Project 9 : Final Version of Project

Group 16

Kingsley Bawuah
Oregon State University
bawuahk@oregonstate.edu

Jesse Chan
Oregon State University
chanjess@oregonstate.edu

Marcus Griffiths
Oregon State University
griffmar@oregonstate.edu

Charles Ledbetter
Oregon State University
ledbettc@oregonstate.edu

Patrick Seafield
Oregon State University
seafielp@oregonstate.edu

ABSTRACT

This paper presents the final prototype for the HIKEster application. We utilized Adobe inDesign to create an interactive pdf showcasing the application's interface. Furthermore, we discuss the problem this application addresses, the targeted user base, design research, and design decisions.

Keywords – prototype; connection; utility; trail-mapping; usability; user experience;

1. INTRODUCTION

The HIKEster prototype interface was designed to address the usability problems faced by outdoor enthusiasts in organizing outdoor events. Many of the insights that we have gathered are from our research and results in low-fidelity prototypes, case studies, interviews, analytical evaluations, and empirical evaluations which have influenced our design decisions. The design changes will be further discussed in the following sections. The goal of all the changes is to enhance user usability and experience, in order to maximize user satisfaction.

Our user research indicates that the majority of our users will be outdoor enthusiasts, more specifically hikers. We did not find that this application would attract a specific age group, ethnicity, gender, or demographic since hikers, climbers, and other outdoor enthusiasts come from all walks of life. In this sense, we were free to creatively implement design ideas and changes as we saw fit instead of adhering to what design a specific group would deem more friendly to use.

2. MATERIALS

The hierarchy storyboard of our prototype is in Appendix A. The interactive pdf created through Adobe inDesign is in Appendix B.

3. DESIGN DISCUSSION

We will now discuss our design decisions for the final version of our prototype. We decided to arrange our app in a series of menus navigated by buttons. This is a common enough interface that it automatically increases usability among users that are familiar with common smartphone user interfaces through the principle of recognition over recall. This also makes the scent stronger in all screens within the prototype. Our focus was to make the interface as intuitively usable to the user that we could. The implementation of a menu system style of navigation helps us reach that goal.

Another aspect of the navigation of the app that is present on every page except the first page is the 'Front Page' and 'Up' buttons. These buttons increase user control and freedom by allowing the user to get to the top of the menu quickly or step up on level of the menu from where they currently are. This too is an often used design element in smartphone apps and therefore increases learnability and the recognition over recall principle. It also allows for flexibility and efficiency of use by giving the user more navigation options.

The app displays the HIKEster logo on almost every page which is not of much utility and is more an element of style meant to provide consistency between pages. However, on all but the 'front page' of the app under the HIKEster logo there is a badge that indicates where in the hierarchy the user is. This increases memorability and provides feedback as the user navigates. It provides a consistency and helps with visibility of system status. It also conveys the meaning of each page while being aesthetically appealing and minimalistic in design.

Originally the application had five divisions from the 'front page', or top menu. These top menu buttons were not named in a consistent way and after analytical and empirical review we found that two of the five were not very helpful to the user. We decided to remove these two options, which were a button that linked to a forum page, and a section that provided user ability ratings. In our empirical review the users commented that the public rating of people's ability was counter to the spirit of the community of outdoor enthusiasts that the app is targeted to. In order to adjust to this finding, and also to develop a more minimalistic design we removed these two sections of the app.

That left us with three sections, each with their own main functionality. We also, on the suggestion of our empirical evaluation users, renamed the three remaining buttons to be more consistent and more descriptive of each of their given functionalities. The final buttons were Adventure Tracker, Adventure Groups, and Maps. These buttons indicate clearly to the user the major functions of the app. In this way the usability is enhanced by increasing learnability, memorability, utility, and visibility of user's options/actions.

In the Adventure Tracker section of the app, the user is presented with a menu that gives them the option to view past activity or create a new activity. If they choose to see old activity, they are

taken to a screen that displays all of their past activity organized by activity type and displayed by date. This efficiently displays the information that the user requested by choosing to see past activity and provides the utility the user requested. Also within these screens the user can tap on a date within the histogram to view more detailed information about that particular activity. This gives the user control and freedom to view a summary of all activity or further details of a single activity.

