

Hera

Have a safe stay

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2019 SLOAN HACKATHON PROMPT

Prompt: If you have all of the travel information in the world, what travel service would you create?

PROBLEM

In March of 2019, The New York Times posted an article about the extreme dangers faced by women who travelled solo. Catcalls, physical harassment, sexual assault, even the cover up of an attempted murder; the Times candidly portrayed the accounts of women who faced these terrible situations as they traveled abroad.

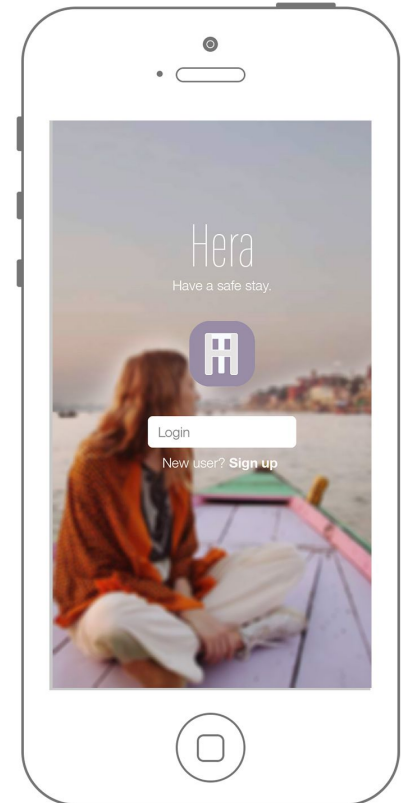
There is no doubt that inequality is still ingrained in the minds and cultures of many peoples and countries. These toxic attitudes have always presented unique challenges to women who travel solo, and horror stories are constantly on the minds of women as they travel.

"I kept an eye on the streets, making sure we were in populated areas and following the correct route, and mentally thinking through various escape routes."

-Olivia Goldhill describing her thoughts as she was being driven to her lodging while on a business trip

SOLUTION

We seek to inform, prepare, and connect women travelers so they can better enjoy trips. Our solution, *Hera*, is a social travel app that connects women that are traveling solo, and includes various other safety features.



USER PERSONAS



Karen, 53

Toronto, ON
Software Engineer

Karen frequently has to travel to attend conferences at her company's global headquarters in Manhattan. She enjoys New York, but dislikes commuting via ridesharing and public transit when alone.



Zena, 45

Kansas City, MO
Middle School Teacher

Zena is a single mom who needs to travel for her daughter's college graduation in Boston. Since her daughter is going to be busy before the ceremony, Zena must occupy herself and explore Boston solo throughout the day, but has a fear of doing things alone in crowded cities.



Kayli, 19

San Juan, PR
College Freshman

Kayli is a college student planning her first solo adventure this spring break. Kayli is a bit naive, so her parents are worried about her being alone in a foreign city. Kayli has promised them to always be near other people throughout her trip.

WHAT IS HERA? HOW DOES IT WORK?

PURPOSE: To empower women to feel safe, secure, and supported when they travel by allowing them to create a personalized, trusting community as vulnerable travelers.

MISSION: To create a temporary social circle that provides a community of other female travelers and verified, recommended locations to visit during their trip.

1. MAKE A PROFILE

2. EXPLORE & CONNECT

- Matches
- Map (Events & Safety)
- Toggle availability



MARKET

WHO WILL USE HERA?

Women Traveling for Business.

Women comprise nearly half of all business travelers, generating a market of nearly **\$200 billion**. Yet, only **55%** of women feel safe when on a business trip.

Middle Ageds and Baby Boomers.

In the UK, women over the age of 50 are twice as likely as their male counterparts to travel solo. In 2017 alone, **63%** of solo travelers who booked lodging in international hostels were women.

Millennial Adventurers.

72% of American women embrace the idea of solo travel, with the number of women who travel solo increasing year after year.

COMPETITOR PRODUCTS

> TOURLINA

Advantages

- Allows users to create potential trips and view potential matches
- Ability to connect with locals

Disadvantages

- Forces people to sign in with Facebook
- Difficult to edit/amend travel plans
- Constant crashes on non-iOS devices

> SOLOTRAVELER

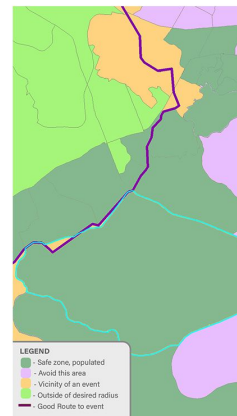
Advantages

- Encourages socialization at tourist attractions
- Small, but highly engaging community
- Ability to connect with locals

Disadvantages

- Constant problems with confusing interface
- Multiple accounts of users being unable to save profile data

WHAT MAKES OUR SOLUTION UNIQUE?



