

# Portfolio Website Master Documentation

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## Overview

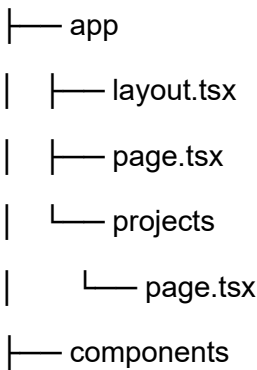
This document serves as a complete reference guide for a professional portfolio website built with Next.js, Tailwind CSS, and Framer Motion. It includes detailed explanations of each file and folder, the purpose they serve, and how they come together to build a scalable, interactive, and styled portfolio site. This guide is written for future reference, to replicate or expand upon this project structure with confidence.

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## 1. Project Structure (High-Level)

/portfolio



```
| | └─ contact-form.tsx
| | └─ layout
| |   └─ navbar.tsx
| | └─ theme-provider.tsx
| |   └─ ui
| |     └─ button.tsx
| |     └─ card.tsx
└─ hooks
| | └─ use-mobile.tsx
| |   └─ use-toast.ts
└─ lib
| |   └─ utils.ts
└─ public
└─ styles
| |   └─ globals.css
└─ components.json
└─ tailwind.config.ts
└─ tsconfig.json
```

## 2. Key Technologies Used

- Next.js (App Router): Handles routing, layouts, SSR/SSG.
- Tailwind CSS: Utility-first CSS framework for rapid styling.
- Framer Motion: Handles smooth animations and transitions.
- Lucide Icons: Icon library used across the site.
- Vercel Analytics: Basic tracking analytics.

## 3. Folder and File Breakdown

### /app

- layout.tsx: Defines the root layout including font, global styles, navigation bar, footer, and theming.
- page.tsx: The homepage content - your personal intro and featured sections.
- projects/page.tsx: The dedicated Projects page for displaying project work.

#### ### /components

- contact-form.tsx: Fullscreen animated contact form overlay with validation.
- layout/navbar.tsx: Responsive navigation bar (desktop, sticky, and mobile).
- theme-provider.tsx: Wraps app with theme context, allows light/dark mode toggling.
- ui/: Atomic component wrappers like Card and Button (reusable design building blocks).

#### ### /hooks

- use-mobile.tsx: Custom hook to check if viewport width is less than 768px.
- use-toast.ts: Custom hook to manage and dispatch toast notifications globally.

#### ### /lib

- utils.ts: Contains cn() function used to merge Tailwind classes conditionally.

#### ### /styles

- globals.css: Tailwind base config and custom CSS variables for light/dark themes.

#### ### Config Files

- components.json: Configuration for ShadCN UI component generation.
- tailwind.config.ts: Tailwind theme, extensions, and plugin configuration.
- tsconfig.json: TypeScript configuration file for path aliases and strict mode.

## 4. Component Overview

- Navbar: Dynamically updates on scroll, adapts to screen size, shows contact form.
- ContactForm: Full-featured contact overlay with animations and API submission.
- ThemeProvider: Manages dark/light themes using next-themes.
- Card, Button: Styled UI components built with Tailwind and imported from ShadCN.

## 5. Utility and Hook Files

- use-mobile.tsx: Simplifies mobile view detection using window.innerWidth.
- use-toast.ts: Implements global toast logic with support for timed auto-dismiss.
- utils.ts: Simplifies class merging with clsx and tailwind-merge for dynamic styles.

## 6. Styling and Theming

- Tailwind is configured through tailwind.config.ts
- CSS variables in globals.css control color palette and design system.
- Supports dark mode via Tailwind's @layer base root styles.

## 7. Animations

- Framer Motion handles entrance/exit animations for modals and elements.
- Used in contact form and page transitions for a smoother UI experience.

## 8. Deployment Notes

- Designed for deployment on Vercel.
- vercel.json (if added) can define build commands and redirects.
- Analytics are hooked using @vercel/analytics.
- Pages are automatically deployed on push via Vercel Git integration.

## 9. Visual Structure Diagram

App Layout (layout.tsx)

|

|-- ThemeProvider

- |-- Navbar (with scroll + mobile handling)
- |-- Page Content (page.tsx or projects/page.tsx)
- |-- ContactForm Overlay (conditionally rendered)
- |-- Footer

## Custom Hooks

- |-- use-toast → for toast messages
- |-- use-mobile → for screen detection

## Component Reuse

- |-- Card, Button → styled UI components

## Styling System

- |-- globals.css → Tailwind directives and CSS variables
- |-- tailwind.config.ts → extends themes, colors, etc.

## Configuration

- |-- tsconfig.json → defines TypeScript paths and rules
- |-- components.json → used by ShadCN for UI scaffolding