

RENOVA

AI-Powered Moodboard
Interior Design Platform

By: sdmay26-16



Team Members



Onur Onal

Project Lead/Project
Manager



Prakeerth

Frontend &
Scheduler/Organizer



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Lead Frontend
UX/UI designer



Bae

Backend



Kemal

Fullstack



Om

Backend

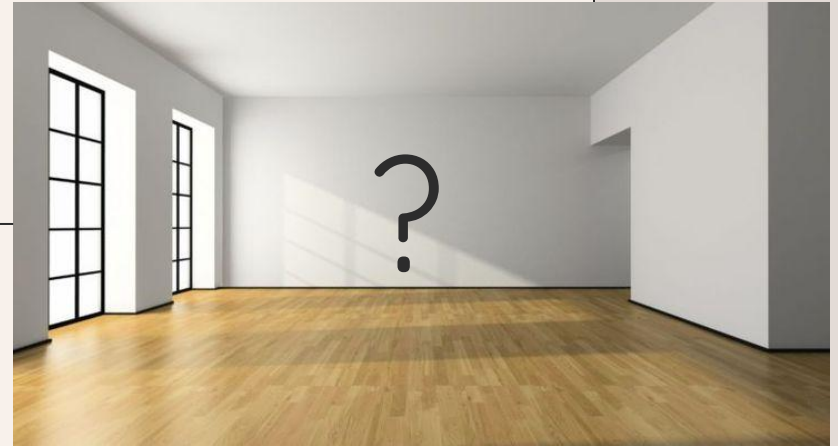
The Design Planning Process

- Moodboards help users explore furniture, colors, and room styles.
- They organize inspiration into a clear design direction.
- They are a common starting point for interior redesign projects.

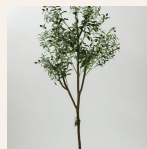
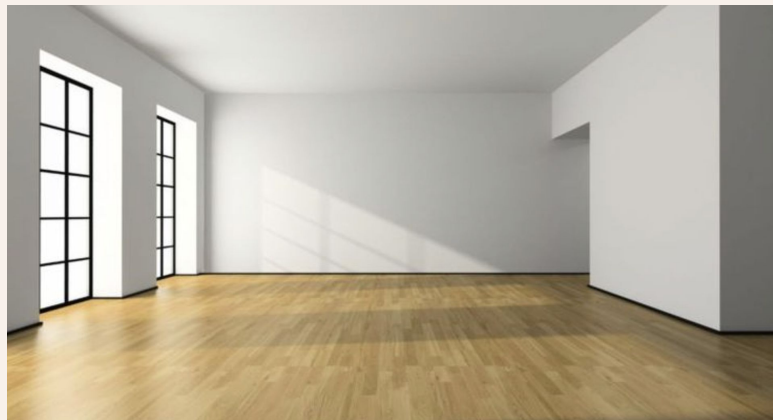


Where Traditional Moodboards Fall Short

- Moodboards do not show how selected items fit in a real room
- Scale, lighting, and layout are difficult to judge from references alone.
- Decisions remain guesswork without room context.



The RENOVA Solution



Demo

The screenshot displays the RENOVA web application interface. At the top, a browser window shows the URL `localhost:3000/dashboard/moodboards`. The application header features the RENOVA logo and a user profile icon.

Left Sidebar:

- User profile: **Onur** (admin)
- CURRENT PLAN**
 - Admin
 - Moodboards: 4 / 0
 - Generations: 1 / 0
 - Usage updates here.
 - Manage plan
- WORKSPACE**
 - Moodboards (selected)
 - AI Generations
 - Explore
- Help ?

