Sempurnakan	
README documentation	Belum dimulai	Fikri Armia Fahmi			Rendah	Permintaan fitur	
HTML preview system	Selesai	Fikri Armia Fahmi			Rendah	Permintaan fitur	
CI/CD pipelines	Selesai	Fikri Armia Fahmi			Sedang	Sempurnakan	

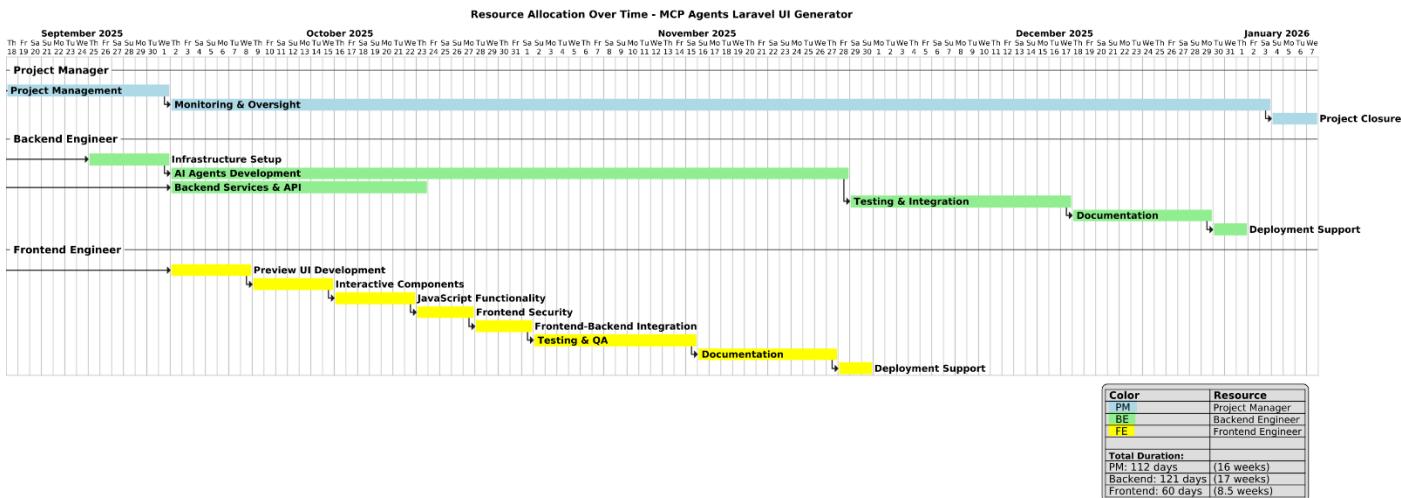
6. Dependencies Diagram



Dependency Rules:

- ✗ Tidak bisa develop AI agents tanpa infrastructure
- ✗ Tidak bisa frontend tanpa backend API ready
- ✗ Tidak bisa testing tanpa implementasi selesai
- ✗ Tidak bisa deploy tanpa testing passed
- ✓ AI Agents bisa dikembangkan sequential (satu per satu)
- ✓ Backend services bisa parallel dengan AI agents development

7. Sprint Planning & Ceremonies



Sprint 1-2 (Week 1-2: 18 Sep - 1 Okt 2025)

Sprint Goal: Setup project infrastructure dan environment development

Sprint Planning Meeting:

- Tanggal: 18 September 2025
- Durasi: 2 jam
- Output: Sprint 1-2 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit
- Format: What did you do? What will you do? Any blockers?

Sprint Review:

- Tanggal: 1 Oktober 2025
- Durasi: 1 jam
- Deliverables: Project Charter, Infrastructure, CI/CD Pipeline, Repo Setup

Sprint Retrospective:

- Tanggal: 1 Oktober 2025
- Durasi: 1 jam
- Focus: What went well? What can be improved?

