Capstone Project 1: Alexander Chen

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* Nature Trail App (Stick Buddy)- <https://documenter.getpostman.com/view/2071749/RzZDiGp8>

Working out in a gym everyday can get boring and humans are natural beings, so we crave a deeper relationship with nature and we can fulfill that desire by exploring its depths. This app will find the nearest hiking trail and give you its location, difficulty, length, ETA, and elevation. Do you want to see beautiful mountains, lakes, rivers, and waterfalls? Stick Buddy will display nearby campsites, campsite reservations and fees, emergency numbers, required permits, and rules so you only need to worry about your stick buddy!

The users I am targeting are people who want to explore their surroundings and spend more time in nature. They could come from any demographic, age, culture, etc. everyone is willing to grow and explore their natural surroundings. My approach to creating the project is to have the user create an account, log in, enter their location and receive a list of trails ordered by close proximity to their location. The user can mark off trails they have been to, leave a review, and comment on them to let other users know whether they recommend the trail and what to look out for. The data I am looking for is trail location, distance, required permits, elevation, and estimated time of completion.

The database schema will consist of a User database that stores username, password, and email. A Trail database that has coordinates, length of trail, altitude, city, country, radius, activity type (hiking, biking, camping). The Review database has comments and reviews that users can leave for the trails that other users can see, as well as favorites so users can favorite trails they really enjoy and share them with friends.

Some issues I may run into will be connecting the location of trails to the location of the user and having a search function so users can search for the nearest trails in a specific city. Another problem will be implementing the search and review function since I have not implemented a search bar that returned geographical data before. Since there are no real names and only usernames, the only sensitive data that must be secured is the email tied to the account, but that will not be public, and the password for users to get into their account.

App functionality includes user registering, login, logout, API data retrieval, GPS data that returns the nearest trails to the user or any trails searched for in a specific city/country, and comment posting. Each trail will have its own page with a description with details describing the trail and its location. Users can mark trails they have been on, favorite trails they like, and rate the trail on a scale of 1-5 with a unique scale icon like pinecones, foot markers, sticks, etc.

The user flow will consist of registering/logging in, searching for a trail nearest to them or in a specific city/country/coordinate, reviewing the details of the trail and deciding if it's the one they want to go to, opening that destination in a GPS software, completing the trail in real life, and rating and reviewing the trail. The user can stay logged in and look for another trail, logout, or stay logged in and come back to the app when they want to find another trail.

The use of GPS, feedback, and search functionality make my site more than CRUD since it returns geographical data and has more functions than just using databases. An idea for a stretch goal is to implement image data, descriptions, and implementation with Google Maps to provide more information about the trail to users. Setting up an aesthetic user interface with images of the trail from other sites that already have information about each trail will be my stretch goal and improve the project significantly.