

# Joynus

## Low-Fi Prototyping and Usability Testing

**Bronwyn E.** | Manager

**Bernardo V.** | Designer

**Clark P.** | Developer

**Hilary S.** | User Testing/Documentation

### Introduction

“Joynus” is a mobile and location-based way for users to connect through spontaneous events. Users can create, search for, and join events around them. Based on our need-finding, we found that for many individuals, it is difficult, but desired, to engage with new people; spontaneous activities can be a vehicle for genuine interactions. Our mission is to allow people to form meaningful connections in a new and innovative way: by meeting new people and sharing experiences.

### Sketches

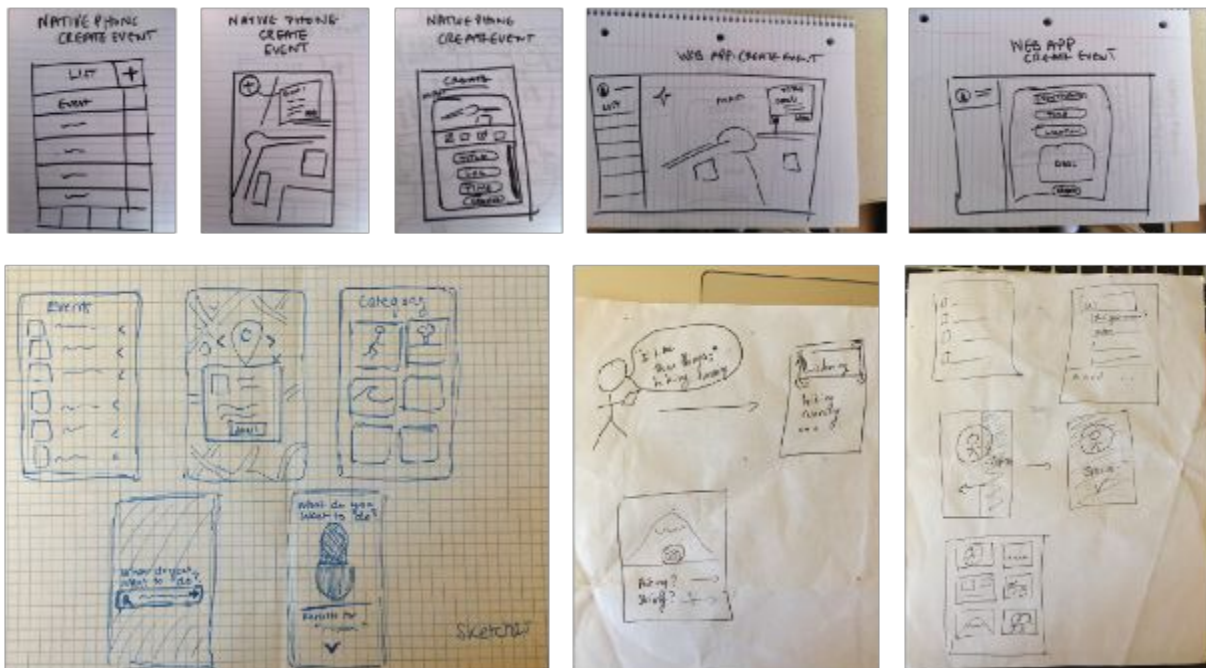


Figure 1: Concept sketches explored a variety of interface options, including a map-based display of events, a list of event postings, voice-prompted search, and different platforms.

