Prototype #2

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ABSTRACT
This document was created to present a refined prototype for a mobile volunteer application. In the following document, we discuss the prototype we have decided to pursue, the revisions that have been made and how we justified this second prototype using general usability principles, our user research, and last week's evaluations.

1. BRIEF SUMMARY
The mobile application we are designing is attempting to resolve the difficulty of being able to find local volunteer opportunities as well as being able to reach out to local volunteers for opportunities in an efficient manner. Our primary user groups are the general public and charity/non-profit organizations. We are striving to provide a seamless method for people to organize philanthropic opportunities and help the community. The goal of the application is to remove barriers to entry on both the organizer side and the volunteer side.

2. STORYBOARD

2.1 Creating an Event
Jane Organizer wants to create an event. She opens the app and the home screen comes up. She scans the options and sees a Create Event button in the bottom right corner and she clicks/taps on it:
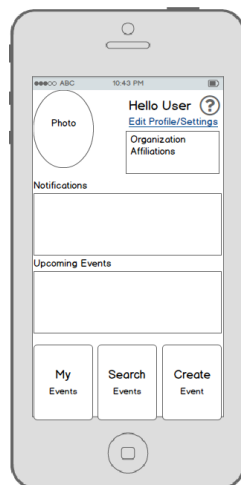
The create event page opens. It contains text boxes for the "Name of Event", "Where", and Description. The When will have a drop-down Month/Day/Year and the "How many volunteers" will also have a dropdown. The purpose of the dropdowns are for proper user data validation, so that the event can be created correctly and also be able to be accurately searched for. This constraint will ensure that the program does not get into an inconsistent or invalid state, protecting the user and ensuring safety [1]. Further, the dropdown for "How many volunteers" will have an unlimited option if the organizer just wants anyone to be able to sign-up.

Required fields: "Name of Event", "Where", "When", "How many volunteers?"
Optional fields: Description

There are three buttons at the bottom:
Create Event: This will create the event and let other users search for it and sign-up.
Save Draft: This will save the event data to allow the user to create the event later.
Discard Event: This will discard the event (with a user warning) and return to the home screen.

There are advanced options, which are not currently shown, since some organizers might want to have more targeted role and time-slot sign-ups, the advanced options would then expand the window down so that you could assign more specific roles and times. The time-slot feature would ensure that an organizer could keep track of participating volunteers in a concrete and organized manner [2]. It also allows you to put organizational tags (e.g. PETA), as well as interest tags (animal protection) to the events so that users can search for those terms.

*Advanced options:* Organization tags, interest tags, role assignments, time slots
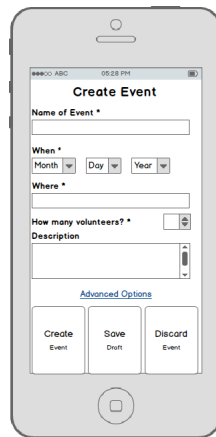
The Create Event does not have a lot of required values, because we want people to be able to create a simple event quickly, and then let more advanced users create more advanced events that are more tailored to their needs. It is crucial that advanced users feel that they have control over the interactive experience [3]. We do not want the creation to be complex, as we do not want it to be a barrier to use. However, there are some minimum amounts of information that are necessary for the search and sign-up to work properly for volunteers. At the bottom there are just 3 choices: create, save and discard. It is predictable and clear what will occur when those buttons are pressed. From the organization interview it was stressed repeatedly that the app's ease-of-use is essential, but that should be balanced with   features.
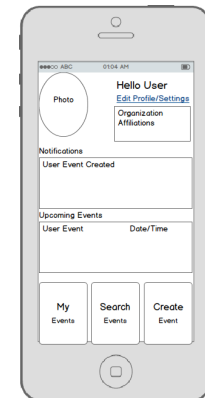
Jane enters the information and clicks on the "Create Event" button. She is prompted for a confirmation of the event.
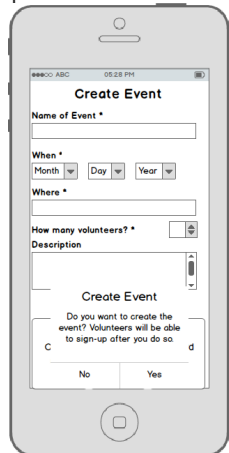

She clicks "Yes" and is notified that her event was successfully created.
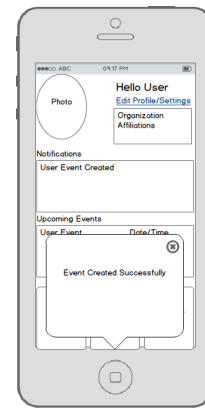
Then, a day later she realizes that she will need more volunteers. She clicks on the "My Events" button on the home screen.


