HikerRank Project Specifications

Team Members
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Product Backlog

Functionalities:

Signup & Login: Added username, email address, and password as user information and login using username and password. All visitors to the website can visit the home page, trail pages, and other users profile page. Logged in users can additionally visit the profile pages and inherit all the social network features.

Map visualization: Shown on homepage and trail page about the location and the rough trail path on the map. On the homepage, the map is centered at the user current location and on the trail page, the map is centered at the trail. Clicking on the driving direction will give Google Map path from current user location to the trail.

Trail information: Shown on the homepage and trail page about related trail information: hikers rating, trail length, trail elevation, number of hiker check ins. Visitors to the website can search for trails filtered difficulty, distance, trail type and rating. On the trail page, visitors are able to find the trail information also shown on the home page, and the recent check-ins for this trail. Logged in users can post reviews and ratings about this trail. Visitors can also see the upcoming hiking events for this trail and try to join the events. But the website will redirect to login pages if the visitor is not logged in.

User profile: logged in users will have this page and can redirect to this page by right upper corner avatar. The page also shows information of friends of this profile, checked-in trails of this profile, photo with text and trail posts

Social network: follow/unfollow users, have personal page for blog posts of hiking experience (with photos), initiate a hiking event with a particular trail and a specific date, send invitation to other users as teams to join a hiking event, chatting with friends

Next Sprint Backlog

Project Owner: Ruoqi Bai

Functionalities:

Sample database (based on 10 trail informations and dummy events, check-ins, reviews, etc)
Front-Back End Connection
Coordination with multiple Git branches / Jira usage
Enable Connection between different pages

Trail information display:

- Single Trail React JS implementation
- Utilizing MapBox API to implement trail visualization as a single dot
- Confirm data source for Trails (GeoJson/GPX) to draw full trail visualization

User Profile information display:

- Profile picture & introduction update
- Profile photo, text, comment posts
- Friends and checked in trails display

Event Display:

- Design Event Page UI
- Event Page React JS Implementation
- Send Join Event Application (Self introduction, etc)
- Enable Event Organizer to accept/reject event Join application
- Enable Notification Center Functionality
- Event information / Route guide

