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### Assignment 5b: Project Report

Our project is focused on facilitating UCLA students' involvement in the natural environment and outdoor recreation opportunities of Los Angeles and Southern California. The main issues we decided to focus on are the difficulties of finding peers to do outdoor activities with and accessing the gear necessary for such activities because we believe that these issues present some of the biggest barriers to students who want to engage in nature and the outdoors. In order to address these challenges, our team found it highly important to research the ways in which we could better cater to the needs and wants of our potential users. Using the results from our research, we also created design concepts and prototypes for the service or application we are planning to create.

### **Research Techniques and Process**

In order to delve deeper into the domain of our project and begin thinking about ways to meet the needs of our target user base, we conducted a thorough research process that consisted of a literature review, interviews, and fieldwork.

#### *Literature Review*

As part of our research process, we created a literature review by finding online articles about relevant topics like outdoor recreation and community-building.

In regards to community-building, the article “Successful Community Building Using Social Media Platforms” by Emily Jones provided valuable information about the challenges of forming online communities by discussing successful social media companies and giving examples of successful groups formed on those platforms. For example, it is easy to form a Facebook Group because of the variety of engagement features and Facebook’s enormous user base, so there are low barriers to entry for new members who want to explore their interests. One big takeaway from this article was that successful online communities focus heavily on finding new ways to engage users, and have several moderators that help monitor user engagement.

The research article “Beyond ‘Because It’s There’” by Alan Ewert, et al. described a study on motivations for pursuing adventure recreation activities that was conducted over a 6 year period. Through analyzing their findings, the authors discovered three main factors of motivation: social, sensation-seeking, and self-image. Out of these three factors, the social factor, relating to a sense of belonging, being part of a team, and friendship, was the strongest predictor of group membership. This means that most people are motivated to pursue outdoor recreation activities because of social factors, above both sensation-seeking and self-image. This conclusion provides us with further evidence that a community-building platform for UCLA undergraduates would be valuable in motivating them to pursue outdoor activities.

As for access to outdoor gear, “Creating Access to Outdoor Gear in Your Community” taken from Outdoor Sport Institute provides several solutions to tackle this challenge. Some strategies include gear libraries, rental and lease options, gear collectives, and donations. There are also other factors to consider such as storage, maintenance, gear repair, and sustainability. In order for this to be a functional and long term resource, many roles and partnerships should also

be considered to enable and encourage outdoor recreation. This helps us with understanding how we can tackle finding the right solution for UCLA students, allowing them to benefit while also giving back, all while fulfilling their purposes of enjoying the outdoors.

### *Interviews*

To better understand the needs of our target user base (UCLA undergraduate students), we conducted structured interviews via a Google Form sent to students in which we asked various questions about their experience with outdoor activities and apps for finding groups to do outdoor activities with. The survey was limited to UCLA students by requiring respondents to sign in using their UCLA email and included the following questions:

1. What types of outdoor activities do you enjoy, and how frequently do you participate in them? (Free response)
2. Have you ever used an app or platform for finding outdoor activity partners or renting outdoor gear? If yes, please specify which ones. (Free response)
3. How do you prefer to find/connect with potential outdoor activity communities?  
(Select all that apply)
  - a. In app messaging
  - b. Group chats
  - c. User profiles with activity preferences
  - d. Matchmaking algorithms based on interests
  - e. Other:

4. Have you ever rented outdoor gear/equipment through an app? If you own outdoor gear/equipment, would you be willing to loan your equipment to another student through an app? (Free response)

We also conducted additional structured interviews as a part of our research in which we contacted several organizations at UCLA in order to ask them a set of questions we planned beforehand for efficiency as well as any unplanned questions that may arise depending on the unique circumstances of the organization. The organizations contacted include the Backpacking Club, Outdoor Adventure Club, LA Ski and Board Club, UCLA Recreation Marina Aquatic Center, and Peaks and Professors; we used a combination of email and Instagram messaging to reach out to these groups. The list of questions sent to the organizations are as follows:

#### **Section 1: Role and Responsibilities**

- 1.1. What is your role within the UCLA rental gear staff?
- 1.2. Can you describe the types of outdoor gear that are typically available for rent to students?

