

CS4530 Final Project: CoderLite

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Online communities thrive on meaningful interactions, yet many platforms lack the security, accessibility, and communication tools needed to foster a truly engaging user experience. To address these gaps, we implemented three new features: private forum discussions, customizable accessibility features, and enhanced messaging capabilities. These features aim to create a more secure, inclusive, and interactive environment while providing a more meaningful user experience.

Source Code & Demo

Our source code is available [here](#), and a demo site at <https://cs4530-s25-110.onrender.com>

Tech Stack and Design Decisions

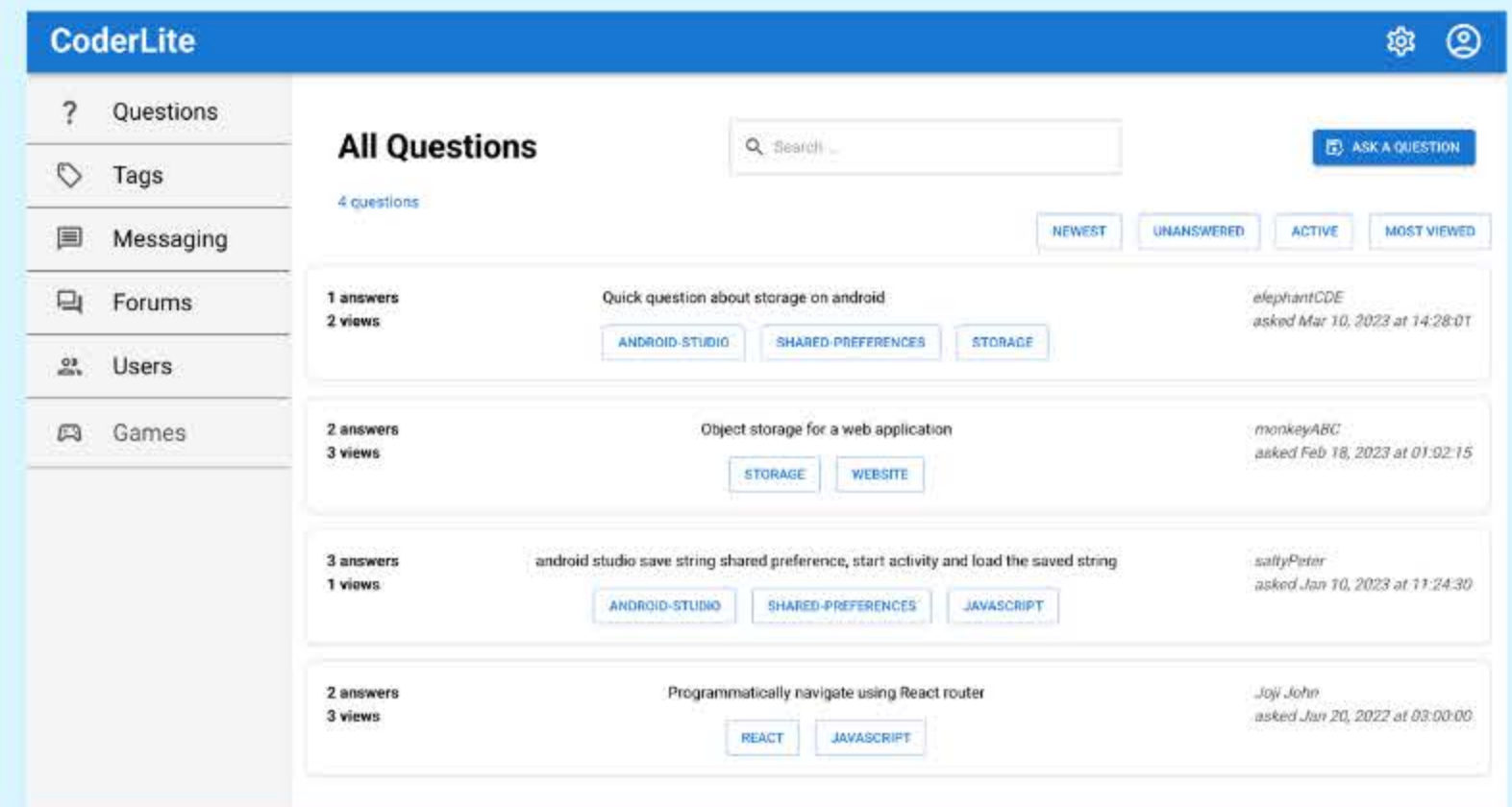
We implemented CoderLite features in the existing FakeStackOverflow codebase. We re-implemented the front-end using the Material UI library to overhaul the existing UI. Additionally, we added backend functionality for both private forums as well as enhanced instant messaging. We also added accessibility preferences and two factor authentication status to the user object to save between sessions.

