Team 27: Scavenger Hunt Project Charter

Team Members: Jon Hurley, Arnav Mehra, Jack Rookstool, Jamie Barrett, Sai Girap

Problem Statement:

This application is designed to solve a classic problem: not knowing what to do with friends or family on a free day. It creates a scavenger hunt where players can type in a city and a theme if they would like, and the application will build a day for the group. They can spend an amount of time that they set finding the locations/activities that the application has compiled. There exist websites that will provide interesting and new things to do, but this application is unique in that it will compile based on a theme and several other preferences, and the locations have to be found, requiring exploration through the area.

Problem Objectives:

1. Ingest user inputs regarding location, mode of transportation, paid or unpaid experiences, time period, etc., to create a list of locations and experiences that is feasible for the group to complete. This will likely use popular websites like TripAdvisor and Yelp to gather locations.
2. Generate a map that provides a general area for the first location and will slowly provide a more and more accurate location.
3. Provide feedback to the user who is trying to find the location via a highlighted area on the map or a game of hot and cold. It will reveal when they have reached the right location.
4. Give users an option to pause the scavenger hunt to enjoy the experience
5. A ranking system that promotes players when they play the game and find locations/complete a compiled day.
6. Store account information so players can keep track of their adventures.

Stakeholders:

Users: Typical users would include parties consisting of families or friend groups, but any individual could play

Developers: Jon Hurley, Arnav Mehra, Jack Rookstool, Jamie Barrett, Sai Girap

Project Owners: Jon Hurley, Arnav Mehra, Jack Rookstool, Jamie Barrett, Sai Girap

Project Deliverables:

1. Front end web application that acts as the user interface for the game
    a. Provides the map - **Google Maps API**
    b. Provides all changeable preferences - **ReactJS**
    c. Provides account information and ranking - **ReactJS**
2. Build a web scraping system capable of parsing through information on popular websites and submitting that to the user's machine - **Python -> libraries: beautifulsoup and Selenium OR Javascript with Puppeteer**
3. Develop a backend client-server model capable of storing user data and account information - **Express backend with MongoDB OR Flask with MongoDB**
4. Build a system capable of using user location data to compute how far the group is from the location. - **Redis and Geolocation API**