#### **Section 2: User Demands and Trends**

- 2.1. What types of outdoor activities are most popular among UCLA students, and what gear is most frequently rented for these activities?
- 2.2. Are there any complaints about the pricing of the gear rental?

#### **Section 3: Challenges and Improvements**

- 3.1. What are the primary challenges you encounter in managing and maintaining the rental gear inventory? Late return? Item damage?
- 3.2. Are there any specific improvements or changes that you believe could enhance the rental process or the user experience for students?

#### **Section 4: User Safety and Education**

4.1. How do you ensure that students are properly educated and informed about the correct use and safety of the rental gear they take?

4.2. Are there additional safety measures or educational resources you believe could be beneficial for students?

### **Section 5: Collaborations and Partnerships**

5.1. Do you collaborate with any other departments, student organizations, or external partners to support outdoor activities and gear rental for students?

The department we are collaborating are REC rental section,

5.2. Are there any potential collaborations or partnerships you would like to explore to enhance the rental gear services?

OpenAI. (2023, 10 28). Response from ChatGPT.

We used ChatGPT to generate a format of sample questions. We then took the format from ChatGPT generated questions and modified it to fit UCLA students. The questions for UCLA rental staff are also written in similar way to broaden the understanding of student needs and preferences.

### *Fieldwork*

To conduct our field research, we are planning to visit websites of various stores that allow the renting and/or selling of gear for outdoor activities with the goal of simulating the actions UCLA students might take to seek out gear or outdoor activities. Since we are catering to the needs of UCLA students, we will mainly be visiting locations that are close to the UCLA campus to ensure our actions mirror those of our potential users. These locations include UCLA Recreation and REI in Santa Monica.

### *Competitor Analysis*

In order to better understand the landscape of our project and strategize our approach to solving the problem of engaging UCLA students with the outdoors, we analyzed the strengths and weaknesses of several competitors: Meetup, AllTrails, iNaturalist, and Outdoor Project.

1. Meetup: Meetup is a social media platform that allows users to find and join groups related to their personal interests, as well as host events and activities.
  - a. Meetup's strengths are that it is easy to find events, groups, interests because they are filtered by location, distance, and category. Users can create social groups, career groups, and creative groups and can submit user reviews and ratings for events.
  - b. Meetup's weaknesses are that there are membership fees to organize events and create groups, which users may not be inclined to pay for. In addition, organizers play the most important role in a group so without organizers, the group falls apart. There may also be inconsistencies in event attendance.
2. AllTrails: AllTrails is a mobile app used for trail maps, including crowdsourced images, reviews, and difficulty ratings.
  - a. AllTrail's strengths are that it has a huge database of trails which makes it easy for beginners to find a manageable trail. It also provides detailed data about trails such as its elevation, difficulty, distance, routes, and reviews. Users can also create custom trails for their own adventures.

- b. AllTrail's weaknesses are that it is limited to hiking and does not include other outdoor activities. It also lacks a feature that allows gear rentals and advanced features (i.e. offline maps) require a subscription. The platform's trail database may also have limitations in terms of global/ local coverage.
- 3. iNaturalist: a platform in the naturalist and outdoor recreation space. It offers an online community for outdoor enthusiasts, focusing on environmental education and fostering a love for nature.
  - a. Some strengths include facilitating connections and group formation for outdoor enthusiasts, their Education Hub offering extensive resources on nature and sustainability, and providing access to outdoor equipment through a network of providers.
  - b. Its weaknesses include not catering specifically to UCLA or Southern California, there's potential for misclassification since it relies on user-generated content, and it must be connected to internet to access core features (may not be practical when out in nature)
- 4. Outdoor Project: A platform that offers information on outdoor activities and destinations. It provides details about outdoor adventures, such as hiking, biking, climbing.
  - a. Its strengths are being able to provide information and guides for a wide range of outdoor activities, and it contains user generated content, allowing users to contribute their own adventure reports, photos, and recommendations.

- b. Some weaknesses include not having specific features catering to a single campus (club, campus popup events) such as UCLA or a highly localized user base, and not addressing the gear rental needs of students.

## **Results**

From the research we have conducted thus far, we have gathered these findings regarding the domain and problem space of our project.