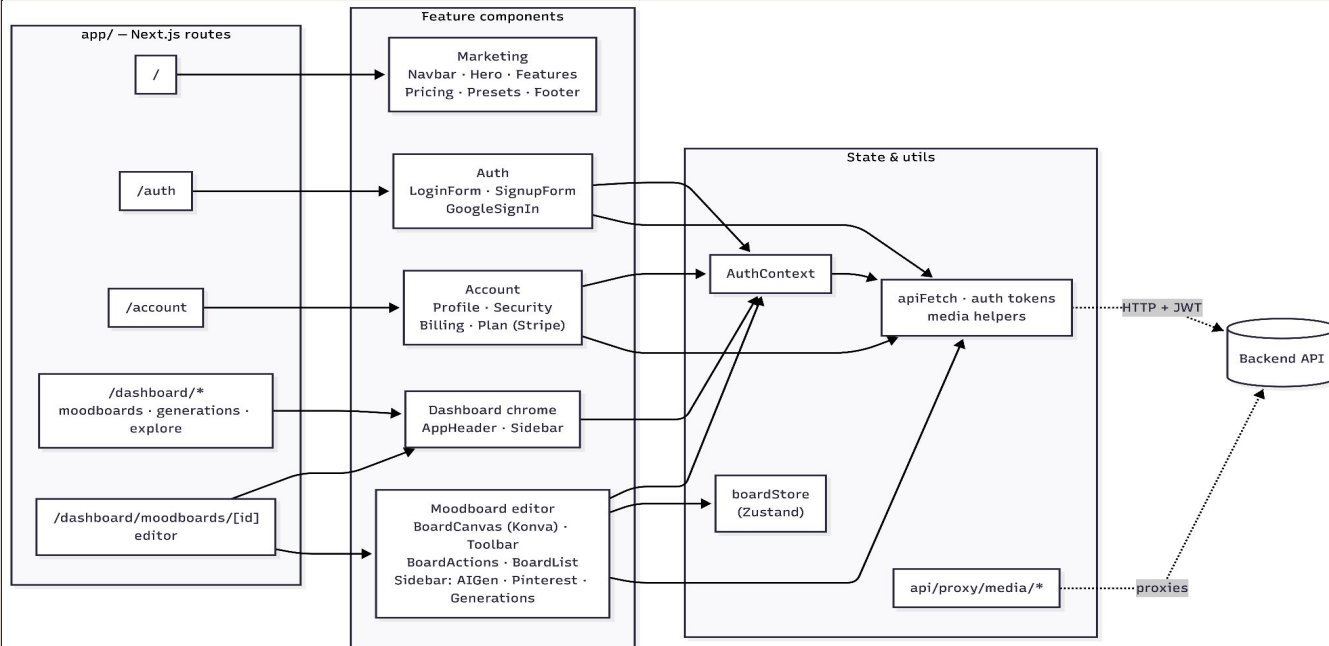
Main Content Area:

- WORKSPACE**
 - Moodboards**
 - Keep your renovation ideas, references, and room directions organized in one place.
 - Create moodboards for your renovation projects**
 - Start new concepts, compare directions, and keep room inspiration grouped by project.
 - USAGE: Unlimited
 - STATUS: Unlimited moodboards
 - Create New Moodboard
 - ALL MOODBOARDS**
 - 3 saved boards
 - Select boards
- test living room**
 - Open board →
- Copy of Bedroom**
 - Open board →
- Copy of Master Bedroom**
 - Open board →