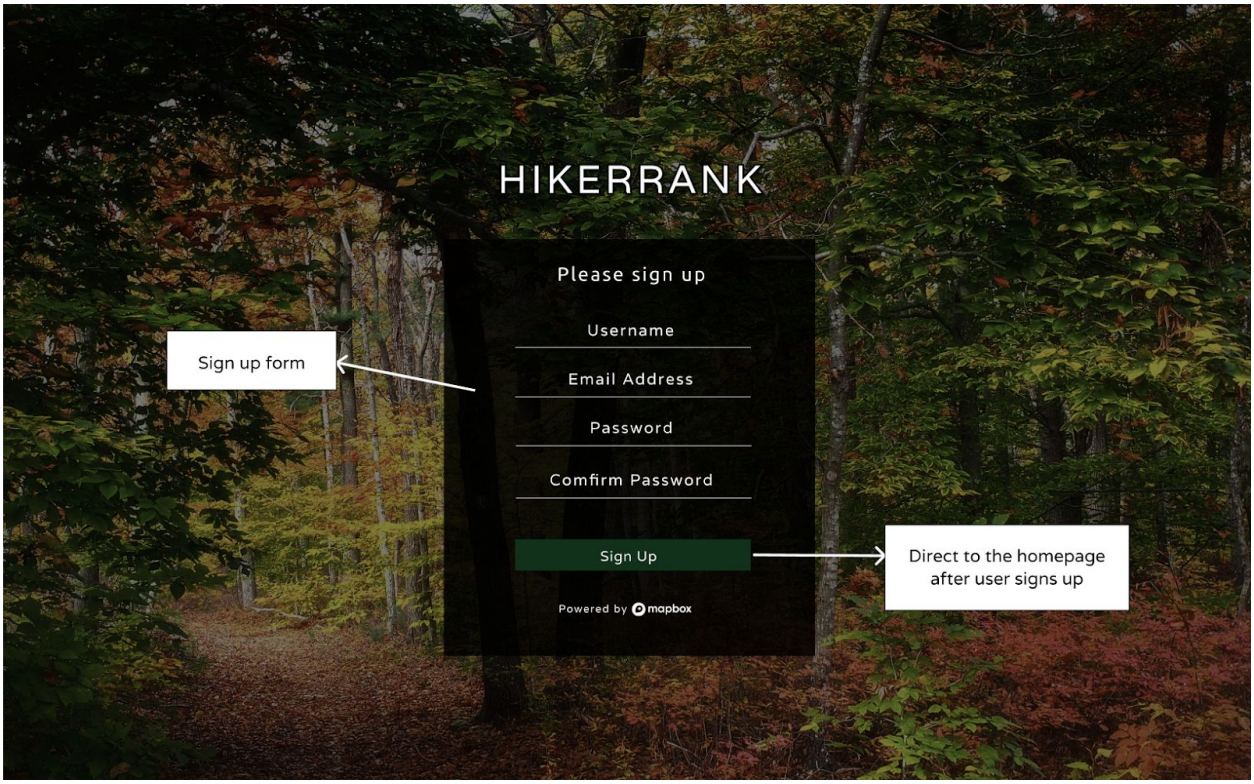
Data Models

```
class Profile_Picture(models.Model):
  Picture         =models.FileField(default='default.jpg',upload_to='profile_pics',blank=True)
  Content_type  =models.CharField(max_length=50,default='image/jpeg');

class Profile(models.Model):
  User            =models.OneToOneField(User,unique=True,on_delete=models.CASCADE)
  bio             = models.TextField(blank=True)
  profile_picture = models.OneToOneField(Profile_Picture, unique=True,
on_delete=models.CASCADE, null=True, blank=True)

class Trail(models.Model):
  Id              =models.PositiveIntegerField(primary_key=True)
  Name            =models.CharField(max_length=100)
  Summary         =models.TextField(blank=True)
  Difficulty      =models.CharField(max_length=50)
  Longitude       =models.DecimalField()
  Latitude        =models.DecimalField()
  Length          =models.DecimalField()
  High_altitude  = models.DecimalField(blank=True)
  low_altitude    = models.DecimalField(blank=True)
```