### *Interview Insights*

We distributed the survey link to UCLA students starting from October 24th and continued to do so for about two weeks afterwards; at the end of the two week period, we received responses from 16 unique respondents. From our survey results, we saw that a majority of our respondents engage in outdoor activity ranging from either a couple times a week to once a month, giving us a pretty active college student to base our findings and research off of. All of them have also never used an app or platform for finding outdoors activity partners or renting outdoor gear, but 80% of our interviewees communicate through group chats to do so. In addition to this, all respondents have never rented equipment from an app before, and would not feel as comfortable loaning other students their own equipment. This leads us to find a different resource for gear rentals amongst students, all while allowing them to enjoy recreational activities with peers.

Amongst the several organizations at UCLA we reached out to, only the Outdoor Adventure Club was able to respond to our request for an interview. The Outdoor Adventure Club at UCLA is a student club at the Anderson School of Management and organizes activities such as camping, hiking, kayaking, and more. We learned that the club does not utilize a gear



rental system for members; rather, members are able to borrow gear such as sleeping bags and mats to use on club activities. The club also stated that members are required by the activity provider to sign a waiver before participating in any outdoor activities. Although they do not collaborate with other organizations for gear rental, they often partner with other student clubs at Anderson to support their outdoor activities. From the Outdoor Adventure Club's responses, we can infer that other outdoor clubs at UCLA might have similar systems when it comes to gear or outdoor activities.

### *Fieldwork Observations*

Upon further research, we have found that both UCLA Rec and REI Santa Monica are currently unavailable for rentals. With this, we decided to explore their websites to find out about their usual rental process. With REI, you are able to choose a location from their website to rent from, which then lists the services available. REI's Tustin location provides rental services which include snowshoes, cycling, climbing, camping/hiking gear, and bear canisters. By selecting the dates, you are able to calculate the rental price for the duration needed. You are then able to check out and go pick up the equipment rented. For UCLA Rec, you have to visit the Rental Center in person, fill out the appropriate paperwork for the gear you want to rent, then pay the rental fees. They also provide a pricing sheet for the equipment, along with replacement costs. It also looks like they only provide rental fees for 1-4 days, 5-8 days, and breaks (last week of classes until the beginning of the next quarter).

### **Research Conclusion**

We hope that our preliminary research will reveal important insights on the challenges and needs of UCLA students and making connections to outdoor recreation and

community-building. We have learned that many students are actively engaged in outdoor activities through existing UCLA outdoor interest clubs and groups. Most clubs lack centralized apps for finding outdoor activity partners or renting gear, or only allow access to club members.

We also learned that some clubs partner with others to support each other's outdoor activities. Through analyzing our interview responses, we have concluded that the most direct way to engage the undergraduate student population at UCLA with outdoor recreational activities is to provide access to groups and communities to do these activities with. Furthermore, given that both UCLA Recreation and REI Santa Monica are unavailable for rentals, and that most students were unwilling to rent out their own equipment, we have decided to just focus our design on finding and building groups to engage in outdoor activities with. This will also make our process more consistent when addressing design problems and corresponding solutions in the future.

## **Design Concept**

To help with design decisions in the future and understand our users on a deeper level, we have defined our average users and their current experience journey. We also made low-fi sketches of our application which will serve as a starting point since we will be expanding upon these initial designs in the future.

### *Key Features*

1. Groups: Users can create or join groups based on specific outdoor activities (ex. hiking, running, camping, rock climbing, biking). Each group has a feed/forum where users can post events, photos, have discussions, etc.

2. Events: Group leaders can create events for their group or for the general undergraduate community, and users can join and discover events of their liking.
3. User Profiles: Personalized profile that includes their name, profile picture, bio, and a list of the outdoor activities they are interested in. Showcase their achievements on their profiles.
4. Group chats: Members can have real-time conversations and plan activities within the group. Users can also send private messages to other group members.
5. Activity: Provide an overview of a user's outdoor adventures, including statistics about outdoor activity and progress to motivate users.

