CS4530 Final Project: HuskyFlow

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Project Overview

HuskyFlow is a platform that fosters collaborative knowledge sharing through a variety of features. It allows users to create and join communities, ask and answer questions,nengage in threaded discussions, all enhanced with real time notifications, personalized feeds, and a user ranking system to foster a bit of competition.

Demo and Source Code

🌐 Demo site: https://cs4530-s25-307.onrender.com

🖥️ Github Repository: https://github.com/neu-cs4530/spring25-team-project-spring25-project-group-307

Tech Stack and Design

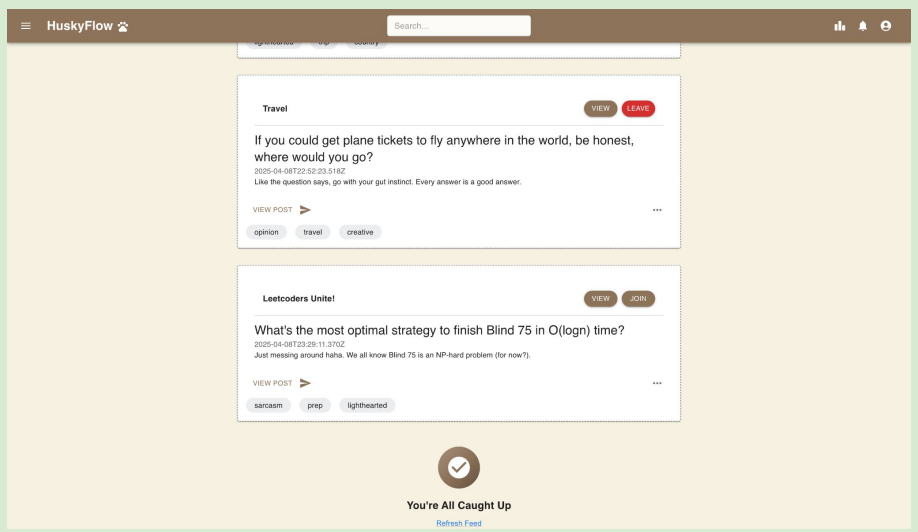
The technology stack for this platform is centered around Node.js, Express, and MongoDB, with Mongoose for schema definition and querying. Real-time functionality is powered by Socket.IO, enabling live user notifications. MUI and React are used for the frontend, with custom hooks and components to handle state management and UI interactions.

We implemented the community and personalized feed features in the existing HuskyFlow codebase. Communities and feeds are represented as documents in the database. These are are dynamically created and modified through service functions in the backend.

Additionally we implemented a user ranking system to encourage active participation and competition within the platform. The system is based on user contributions, such as asking questions, answering, and commenting, with users earning points for each action. Each user has a score that updates as they interact with the platform, and this score determines their rank.

Finally, a user notification system was integrated to alert users about community activities, and these notifications are managed centrally through a singleton class. This class interacts with Socket.IO to send notifications in real time based on user preferences.

The platform uses a continuous integration pipeline to run automated tests and deploy for both the frontend and backend The site is hosted through render.com



Future Work and Potential Extensions

→ Engagement & Community Insights

Introduce advanced analytics dashboards for community admins — visualize user activity, engagement trends, and growth metrics.

→ AI-Powered Content Moderation

Leverage machine learning models to automate moderation tasks, filter inappropriate content, and detect spam in real-time.

→ Smarter Personalized Feeds

Enhance the personalized feed algorithm to recommend content from frequently interacted users

→ Gamification & Reward Systems

Add daily login bonuses, streak rewards, and mini-games (like Blackjack) to boost engagement and encourage consistent user interaction.

→ Mobile- Optimization

Refine the responsive design for seamless mobile browsing and interaction, ensuring a smooth user experience across all devices.