

CS4530 Group Project: “StackCoins”

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Our Feature: StackCoins

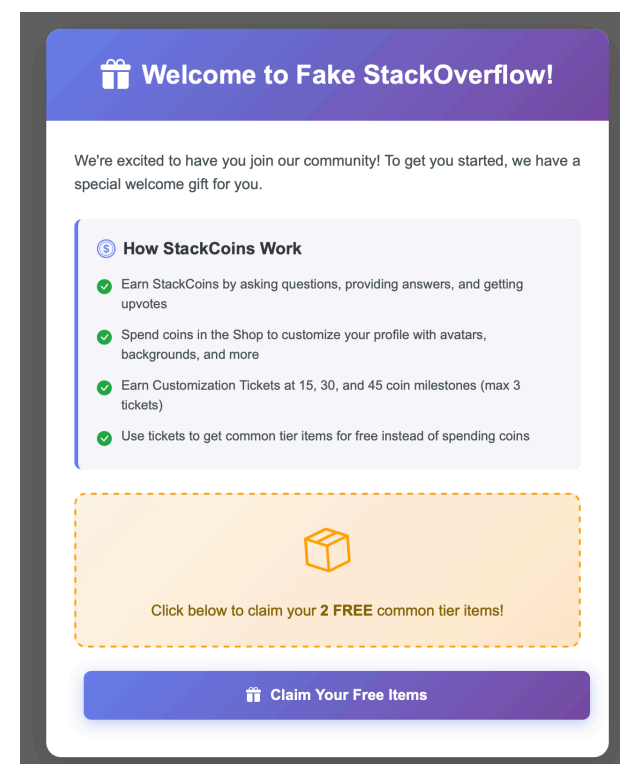
In the original release of FakeStackOverflow, users participate in a cut-down version of the real Stack Overflow, which provides an opportunity for users to participate in questions and answers involving CS problems, hopefully sharing useful technical knowledge in the process. However, there is one key factor that might lead to the premature end of the trading of knowledge: a lack of any real reasons for users to stay engaged on the platform.

As such, we developed a feature that will serve as a very real reason for users to stay on the platform: **StackCoins**. StackCoins are a currency that users can earn by interacting with key platform features, such as asking, answering, and upvoting questions. Users can then spend the StackCoins they earned on customizations to their user profile, as well as having their coins serve as a scoring metric via a leaderboard.