Explore community boards →

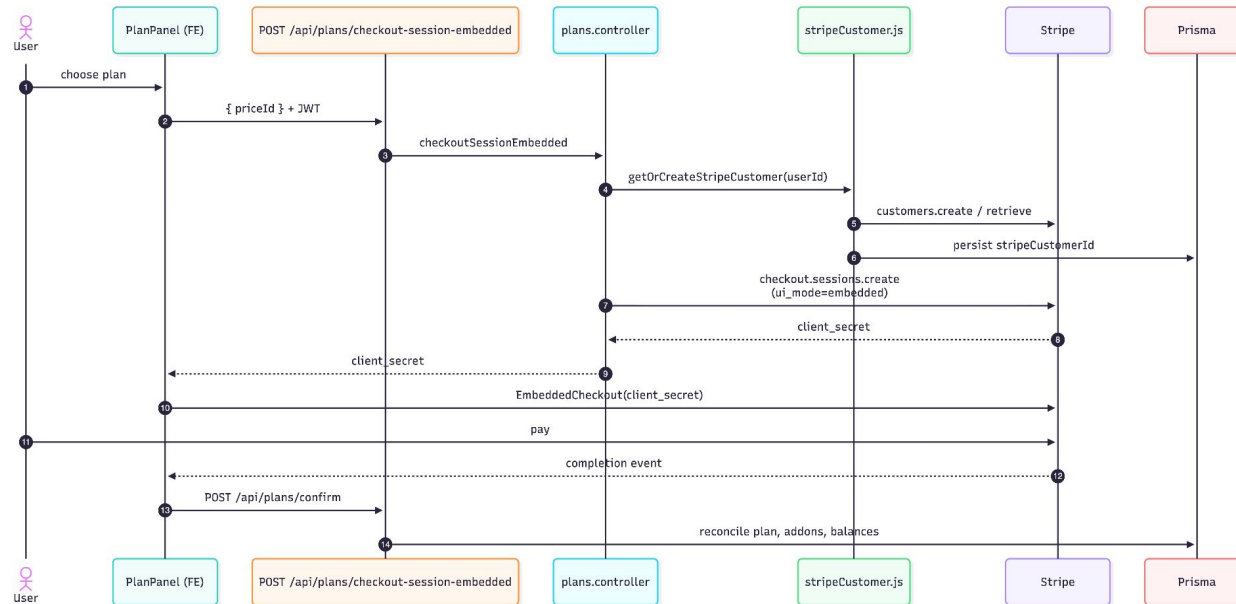
Frontend Architecture

- **App Router** organizes public, auth, dashboard, editor, and account pages
- **AuthProvider + DashboardGuard** protect private user workflows
- Dashboard connects moodboards, generations, explore, and account tools
- **React-Konva** powers the interactive moodboard canvas
- **Zustand** keeps editor state consistent across canvas, toolbar, sidebar, and autosave



Stripe API / Billing Flow

- User selects a plan in the Account then Plan page.
- Frontend sends **{ priceId } + JWT** to `/api/plans/checkout-session-embedded`.
- Backend **creates/reuses Stripe customer** and starts Embedded Checkout.
- Backend confirms checkout, **updates Prisma** plan state, and **enforces usage limits** server-side.
- Supports subscriptions, scheduled plan changes, invoices, and add-on credits.