This brings her to the My Events screen. This screen has space for events a user has signed-up for, events a user has created, and events a user has saved. Her event was created and shows up in that space, so the clicks on the edit button.
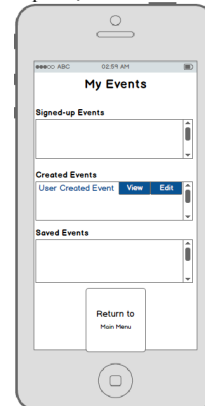

The My Events screen just has 3 areas, and a button to return to the main menu. The idea is to keep the UI clean to allow the user to quickly find what they are looking for, in accordance with the HCI design principle of visibility, where the features available to the user are clearly and suggestively displayed [5]. Events are a different color (blue in this case) to catch the eye, and the view and Edit are bolded, and made into buttons to make them stand out and show the user that they should click on them. We observed that color could serve as a valuable method with which to focus a user's attention on a particular interface feature [6].

When she clicks on Edit that it brings her to the Edit Event screen which is almost identical to the Create Event screen, only with a title of "Edit Event" to reinforce that the user is editing a previously made event. It is easier for the user to navigate the edit screen when it is identical to the create screen.
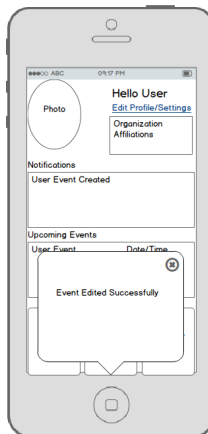
Jane updates the number of volunteers and then clicks Save Changes.
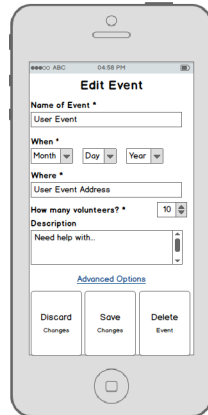
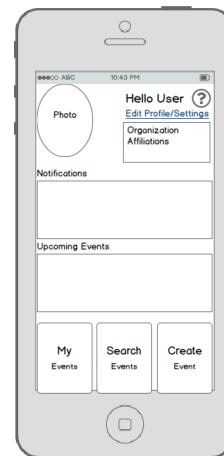She is prompted with a notification to confirm and clicks "Yes".
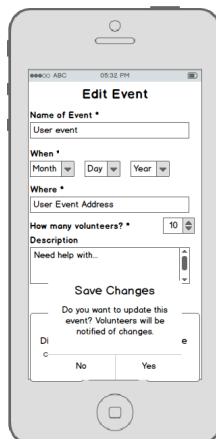
Jane is notified that the event has been updated and continues on with her day.
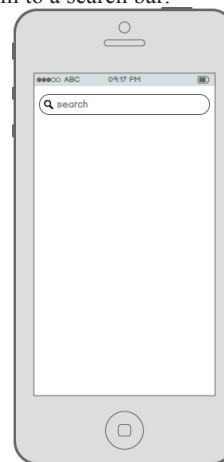
2.2 Signing Up for an Event

Here, we follow John Volunteer as he opens up the application to search and sign up for volunteer opportunities.

Upon opening the mobile app, John is greeted with the main menu. From here he clicks on the "Search Events" button which redirects him to a search bar.

