Project Proposal

Project Title: Air Time

Summary and Functionality

The project aims to allow the users to view the flights for their travel based on the airline performance with respect to delays. While it will also allow users to look at flights based on their preferred departure/arrival time, the tool will have an additional functionality to let the users know the probability of their flights getting delayed based on the history of the flight performance. The tool will also allow only the authorized users (in our tool UIUC staff and students) to modify the existing data when there are changes like addition of new airports and flights, update in the flight schedule or status, bankruptcy of an airline etc.

In addition to the above basic functionalities, the website will list the busiest or the most popular airports based on the users' location along with their busiest times so that the users can arrive at the airport with enough time to check-in and go through security without any hassle. While searching for flights, the users will also have the choice to filter the flights based on their preferred airlines and sort the results based on arrival time, departure time or delay time. They can decide whether they want to look at flights for round-trip or just one side of the journey. The users can also choose the airline they want to fly with based on the airline ratings provided by the previous flyers. Additionally, any current user can also login/sign up and leave their feedback based on their experiences for the flight. This will update the flight performance ratings which the tool calculates based on user reviews.

Usefulness

We believe our tool is different from the existing applications in that there is no globally popular application that presents airline information to the user based on the airline's delay history. While there are many travel websites that allow you to book flights of your choice, there aren't many that help you choose a route that would incur minimum unexpected delays. We also combine the passenger feedback for the in-flight services offered by the airline which can be used to find the best flight which the passenger can take with minimal delay.

Realness

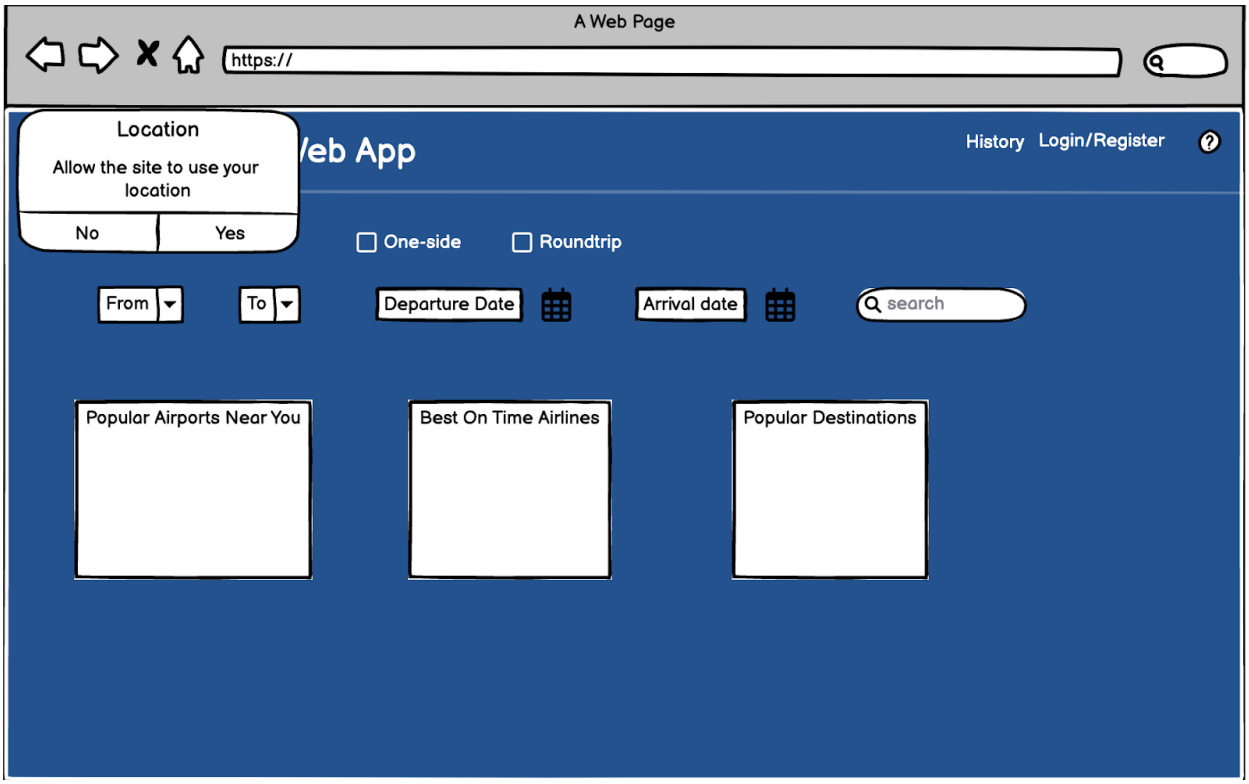
Most of our data is obtained from the datasets present in Kaggle. We are using the dataset https://www.kaggle.com/datasets/usdot/flight-delays which contains the information about on-time flight performance provided by U.S. Department of Transportation's (DOT) Bureau of Transportation Statistics (this data has been provided by the course staff). We can use similar data which DOT has recorded for multiple years to get an even more accurate analysis of the flight delay patterns for different airlines. We have also obtained data for the in-flight services provided by the major carriers mentioned in the flight-delays dataset from the website Skytrax based on the real reviews provided by the flyers. The data includes ratings about services like in-flight entertainment, food and beverage quality, seat comfort and overall customer satisfaction among other details.