Community and Presets

Preset Boards on Landing Page

Allows users to start with pre-built mood boards instead of a blank canvas

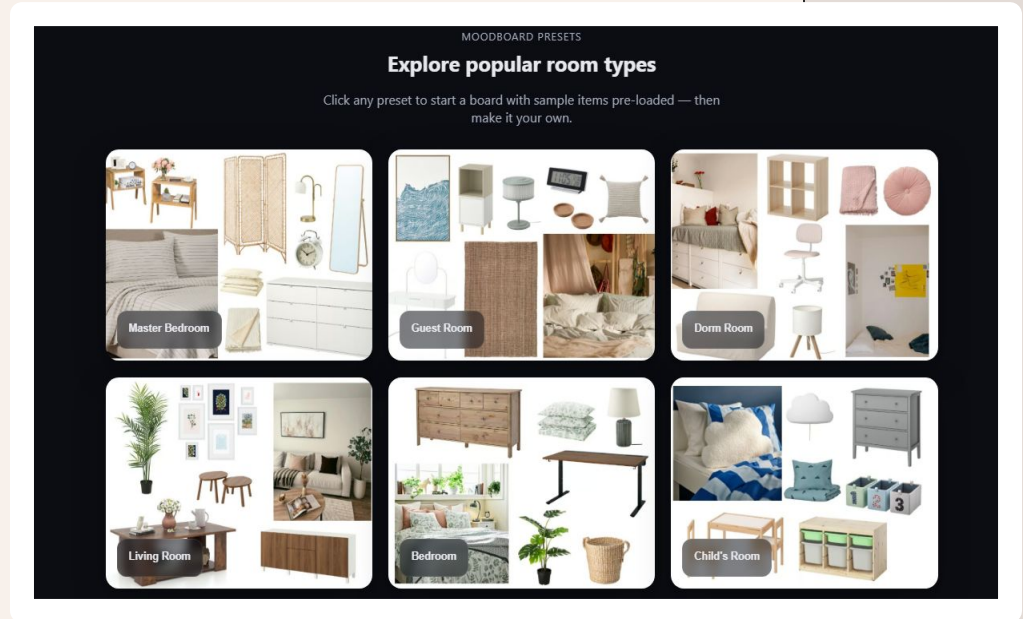
Preset-to-Project Flow

A selected preset is preserved and automatically applied after authentication

Click preset-> login -> clone -> redirect into editable project

Explore Page - Public Moodboards

Enables users to browse, discover, and reuse community designs



Community and Presets

Explore Page - Public Moodboards

Enables users to browse, discover, and reuse community designs

COMMUNITY

Explore

Browse public moodboards and community AI outputs for ideas you can remix into your own renovation projects.

Discover inspiration from the Renova community
Explore room concepts, compare styles, and clone public moodboards into your own workspace when you find a direction worth building on.

PUBLIC BOARDS 7 CATEGORIES 1

QUICK IDEA
When you find a board you like, clone it first, then tweak one room, one material, or one lighting choice at a time.