Mr. Volunteer is an outdoors kind of guy, so he starts typing "outdoors" into the search bar.
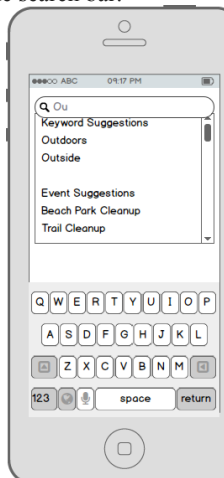
Here, John is presented with various listings for volunteer opportunities. Each listing provides him with a title (which would typically include the name of the organization or user it was posted by), the number of volunteers needed, location of the event, date of the event, a small description and a button to sign up for the event. There is also an option for John to refine the listings using the search bar provided above. John has found an opportunity he is interested in volunteering for, so he taps the "more info" button.
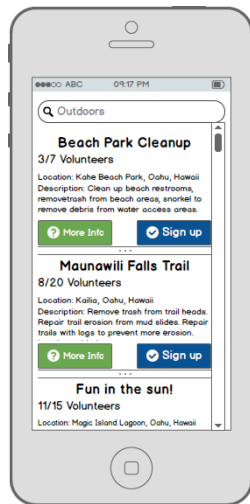
Here, Mr. Volunteer is presented with the full details of the event, including a small map showing the location of the event. He decides he is interested in the event so he clicks on "sign up".
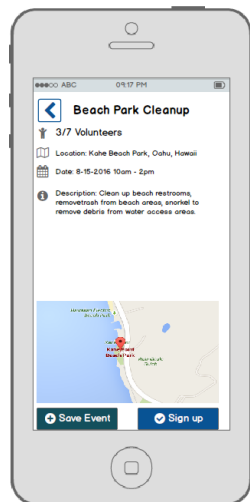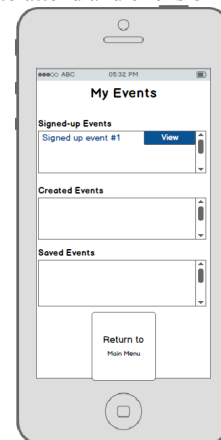

The next day, Mr. Volunteer realizes that he actually won't be able to attend the event. He opens the app again and clicks on "My Events".
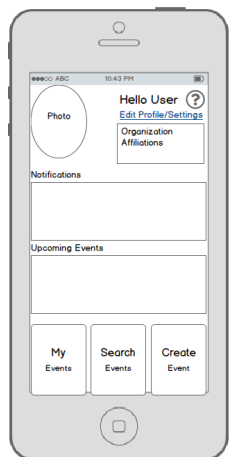
Here he is presented with the events he has signed up for under the "Signed up events" box. He finds the event he will no longer be able to attend and clicks on "view".

Here he is presented with all the information of the event, he looks down at the bottom of the page and clicks on "Drop Event".
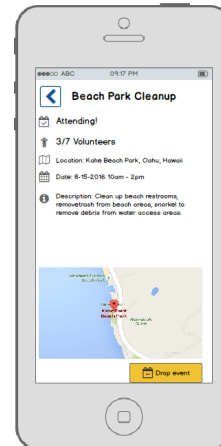
He is then prompted with a need for confirmation on his decision to drop the event. He knows he won't be available, so he clicks "yes".
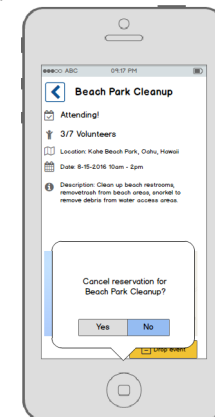
Finally, Mr. Volunteer receives a notification that he has dropped the event and he goes on with his day.

3. PROTOTYPE JUSTIFICATION

Our initial justification for the prototype was based on the following analysis of the concept proposed for the project:

Features:
- Home page containing:
  - Welcome message
  - Link to edit profile settings
  - Mini-window or link to organization affiliations
  - Notifications feed (What will be in there? Possible relevant matches?)
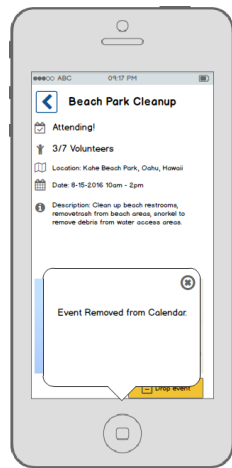 - Upcoming events (Are these events that the user has already signed up for?)
  - Link to user's events (Assuming this will be all events, even the ones far off in the future?)
  - Link to search events (So will it pre-match and show a restricted subset of all events or will the user manually be in charge of the filters?)
  - Link to create an event

