Tech and Design Stack

The Tech and Design Stack was carefully chosen to facilitate rapid development on the Omen prototype while maintaining a minimum level of testing and quality assurance.

I expect much of this will change as I ease the project out of its prototyped shell.

Design Tools: Paper for low-fidelity prototyping, Figma for high-fidelity prototyping. Illustrator, Photoshop, and Canva were used to create the web and brand graphics. OBS was used to record progress gifs.

Frontend: Next.js React framework with Tailwind CSS for quick styling. Most definitely getting rid of Tailwind styling at the first opportunity.

Backend: Next.js API routes, with NextAuth planned for authentication and MongoDB planned for non-relational storage. I might try a GraphDB with Neo4j.

AI Technologies: Segment Anything Model (SAM) for image segmentation (yet to be added) and Symbol Detection, GPT-4 Vision for image analysis, and GPT-4o for synthesizing results into natural language.

External APIs: I augmented GPT-4 Vision's symbol analysis with the Google Books API and the Wikipedia and Wikidata APIs. Plan on adding more context-dependent "add-ons" to accomodate all symbols as the project grows.

Deployment: While the Omen prototype is running locally on my Computer, I plan to deply the app on either Vercel or GitHub Pages, since im already using GitHub for CI/CD and version control.

Special Thanks

My thanks to all the ICCIT Faculty and Staff for running the event again this year, and especially to our wonderful professors that have made these years at UTM worth the struggle.

~ Aman Shahid