HikeAdvisor Technical Report

Motivation

Hiking is a hobby enjoyed by many, but it is hard to find reliable information about hiking trails that a hobbyist may be looking for. With HikeAdvisor, we hope to fill this lack of information and provide a hub for people to plan their hike beforehand. Our site includes important information about a multitude of hiking trails that a hobbyist might find useful such as animals on the trail, elevation, grade, and much more.

Models

HikeAdvisor is broken into three models, each one connecting to the other in some form:

- *Hiking Trails* - The main model of the website. Each hiking trail will have a list of *Animals* that can be seen on the hiking trail. The hiking trail will also have the *State* it is located in.
- *Animals* - Each animal will have a list of *Hiking Trails* and *States* that the animal can be found in.
- *States* - Each state will have a list of *Hiking Trails* and *Animals* that are located in that state.

User stories

User stories for phase 1:

- *Add a favicon* - Created a custom favicon for the website
- *Link to API documentation on About page* - Listed under the tools section of the About page
- *Weather information on each trail* - Each trail has general weather conditions as an attribute
- *Information about animals on animals page* - Three animal instances on the animal page
- *Information about cities on cities page* - Three state instances on the state page (we changed from cities to states)
- *About page stats* - Fixed a few typos and fixed the about page not showing stats.
- *Animal instances* - Fixed a typo and included all info about each animal on their respective pages (instead of just showing the description of each animal).
- *More trails* - Changed layout of trails to tile in a rectangle instead of in a vertical line. Also added filtering trails by states.

- *More animals* - Added more categories of animals to the animal tab (by making site dynamic, pulling from API).
- *More states* - Added all 50 states to the states tab (also pulling from API).

RESTful API

The design/documentation for the RESTful HikeAdvisor API is on Postman.

The RESTful API has a GET endpoint for each of the three models:

/animals - Returns the list of animal instances

/hikingtrails - Returns the list of hiking trail instances

/states - Returns the list of State instances

Each endpoint also has one or two identifying parameters, which provides more information about a specified instance:

/animals

- *animal_name*
- *id*

/hikingtrails

- *trail_name*
- *id*

/states

- *state_name*

Tools

[Backend]

- *AWS* - Hosts and deploys to the website
- *Postman* - Designed the RESTful API here
- *Namecheap* - Obtained the domain from here
- *Gitlab* - Used for collaboration and version control

- *Slack* - Used to communicate and collaborate between team members

[Frontend]

- *React* - Use to render page components
- *React-Router* - Used to handle navigation between pages
- *Material-UI* - Used to theme and style our components

Hosting

For this specific task, we obtained a free domain name https://hikeadvisor.me from https://www.namecheap.com/. We then host our static website on AWS (Amazon Web Service) using S3, Cloudfront, and Route53. We utilized S3 for storage and Cloudfront to deliver our website efficiently. We configured Cloudfront with custom SSL to support HTTPS and also redirect all HTTP traffic to HTTPS. We then used Route53 to configure our domain name obtained from https://www.namecheap.com/. Only for this phase, we use S3, Cloudfront, and Route53 to host a static website; however, we will have to switch to Elastic Beanstalk soon since for the next phase we have to host a dynamic website. This concludes the hosting task for this phase.