

Brandon Hach

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EDUCATION

The University of North Carolina at Charlotte
BS in Computer Science, Software Engineering Concentration

Charlotte, NC
August 2021 - May 2024

SKILLS

Programming Languages: TypeScript, Python, JavaScript, Java, HTML, CSS

Frameworks: React.js, Flask, Next.js, Express.js, Angular, Tailwind

DBMS: PostgreSQL, Prisma, MongoDB, MySQL

Others: Postman, Git, Git Bash, Docker, Notion, DataGrip, VScode, Figma, VirtualBox, VScode, Ubuntu, Linux

PROJECTS

Repguard (Next.js, TypeScript, Tailwind, Docker)

- Written docker-compose file which is used for containerizing & encapsulating application code, dependencies, and runtime environments; leading to a significant reduction in environment-related issues and streamlining seamless integration for local development.
- Implemented secured authentication flows with NextAuth, including OAuth integration with providers like Google & Discord, and Magic Link by using a resend library with a custom domain. Persistent data is stored in PostgreSQL through a popular ORM called Prisma where all query statements are written in TypeScript server-side.
- Focused on optimization by using server actions for HTTP data mutation to offload intensive operations and minimize network overhead which significantly reduces latency compared to traditional API routes that involve network communication. Minimize page bundle sizes being sent to the client by explicitly rendering content as server or client components; promoting SEO for search engines.
- 3-4 week agile sprint where releases are made after all user stories assignments are completed. Adhere to git etiquette to ensure no conflict arises and configure issue templates on GitHub for consistency. Used Git-Bash as the CLI, GitHub for Git Version Control & project management, and Discord for team communication. This approach streamlined code reviews, reduced merge conflicts, and fostered smooth team collaboration.

Collaborative Whiteboard WebApp (React.js, Flask, PostgreSQL, Python, JavaScript, Tailwind, DaisyUI)

- Managed project workflows by leading the team, assigning user stories, hosting weekly Agile sprint meetings, and making releases for each project milestone on schedule. And completely oversaw front-end development using DaisyUI and Tailwind, crafting a sleek, minimalist bento-inspired design layout.
- Developed custom API server using Flask with user authentication and authorization mechanism (encrypted with bcrypt), and RESTful services consumed by React.js for a dynamic front-end experience.
- Utilized socket.io for communication between the client and server. Implemented Konva.js for building the whiteboard and tools for the user in React.js.

Personal Portfolio Website (Next.js, TypeScript, Tailwind, DaisyUI, Framer Motion)

- Leveraged Next.js and UI component structure with DaisyUI to build a portfolio website showcasing projects and personal interests in a clean and professional aesthetic. The layout style is inspired by [Bento.me](#).
- Deployed into production on Vercel, ensuring optimal performance and accessibility for all users. Benefited from Vercel's straightforward rapid hosting deployment through its integrated support with the Next.js framework.

Luxury Cheese Marketplace (Express.js, JavaScript, Tailwind, MongoDB)

- Used Express.js and its included templating engine with basic user authentication (hashed with bcrypt), persistent data storage with MongoDB, and tailwind for UI components.
- Organize project structure to use Model View Controller architectural design commonly used to structure web applications. The controller module contains business logic and services, the routes are separated from the main in a modularized manner to ensure scalability, the model serves as an interface to the database to perform CRUD operations on resources, and the view contains the HTML or EJS templating engine provided by Express.
- Utilize middleware such as Multer for file uploads, Morgan for logging requests & errors, and customized middleware for user authentication, and input form validation & sanitization for security to protect against CSRF & SQL injection vulnerability using express-validator packages.

STUDENT ORGANIZATION

Association for Computing Machinery (ACM)

Club Member

September 2023 - May 2024

- Weekly meetings where the club members socialize, practice, and learn in software engineering.