

CS4530 Final Project: "CodeStack"

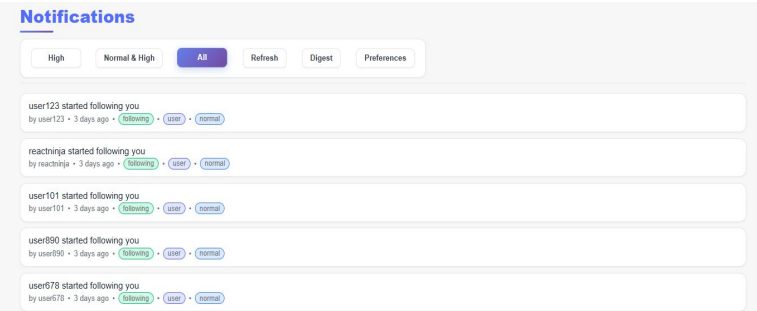
Group 206: Ryan, Matthew, and Timothy

Our Feature

Users on Q&A platforms like Fake Stack Overflow often face three key issues: difficulty forming meaningful connections with other contributors, frustration around account security and personalization, and disorganization when trying to revisit valuable content. Our project addresses these problems by introducing three interconnected features. First, a follower and inbox system allows users to follow contributors, view activity updates, and exchange direct messages—promoting community engagement and collaboration. Second, secure and flexible authentication options such as Google Sign-In and Two-Factor Authentication strengthen account safety while giving users control through simple personalization settings. Third, an integrated bookmarking and notification control system allows users to save and organize their favorite posts in a sidebar-accessible page, receive update alerts for bookmarked content, and customize or mute notifications to match their preferences. Together, these features create a more personalized, trustworthy, and efficient user experience.

Demo and Source

Our demo site is available at cs4530-f25-206.onrender.com, and our source code is available at <https://github.com/neu-cs4530/fall25-project-group-206>



The screenshot shows a 'Notifications' page with a filter bar at the top containing buttons for 'High', 'Normal & High', 'All' (selected), 'Refresh', 'Digest', and 'Preferences'. Below the filter bar, there are five notification items, each showing a user profile picture, the user's name, and the text 'started following you'. Each item also includes a timestamp '3 days ago' and two buttons: 'Following' and 'User'.

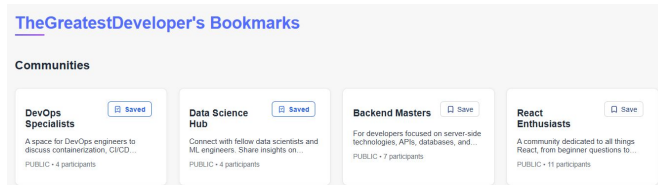
Screengrab of notifications page

Our Technology Stack & Design

We implemented the following system, messaging inbox, authentication options, and bookmarking features directly into the existing Fake Stack Overflow codebase. The follow and inbox components were added as new UI elements connected to real-time backend updates, enabling users to follow others, view activity updates, and exchange messages. Authentication was expanded to include Google Sign-In, secure password hashing, and session handling, all integrated into the existing login routes without altering the core layout. The bookmarking system introduced new backend endpoints and persistent storage logic, along with a centralized bookmarks page and configurable notification controls. Real-time updates and user preferences such as muting, notification priorities, and session persistence were synchronized across clients through database updates and event-driven notifications. Our continuous integration pipeline ran automated frontend and backend tests and then deployed the application via Render, ensuring reliability as each feature was incrementally added.

Future Work

- Expanded Authentication Options: Implement additional SSO providers (GitHub, Microsoft, Apple) beyond our current Google integration to offer users more flexible login options.
- Security Notifications: Develop a email notification system to alert users of logins from unrecognized devices, enhancing account security and user awareness.
- Enhanced User Customization: Enable profile personalization features including custom avatars, banner images, and theme preferences to allow users to better express their identity within the community.
- Community Moderation Tools: Implement reporting systems, community guidelines enforcement, and moderation dashboards to maintain a healthy platform environment.



The screenshot shows a 'Bookmarks' page with a title 'TheGreatestDeveloper's Bookmarks' and a 'Communities' section. There are four community cards, each with a title, a 'Save' button, and a description. The communities are: 'DevOps Specialists' (4 participants), 'Data Science Hub' (4 participants), 'Backend Masters' (7 participants), and 'React Enthusiasts' (11 participants).

Screengrab of Bookmarks page