CS4530 Final Project: StackOverflow (Reloaded)

“Group 209: Abigail Johnson, Olatunde Araba-Owoyele, Manav Sheth, Annika Chang

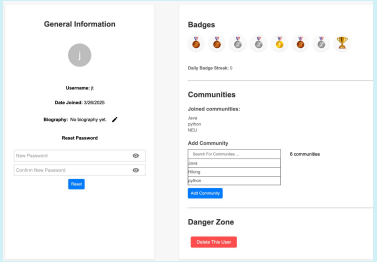
Our Feature

In its current implementation, FakeStackOverflow users do not possess robust tools for real-time collaboration, and rewards or recognition for their contributions. This may reduce engagement and overall efficacy of the platform. To address these limitations, we propose the following features.

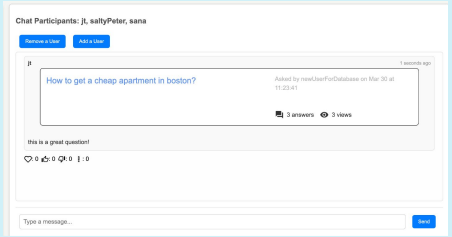
A secure group chat system that will enhance real-time communication on the platform by allowing users to create private group discussions . The ability to easily share questions and answers with others, whether through direct messages or group chats. A community-based system where users can select topics of interest and be placed into relevant discussion groups. The ability to view and join communities directly from other users’ profiles based on shared interests. Finally the display of badges and leaderboards to reward users for their contributions to StackOverflow (Reloaded) .

Demo and Source

Our demo site is available at https://cs4530-s25-209.onrender.com/, and our code at https://github.com/neu-cs4530/spring25-team-project-spring25-project-group-209



Badges that are earned by Users and Communities that they have joined are displayed on their profile. Users are able to join new Communities and view their Daily Badge Streak on their profile.



Users are now able to share either questions or answers to group chats. The Users in the chat can also react to the question using the emoticons below it.

Our Technology Stack & Design

We implemented our features in the existing FakeStackOverflow application. Backend changes involved creating new Mongo models to represent Badges and Communities (Interests), and modifying the existing User schema. Additionally, corresponding service and controller layers were created to implement the API operations. Regarding frontend changes, custom React hooks were created for all components and styling was revamped using Material UI. Backend changes were synced to clients using socket-io following the preexisting typed emitter pattern.

CI/CD pipeline checks formatting and runs all unit tests. Deployment is done using Render.

Future Work

For group chats, we envision implementing message replies and indicators that flag when a question has been “highly shared” across multiple conversations, enhancing clarity and visibility in collaborative threads. In communities, we hope to support customizable achievement badges and a shared resource library, allowing members to curate tutorials, tools, and articles together. From a gamification perspective, additional functionality could include showing users how many more contributions they need to earn their next badge, creating a more engaging and goal-oriented experience. These additions would deepen interaction, reward long-term participation, and promote knowledge-sharing through more personalized and dynamic user journeys.