Hera's **interactive map** will provide them with the information to answer their most pressing questions: *What other people can I meet? What fun things are close to me?* If anything happens, *Where's the nearest police station?*

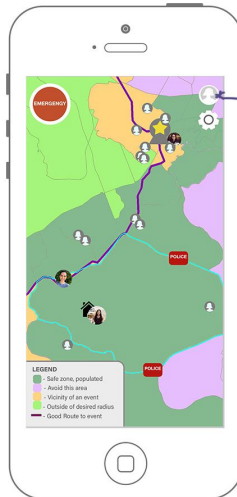
How Hera is built:

MAP

Google maps API

Display map and add user, landmark, and event icons based on profile preferences and location

Web-scrape Facebook and other social media platforms for public events



BACK-END:

Firestore

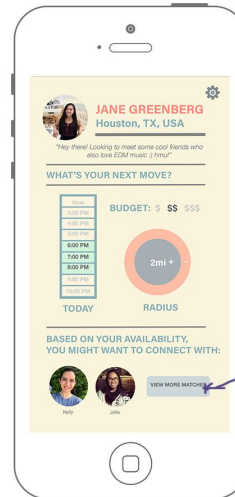
In-app messaging
User authentication
Cloud storage

PROFILE

Three filters that each user updates at any time during their trip:

Time you're free, Budget, & Radius

Filters help the app provide the best recommendations throughout trip



MOBILE DEVELOPMENT FRAMEWORK:

React/ React Native

Javascript-based

low development cost

fast launch time

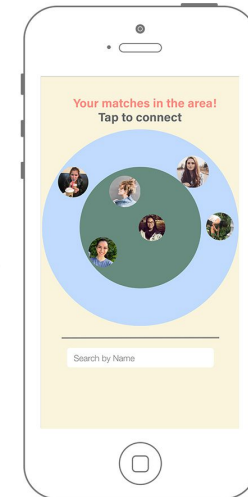
third-party apps to incorporate hardware features (GPS location, bluetooth, etc.)

MATCHES

Potential matches are first filtered by language preferences

They are then filtered with the **travel sentiment value*** using a dynamic threshold to create potential matches of people with similar travel sentiment values

Interests & affinities are also considered in match-making



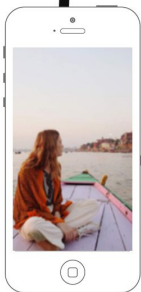
***Travel sentiment value:**

Sentiment analysis performed on the collection of reviews of the lodging, food, and activities


```

1 from textblob import TextBlob
2
3
4 class TravelEntity():
5
6     def __init__(self, name):
7         self.name = name
8         self.reviews = list()
9         self.sentiment = 0
10
11     # Name and sentiment of the instance is reported. Nothing is returned.
12     def report_sent(self):
13         print('%s sentiment: %f' % (self.name, self.sentiment))
14
15     # Given a review, it adds it to the private list of reviews associated
16     # with the instance. Nothing is returned.
17     def insert_review(self, review):
18         self.reviews.append(review)
19
20     # Utilizing textblob library, the polarity for a given review is returned.
21     def _get_polarity(self, review):
22         # Review (string) converted to a TextBlob instance.
23         rev_blob = TextBlob(review)
24
25         # The polarity attribute of the blob is returned.
26         return rev_blob.polarity
27
28     # Sentiment analysis is performed on reviews for the current instance.
29     def find_sent(self):
30         sent_list = list()
31
32         # The sentiment for each review is found.
33         for rev in self.reviews:
34             sent_list.append(self._get_polarity(rev))
35
36         # Found sentiments are then averaged.
37         self.sentiment = sum(sent_list)/len(sent_list)
38

```



Zena traveled to Boston last month.

SHE STAYED AT:
Marriot Boston

0.238055



SHE ATE DINNER AT:
Shake Shack

0.237103



SHE WENT TO:
Dave & Buster's

0.037429



RECOMMENDATIONS:

- 1 / Travel Entities in the current travel destination are filtered by the user's **availability**, **budget**, and **radius** for that day.
- 2 / Out of the filtered Travel Entities, the ones with the **highest travel sentiment values** are presented as recommendations, and shown as icons on the map.

MATCHES:

- 1 / Other travelers in the area are filtered using the **language preferences** set by the user.
- 2 / The remaining preferences (interests and affinities) and the users' unique travel sentiment value are used to provide the current user with potential matches.