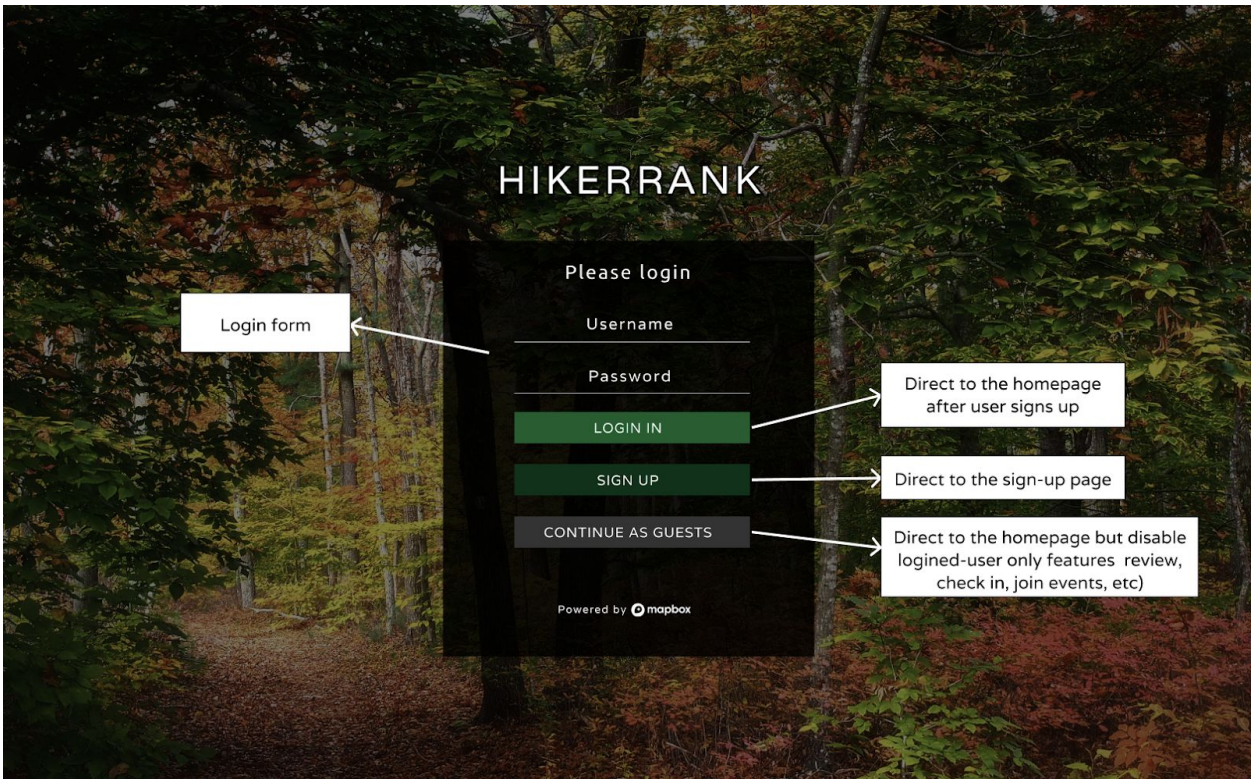
```
class Photo(models.Model):
  picture          = models.FileField(upload_to='')
  content_type  = models.CharField(max_length=50, default='image/jpeg');
  Trail            =models.ForeignKey(Trail,on_delete=models.CASCADE)
  Event            =models.ForeignKey(Event,on_delete=models.CASCADE)

class Event(models.Model):
  Time             =models.DateTimeField(auto_now_add=True)
  Location         =models.ForeignKey(Trail,on_delete=models.CASCADE)
  Organizer        =models.ForeignKey(Profile,on_delete=models.CASCADE)
  participants     = models.ManyToManyField(Profile,blank=True)

class CheckIn(models.Model):
  trail            = models.ForeignKey(Trail,on_delete=models.CASCADE)
  User             =models.ForeignKey(Profile,on_delete=models.CASCADE)
  Time             =models.DateTimeField(auto_now_add=True)

class Review(models.Model):
  poster           = models.ForeignKey(Profile,on_delete=models.CASCADE)
  trail            = models.ForeignKey(Trail,on_delete=models.CASCADE)
  time             = models.DateTimeField(auto_now_add=True)
  rating = models.IntegerChoices()
  Review_text      =models.TextField(blank=True)

class Follow_UnFollow(models.Model):
  time             = models.DateTimeField(auto_now_add=True)
  user             = models.ForeignKey(Profile,on_delete=models.CASCADE)
  following        = models.ForeignKey(Profile,on_delete=models.CASCADE)
```