Moodboards AI Generations

Search boards, categories, or tags All Categories

PUBLIC MOODBOARDS
7 results found

← Previous Page 1 of 2 Next →

Uncategorized
User one public moodboard
Clone moodboard

Uncategorized
Child's Room
Clone moodboard

Uncategorized
Bedroom
Clone moodboard

Uncategorized
Living Room
Clone moodboard

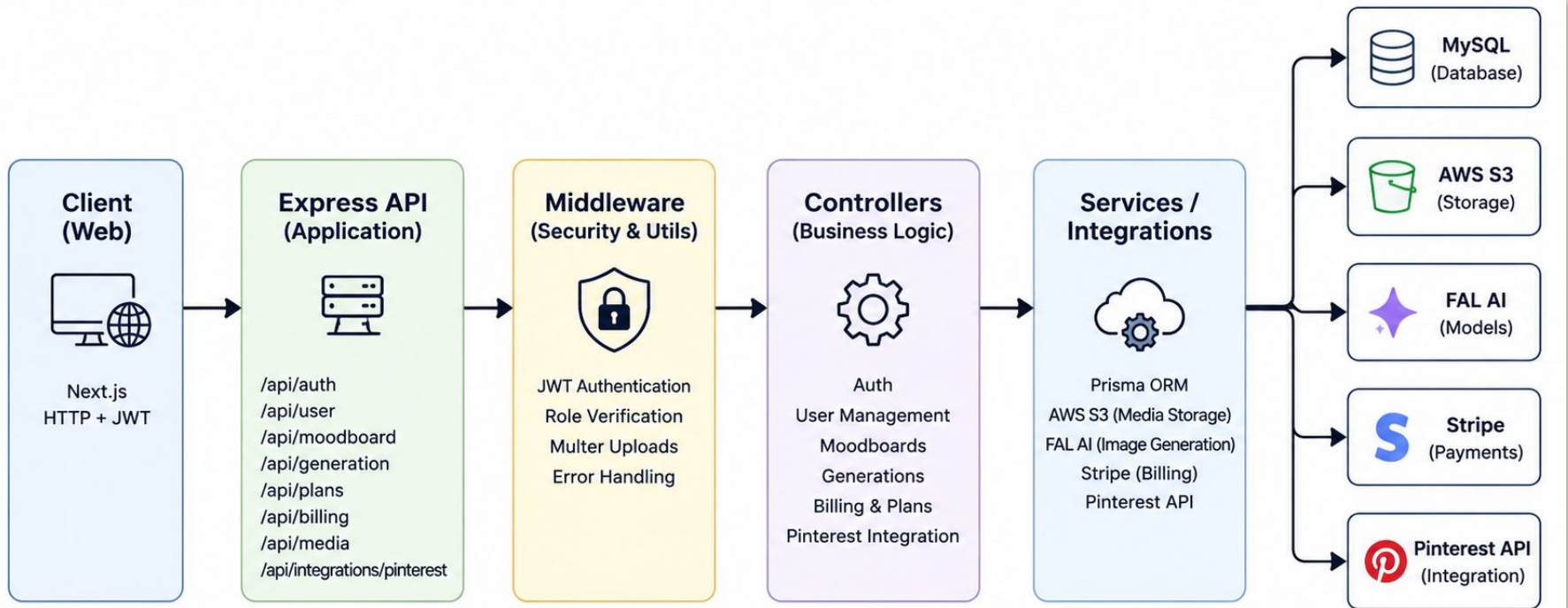
Uncategorized
Dorm Room
Clone moodboard

Uncategorized
Guest Room
Clone moodboard

← Previous Page 1 of 2 1-6 of 7 Next →

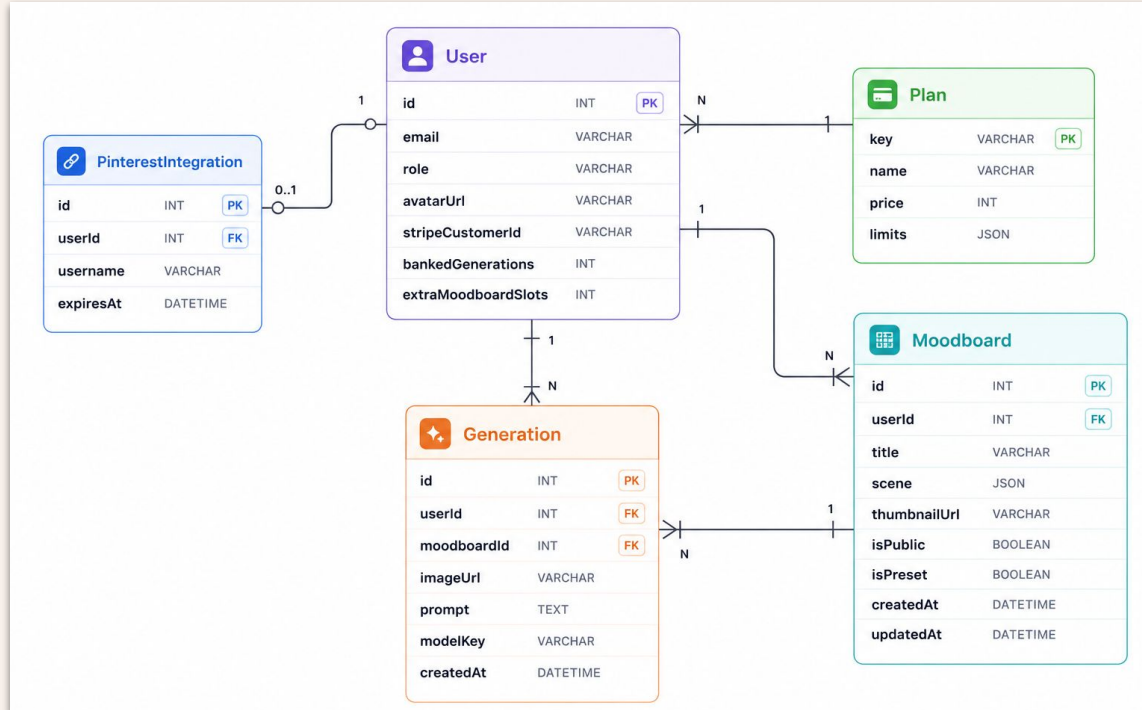
Backend Architecture

- Layered Express API architecture
- JWT-secured middleware and routes
- AI generation and media processing pipeline
- External integrations with S3, Stripe, and Pinterest

