MICHAEL COSTELLO

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Skills

Strong: JavaScript (ES6+) • TypeScript • React • Redux • Express.js • Node.js • Docker • SQL • NoSQL • TDD • JWT • CI/CD • AWS • Git/Github • CSS/Sass/Less • HTML5 • Linux • Bash/Shell
Experienced: Python • Redis • Google Cloud • Enzyme • Supertest • Tailwind CSS • OAuth2.0 • Machine Learning

Experience

Software Engineer, *dbSpy (Open-Source Product)* 2022 - Current

- Programmed developer tool for relational database management systems aimed at aiding developers during the discovery phase of projects, providing the tools needed to build and visualize their SQL databases.
- Implemented a state management system in adherence to the flux architectural pattern, leveraging React Hooks, Zustand (OS state management library), and ES6 modules to decouple tightly-bound components, creating a single source of state and enhancing scalability for the addition of new features.
- Deployed to AWS with Docker, Elastic Beanstalk, and Elastic Compute Cloud increasing scalability and reliability through AWS load balancing, and facilitating development by containerizing the dev environment.
- Designed testing suites in Jest for frontend components and reducers, and wrote HTTP server integration tests, increasing test coverage by 52% of lines and facilitating CI/CD for future contributors.
- Ramped up development speed and increased consistency across application code by defining types and interfaces for component and store state with Typescript, creating a contract for client/server data.
- Built React components to enhance UX, improving validation to preempt noncompliant database schema structures and ensuring users follow relational database management system best practices.
- Cleared product backlog by restoring query generation, query exports, and undo/redo functionality.
- Added support for remote MySQL connections by creating SSL certificates and refactoring existing PostgreSQL features, improving user compatibility.
- Improved account functionality with Google OAuth and JWTs to securely store user data, sessions, and history.
- Built a RESTful Node.js/Express.js server that efficiently routes HTTP requests to endpoints for user session management and remote SQL database connection, leveraging the middleware design pattern to provide flexibility and modularity for backend functions.
- Developed under tech accelerator Open Source Labs (opensourcelabs.io) in an Agile team of 4-5 engineers.

Open Source

Coalescent, *Lightweight Project Management Application* Nov 2022

- Leveraged WebSockets to create a low-latency, persistent connection between server and client, allowing instantaneous project updates to be reflected on associated teams' devices in real-time.
- Designed NoSQL schema to enable fast read/write operations for unstructured and semi-structured user data, and to improve the potential for scaling through sharding.
- Created seamless mobile-first user design with React Router and Context API, enabling fast page-switching experiences while keeping state consistent.

Pitch It, *Project Collaboration Platform* Oct 2022

- Created SQL schema to store user data and automatically enforce business logic, enabling efficient creation and deletion of user data relationships without multiple calls to the database server.
- Secured backend user-session functionality by hashing and salting sensitive user data, encrypting issued cookies' payloads, and fixing SQL queries to remove SQL injection attack vectors.
- Built REST API to SQL database by modularizing endpoint handling with Express.js middleware on a Node.js server.

Public Speaking

Message Brokers, *Jeeny & Bractlet Software Engineering Speaker Series* Dec 2022
Presented an overview of message broker technology, namely the state of message brokers today, competitive consumers, topics and subscriptions, and the publish/subscribe messaging pattern.

Education

University of Florida, *B.A.* 2013

Interests

Traditional Korean brewing (cheongju, yakju, takju, makgeolli) • White water rafting, kayaking, rock climbing, hiking
Film (PTA, Malick, The Criterion Collection, horror camp) • Designer board games (Brass, Hansa, Terraforming Mars)