Work Distribution

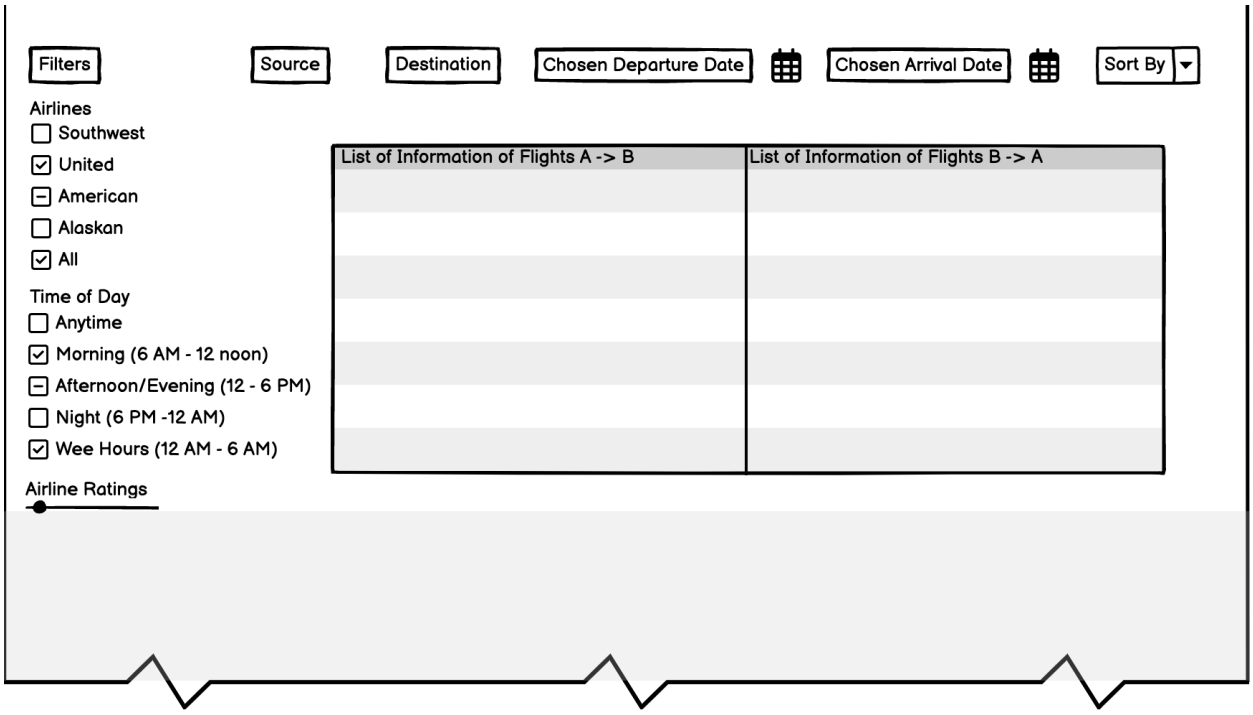
While everyone on the team is enthusiastic about the project, we have broadly divided the work based on the tech stack involved in the project. Zaid Barkat and Ray Zhang will take up the responsibility to work on the front-end while Shenghua Ye and Shubhi Jain will be focused on the backend. Despite this coarse distribution of work, we intend to work together helping out each other. As we progress, it will be easier for us to divide the smallest of the tasks based on the comfort and willingness of the team members which will be recorded in the final report of this project. As of now we have only broadly divided the responsibilities which may change as the project progresses.

