This application will be a social media site for orienteers, explorers, and adventurers that provides challenging missions for any mode of transportation. Each challenge requires you to plan, prepare, and share activities that will get you outdoors and enjoying new destinations. Each challenge consists of a set of land marks, GPS coordinates, a local topographic map, and a set of gear recommendations. It's up to you to determine your route, mode of transportation, equipment, and time to hit the trails. Our algorithms will check your activity against the challenge requirements, and our servers will provide a platform for you to share your activities with your friends and families.

Functionality

The application will provide:

- a user interface to create/update/delete activities.
    - **stretch:** use object recognition to check for inappropriate images.
- a user interface to create/delete an account.
- a user interface to upload a challenge.
    - **stretch**: a method to retrain transfer learning model on upload.
        - a method for image recognition.
        - a method to let user select objects/bounding boxes from a list
- a user interface to browse available challenges.
- a method to validate activity completion.
    - **stretch**: a method for object recognition for image.
- a method to add and remove friends.
- a method to display results to users.
- a method to display weather forecast during activity (select forecast length from a list)
- **stretch**: a shopping system
- a method to show all images friends took at a particular landmark.

Data Requirements and Sources

External API

- Map base layer, map trail system, geocoding functionality (e.g., MapBox)
- Weather map layer (e.g., openweathermap.org)
- Stretch: base neural network

Internal Datasets

- User personal information
- Landmark location, image
- User activity (.gpx, images, notes, gearlist, style)
- Gear list name, description, (link to store to buy?)

Potential issues

- Transfer learning might not be accurate enough to target specific images, and more general object recognition methods may be easily cheatable.
- Getting openweathermap and mapbox to play well together might be tough.
- Dealing with bottomless scroll for news feed may be challenging.

User Flow

Http Verb	Route	Response	Restriction
GET	/	Homepage	
GET	/users/create	Create account form	
POST	/users/<user_id>/friend/<friend_id>/add	Add a friend	Logged in
GET	/users	Show all users	Logged in
GET	/users/<user_id>	Show user detail	Logged in
GET	/users/<user_id>/feed	Show activities of you and friends	Logged in
GET	/activities/<activity_id>	View individual activity	Logged in & friend
GET	/challenges	View all challenges	
GET	/challenges/<challenge_>id	View challenge	
GET	/gear/<gear_id>	View gear item	
GET	/landmarks/<landmark_id>	View landmark	
PUT/PATCH	/users/<user_id>	Update account	Correct user
PUT/PATCH	/activities/<activity_id>	Update activity	Correct user
DELETE	/activities/<activity_id>	Delete Activity	Correct User
DELETE	/users/<user_id>	Delete account	Correct User
DELETE	/users/<user_id>/friend/<friend_id>	Delete Friend	Logged in

Schema