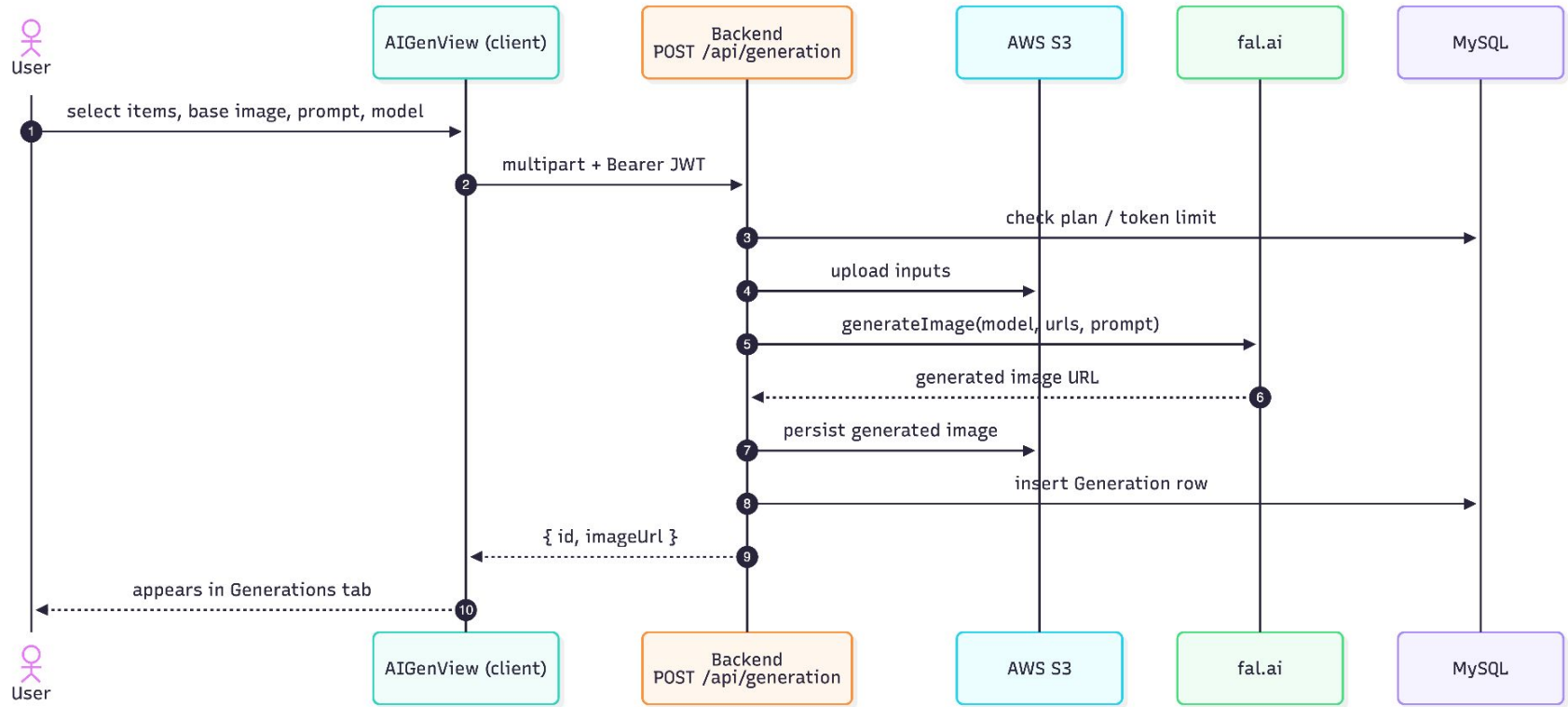


Database Overview

- User-centered relational ownership
- JSON-based moodboard scene storage
- AI generation metadata persistence
- Stripe-linked plan and feature limits



