

CS 4530 Enhanced FakeStackOverflow

Reuben Colten, Shianne Henry, Evelyn Robert, Cole Christiana

Enhancements and User Stories

We transformed FakeStackOverflow from a basic Q&A platform into a community-driven social network by implementing six interconnected features. Our guest user system provides read-only access without authentication, while enhanced profiles include customizable badges, external links, and profile pictures. A comprehensive voting system with real-time updates allows users to upvote/downvote all content types. The following feed curates content from followed users with privacy controls including public/private profiles and follow request workflows, while advanced filtering enables discovery through tags and language preferences.

Future Work

We envision adding an integrated code sandbox that allows users to write, edit, and execute code directly within questions and answers, similar to platforms like LeetCode or CodePen. This enhancement would particularly benefit the developer community by creating a more interactive and practical learning environment.

To enhance the scalability of the platform, we'd switch to storing user profile pictures in a cloud service instead of within the server file system.

Technology Stack and Design

We used value-sensitive design to guide our development and balance social engagement versus anonymity. Our layered architecture uses React 19.1.0 with TypeScript for type-safe frontend development, Express 4.21.2 for RESTful API endpoints, and MongoDB 6.16.0 for flexible data storage. Socket.io 4.8.1 enables real-time vote updates and notifications without polling overhead, while username arrays for votes ensure atomic operations that prevent race conditions. We implemented reusable components and custom hooks that reduced code duplication, and middleware-based authentication distinguishes between guest and registered users throughout the application. Our 543 automated tests (496 Jest backend & 47+ Cypress E2E) validate all essential objectives.

Demo & Source

Demo: <https://cs4530-f25-706.onrender.com/>

GitHub: <https://github.com/neu-cs4530/fall25-project-fall25-project-group-706>

