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Meal Planner API Integration

The web application I worked on is powered by the spoonacular API and is a simple straightforward website for meal planning and nutritious and healthy meals for people to enjoy.

For usability goals, I wanted simplicity, feedback, and data visualization. Simplicity to make the web application more understandable and straightforward for the user. I interviewed a couple of my friends and family and they mentioned that the biggest thing they prefer in websites is to not overcomplicate what does not need to be overcomplicated which is why I went for a simple approach to the User Interface. Feedback is important especially when things could go wrong, which is why I made sure to provide success, error, and warning feedbacks when a user presses submits in order to let them know what is going on at all times. Data visualization is also important especially when keeping records for important stuff, in this case, meal planning which is why I made sure to add a bunch of data elements to the user report tab in the web application.

My design process after interviewing a couple people was to simplify a web application so I started with a simple prototype that involved default tabs from the streamlit framework and began programming each tab page individually and then added the cooperative element to make information transfer from one to another seamlessly. After each page worked, I began experimenting with tabs and thought that putting the navigation menu as a sidebar was a cleaner environment for the web application so nothing gets cluttered and the user can close it whenever needed.

For the API integration, I used Spoonacular API and made sure to add a fineprint stating that the web application data is powered and provided by this API. I ran into quotas when continuously testing the web application but everything else worked seamlessly. I read API documentation to better understand the data layout in JSON and how to use that data to display meal plans for the user. API integration plays a huge role in this web application as it is the basis and purpose for it.

I incorporated a bunch of widgets that serve a purpose. For example, I incorporated metric widgets in the home page to show the user their statistics of the web application. I used headers to title pages and used text widgets to allow for messages to stay in place for the user to see. I used the checkbox for consent. I used a form for the submission of the user to receive their meal plans. I used text and number inputs so user can input important text or numbers that would correlate to sex/age, etc. I used containers for organization and markdowns for separation. I used line charts, data frames, and maps for data visualization.

The web application follows HCI principles because of the consistency, minimalism, error prevention, etc. I made sure to be consistent throughout the entire application and at the same

time be minimal so as to not confuse the user of the application. I also made sure that errors that were thrown were able to be fixed and also allowed for flexibility in user answers. The key functions of the application are visible to the user and nothing is hidden.

Overall, this project was a great learning experience as I got to use an API and integrate it into a streamlit application where I created my own web app. There are some things that could improve such as my familiarity with streamlit as I still am new to it this semester but reading the documentation makes it extremely simple. I enjoyed this project a lot and there is a lot of value in it.