Media and AI Pipeline



Frontend Testing

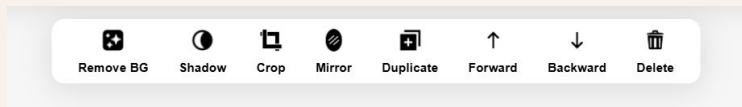
- **Main Moodboard Canvas Components**

- Toolbar
- Sidebar
- Board actions



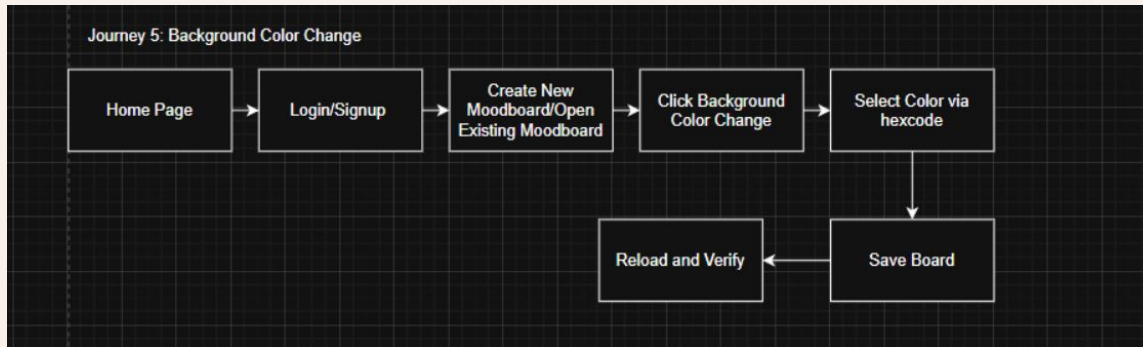
- **Board Store logic**

- Undo/Redo
- Selection



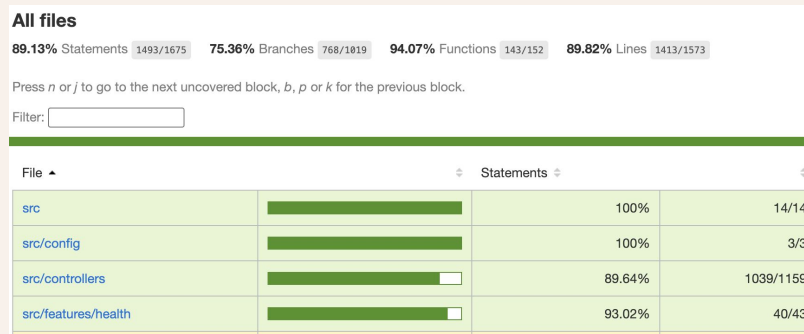
- **Cypress and Playwright Journeys**

- Full User Flow
- User Interaction
- Google OAuth

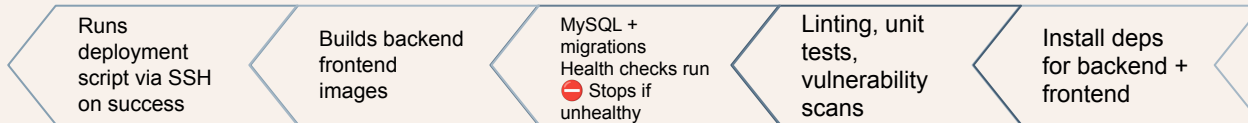
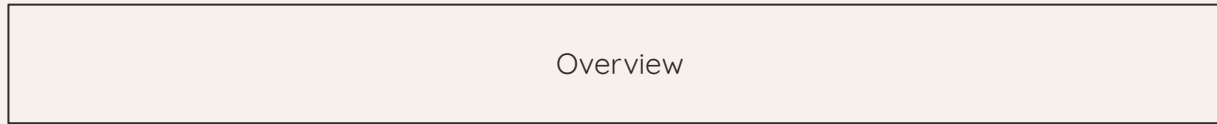
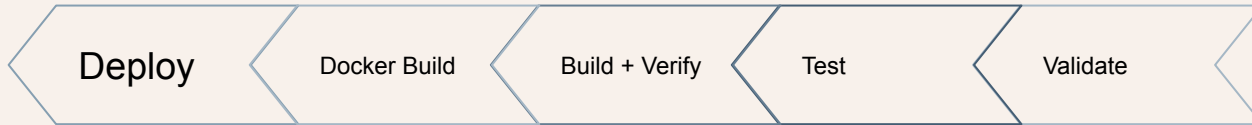


Backend Testing

- **What We Built & Validated**
 - Node.js REST API: auth, billing, AI generation, moodboards
 - Every major module has dedicated test coverage
 - Health endpoint verifies DB and system readiness
- **How We Tested It**
 - Jest unit tests isolate controllers, middleware, and libs
 - Supertest integration tests hit real HTTP routes end-to-end
 - Shared mocks replace Prisma, S3, Stripe, and JWT
- **The Evidence**
 - 689 total tests across 6 structured phases
 - Achieved over 80% backend code coverage



CI/CD Pipeline



Final Result and Takeaways

- Full-stack MVP completed
- Core requirements implemented
- Moodboards to room previews
- Built for real design workflows



THANKS!

Do you have any questions?