

CS411 Team Assignment 1 - Proposal

Idea 1: Health and Nutrition Tracker with Local Market Integration

For our CS411 project, we propose "NutriMarket," a web application that combines personalized health tracking with local market integration to promote healthier eating habits and support local produce consumption. Users can create profiles to track their dietary habits, set health goals, and receive tailored nutrition advice. Utilizing PostgreSQL for secure data storage, "NutriMarket" will correlate nutritional information with local market availability through public APIs, offering personalized food recommendations. The application will feature OAuth for secure login, ensuring user data protection. We'll employ a decoupled architecture, with a React-based frontend for a responsive user interface and a Python Flask or Django backend for efficient data processing and API communication. This design aligns with course requirements by incorporating database technology, integrating multiple public APIs for dynamic content, and facilitating a scalable, user-friendly platform that encourages healthier lifestyle choices and local economy support.

Idea 2: Personalized Music Discovery and Playlist Customization Through Secure Chat Interactions and Spotify Integration

The web application I'm developing uniquely blends personalized music discovery with secure, data-driven user experiences by utilizing an SQLite database and correlating data from two pivotal APIs: the chat API and Spotify's API. This database not only stores user profile information, enhancing personalized interactions through caching user preferences and session data but also ensures a robust foundation for data management and security. Leveraging third-party authentication via Spotify OAuth, users can seamlessly log in, allowing the application to curate and modify playlists directly within their Spotify accounts based on their responses to interactive, chat-based questionnaires. We will utilize sqlite to store credentials, python to code the backend and use JavaScript or typescript to code the front end.