The user can also choose to create a new activity from within the Adventure Tracker section of the app. If they do so, they are given the option of selecting an activity type and are shown a map generated by GPS data of their current location. This allows the user even further utility and enhances their outdoor experience by providing them with needed details about their surroundings. When the user first starts a new activity, they are shown a message prompting them to begin, indicating that they should actually start their activity. This is an example of feedback and providing the user with help regarding features. After the user has moved from the place they began the hike, the message automatically goes away and the end hike button becomes available, demonstrating constraint and error prevention. It prevents the user from mistakenly ending the activity before they've started. After the user chooses to end their activity, they are taken to a screen that displays the data gathered and how it compares to the other recent activities of the user's chosen activity type. The user can then choose to view the past activities in more detail by clicking on them. This provides further utility and gives the user additional control and freedom within the interface.

The second section reachable from the 'front page' is the "Adventure Groups" section. Within this section the user can view outdoor activity groups based either locally, nationally, or ones saved by the user previously. Within these group lists are two types of groups: HIKEster affiliate groups and non-affiliated groups. These are indicated by a color code which allows the user to clearly differentiate the two. To further clarify why the buttons are color coded we also put a helpful message at the top of the screen to improve scent. This helps with memorability, and is a aesthetically pleasing and minimalistic way to implement this design feature. Within the groups page the user is given the option to leave the app and visit the groups' respective websites, facebook and twitter accounts, etc. This provides the user with further control and freedom to gather information that is not provided by the app. This is also an example of utility. Another option for users is the ability to add the group to their favorites under "My Groups". Afterwards, a message is displayed to indicate the group was added. This lets the user know an action was successful, thus providing important feedback.

Within any of the HIKEster affiliate groups pages the user also has an option to post and view activities. If they choose to post a new upcoming activity they are given a form that they fill out and submit. At this point a message is displayed telling them their post was added. This is and example of utility and feedback. If the user would like to view hikes they are shown a list and each item in the list can be clicked to get more details. From this screen they can choose to add or remove themselves from an activity. The ability to remove oneself after adding allows constraint to the user and helps the user recover from possible errors.

The last option for the user from the front page is the "Maps" section. Within this section the user is given the option to find activity maps created and posted by other users or to view and post the ones they have created with their own activities. All maps shown in this section have color coded symbols that represent user generated trail, river, climbing maps that the user can view by clicking. This provides the user with utility and further control and freedom to navigate to a user generated map and back again using the "Up" button. Each map also has a key that helps the user with learnability, memorability, and flexibility and efficiency of use.

If the user chooses to search maps they are taken to a screen where they can enter a zip code or city. This is clearly indicated in text, helping the user with learnability, affordance, and visibility of user actions. Once they enter their search they are shown a map of the larger area of the search. On the map are icons and a key button as described before. This provides the user with utility, learnability, affordance, and control and freedom.

From the top "Maps" screen the user also has the option to choose to see the maps they have generated. If they choose this option the user is shown a list of their past tracked activities. The items of the list are in button form as all other lists in this application are. This provides consistency, and user recognition rather than recall. Each item of the list is also either prefixed with an asterix or not. This indicates if the user has posted a map of this activity for others to view. If they have then the astrix is absent. This helps the user with visibility of system status. If the user clicks an item without an asterix they are shown the data they previously entered for that map. If they choose on with an asterix they are given a form to fill out that allows them to post the activity map for all to see. This does not provide other users with the time it took the user or other such information, only the difficulty the user chose for the activity and the users notes about it. This protects the user's privacy while also providing all users with further utility. After the user posts the activity map a larger area map is displayed with the newly posted activity indicated on it. This is an example of feedback and visibility of system status.

There is also several places within the app where advertisers banners are displayed. This provides the user with relevant advertisements for outdoor gear. They do not have to click the banners but they are there. This is a common feature to smartphone applications so the user will likely know what they are seeing immediately. This is an example of learnability, memorability, and recognition over recall.

4. CHANGES SINCE DESIGN GALLERY #2

There was only one change made to the prototype between gallery #2 and now. This change affects three screens: the "My Groups" screen, the "Local Groups" screen, and the "National Groups" screen. By adding text to the different screens, we clarified the difference between the different colors of buttons, indicating that orange buttons lead to HIKEster affiliated groups whereas gray buttons lead to non-affiliated groups. This was suggested by several of the students that reviewed our prototype. We feel that this change adds clarity and is and example of affordance and the scent of these pages.

5. CONCLUSION

The storyboard and high fidelity prototype in appendix A and B are the product of review and evaluation (note that both appendices were submitted separately). We have used the information we gathered through a cognitive walkthrough and two

empirical evaluations with users to decide what functionality to include and exclude in our final prototype. We also have tried to use the principles that we have learned in this class. Each of the elements of the original idea that remain, do so because they stood up against review and criticism. Because of this we feel our final prototype displays a robust and user friendly user interface.