

**Project Title:** Odyssey**Project Summary:**

Odyssey is a global vacation review platform where users can log their travel experiences with photos and reviews of the places they visit. Having a centralized review platform allows users to have access to information that is commonly spread across different sources such as hotel, flight, food, and activity recommendations, helping users make informed travel decisions with less work. It will feature an interactive map GUI that dynamically displays important information about a city as well as user reviews, allowing users to explore and read experiences from other users.

Users will also be able to follow other users, creating a social-media inspired function where users can view their friends' reviews and travel experiences in a feed interface. Furthermore, this website will also feature a heat map that shows trending vacation locations based on the volume of reviews within a time period.

**Description:**

Users will be able to click on or search for a city to see general information about it, including the cost of living, weather conditions, and popular activities. This will be paired with user entries that include written reviews about their experiences as well as images. Users have an interface for creating these reviews, being able to create a timeline with small notes and ratings under different categories. These ratings will then be aggregated on their respective categories to determine a general rating for the vacation. Their reviews will be linked to an account they create with the option to edit and delete reviews.

There will also be a search feature, allowing users to search for specific destinations with additional filters such as time and rating categories. This will filter the information given for the location as well as the reviews shown. Additionally, the heat map feature updates based on the volume of user reviews within a certain timestamp, allowing users to stay up to date with travel trends that can influence their next vacation.

**Creative Component:**

The standout features of the application are the interactive heat map and the social media function. The interactive heat map highlights trending destinations based on real-time user engagement, indicating a high volume of travellers in certain locations. This will utilize 2-D map APIs as well as processing for real-time user data. Furthermore, the social media aspect allows users to view the reviews of other people and follow individuals that provide inspiring and accurate reviews. This allows users to stay connected with friends and receive filtered content while appealing to current social trends.

## Usefulness:

There are similar websites such as TripAdvisor, however, our app has the following which makes it different as well as more useful:

- Users can express how they felt about destinations through sentiment-driven reviews and categorical ratings, making interactions more engaging.
- Encourages travelers to share experiences, connect with others, and compare trips, fostering a sense of community.
- Instead of just leaving traditional star ratings, users can add personal stories, insights, and multimedia content to give a more authentic perspective on destinations.
- The platform helps users discover lesser-known locations through trending travel insights via the interactive map rather than focusing solely on well-known tourist spots

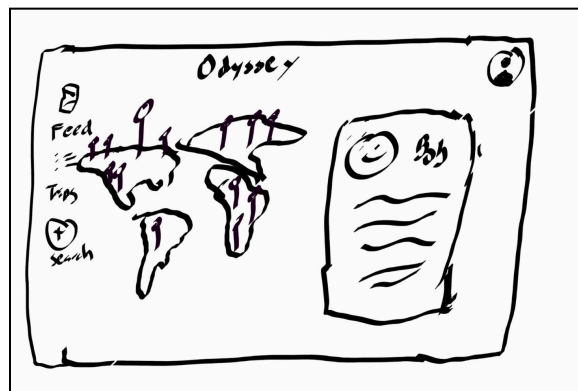
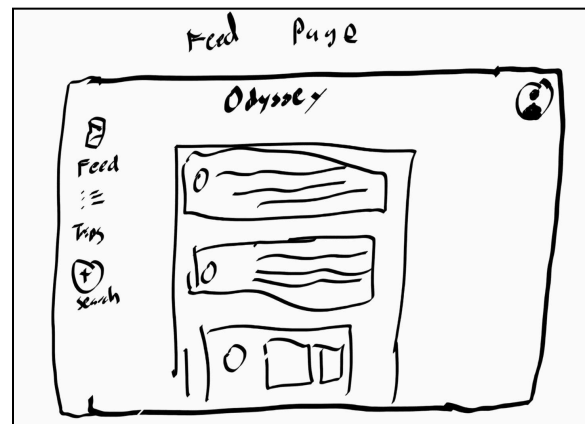
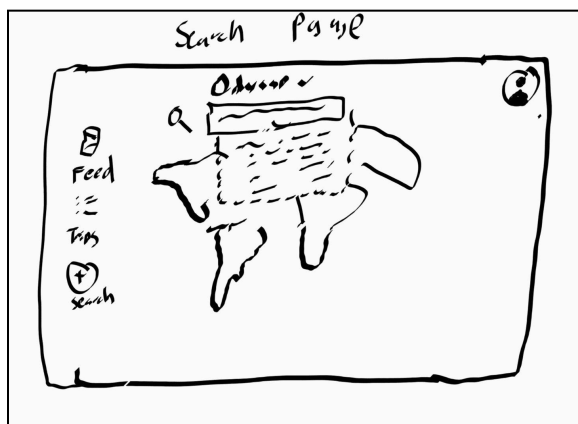
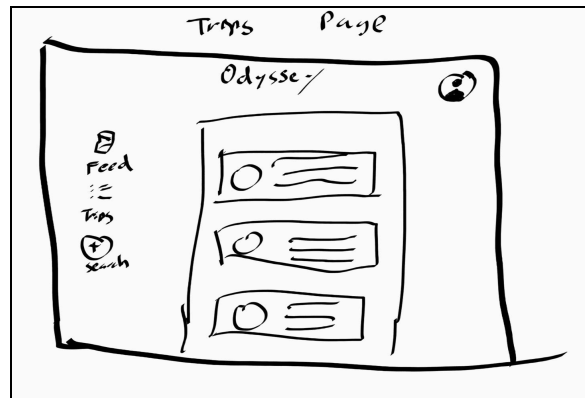
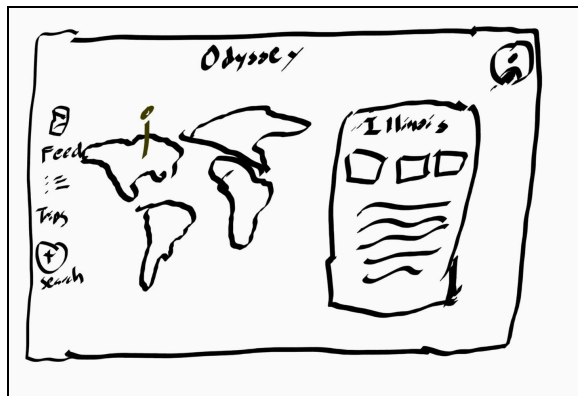
## Realness:

