



HUSKY CRIME GUIDE

Interactive Prototype

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Assignment 9

Problem & Solution Overview

As members of the University of Washington community, we are informed of crimes in our neighborhood through e-mails and texts from the UWPD. This system, however, lacks 1) a way to view past criminal activities, 2) any features that engage or interact with the user, and 3) a method for actively improving student safety. The *Husky Crime Guide* will be a **centralized dashboard for providing access to reported crimes** in the U-District area and **connecting students to safety resources** with the goal of increasing safety awareness and crime prevention around the U-District area. In addition to providing access to a user-friendly archive of UWPD's Alerts, Notifications and Timely Warnings, the application will supplement the crime reports with an interactive map depicting the location and severity of the crime. Students can filter these crimes by type, date, time, and location and details on a crime can be viewed by clicking on a pin. Additionally safety features include the locations of Emergency Blue Lights and nearby friends, as well as links to other safety resources.

The Husky Crime Guide will improve student safety by connecting UW students to resources that will increase their safety awareness and encourage them to be more proactive in protecting their safety.

Tasks

We developed three representative tasks that we felt adequately demonstrate the Husky Crime Guide Application. The tasks are as follows:

- **Easy Task:** It is 11:00pm and you are leaving the library to go home. As you are packing up, you receive a text from the UWPD about a crime that has recently occurred in the University District area. You don't want to walk home by yourself, so *find a nearby friend to walk home with*.
- **Medium Task:** It is 8:30pm and you are finally leaving the library to go home. Before leaving the library you want to *check you phone for any recent Timely Warnings* and also *consult the Emergency Blue Light map* to gain more awareness of your surroundings as you walk home.
- **Difficult Task:** You were thinking of finding an apartment around the University

Village area, however you want to make sure that the area is a safe place to live. Research the University District by *looking up recent assaults, thefts, and burglaries in this neighborhood* (note: recent = last two months).

Interface Revision

In developing the Husky Crime Guide mobile application, we made many changes to our design. Some of the major changes that occurred were the transition from live monitoring to “Find Friends” and the removal of the panic button. In this section we will describe how our four main functions changed throughout this process.

A. Find Friends

One of the original functions of the Husky Crime Guide was a live monitoring system, in which friends could monitor friends' locations and report suspicious activity. However, because we felt that the scope of this version of our application was too large, we narrowed this function down to Find Friends. This function simply allows users to see the locations of a select number of friends. The evolution of this interface can be seen in Figure 1. The design interface was most affected by user testing, after which we realized certain functionalities (e.g. making the proximity scale more visible, graying out offline friends, sorting friends first by location and then name, providing a search function, and viewing multiple friends on the map) had to be improved.

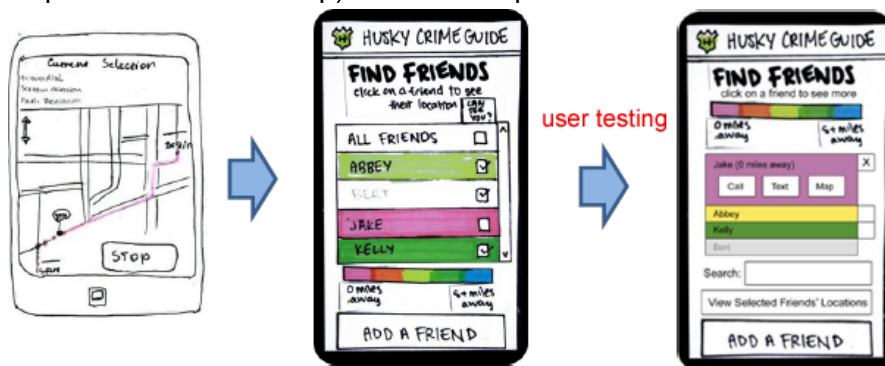


Figure 1: The evolution of the Find Friends interface. On the left is a sketch of the live monitoring system. On the right is the design after user testing.