- Simple, minimalist interface with very high visibility of features
- Learnable UI

Weaknesses:
- Does the user want to see his picture all the time?
- Seems like there may be overlap in the "notifications", "upcoming events", and "my events" sections, unless they are more clearly defined. Then again, maybe some overlap is good
- Need to clarify whether searching is manual, automatic based on profile settings, or semi-automatic somehow
- Is there any map feature? How would the user get to it and manipulate it?
- Are there any facilities to allow users to message each other or request info from event hosts?

Analysis:
- Easy-to-understand concept
- High visibility of many important features but not cluttered
- Follows design of Facebook and social media apps, which can be a recipe for success
- Familiar layout to many likely users
- Is this a unified interface for both volunteer organizations and volunteer individuals?

Since then, there were two different evaluations of the initial prototype; a heuristic and an empirical analysis. Our evaluations were able to show some strengths of our application as well as things that need improvement. We found that our application had the following strengths:
- Visibility of system status is a strength as the current status is known almost everywhere and the feedback is consistent and timely. But, icons and symbols are rarely used and Search Events is missing a title. This matches with our goal of clear and intuitive functionality.
- Match between system and real world. The application is a more robust digital sign-up sheet with search capabilities which is something the users will be familiar with. This also aligns with our goals of an intuitive application.
- Error prevention is another strength of the application, as there is only one place where a user could make a functional error, and that is within the Create Event function by not filling in required fields. Almost all changes require a confirmation to help prevent user errors.
- Another strength of the application is the minimalist aesthetic. The design is functional with virtually no distracting artistic flourishes. Blank space is used for separation and most of the screens are uncluttered. However, there are a couple of pieces of missing functionality in the application.

Our heuristic analysis revealed various shortcomings in our prototype's interface:

- Help is non-existent in the application.
- Error messages in the prototype to help a user recognize and recover from an error are needed.
- No option to delete events.
- Advanced options need to be implemented for Create Event, and advanced options could be created for more advanced searching and filtering of events.

We decided that the best course of action to keep the interface simple was to add a help icon to the home screen that will take the user to a quick start guide. This would give the user an easy reference for the application and give them a better understanding of its features. To give the user the ability to delete an event, we decided to add an option for that in the "edit event" page. This gives the user the ability to save changes, discard changes or completely delete the event when editing. There is also a prompt to confirm that the user wants to cancel/delete the event and a notification notifying the user that the event has been canceled/deleted.

Our empirical evaluation revealed that some of the terminology used for our prototype was confusing. It was difficult to distinguish the differences between a saved event and a published event. To supplement these findings, we decided to change the terminology used for saving an event. Instead of "save event" it now uses the term "save draft" this gives the user better clarification on the purpose of each button. Overall, these changes have been justified by using general usability principles, our user research, and last week's heuristic evaluations.

4. REFERENCES

[1] J. Preece, H. Sharp, Y. Rogers. *Interaction Design: Beyond Human-Computer Interaction, Fourth Edition*. John Wiley and Sons, West Sussex, United Kingdom, 2015.

[2] S. Crabtree, J. Goldfine-Middleton, B. Nolan, J. Prater, and J. Rodriguez, "Project 4", pp 14, unpublished.

[3] J. Preece, H. Sharp, Y. Rogers. *Interaction Design: Beyond Human-Computer Interaction, Fourth Edition*. John Wiley and Sons, West Sussex, United Kingdom, 2015.

[4] S. Crabtree, J. Goldfine-Middleton, B. Nolan, J. Prater, and J. Rodriguez, "Project 4", pp 14, unpublished.

[5] J. Preece, H. Sharp, Y. Rogers. *Interaction Design: Beyond Human-Computer Interaction, Fourth Edition*. John Wiley and Sons, West Sussex, United Kingdom, 2015.

[4] S. Crabtree, J. Goldfine-Middleton, B. Nolan, J. Prater, and J. Rodriguez, "Project 4", pp 14, unpublished.