Wireframe

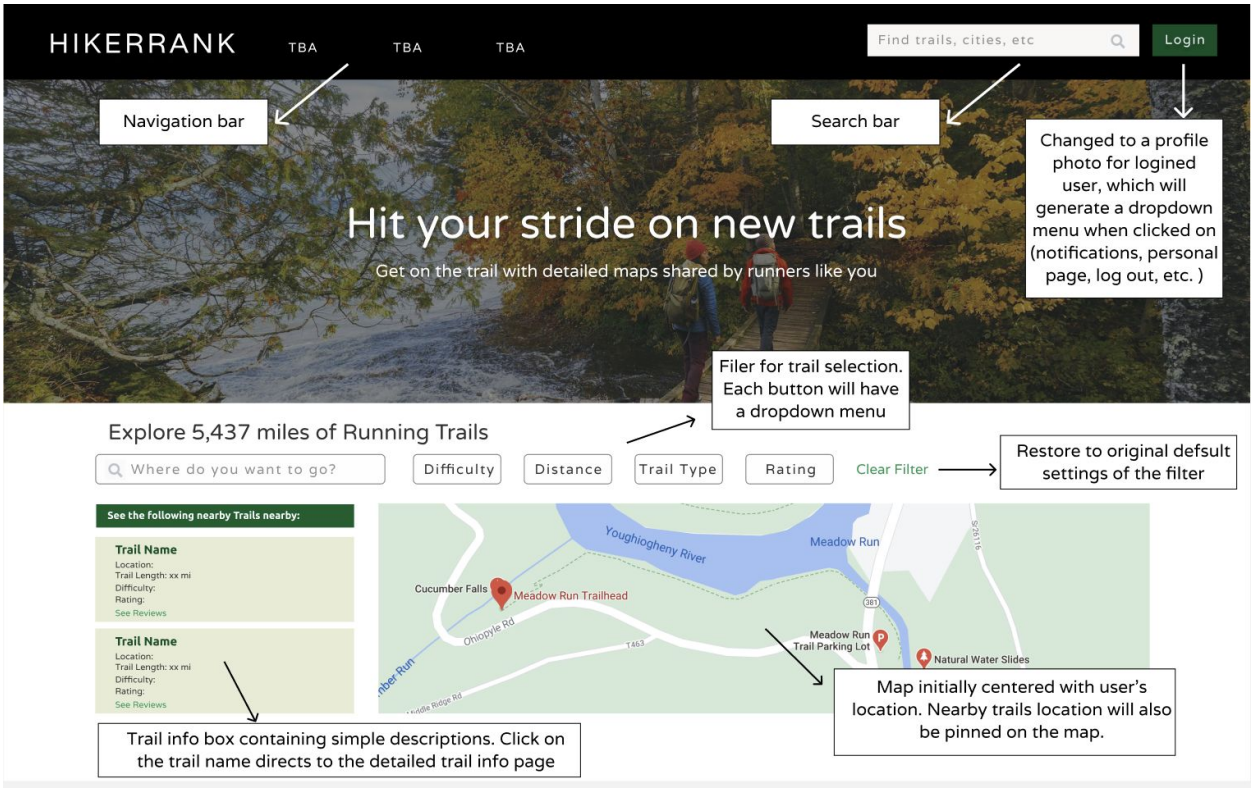
Sign Up Page



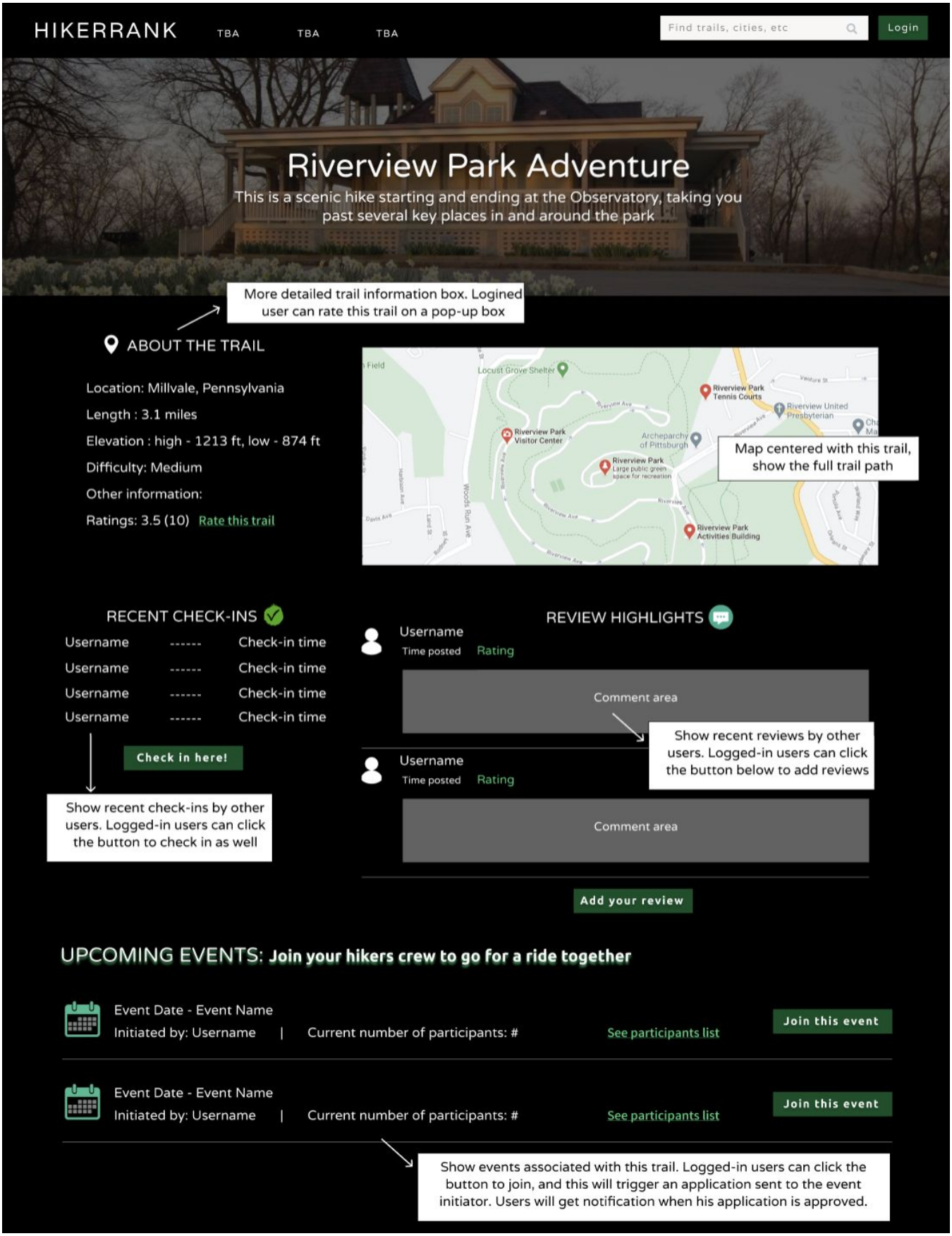
Login Page



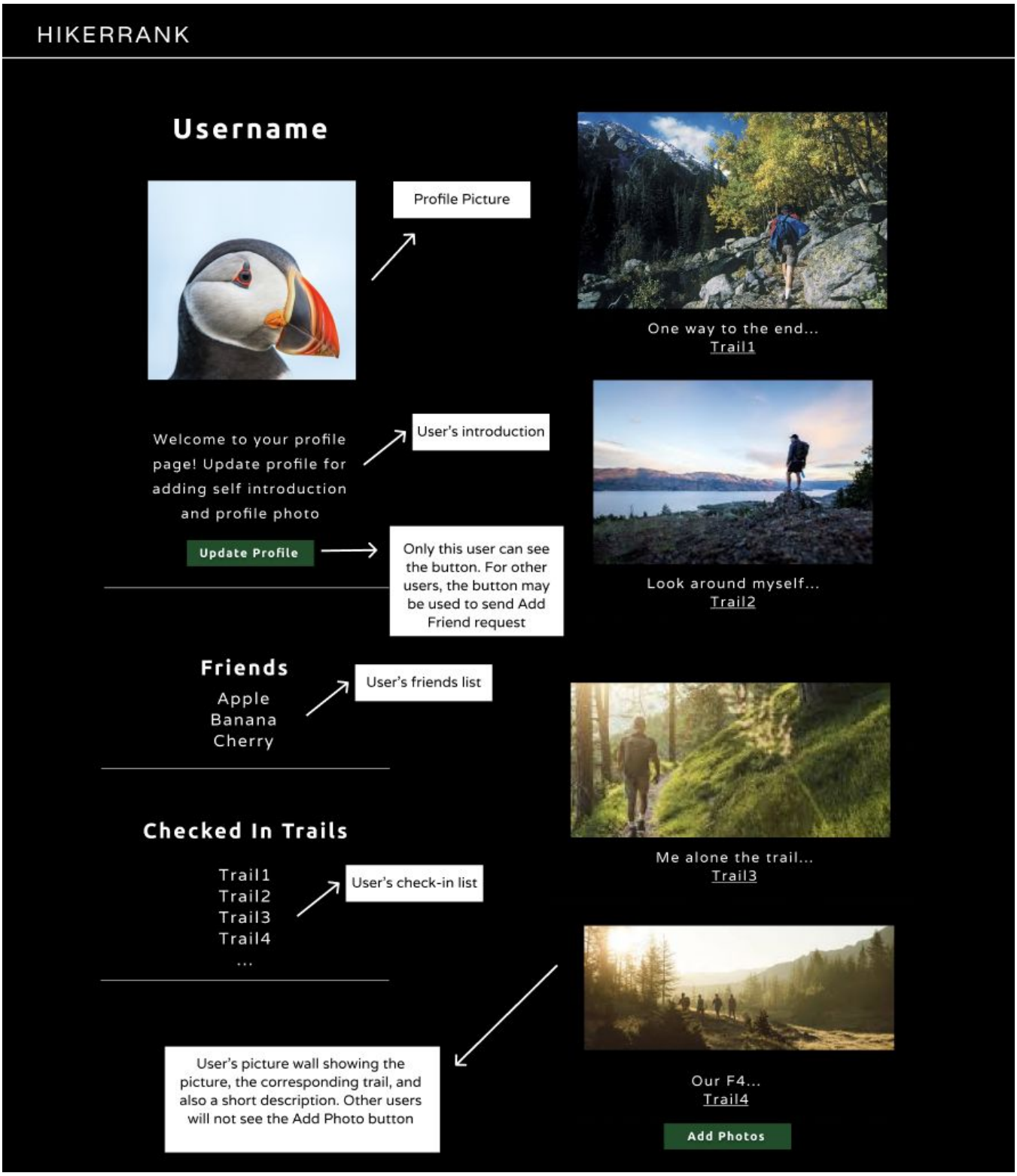
Homepage


HIKERRANK
TBA
TBA
TBA
Find trails, cities, etc
Login
Navigation bar
Search bar
Changed to a profile photo for logined user, which will generate a dropdown menu when clicked on (notifications, personal page, log out, etc.)
Hit your stride on new trails
Get on the trail with detailed maps shared by runners like you
Filer for trail selection. Each button will have a dropdown menu
Explore 5,437 miles of Running Trails
Where do you want to go?
Difficulty
Distance
Trail Type
Rating
Clear Filter
Restore to original defsult settings of the filter
See the following nearby Trails nearby:
Trail Name
Location:
Trail Length: xx mi
Difficulty:
Rating:
See Reviews
Trail Name
Location:
Trail Length: xx mi
Difficulty:
Rating:
See Reviews
Youghiogheny River
Meadow Run
Cucumber Falls
Meadow Run Trailhead
Ohiopyle Rd
Meadow Run Trail Parking Lot
Natural Water Slides
Trail info box containing simple descriptions. Click on the trail name directs to the detailed trail info page
Map initially centered with user's location. Nearby trails location will also be pinned on the map.

