

Yutex Tech Stack

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Overview

App is a one-stop solution for latex editors. Don't need to manually install the miktex, strawberry perl and other engines. Also it works locally and does not produce tons of extra files, a all-in-one application for latex.

Frontend

- **SvelteKit** Modern UI framework for reactive, fast frontend.
- **Adapter-Static** Compiles SvelteKit into static files (`/build`) so Tauri can ship them.
- **Vite (bundler)** Powers dev server and build pipeline.

Desktop Shell

- **Tauri** Wrapper that turns your web frontend into a native desktop app. Bridges frontend \leftrightarrow Rust backend.

Backend

- **Rust (via Tauri commands)** Handles system-level logic such as file access and LaTeX compilation. Rust is secure, fast, and integrates tightly with Tauri.

LaTeX Engine

- **Tectonic (Rust-based)** Modern LaTeX engine that downloads required packages automatically. Replaces MiKTeX/TeX Live (avoids bloated dependencies). Invoked by the Rust backend to compile `.tex` into `.pdf`.

Editor

- **Monaco Editor** Provides rich text/code editing with LaTeX syntax highlighting. Similar to what Overleaf uses.

Summary Flow

1. User writes LaTeX in Monaco.
2. Click **Compile** → Frontend calls a Rust Tauri command.
3. Rust command runs Tectonic → produces PDF.
4. PDF is shown back in the app, PDF is displayed live and automatic compilation.