Sprint 3-4 (Week 3-4: 2 Okt - 15 Okt 2025)

Sprint Goal: Develop Prompt Expander & Draft Agents

Sprint Planning Meeting:

- Tanggal: 2 Oktober 2025
- Durasi: 2 jam
- Output: Sprint 3-4 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 15 Oktober 2025
- Durasi: 1 jam
- Deliverables: Prompt Expander Agent, Draft Agent (HTML draft generation & browser preview)

Sprint Retrospective:

- Tanggal: 15 Oktober 2025
- Durasi: 1 jam

Sprint 5-6 (Week 5-6: 16 Okt - 29 Okt 2025)

Sprint Goal: Develop Prompt Planner & Page Architect Agents

Sprint Planning Meeting:

- Tanggal: 16 Oktober 2025
- Durasi: 2 jam
- Output: Sprint 5-6 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 29 Oktober 2025
- Durasi: 1 jam
- Deliverables: Prompt Planner Agent, Page Architect Agent, Cerebras & Mistral API Integration

Sprint Retrospective:

- Tanggal: 29 Oktober 2025
- Durasi: 1 jam

Sprint 7-8 (Week 7-8: 30 Okt - 12 Nov 2025)

Sprint Goal: Develop Generate Layout App & UI Generator Agents + Preview UI

Sprint Planning Meeting:

- Tanggal: 30 Oktober 2025
- Durasi: 2 jam
- Output: Sprint 7-8 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB

- Durasi: 15 menit

Sprint Review:

- Tanggal: 12 November 2025
- Durasi: 1 jam
- Deliverables: Generate Layout App Agent, UI Generator Agent, Preview UI Core

Sprint Retrospective:

- Tanggal: 12 November 2025
- Durasi: 1 jam

Sprint 9-10 (Week 9-10: 13 Nov - 26 Nov 2025)

Sprint Goal: Develop Route & Component Agents

Sprint Planning Meeting:

- Tanggal: 13 November 2025
- Durasi: 2 jam
- Output: Sprint 9-10 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 26 November 2025
- Durasi: 1 jam
- Deliverables: Route Agent, Component Agent

Sprint Retrospective:

- Tanggal: 26 November 2025

- Durasi: 1 jam

Sprint 11 (Week 11: 27 Nov - 3 Des 2025)

Sprint Goal: Develop Validator & Move to Project Agents

Sprint Planning Meeting:

- Tanggal: 27 November 2025
- Durasi: 2 jam
- Output: Sprint 11 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 3 Desember 2025
- Durasi: 1 jam
- Deliverables: Validator Agent, Move to Project Agent

Sprint Retrospective:

- Tanggal: 3 Desember 2025
- Durasi: 1 jam

Sprint 12 (Week 12: 4 Des - 10 Des 2025)

Sprint Goal: Backend Polishing - Queueing, Retries, Logging, Security

Sprint Planning Meeting:

- Tanggal: 4 Desember 2025
- Durasi: 2 jam
- Output: Sprint 12 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 10 Desember 2025
- Durasi: 1 jam
- Deliverables: API Layer, Queue System, Security Implementation, Interactive Components

Sprint Retrospective:

- Tanggal: 10 Desember 2025
- Durasi: 1 jam

Sprint 13 (Week 13: 11 Des - 17 Des 2025)

Sprint Goal: Documentation, Examples, Testing

Sprint Planning Meeting:

- Tanggal: 11 Desember 2025
- Durasi: 2 jam
- Output: Sprint 13 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 17 Desember 2025
- Durasi: 1 jam

- Deliverables: Complete Documentation, Example Repository, Testing Reports

Sprint Retrospective:

- Tanggal: 17 Desember 2025
- Durasi: 1 jam

Sprint 14 (Week 14: 18 Des - 25 Des 2025)

Sprint Goal: Final Testing, Bugfix, Release/Handover

Sprint Planning Meeting:

- Tanggal: 18 Desember 2025
- Durasi: 2 jam
- Output: Sprint 14 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 25 Desember 2025
- Durasi: 1 jam
- Deliverables: Production-ready System, Deployed Application

Sprint Retrospective:

- Tanggal: 25 Desember 2025
- Durasi: 1.5 jam
- Focus: Overall project lessons learned

7. Sprint Planning & Ceremonies (Legacy - Removed)

Sprint 1 (18-24 November 2024)

Sprint Goal: Setup project infrastructure dan environment development

Sprint Planning Meeting:

- Tanggal: 18 November 2024
- Durasi: 2 jam
- Output: Sprint 1 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit
- Format: What did you do? What will you do? Any blockers?