A CI/CD pipeline was also utilized during development to streamline deployment and run a series of automated tests. Once the changes pass the CI/CD pipeline, they are finally deployed to our live site using Render.

Future Work

Although we believe the current features implemented for CoderLite do a good job of meeting our goals to improve security, accessibility, and communication, there are additional features that could improve user experience.

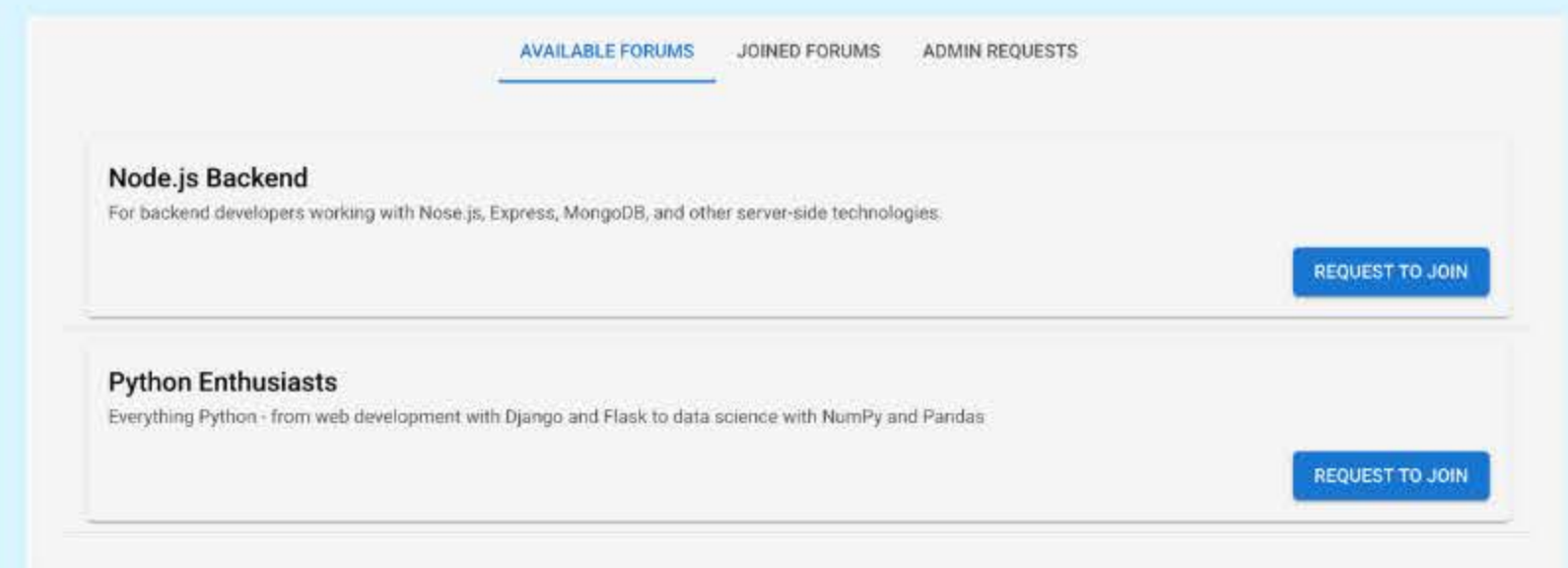
Future work may include the ability for admins of forums to pin certain posts, or notifications when a join request has been accepted or rejected for a particular user. Additionally, future work for our enhanced instant messaging feature may include the ability for users to edit their sent messages, or interact with a ChatBot. Finally, future work of the UI could include tooltips.



Homepage of CoderLite showing new UI



Two-Factor Enabling in user settings



View of All Available Forums on CoderLite