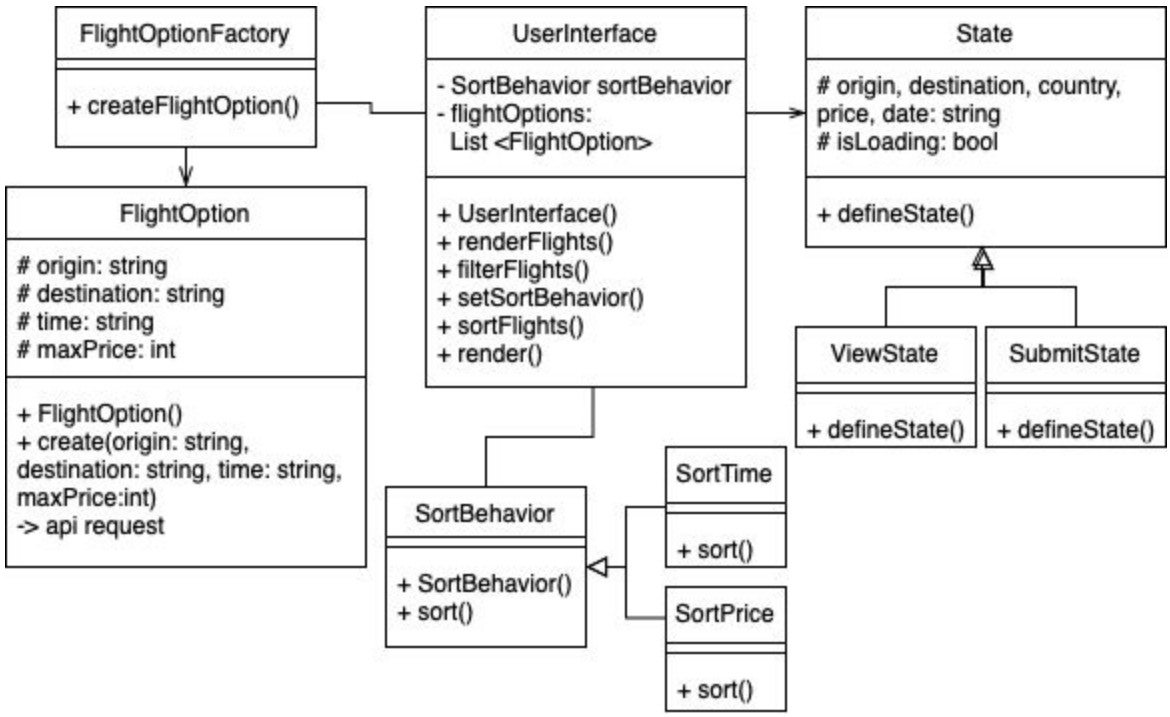
OOAD Project 6 - Semester Project

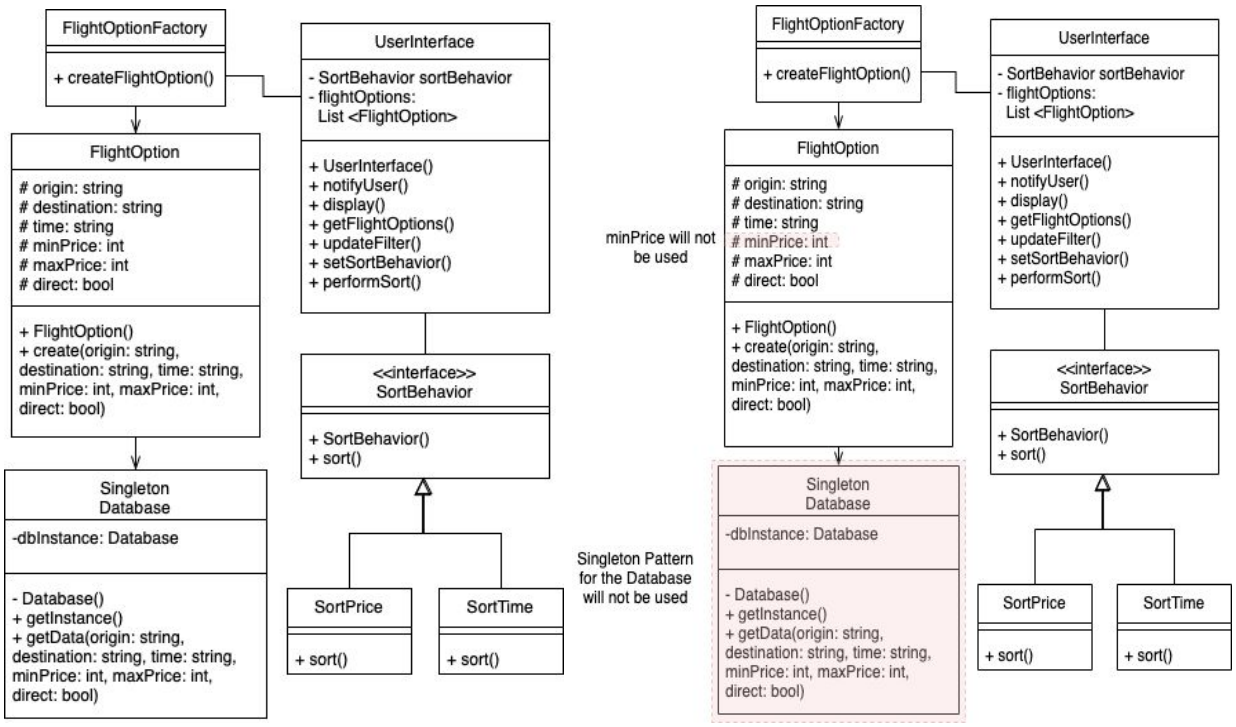
Final Report

- Name: Best Flight Ticket Matcher
- Team Members: Ashley Kim, Elizabeth Qiu
- Final State of System Statement: The web application is published at https://flight-ticket-finder.herokuapp.com/#/ and communicates successfully with the Skyscanner api. Features that were implemented include view flight options, enter flight information which has selections for origin, destination, maximum price, date ranges, and sort by price or time, and a notification for when there are no flights available. This is modified from the original that had direct flight selection and the option to view all flights with continuous filtering and sorting.
- Final Class Diagram and Comparison Statement:



Patterns included: Factory for the quotes returned from the api, Strategy for sort behavior, State for React.js components with User Interface

UML Class Diagram from Project 4 (left) / UML Class Diagram from Project 5 (right):



- Key change from Project 4 to Project 5 is that we excluded the Singleton pattern along with the use of Database. Additionally, minPrice was removed from the FlightOption variable.
- Key changes from Project 5 to Project 4 was removing use of direct selection and also adding representation of the State pattern with the use of statefulness in our React.js components. Some functions were also removed or modified from UserInterface to reflect the React.js components more accurately. Helper functions used are left off since they are mostly related to renderFlights(), equivalent to getFlightOptions() as shown in previous diagrams. Other equivalent

functions are updateFilter() → filterFlights(), performSort() → sortFlights(), display() → render().

- Third Party code vs. Original code Statement:
    - Backend: api/severs.js was based off of the node.js API endpoint tutorial (https://scotch.io/@gilles/get-started-with-creating-a-restful-api-endpoints-in-nodejs-and-expressjs#toc-postman) and api/request.js is original.
    - Frontend: initialized with https://create-react-app.dev, any further code is original and written referencing JavaScript documentation.
- Statement on the OOAD process for your overall Semester Project:
    1. Although the initial plan included Singleton Pattern used for the database, as we proceeded with the project, we learned that a database is not necessary. Therefore, the pattern and the database is not implemented.
    2. When requesting a response from the API, although we tried to generalize the format as much as possible for code reuse, since some fields were required by the API, it was difficult to implement such a design.
    3. Due to the structure of the API response and parsing this response, some of the UI features were also changed to accomodate this. Direct flight option selection was removed and minPrice was deemed unnecessary for ease of implementation. The submit page on the UI relies on correct inputs from the user, due to the situation and time restrictions there was limited input checking written for this portion. Statefulness was implemented with React.js components so the use of the State pattern was added.