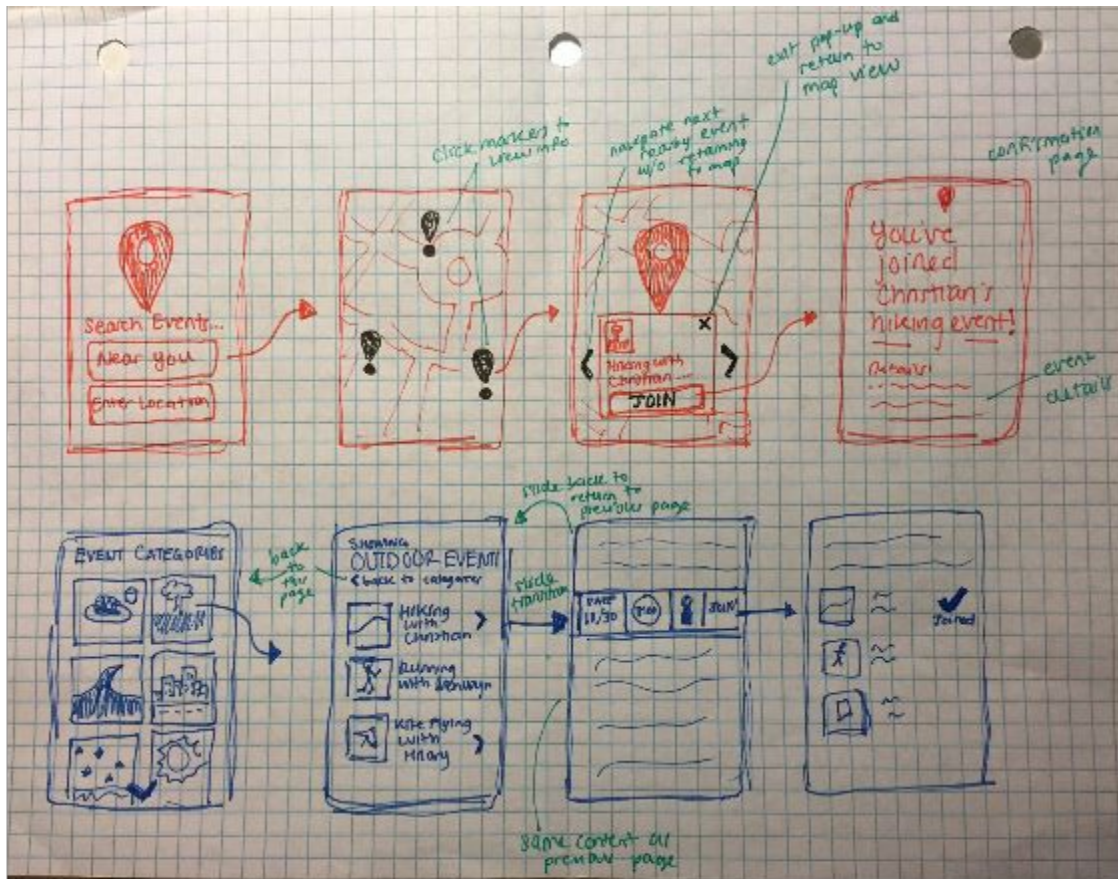


Figure 2: The map and category-based-list were the two interfaces we decided to further explore. The map we selected because we thought it would be an innovative and intuitive way to display events in your area, while the category-based-list we chose for familiarity and simplicity.

