

CIS 571 - Web Services

Project 1 Proposal

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For this project, I will implement a web application for users to plan hiking trips. The user will be able to search an area around which they want to hike.. They'll be able to choose the date they plan on being there as well. Additionally, they can choose the radius, difficulty, and length with which to filter the trails. The application will then return a list of trails, sorted by popularity, with images of the trails, information about each, and a weather forecast of the area for the time they plan on being there. The application will also give a checklist of recommended items to bring on the trip. Users can create accounts so they can save their planned trips.

I am planning on using 4 APIs, which are as follows:

1. REI's Hiking Project API. This API allows users to search for trails near a given latitude and longitude, which they can filter based on distance from the location and length of the trail. This is a REST API that accepts and returns data in JSON.
2. Weather Unlocked Weather API. This API allows users to get current and forecast weather data for a given area. This is a REST API which can accept and return data in either JSON or XML.
3. User account API. This API will be provided by me, and it will control the account creation, login, logout, and account deletion functionality of this project. It will also allow users to save a planned trip, which will consist of a location, list of trails, and a time period. This will be a REST API that accepts and returns data in JSON.
4. Hiking gear API. This API will also be provided by me, and it will return a suggested list of gear for the user to bring based on their trail choices. The forecast weather, length of the hikes, and difficulty of the hikes will determine what gear this API will suggest to bring. This will be a SOAP API that will return data in XML.

I will write this web application using the Python Flask web framework. I will likely use Gunicorn or a similar program to serve the app, and MySQL to manage user data on the backend of the app. I will deploy the application on my local machine (which runs macOS Catalina).