

CS4530 Final Project: “OverCode,” Gamifying Interview Practice Problems

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Our User Stories and Features

The initial FakeStackOverflow (FSO) application was a simplified clone of StackOverflow, allowing users to leave coding-related questions and source answers from other users. FSO had two unique features that separated it from the real StackOverflow: a Message platform that enabled User-to-User communication, and Games which allowed Users to play Nim games against one another. We decided to combine the coding element of FSO with its novel collaborative features and create opportunities for users to code together, allowing them to collaborate and refine their programming skills in a fun, gamified way. Our three user stories for this extended version of the app include:

1. Users can create and add Problems to a global list of Problems, and vote on these.
2. Users can create and join CollabCode servers, where they can complete programming Problems with other users.
3. Users can submit solutions to any Problem on the global list, and view how their solution performs against others.

Demo and Source

Our demo site is available at

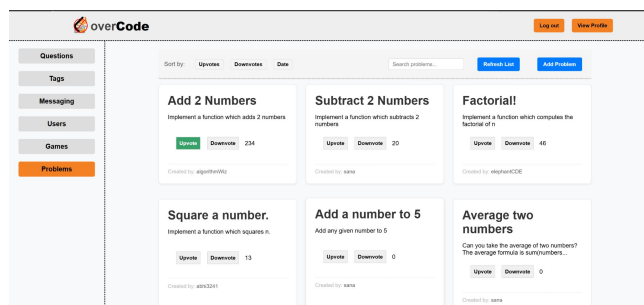
<https://cs4530-s25-101-frontend.onrender.com/problems>, and our code at <https://github.com/neu-cs4530/spring25-team-project-spring25-project-gro-up-101>

Technology Stack and Design

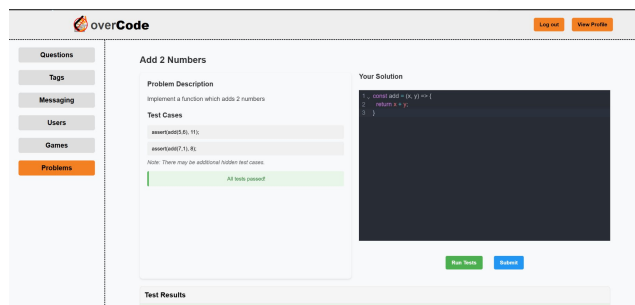
We created new types in our implementation to handle Problems and Collab Code functions. This also included modifying existing types, such as Games, to be able to handle our new types. We added a new tab to the user interface called “Problems”, where users can view a list of Problems and vote on them. Users can access the Create Problem page from this tab, where they can create a Problem. Selecting an individual Problem in the list opens a Problem Page, where users can view the Problem’s details as well as the leaderboard of other solutions, which are ranked by runtime and heap use. The Problem Page also allows a user to attempt solving a Problem, taking them to a separate page with a code-editor. They must pass all test cases to be able to submit their solution to the leaderboard.

Future Work

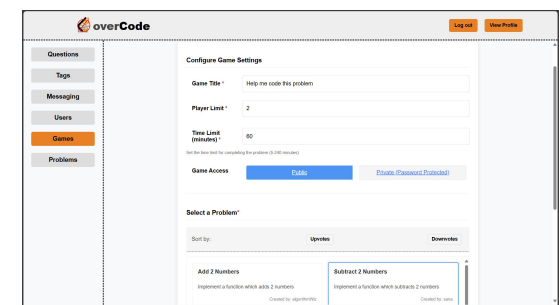
Future expansions to the project could include adding the support for more languages through using WebAssembly. One could also enable making comments on problems so that users could discuss them as well as other possible solutions. Additionally, expanding the user profile so they can see questions they have completed and their related submissions would be useful information to have. Also, improving the socket implementation to prevent desync between user’s typing at the same time would be more user friendly.



Viewing and voting on problems



Attempting a problem



Creating a collaborative code game with settings and privacy controls.