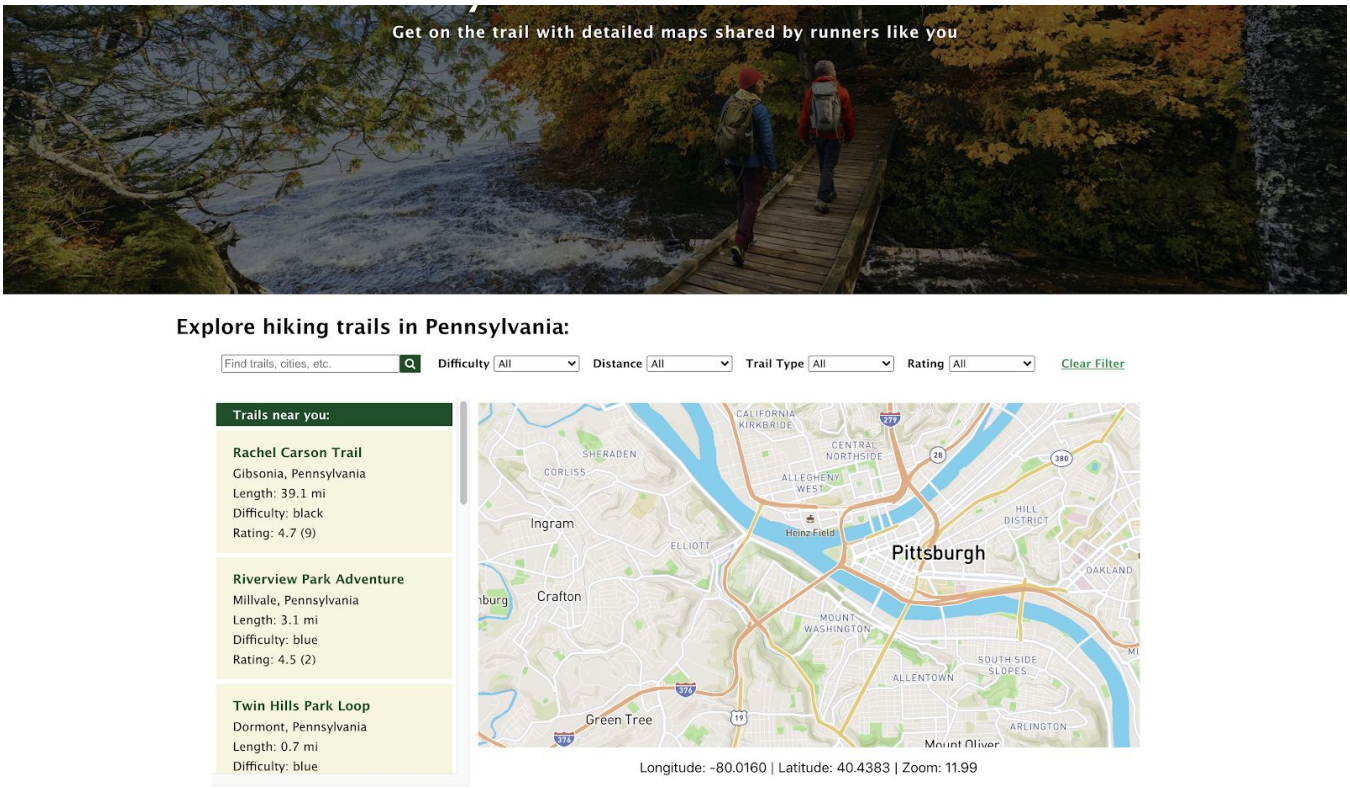
Trail Information Page



Personal Homepage



Map Integration



We use ***Mapbox API*** for map integration. Currently we can add a basic map to the react home page using ***Mapbox GL JS***. The map is interactive and can be zoomed in or out.

Upon a basic map, we are able to display points / routes on the map, using ***GeoJSON*** data, which can describe points in space with coordinates.

To display routes, we will need to obtain GeoJSON data for hiking routes and store them in our database. Then we will be able to display interactive maps in our web application.