

CAB432 Assignment 1 Proposal

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Description

My mashup will let users see hiking/biking trails within a specified distance from their location or a specified location. Users will be able to see the current weather/forecast for each location and get the distance & time to reach each trail from their location based on their mode of transport.

Use-Cases

As a hiking/biking enthusiast, I want to be able to find new trails around me to go to.

As a hiking/biking enthusiast I want to know how far away trails near me are so I can plan my trip to reach them. I should also be able to see the weather for the trails so I know the weather will be optimal before I depart.

APIs List

Trails API - <https://rapidapi.com/trailapi/api/trailapi>

Takes lat and lng, with optional radius and number of items. Each trail found contains useful info such as description, image, rating, difficulty, directions and lat + lng.

Google Maps JavaScript API

<https://developers.google.com/maps/documentation/javascript/tutorial>

Used for getting users location and selecting new location in client side, and to find distance/time to each trail on server side.

DarkSky Weather API - <https://darksky.net/dev>

Takes location as Lat and Lng and returns the current weather. Returns current weather info as well as other useful info such as forecasts, text summary, sunrise/set time, humidity, wind speed etc.

Technology Overview

The server-side will be written in NodeJS and will be a REST API that works from a single post endpoint to receive a location, distance, number of results and mode of transport. From these the server will handle requests to the Trails API to find all trails within the specified distance of the location, the Google Maps API to find distance/time to travel to each trail returned by the trails api and get the Weather forecast for each trail returned. The client will then receive a single JSON with all this information bundled together.

The client side will be written in React, which is likely overkill, but I am more familiar with than plain JS or express templating. The client will allow the user to select their location using the Maps API geolocation or to search for a new location to find a trails around. The user can specify the distance around the location and their mode of transport (car or bicycle). On submission the client will post the data to the server and from the JSON received, display the data in components.

I have already done a significant amount of work so if you would like to see the site as a proof-of-concept it is currently at <http://3.104.75.166:3000/>