

Design Proposal: An All-In-One Travel App

Joel Lee

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Project Description

My app is an all in one travel app where the user inputs his/her profile, destination, and the budget and returns a customized travel plan for the user. The user will get a full travel plan with their flight information, hotel information, and restaurant information.

Competitive Analysis

There are great travel apps out there. There are apps like Hotels and Booking that books the hotel for you, apps like Google Travel that finds flight tickets for you, and apps like Yelp that finds the best restaurants for you. My project utilizes all these elements, but makes a customized plan for travelers. My app takes in the destination, budget, and the profile to make the best fit travel plan for each individual. For instance, if you are an old person looking to travel with an expensive budget, you will receive a plan with a great hotel, a one-way flight ticket, and fancy restaurants. This app is great not only because it auto-generates a full travel plan but also because it saves people time and money. Travelers, including myself, struggle on staying within a certain budget while traveling because there are so many unexpected expenses. However, the app can search them all for the traveler so the traveler has to research every single website to make a good plan, let alone stay within budget.

Structural Plan

I will have three files I will work around: main, scheduling, data. The data file collects all the information using web scraping and APIs. There will be functions there searching for hotels, restaurants, and flights. The scheduling file has a class, Restaurants, that uses backtracking to

randomize restaurants within the budget. The main file utilizes all functions and displays an app that takes all the input and gives back a full travel plan.

Algorithmic Plan

The trickiest part of the algorithm is using backtracking to make a final travel plan. This is tough because we are also taking into account the traveler's profile. Depending on the traveler's profile, the allocation of the budget will be different. To start with, the type of flight and hotel will be chosen according to the user's profile. After that, the app searches for restaurants and uses backtracking to stay within budget. Also, one of the hardest parts is using all the functions together. For instance, for restaurants, the user inputs the location, a function transforms that into a URL, another function webscrappes all restaurants, the object, Restaurant, uses backtracking to make a plan, and the main file displays it.

Timeline Plan

April 20- Finish user interface

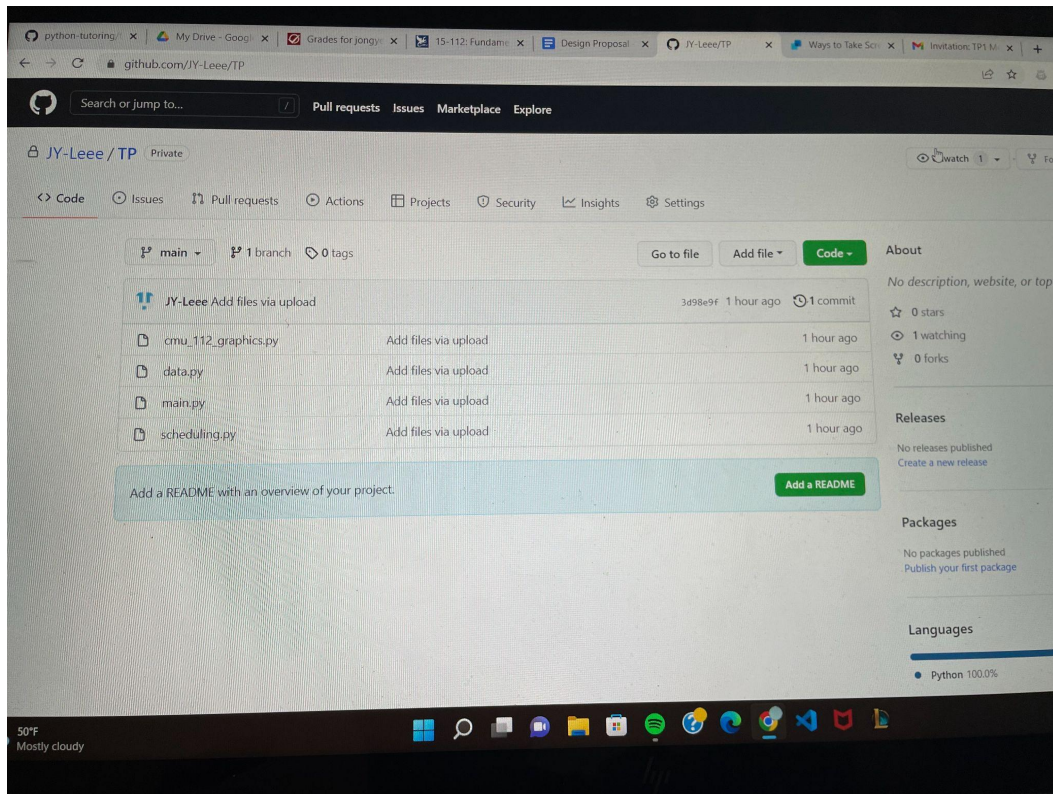
April 22- The app is able to display the full plan with hotel, flight, and restaurants (randomized so it doesnt give the same result every time)

April 25- Finish additional features such as better UI design and avoiding same type of food consecutively

April 27- Make sure app doesn't crash at any point and finish project

Version Control Plan

I will use Github to back up my code



Module List:

Beautiful Soup 4

Requests

Travel Payouts API