### *User Personas*

1. *Name:* Bianca Rodriguez

*Age:* 19

*Education:* Second-year at UCLA majoring in Mathematics

*Employment:* Barista at local coffee shop

*Tech literacy:* High

*Characteristics:* Introvert, Adventurous, Eco-conscious, Planner

*Background:* Bianca is a second-year undergraduate student at UCLA who is passionate about the outdoors and sustainable living. Some of her hobbies include hiking, reading, camping, and going to concerts. She enjoys all outdoor activities and frequently plans solo backpacking and camping trips in the local area.

*Core needs:*

- Find a community who share her passion for the outdoors to go on trips with

- Organize groups and help others learn to appreciate the outdoors
- An app that fits her busy schedule, with an intuitive interface that allows her to find, create, and join groups easily

*Frustrations:*

- Current platforms don't support community building, especially within her age demographic
- Difficulty staying committed to on-campus organizations due to her busy schedule
- Groups she is a part of on other platforms (Facebook Groups) are too big, making it hard for her to form meaningful connections

2. *Name:* Cameron Chang

*Age:* 20

*Education:* Third-year at UCLA majoring in History

*Employment:* Unemployed

*Tech literacy:* High

*Characteristics:* Extrovert, Energetic, Beginner, Easy-going

*Background:* Cameron is a third-year undergraduate student at UCLA who is extremely extroverted and enjoys meeting new people. He is a part of numerous on-campus organizations, and spends most of his time hanging out with his friends. He was recently introduced to rock climbing through a friend, and is looking to find other beginners to rock climb with.

*Core needs:*

- Find a group of students who have a similar experience level.
- The ability to connect with a wide network of students, who can provide tips or help him along his journey.
- Join and form groups, and be able to easily refer friends to the platform and join groups together