## Selected Interface Design

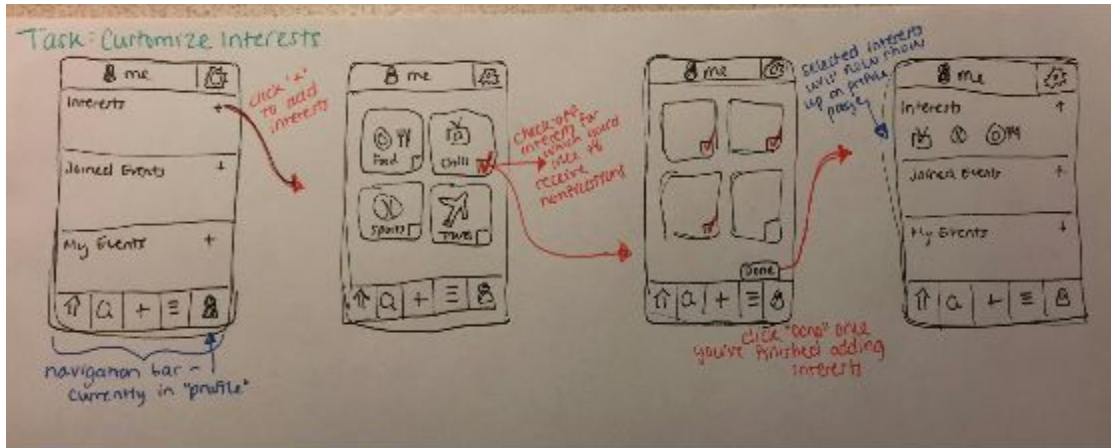


Figure 3: UI Storyboard for interest customization task

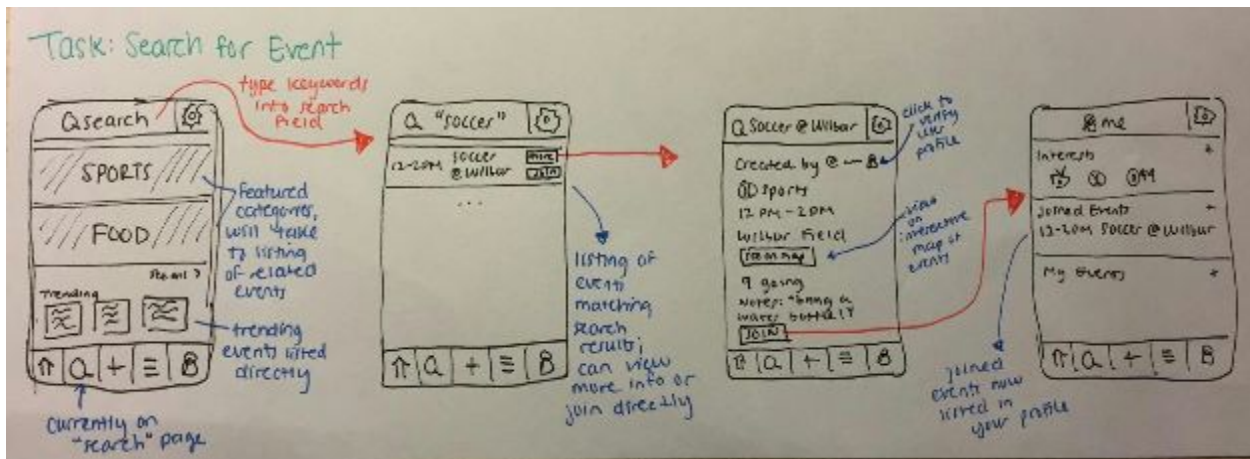


Figure 4: UI Storyboard for task of searching and joining an event

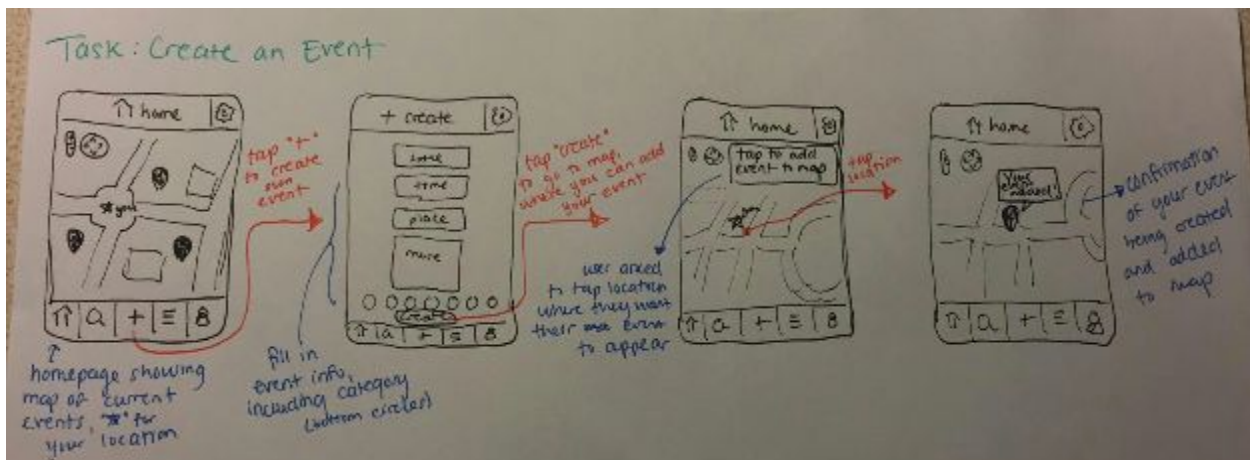


Figure 5: UI Storyboard for event creation task



For our selected UI we decided to create a combination of our two earlier choices. We retained the map-based interface in the homepage to have a more visual appeal that is different from other event applications. However, we also decided to incorporate list views for pages such as search results to give a sense of familiarity and simplicity. In designing our navigation bar we chose to use symbols that we believe are universally understood for users with a basic knowledge of mobile applications.

