Michael Kelly

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SKILLS

Front-end Development: HTML, CSS, Sass, React, Redux, Next.js, ChakraUI, jQuery, Bootstrap

Back-end Development: PostgreSQL, MongoDB, Node, Express, Sequelize, Flask, SQLAlchemy, AWS S3, NoSQL

Languages: JavaScript, TypeScript, Python, C++

Other: Git, Docker, Linux. Unix, Bash, Mocha, Chai, Jira

PROJECTS

Jaunts | (React, Redux, SCSS, Postgres, Flask, SQLAlchemy, S3, Selenium, Mapbox API, CI/CD)   **live** | **github**
- Integrated **Mapbox API** to search for, filter, and display trail route data stored in **CSV** files.
- Utilized **Selenium** and **Chrome WebDriver** scripts to scrape information from the web for realistic seed data.
- Leveraged **AWS S3** for user photo storage to optimize server load, routing, and scalability.

Sketch It | (ReactJS, Redux, Postgres, Sequelize, ExpressJS, NodeJS, PixiJS)   **live** | **github**
- Incorporated the **PixiJS WebGL** library to render user drawings in real time.
- Reduced memory usage in the relational databases through efficient storage of image data into flattened cartesian arrays.
- Provided security to user accounts through authenticated routes and **Bcrypt** password hashing.

Fox Forest | (Express.js, Node.js, Pixi.js, Socket.io)   **live** | **github**
- Developed a 2D platform game and engine coded in pure **Javascript.**
- Implemented engine features such as: Authoritative Client-Server Architecture, Trigger/Condition/Action System, Finite State Machine AI, and various Broad/Narrow phase collision culling and detection techniques.
- Incorporated the **PixiJS** rendering library to create a camera capable object tracking and parallax layers, and an asset loader to load level data from **JSON** files.

Tiledit | (jQuery, Express, Node, Pixi)   **live** | **github**
- Designed a tile map editor that game developers can use to create 2D tile based levels.
- Utilized an auto-tile algorithm that determines the shape of fill tiles and the border masks/overlays required.
- Implemented layer scaling, offsetting, and parallax directly into the editor to decrease level development time.

Scratch.io | (React, Redux, SQL, Flask, SQLAlchemy, Chakra, Formik, WTForms, Heroku)   **live** | **github**
- Engineered an extensive **RESTful API** back-end that maximized the precision of **AJAX** queries made from the front-end.
- Spearheaded data validation and entry using **Chakra** and **Formik** on the front-end and **WTForms** on the back-end.
- Utilized object oriented programming principles (**OOP**) and data structures in the design of the web application.

Remember the Whey | (Pug.js, SQL, RDBMS, Sequelize, Express.js, Node.js, Visual Studio)   **live** | **github**
- Rapidly prototyped a front-end using the **Pug** templating engine to create a pixel perfect clone of RememberTheMilk.com.
- Introduced an enhanced **UX / UI** design through intuitive drag and drop features and additional animations.
- Utilized **Agile** and **Scrum** project methodologies to deliver iterative results over the software development life cycle.

EDUCATION

George Mason University - BS Computer Science (106/120 credits), 2015

App Academy - 1000+ Hours Full-Stack software engineering course with < 3% acceptance rate, 2021