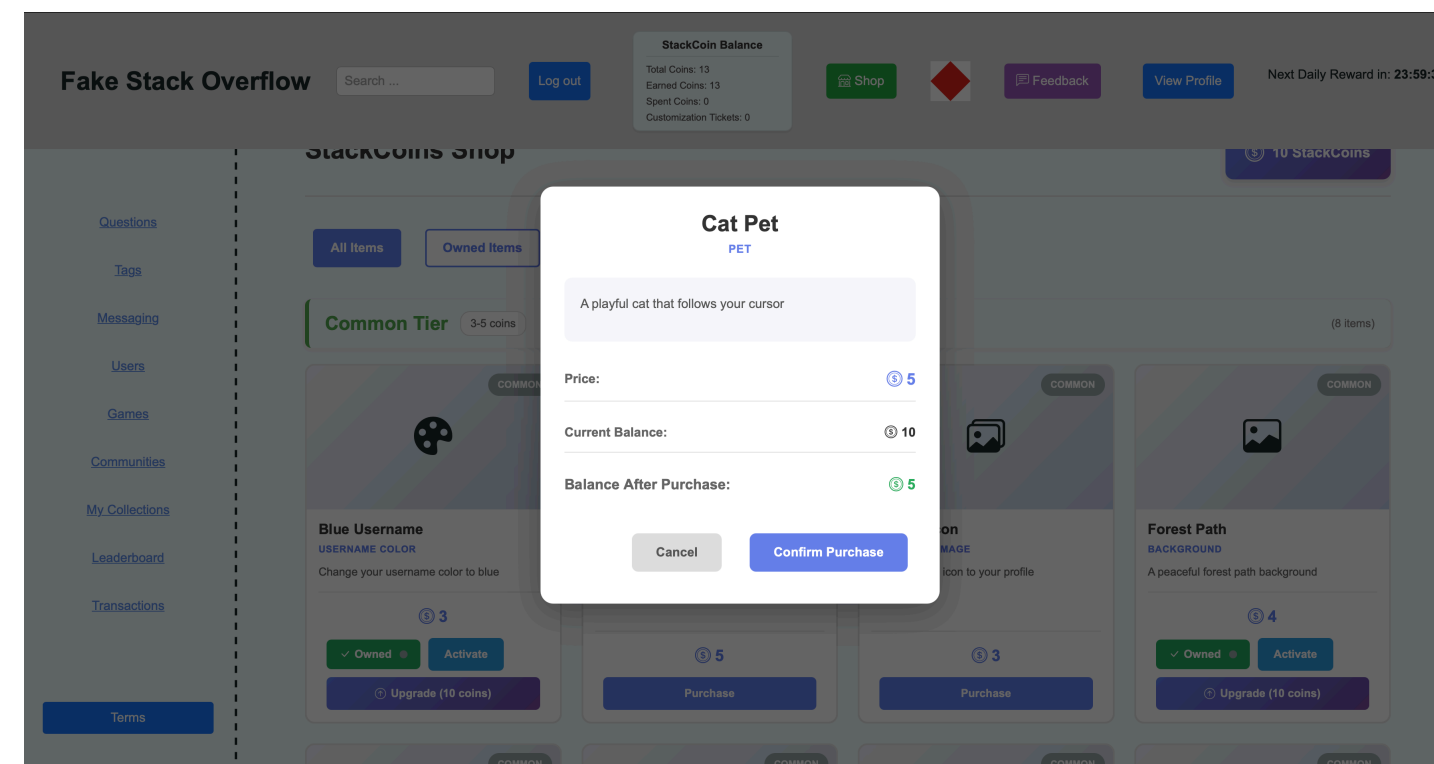
While FakeStackOverflow would normally have no reward system beyond the inherent joy in successfully solving a nerd snipe, we propose that giving users access to a currency for customization will lead to a more satisfied and engaged user base.

Demo and Source

Our demo site is available at <https://fall25-project-803-stackcoins-1.onrender.com/> and our git repository can be accessed at <https://github.com/neu-cs4530/fall25-project-803-stackcoins/>



Initial modal explaining the system



Purchasing an item with StackCoins after claiming a daily, which allows you to earn StackCoins

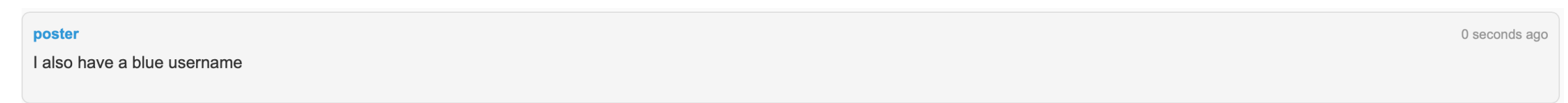
Our Technology Stack & Design

We implemented the StackCoins, shop, and leaderboard features in the existing FakeStackOverflow codebase. Each user’s StackCoins account is represented as a separate object in the backend database, which can be easily updated using the new set of controllers and services for StackCoins. These accounts are independently created whenever a new user joins the service, or an existing user logs back in after the introduction of StackCoins. Whenever a user interacts with some valuable feature, they earn a specified number of StackCoins as part of the action. The user can then spend their StackCoins (or customization tickets, earned at set milestones) on customizations to their user profile, that they can activate or deactivate at their leisure. All features are tracked via the appropriate controllers and services, and sync using a web socket. Information on the user’s balance was added to the top bar of the website. It uses React hooks to receive updates.

Our continuous integration pipeline runs tests against our software’s frontend and backend automatically, and then deploys the results using Render.

Future Work

We struggled to implement moderator functionality, which would’ve provided a backstop against gaming of the system by bad actors, who could potentially spam the service, and gain a ton of coins in the process. While we did not manage to make it work during the sprint due to database issues, we imagine that the functionality we initially outlined (the ability for moderators to suspend or ban users, and reverse suspicious transactions) should be sufficient to the task. Future work may also include giving users the ability to gift items to other users, among other options. Future work may also include more ways for users to earn StackCoins, that maybe do not require modification of FakeStackOverflow’s original code.



Username after customization, thus showing the possibilities of the system