Item	Functionality
NavBar	<ul style="list-style-type: none"> <li>● On the bottom of every screen; allows user to navigate to different pages more easily</li> <li>● Positioned on bottom because of optimal thumb comfort (user rests thumb mostly near bottom right of screen)</li> <li>● Universally-recognized icons: a house for homepage, a magnifying glass for search, a “+” for adding events, three horizontal lines for listing of nearby events, and user icon for the profile.</li> <li>● Familiarity allows ease of access. If you’ve used any popular app before, you know how to use ours.</li> </ul>
Map	<ul style="list-style-type: none"> <li>● Allows the user to see events around their current location in relation to their location, see more details, and join</li> <li>● Most straightforward interface for immersing the user in surrounding events and a sense of app community</li> <li>● Map will pull from a familiar API, either Apple or Google, to eliminate a learning curve</li> <li>● Events are listed as “blips” with category icons overhead. They can be tapped to reveal more details or to join</li> </ul>
Listings of events	<ul style="list-style-type: none"> <li>● Gives users an alternative to the map which allows an efficient textual summary of the graphical interface</li> <li>● Alternative neat, orderly fashion</li> <li>● Also organizes events by time, so it gives the user a chance to more easily fit events into their itinerary</li> </ul>
Creation page	<ul style="list-style-type: none"> <li>● Distinct page made for filling out event details</li> <li>● Separate page rather than an overlay over the map or listings to give the user more room and space</li> <li>● Icon filters allow events to quickly be categorized in a graphical “code” which is easy to learn, given that they’re only seven</li> <li>● The user fills out their location by both setting the place</li> </ul>

on the map, and entering text, in order to provide a generalized map interface while allowing for specificity

## Prototype Description

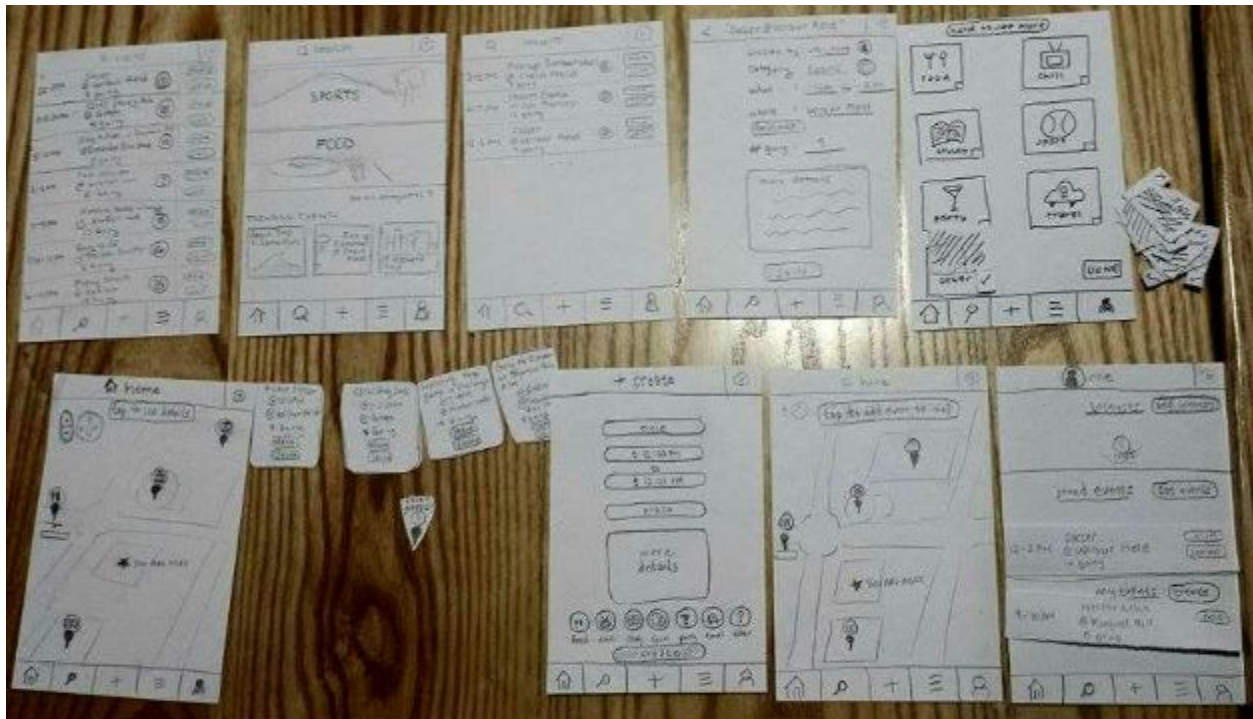


Figure 6: Our prototype, in its entirety.

Our low-fi prototype was made out of index cards. For dynamic aspects of our testing, we created separate pieces that we would place on/off the “screens” based on participant actions.