Sprint Review:

- Tanggal: 24 November 2024
- Durasi: 1 jam
- Deliverables: Project Charter, Infrastructure, CI/CD Pipeline

Sprint Retrospective:

- Tanggal: 24 November 2024
- Durasi: 1 jam
- Focus: What went well? What can be improved?

Sprint 2 (25 Nov - 8 Des 2024)

Sprint Goal: Develop semua AI agents dan backend services

Sprint Planning Meeting:

- Tanggal: 25 November 2024
- Durasi: 2 jam

- Output: Sprint 2 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 8 Desember 2024
- Durasi: 1 jam
- Deliverables: 6 AI Agents, API Layer, Queue System, Database

Sprint Retrospective:

- Tanggal: 8 Desember 2024
- Durasi: 1 jam

Sprint 3 (9-15 Des 2024)

Sprint Goal: Frontend development, testing, dan deployment

Sprint Planning Meeting:

- Tanggal: 9 Desember 2024
- Durasi: 2 jam
- Output: Sprint 3 Backlog

Daily Standup:

- Setiap hari pukul 09:00 WIB
- Durasi: 15 menit

Sprint Review:

- Tanggal: 15 Desember 2024
- Durasi: 1 jam

- Deliverables: Preview UI, Testing Reports, Documentation, Deployed System

Sprint Retrospective:

- Tanggal: 15 Desember 2024
- Durasi: 1.5 jam
- Focus: Overall project lessons learned

8. Definition of Done (DoD)

Sprint 1-2 DoD:

- Project charter telah direview dan diapprove
- GitHub repository setup dengan branch strategy
- CI/CD pipeline berjalan tanpa error
- Development environment dapat dijalankan oleh semua developer
- Cerebras & Mistral API integration test berhasil (dengan fallback mechanism)
- WBS, Network Diagram, dan Gantt Chart selesai

Sprint 3-11 DoD (Per Agent):

- Agent dapat berjalan tanpa error
- Unit test untuk agent passed (coverage > 70%)
- Code telah direview dan di-commit ke repository
- Documentation untuk agent tersedia
- Integration dengan agent sebelumnya berhasil

Sprint 12 DoD:

- API endpoints dapat diakses dan berfungsi
- Queue system dapat process jobs
- Database schema implemented
- Security implementation (API key, rate limiting) berfungsi
- Interactive components frontend berfungsi
- Code telah direview dan di-commit ke repository

Sprint 13 DoD:

- Frontend security (HTML sanitization, XSS prevention) implemented
- Frontend-backend terintegrasi dengan baik
- Semua test case passed (unit, integration, E2E)
- Technical & user documentation tersedia
- Example repository dengan demo app tersedia

Sprint 14 DoD:

- Final testing passed
- Performance optimization completed
- Security hardening completed
- Aplikasi berhasil di-deploy ke production
- Monitoring setup berfungsi
- Project closure & handover document completed
- Lessons learned documented

- Sprint retrospective completed

9. Risk Management

Risk	Probability	Impact	Mitigation
Cerebras/Mistral API downtime	Medium	High	Implement retry logic, automatic fallback to Mistral, cache responses
AI agent output invalid	High	High	Validator agent, extensive testing
Integration complexity	Medium	High	Early integration testing, clear API contract
Team member unavailable	Low	High	Cross-training, clear documentation
Scope creep	Medium	Medium	Strict backlog management, freeze after Sprint 1
Technical blocker	High	Medium	Daily standup for early detection

