Explorium

Project Proposal: Team Assignment B

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1 Synopsis

We are building a web application that will create a customized itinerary based on a number of parameters that a user selects. The user will enter the desired destination(s), the number of days visiting, their estimated budget, and the type of experience they are looking for. This will include keywords such as 'adventurous', 'historic', 'cultural', 'romantic', etc.

This application will output a list of places/tourist spots to the user in the form of a day to day plan. The places will be displayed in order of easiest travel route while taking into account the hours of operation of each attraction. Once a user creates their itinerary, they can add other users to their trip. The application will also have a messaging feature so users can discuss and further plan their upcoming trip together.

We will allow two user roles to log in to the system, namely the customer and the administrator. This application will aim to aid the customer in finding the best plan for their trip based on the details he/she enters. The metadata of the tourist spots will be maintained and updated in a timely manner by the administrator as the need arises.

2 Multiple Simultaneous Users Support

Each trip can be associated with multiple visitors(customers). Each visitor in turn can view the trip itinerary and make suggestions about their preference in a group chat on the day-to-day plan page.

3 User Stories

As a customer, I can sign up for the application and sign in with my own username.

As a customer, I can use this app to find notable tourist spots in my destination city.

As a customer, I can get an itinerary for each city that I plan to visit.

As a customer, I can set the price limitation that I am willing to spend for the trip.

As a customer, I can set the time limitation that I want to spend in a single city.

As a customer, I can adjust the itinerary myself.

As a customer, I can discuss the itinerary with other trip group members.

As an administrator, I can choose which database I wish to use to get the cities' information.

4 Example Usages

Types of trips preferred by the customer (available as filter options) Vacation Business trip Cultural enrichment program

5 Possible Error Cases

1.A user can input a nonexistent location, or one we do not have data on. The application will not process the input and will display the appropriate error message.

2.A user enters a city that corresponds to several destinations. The application will display the possible locations that the user must select from.

3.A user selects incorrect dates (i.e. leaving on September 12 and returning on September 5). The application will not allow the user to select dates on the calendar that do not correspond with each other.

4.A user selects dates with a large stretch of time between them (i.e. a year). The application will have to limit the amount of dates to schedule activities for. It will not allow the user to select calendar dates past a certain cutoff. This will also prevent the user from selecting dates so far in advance that the itinerary could be out of date.

5.The data is not up to date and the trip itinerary is incorrect. This includes changes in hours of operation, address, whether or not an attraction is still open, etc. Aside from limiting how far in advance the user may select dates, it is up to the administrator role to ensure that the current state of information we provide is accurate and that the outside resources we are pulling this information from are up to date.

6 Static Analysis

We will use Pylint which is a python static analysis tool for error detection and bug checking.

7 Unit Test Tool

We will use unittest (Unit Testing Framework in Python) to build and run a collection of test cases for our application.

8 Build Tool

PyBuilder will be used to construct build life cycles for our Python application.

9 Package Manager

We will use pip for managing all python packages.

10 Technical Specifications

We will use a web application framework - Python Flask for backend, Bootstrap/React for frontend, and PostgreSQL database. We will implement ElasticSearch+SparkMLlib to realize our itinerary recommendation system.

11 Stretch Goals:

Implement a recommendation system to add new stops to the itinerary based on the opinions of members of a trip on the fly.

Ability to share your trip on social media/integration with social media sites

Integration with airlines and hotels to allow users to book the entire trip from start to finish and purchase tickets and reserve hotels all from the site

Allow the user to adjust details of the schedule if needed.

-Allow the user to increase/decrease the time spent at a specific place.

-Allow the user to move around the order of locations in the schedule.