Figure 7: The home screen, where every participant would start out, and possible “popup” events.

All of our tasks start with the home screen, which is a map that marks user location and depicts events happening nearby. The +/- and compass is meant to function as in other mobile maps. At the bottom is a navigation bar, with icons meant to be universal (homepage, search, “+” for create, list of events, and user profile). The “tap to see details” bar at the top tells users that they can tap on each of the location markers for more information about the events. The separate “information popups” are on the right of the home screen. General settings is on the top right.

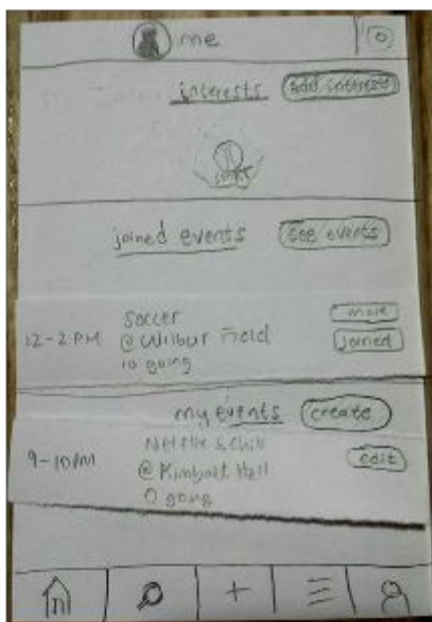


Figure 8: User's profile page.

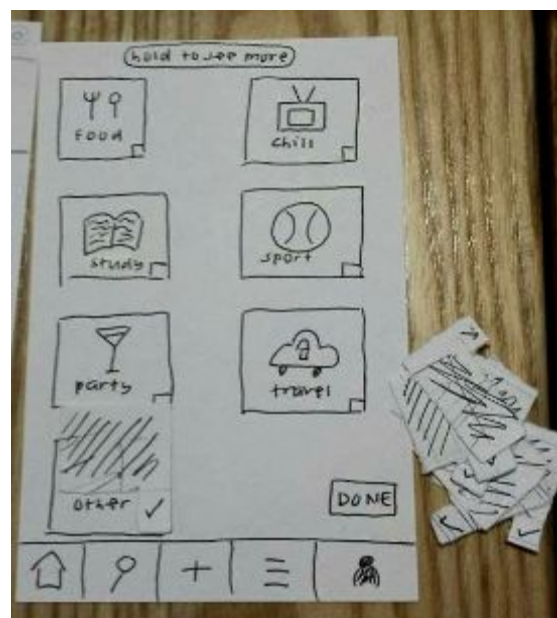


Figure 9: Category page where users can add more interests

From there the user can click the profile icon to see their profile. There, they can see their selected interests and add more. After clicking on “add interests,” it brings them to a page with checkboxes for different categories. We simulated “selecting” categories with additional paper pieces. After clicking “done,” we add paper icons of the categories to their “interests” section.