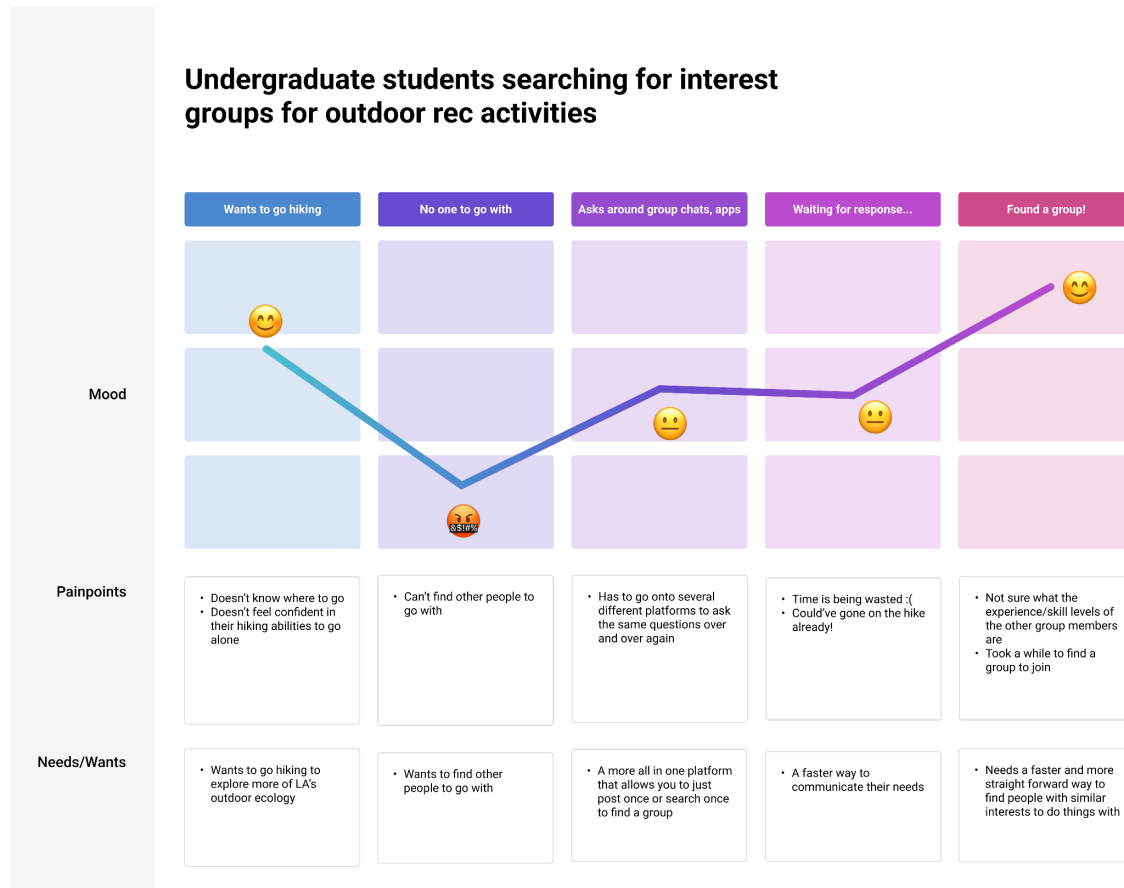
*Frustrations:*

- Wants to enjoy outdoor activities as a hobby, joining a club feels too high-commitment
- Hard to find groups on social media for niche activities like rock climbing
- Wants to explore other outdoor activities in a group setting

*User Journey*

After conducting our interviews, we created a journey map to help visualize the users pain points and emotions throughout their experience.

The user goes through the following stages (using hiking as an example):



From our visualization, we can see that the user experiences the most frustration because they have no one to go hiking with. Following are when the user asks around group chats, and when waiting for responses. Using these more negative emotions of the user, we have highlighted these as our main focus, being able to provide a more all in one platform which allows you to find and/or create groups of similar interests.

### *Low-fi Sketches*

The sketches show a mobile app interface for a hiking application. The main components include:

- Home Screen:** Features a 'Hiking' title, a 'Hiking' button, and a 'Hiking' button. There is also a 'Hiking' button and a 'Hiking' button.
- Search Screen:** Includes a 'Search' title, a 'Search' input field, and a 'Search' button.
- Hiking Details Screen:** Shows a 'Hiking' title, a 'Hiking' button, and a 'Hiking' button. There is also a 'Hiking' button and a 'Hiking' button.
- Profile Screen:** Contains a 'Profile' title, a 'Profile' button, and a 'Profile' button.
- Events Screen:** Displays a 'Events' title, a 'Events' button, and a 'Events' button.
- Hiking Trail View:** A detailed view of a hiking trail, showing a map, a list of hiking trails, and a 'Hiking' button. It also includes a 'Hiking' button and a 'Hiking' button.
- Hiking Trail View:** Another detailed view of a hiking trail, showing a map, a list of hiking trails, and a 'Hiking' button. It also includes a 'Hiking' button and a 'Hiking' button.
- Hiking Trail View:** A third detailed view of a hiking trail, showing a map, a list of hiking trails, and a 'Hiking' button. It also includes a 'Hiking' button and a 'Hiking' button.

*[Second draft: focusing more on finding and building groups to engage in outdoor activities with, also highlighting the key features of the platform.]*

### *Information Architecture*

In terms of content, we plan to include a **homepage** that displays local hikes. The user can choose to organize the list of hikes based on various features of the hike which could be highly useful for beginner hikers because they often lack detailed information about hikes that more experienced hikers may already be aware of. The features we plan to include are as follows:

- Hike details including: duration/length of hike, difficulty of hike, elevation, etc.
- Location of hike from the user
- How crowded/popular the hike is
- Water/bathroom access
- Parking/public transportation
- Shade/forecast
- Accessibility
- Optimal time to go on the hike
- What to bring/what to wear

There will also be a **user profile** that displays the user's saved hikes, journal, experience level, and completed hikes. The experience level and completed hikes feature in particular will be especially important for beginners because it motivates users by showing their progress and growth over time. We will also include **guides** that will inform beginner hikers on relevant topics such as how to get started with hiking, safety, equipment, ways to protect the environment while hiking, and transportation. These guides will be in a blog style format and there will be an