UI Mockup

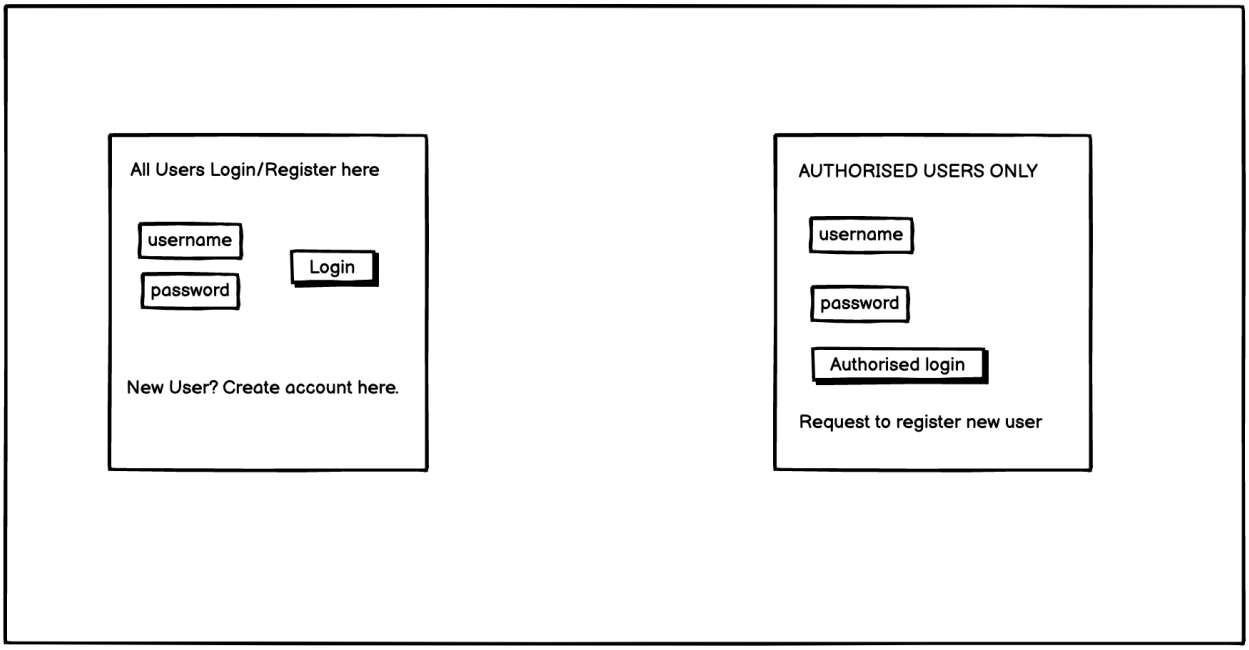
Please find a preliminary UI mockup of our project below. There may be more pages, widgets and functionalities involved which have not been shown in the mockup as of now.



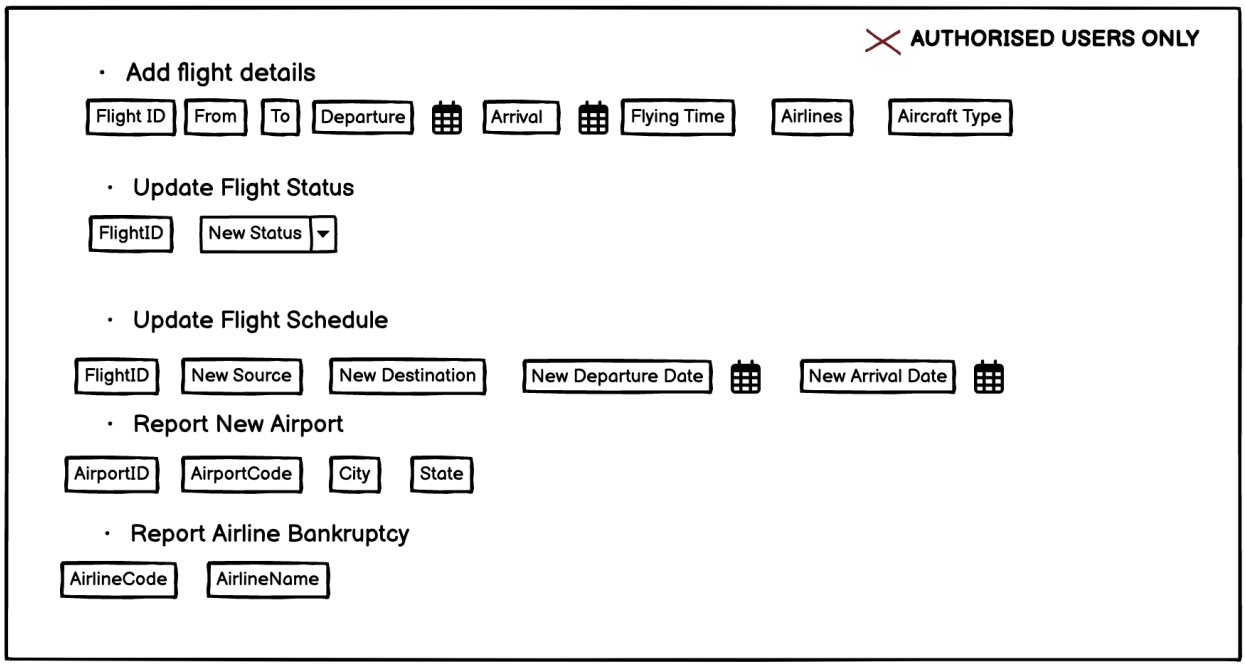
Front Page/Home page



Results Page for Flight Query



Login/Register Page



Page for Authorized Users to Make Modifications