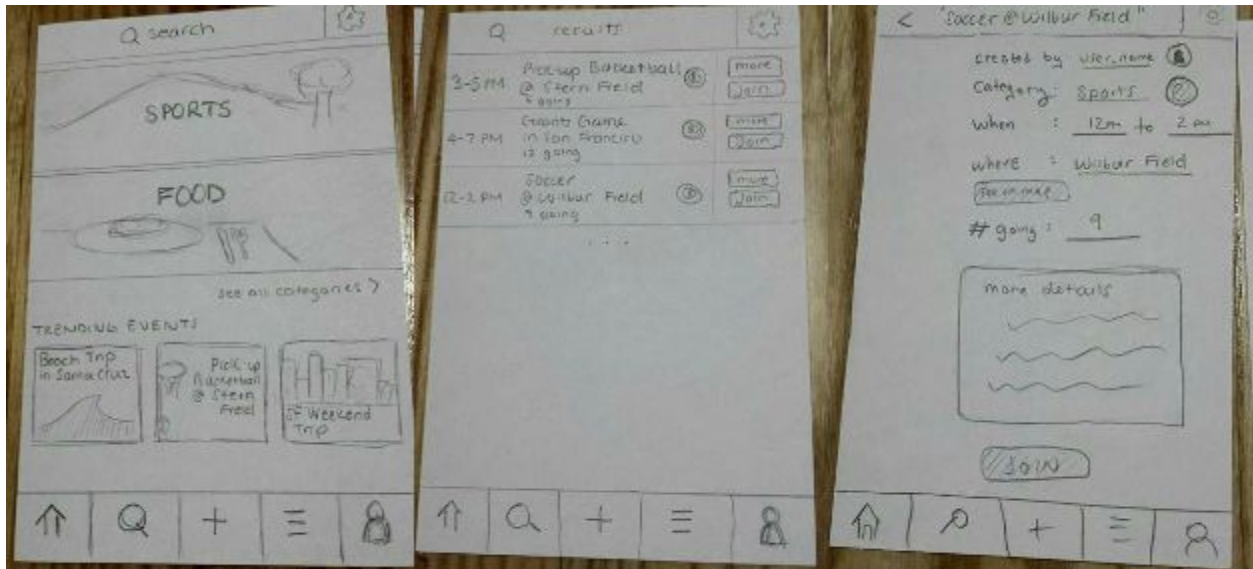


Figure 10: Main search page. When the user types in a search, it displays the Result page. When they click “More,” it shows details.

If the user clicked on the search icon in the menu, they would be brought to a search screen. They can look at trending events or featured categories. If they typed anything in the search bar at the top, the results page would show with the events near the user. They could click on “Join”, or click on “More” to see more details and then join, which is shown on the third screen above.



Figure 11: First, the create page. After the user clicks “Create,” they are brought to a map to add their location.

If the user clicked on the “+” icon, they would be brought to the “Create Event” page. There, they would manually type in all the fields. After selecting a category and clicking “Create,” they are brought to a map screen, where they’re asked to tap the map to add their event location. After they click, we put a paper location marker to



show that the user's event was added to the map.

## **Method**

### ***Participants***

Participants #1 and 2 are students who enjoy meeting new people and Participant #3 is a consultant in her late twenties who travels for her job. We randomly chose the two students in Tressider and personally asked the consultant. Many of the students that we interviewed during our need-finding expressed concerns about how difficult it was to meet new people, but that they had a desire to do so; we therefore decided that testing students who expressed an interest in interacting with new people would be a priority to test their comfort levels as well as usability. We also chose to test the consultant as a non-student and because many of our interviewees were also avid travelers and expressed a want to meet locals and others while traveling.

### ***Environment***

We conducted the testing in Tressider for the students and in a dormitory for the consultant. In each we laid out the screen that the user was currently on in front of him/her and changed it based on their actions.

We decided to make the search results that came up for Task #2 and the events on the map static for each test because it would help focus the testing more on the usability of the application. Also, we assumed that each of the users started in the same location at the same time, so it made sense that there would be the same events around them.

### ***Tasks***

1. Customize your profile to add "Sports" to your interests.
2. You want to play soccer. Find and join a relevant event.
3. You want to Netflix and chill with new people from 9PM-10PM at your current location.  
Create an event.

### ***Procedure & Test Measures***

During testing, Clark was the facilitator, Hilary and Bronwyn were note-takers, and Bernardo was the photographer. First, we described our application. We had them sign the consent form. We then started them with the home screen and asked them to voice their actions and thoughts as they went through the tasks. We then gave them each task, one by one. As they worked through the tasks, they talked through their actions. If they paused long enough, we would ask them what they were confused about.



During each task, we observed and logged positive and negative feedback/actions as well as a step-by-step of how they completed each task, and then afterwards, asked them what confused them, what they liked, and how they felt during the process. We also asked them why they chose to click certain buttons and their first impressions of screens. We did not show them how to use our application; rather, we simply repeated the task out loud for them when they asked.

## Results

The participants were able to complete all three tasks successfully and quickly (~3-5 minutes for each task).

*Homepage:* The menu bar and icons were in general very successful. Participant #1 was overwhelmed by the map on the home screen; it took her a while to get oriented. Participant #2 was unsure what was under “Settings” and wished that there was a way that he could reorient himself to his current location on the map.

*Icons:* Our participants were able to successfully identify our icons because of prior knowledge of phone applications.

*Adding interests to profile (Task #1):* All participants successfully added their interests to profile quickly.

*Searching for and joining an event (Task #2):* All the participants except for Participant #2 immediately clicked on the search icon. All decided to use the search bar to type in “soccer.” The search results were straightforward for all; Participant #1 clicked “join” directly on the results page, while Participant #2 clicked on “more” and then clicked “join.” Participant #2 confused the event block with a button.