10. Tools & Technology Stack

Development Tools:

- **Project Management:** Notion (Gantt Chart, Backlog)

- **Version Control:** Git & GitHub
- **Communication:** WhatsApp Group, Discord
- **Documentation:** Markdown, GitHub Wiki

Technology Stack:

- **AI/ML:** Cerebras Qwen 3 Coder 480B (primary), Mistral AI (fallback)
- **Backend:** Python 3.7+, FastAPI/Flask
- **Queue:** Redis, Celery/RQ
- **Database:** SQLite/PostgreSQL
- **Frontend:** HTML5, CSS3 (Tailwind), Vanilla JS/Alpine.js
- **Target Framework:** Laravel 8+
- **CI/CD:** GitHub Actions
- **Deployment:** Heroku, Vercel, atau VPS

11. Success Criteria

Sprint 1-2 Success:

- Infrastructure ready untuk development
- Semua developer dapat run project locally
- CI/CD pipeline automated
- Project planning documents complete (Charter, WBS, Network, Gantt)

Sprint 3-11 Success (Per Agent):

- Agent functional and tested
- Integration dengan workflow berjalan lancar
- No major technical debt
- Documentation updated

Sprint 12 Success:

- Backend services operational (API, Queue, Security)
- Frontend interactive components functional
- API dapat orchestrate agents
- No major technical debt

Sprint 13 Success:

- Frontend-backend terintegrasi dengan baik
- All testing passed (unit, integration, E2E)
- Documentation complete and clear
- Example repository tersedia

Sprint 14 Success:

- System deployed and accessible
- Zero critical bugs in production
- Performance optimized
- Security hardened
- Stakeholder satisfied

Overall Project Success:

- Selesai dalam 14 minggu sesuai timeline (18 Sep - 25 Des 2025)
- Dapat generate Laravel UI dari natural language prompts
- ≥ 90% generated code syntactically valid
- Preview UI allows inspection & approval
- Integration process tidak break Laravel project (staging/branch mechanism)
- Complete documentation available (technical + user)
- 10 AI Agents fully functional (Prompt Expander, Draft, Prompt Planner, Page Architect, Generate Layout App, UI Generator, Route, Component, Validator, Move to Project)

12. Kesimpulan

Proyek MCP Agents Laravel UI Generator ini dirancang dengan metode SCRUM untuk memastikan:

1. **Transparansi** - Semua progress terlihat di Gantt Chart dan daily standup
2. **Inspeksi** - Sprint review setiap akhir sprint untuk evaluasi
3. **Adaptasi** - Sprint retrospective untuk continuous improvement
4. **Kolaborasi** - Backend & Frontend bekerja sama dengan jelas
5. **Delivery** - Incremental delivery setiap sprint (1 week per sprint)

Dengan mengikuti struktur SCRUM ini, tim dapat menyelesaikan proyek AI-powered Laravel UI generator tepat waktu dengan kualitas yang baik dan pembelajaran yang maksimal tentang Agile methodology dan AI integration.

Catatan:

- Gantt Chart di atas dibuat menggunakan Notion
- Setiap task memiliki assignee, due date, dan status yang jelas
- Dependencies antar task sudah dipetakan untuk menghindari blocker
- Timeline dapat disesuaikan berdasarkan velocity tim setelah Sprint 1-2
- Focus pada MVP (Minimum Viable Product) untuk Sprint 1-12, polish & documentation Sprint 13-14
- Total durasi: 14 minggu (18 September - 25 Desember 2025)
- 6 AI Agents: Prompt Processing, Draft Generator, Layout & Component Generator, Route Generator, Validator, Project Integrator
- Technology Stack: Python 3.7+, Laravel 8+, Cerebras Qwen 3 Coder 480B (primary AI), Mistral AI (fallback), FastAPI/Flask, Redis/Celery, HTML/CSS/JS