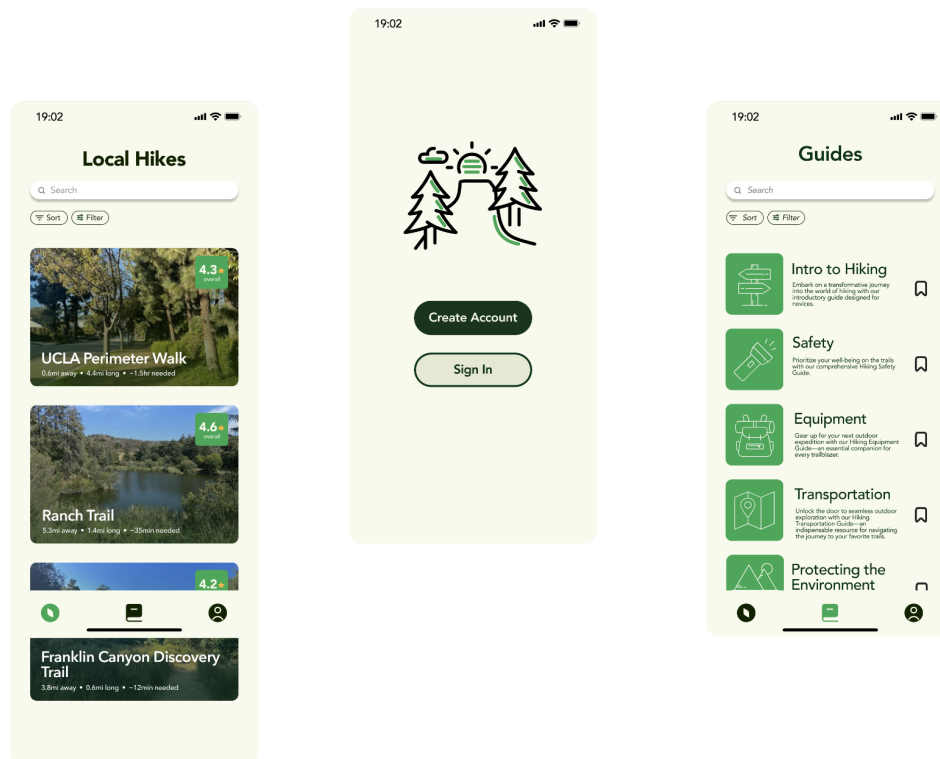
overall guide. The homepage, profile, and guides will all be on separate pages of the application. Users will also have a personal journal displayed on their profile page, where they can log their experiences on each hike, as well as add images of views and wildlife they took along the hike. Journal entries can also be shared to the public, allowing users to read first-hand experiences from other beginner hikers from their profile or on individual hike guides.

We plan to make the navigation for the application as simple as possible since it is geared towards beginner hikers. Upon using the application for the first time, users will be sent to the homepage where they will be able to view a list of local hikes. The user can filter the list of hikes according to feature or use a search option to search for specific hikes. When the user clicks on a hike, they will be able to access hike details. There will be a navigation bar that will be displayed on any page the user accesses for easy navigation between pages. The navigation bar will include the homepage, guides, and profile. Upon clicking any of the icons for these three features, they will be sent to the corresponding page. When the user clicks on the guides icon, they will be sent to a list of guides which also utilizes a search option to search for specific guides. When the user clicks on the profile icon, they will be sent to a page that displays their profile; from there, they can access their saved hikes, journal, experience level, and completed hikes.

### *Hi-fi Sketches*

Upon solidifying our low fidelity sketches, we moved on to designing our high fidelity frames and prototyping. We first started out by deciding on our design system, including color palette and font to keep our interfaces consistent throughout the design process. You can find the frames

[here](#), and the prototype [here](#).



*[Overview of our home page, launch screen, and guide page.]*

*Plans for Usability Testing :*

**Objective:** We aim to evaluate the design concept of our outdoor activities app and ensure that it meets the needs and preferences of our target user.

Step 1: Planning for participant recruitment.

We aim to recruit 3-5 participants who match the following criteria.

- UCLA undergraduates

- Diverse in hiking experience
- Diverse in tech literacy
- Diverse in outdoor interest

### Step 2: Designing of Usability Tests

We aim to have one on one meetings with each participant, showing each of them our app prototype to mimic an actual user interaction. Some use cases include creating a profile and finding a trail to hike on. We will observe participants' reaction to the app prototype closely, noting usability issues and/or hesitations. Once they are done, we will ask for their feedback, including honest thoughts and opinions and ways to improve our current prototype.

### Step 3: Conduct data analysis

Using our collected data and observations, we will identify common pain points and usability issues of the users to iterate on for future improvements, and create a summary of our key findings.

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