*Creating an event (Task #3):* Everyone quickly clicked on the “+” and filled out all the forms successfully, but the map after “create” confused them. Participant #2,3 first clicked on the actual button that said “tap to add event to map” before he tapped his location on the map. Everyone suggested having the map pop-up in the text field “location” and just to have the event be created after they click “create.”

## Discussion

Ultimately, our initial prototype was successful but needs revising. All of the initial pages seemed clear to participants and made sense. We have a great deal of icons, but these generally seemed to accurately represent the actions to the participants. One exception might be the search button, which some found difficult to locate. One possible change might be to change the

location or size of the search button to make it prominent, or to create a search bar across the top instead of simply a search icon. Some search bars also include textual prompts which disappear when you actually start typing but help guide what kinds of things you can look for. These are all options we will need to consider for our next prototype.

The other thing that caused people trouble was the final steps on creating a new event. Each has to be added to the map at the end, but most people misunderstood how this was to occur. One participant mentioned that part of the confusion occurred because the “tap on the map button” was just that: a button. Buttons imply the need to be pressed. If, however, the text appeared as just text overlying the map, people might understand more easily that they were intended to tap the map directly. The other option provided was to include a “drop pin” method when a participant is filling out the place bubble, which would allow the map to seem more natural in the process. By and large, though, people reacted positively to our prototype, and once these few changes are made, it’ll be much more inherent.

Word Count: 1746 words

## Appendices

### Consent Forms

Consent Form

The [vespa] application is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of [vespa]. Data will be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (Hilary Sun, Beowyn Early, Bernardo Velez, and Clark Pang) or with Professor James Landay, the instructor of CS 147:  
James A. Landay  
CS Department  
Stanford University  
650-498-8215  
landay at cs.stanford.edu

Participant anonymity will be provided by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the experiment and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the [vespa] experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time

Name Ravina Jain

Participant Number 1

Date 10/21/15

Signature [Signature]

Witness name James Landay

Witness signature [Signature]

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Name Bradley Em

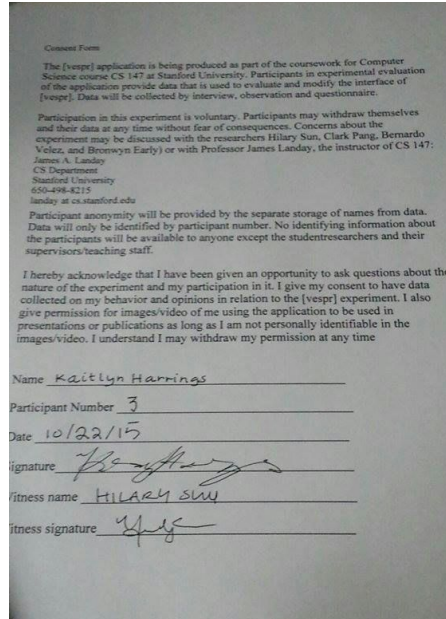
Participant Number 2

Date 10/21/15

Signature [Signature]

Witness name James Landay

Witness signature [Signature]



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## Script

We are students currently prototyping an app. The app allows users to create events which will be shared with everyone in their location, as well as view and join events created by other users. Events can be filtered by category and searched by keyword.

Please sign this consent form. We will be taking photos of you but only of your hands navigating the app.

DIRECTIONS FOR TASK 1 (adding interests for profile): Customize your profile by adding “Sports” to your interests.

DIRECTIONS FOR TASK 2 (searching for event): You want to play soccer so find and join a relevant event.

DIRECTIONS FOR TASK 3 (create new event): You want to Netflix and chill with new people from 9PM-10PM at your current location. Create an event to get this done.

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## Prototype Testing: How the Users Navigated the App

### Participant #1:

Task #1: Long pause on home screen → clicked on Profile → clicked on “Add Interest” → clicked on “Sports” → done

Task #2: Clicked on Profile → looked at “Joined Events” → clicked on “+” → clicked on Search → typed in “soccer” in search bar → joined soccer event on results page → done  
 Task #3: Clicked on “+” immediately → filled out fields → clicked “Create” → confusion on Add Event to Map page and paused → tapped “You are Here” → done

**Participant #2:**

Task #1: Said would click on either Settings or Profile → clicked on Profile → clicked on “Add Interest” → clicked on “Sports” → done