- [Global Cost of Living](#)
  - Cost of living information for cities across the globe, including food and housing
  - Cardinality: 4816
  - Degree: 59
  - Usage: Provides cost of living information by city
- [Large Dataset of Geotagged Images](#)
  - Images of cities across the globe, tagged by city
  - 142 shard files (.msg), 30 thousand images each (4,233,900 total)
  - Usage: Provides image data for searches
- [World Continents, Countries, and Cities](#)
  - All 127k cities
  - Provides information about:
    - City Name in a String format
    - City Country in a Pointer format
    - City Population in a Number format
    - City Location (Latitude / Longitude) in a Geopoint format
    - City ID in a Number format
    - City Admin Code in a String format
    - Capital or Not in a Boolean format
  - Usage: Search city by name
- [Daily Temperatures in Major Cities](#)
  - Daily temperature data entries for 321 distinct cities
  - Provides information about:
    - City name
    - Average temperature for a specified date
  - Usage: Temperature information for searches

## Functionality:

- Account
  - Users can create, update, and delete accounts.
    - Users will be prompted to sign in on a login screen and have the choice of either creating a new account or signing in to an existing account
    - When on their profile screen, they can also update their profile picture as well as passwords or even delete their account completely
  - Users can follow other accounts
    - When viewing another user's profile users have the option to follow them which will add new posts from the followed user onto the feed of the followee
- Searching for vacation spots
  - Displays important relevant information such as temperature, cost, etc.
    - These will be fetched from the datasets provided
    - Will also have other metrics like average friend score, average score, and projected score (possible feature)
  - Displays user reviews
    - Reviews will be ranked by an algorithm and filtered according to user inputs such as time and rating minimums
- Users can save a list of “favorite” vacation spots
- Users can create/edit/delete their own reviews for vacation spots
  - Reviews can contain text and/or images
  - They consist of a timeline of events with user notes
- Users can search for
  - Vacation spots
    - provides information on the vacation spot (avg temp, avg cost, etc)
  - Other user reviews by username
    - This displays the other user's profile that contains their posts
- Heat map that shows popular vacation spots based on amount of user review volume
  - Updates dynamically as new reviews are added/deleted
  - Users can interact with it to explore popular vacation spots
    - Zooming into the heatmap bring number popups that direct the user to the reviews of others

## UI mockup



## Work distribution:

### Tasks:

- Frontend Development (React.js)
  - Side bar to navigate between pages (A)
  - Interactive map using 2-D map API (A)
  - Markers for reviews on map (R)

- Heating gradient based on passed in data **(R)**
- Search bar and filters **(O)**
- Interface for creating, deleting, and editing reviews **(O)**
- Interactive profile page **(O)**
- Login and signup pages **(Y)**
- Cards that display place information **(Y)**
- Backend Development (Flask or Django)
  - Live data transfer for heat-map algorithm **(A)**
  - Heat-map algorithm to determine trendy areas **(A)**
  - Searching functionality **(R)**
    - Algorithm to determine best search results **(R)**
    - Queries to determine information for place **(R)**
  - Following and unfollowing users **(O)**
  - Creating, updating, and deleting profile **(O)**
  - CRUD for reviews **(O)**
  - Queries to determine location data after search **(Y)**
  - Potential algorithms for potential liking score **(Y)**
  - Object storage for media **(Y)**
- Data Integration
  - Populating the database with our data sets **(O)**
  - Creating fake user data **(Y)**
- Andrew (A)
- Ricky (R)
- Owen (O)
- Yousef (Y)