



# Excalidraw Project Structure

The beloved open-source virtual whiteboard. Excalidraw is a masterclass in high-performance React development, featuring a specialized canvas engine and a clean architecture that allows it to be used as both a standalone app and a reusable library.

Updated 2025-12-30

#excalidraw

#whiteboard

#react

#canvas

#typescript

#pwa

#open-source

PNG

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## Project Directory



### excalidraw/

- ✓ **excalidraw-app/** The full web ap...
  - src/** App-specific so...
  - public/**
- ✓ **packages/excalidraw/** The core drawin...
  - src/** Engine logic & ...
  - package.json
- packages/utils/** Shared helper l...
- public/** Global static a...
- package.json Root workspace



## Repository Info

**Repository** - [excalidraw/excalidraw](#)

**Stars** - 80k+

**License** - MIT

**Last Analyzed** - December 2025



## Tech Stack

**Framework** - React

**Language** - TypeScript

**Rendering** - Canvas API (2D)

**State** - Custom state management

**Packaging** - pnpm monorepo



## Architecture Notes

Excalidraw is architected to be both an application and a library. The core drawing logic and UI components are housed in `packages/excalidraw/`, which is published to npm. The full-featured application (with collaboration and storage) lives in `excalidraw-app/` and consumes the core package. This separation ensures that the drawing engine remains highly decoupled and reusable. It's particularly notable for its use of the Canvas API to achieve smooth, hand-drawn styles at high frame rates.



## Key Directories

**packages/excalidraw/src/** - The heart of the drawing engine, handling element math, rendering, and interaction

**excalidraw-app/src/** - The application layer that adds collaboration, file management, and specific UI features

**packages/utils/** - Contains critical mathematical and geometric utilities for canvas manipulation



## Why This Structure?

Excalidraw is an exceptional example of a 'Library-First' architecture. It shows how to build a complex, interactive tool that remains lightweight and easy to integrate into other projects. It's a top-tier reference for anyone interested in graphics, canvas-based applications, and high-quality React engineering.