Task #2: Said would scroll around map if he knew where soccer field was but he didn’t → clicked on Search → said would hit “Sports,” a featured category or search bar → typed in “soccer” in search bar → tapped the event block first → tapped “More” → tapped “Join” on detailed page on the soccer event

Task #3: Looked for compass on bottom right and didn’t see it in top left → clicked the “+” button → filled out fields → clicked “Create” → confused and tapped on the description button “Tap on map to add your event” → tapped “You are Here” → done

**Participant #3:**

Task #1: One clarifying question then picked user button -> add interest -> sports -> done. “Self explanatory, no confusion”

Task #2: Search -> sports -> soccer game More (how many people, where, itinerary, everything) -> “read about it” Join

Task #3: Add -> “Netflix gathering”, time, my location, probs more detail, chill -> create -> “tap to add event” “the button makes it look like something I need to push... Drop pin symbol next to

*Prototype Testing: Positive and Negative Logs and Ratings*

**Participant #1**

Positive events	Negative events
<p><i>Task 1:</i></p> <ul style="list-style-type: none"> <li>● Finished in three quick clicks</li> <li>● Interface and icons were “really easy to read”</li> <li>● “I was doing it based off of how other apps worked” → our universal interface design worked</li> </ul>	<p><i>Task 1:</i></p> <ul style="list-style-type: none"> <li>● Was overwhelmed by the homepage (3)</li> <li>● Was confused about what “Tap to see more details” at the top of the homepage meant (2)</li> </ul>
<p><i>Task 2:</i></p> <ul style="list-style-type: none"> <li>● “After the homepage, everything is really easy.” → icons and interface</li> </ul>	<p><i>Task 2:</i></p> <ul style="list-style-type: none"> <li>● Confused about section on profile “Joined Events” (2)</li> </ul>



<ul style="list-style-type: none"> <li>● Search interface very easy to use</li> </ul>	<ul style="list-style-type: none"> <li>● Clicked on the “+” first because thought that it meant that she was going to add an event to her events, quick recovery after saw the search icon (2)</li> </ul>
<p><i>Task 3:</i></p> <ul style="list-style-type: none"> <li>● Knew immediately that the plus sign was to create a new event, but not sure if just because she accidentally clicked on it before</li> <li>● All the fields were clear</li> </ul>	<p><i>Task 3:</i></p> <ul style="list-style-type: none"> <li>● Did not know what the map that appeared she clicked “create” was for, confused because thought that she had already created the event (3)</li> </ul>

### Participant #2

<p><i>Task 1:</i></p> <ul style="list-style-type: none"> <li>● Finished in three quick clicks</li> <li>● It was “straightforward”</li> </ul>	<p><i>Task 1:</i></p> <ul style="list-style-type: none"> <li>● Needed to decide between the settings button and the profile button to see where the adding “my interests” would be (2)</li> </ul>
<p><i>Task 2:</i></p> <ul style="list-style-type: none"> <li>● It was “pretty slick with just paper”</li> <li>● Search button was very straightforward</li> <li>● “It doesn’t take that many clicks to find the soccer event”</li> </ul>	<p><i>Task 2:</i></p> <ul style="list-style-type: none"> <li>● Clicked on the block event first before realizing that he had to click on “More” (1)</li> </ul>
<p><i>Task 3:</i></p> <ul style="list-style-type: none"> <li>● Immediately figured out that could interact with map</li> <li>● Fields very easy to fill out</li> </ul>	<p><i>Task 3:</i></p> <ul style="list-style-type: none"> <li>● Thought the compass and current location would be at the bottom of the page; is there a way to show the current location if he gets lost in scrolling? (2)</li> <li>● Very confused because thought that hitting “create” would already have created the event → unsure what to do with map (3)</li> </ul>

### Participant #3

<p><i>Task 1:</i></p>	<p><i>Task 1:</i></p>
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<ul style="list-style-type: none"><li>● Quickly finished, no hesitation</li></ul>	<ul style="list-style-type: none"><li>● Took a second to find the done button (1)</li></ul>
<i>Task 2:</i> <ul style="list-style-type: none"><li>● Immediately finished</li></ul>	<i>Task 2:</i> <ul style="list-style-type: none"><li>● None!</li></ul>
<i>Task 3:</i> <ul style="list-style-type: none"><li>● Quickly created</li></ul>	<i>Task 3:</i> <ul style="list-style-type: none"><li>● Tapped the “tap here” button, didn’t know to touch the map (3)</li></ul>

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