B. Crime Reports

One of the other main functions of the Husky Crime Guide is the Crime Reports. This function was most affected after speaking with the UWPD. Our original intent for this function was to improve the timeliness of the UWPD notification system. However, we later realized that this was simply not plausible due to bureaucracy issues. Instead, we chose to focus on creating an interface that made browsing crime reports easier. The evolution of this interface can be seen in Figure 2. The most notable changes were sorting the crimes into Timely Warnings and Notifications, and removing Alerts.

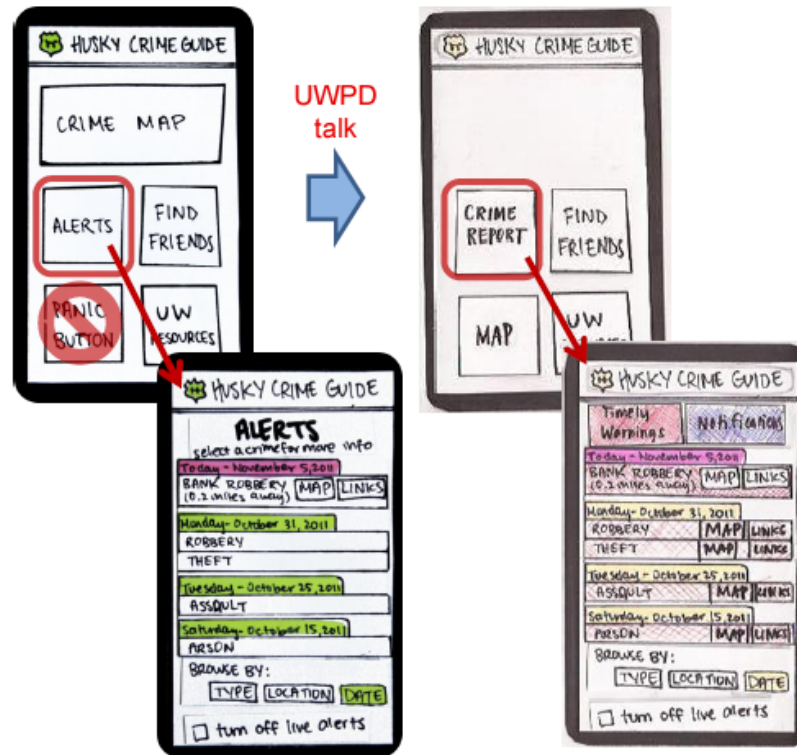
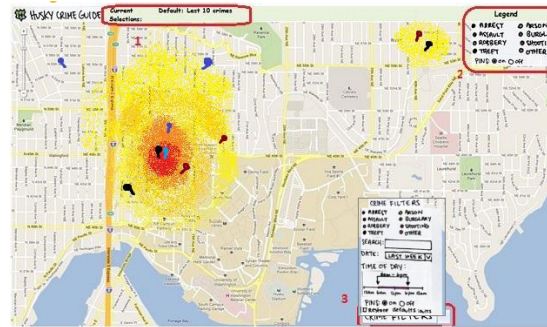


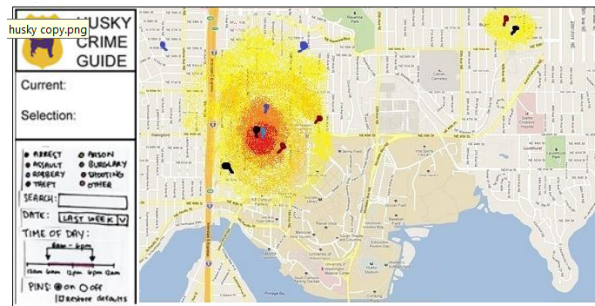
Figure 2: The evolution of the Crime Reports interface. On the left is a sketch of the original alert system. On the right is the design after speaking with the UWPD.

C. Web Application

The last interface that underwent major changes was the web application. Our original intent was to have an accompanying Husky Crime Guide web application, from which the user could use the map function. However, as we will later discuss, we were unable to implement this function in our hi-fidelity prototype as it was technically unnecessary to our project. In Figure 3, we can see the evolution of this interface.



↓ user testing



↓ hi-fi prototype



Figure 3: The evolution of the Web Map interface. The current design of this interface is undetermined.

D. Other Improvements

The rest of our application went under relatively minor changes, as seen in Figures 4 and 5.

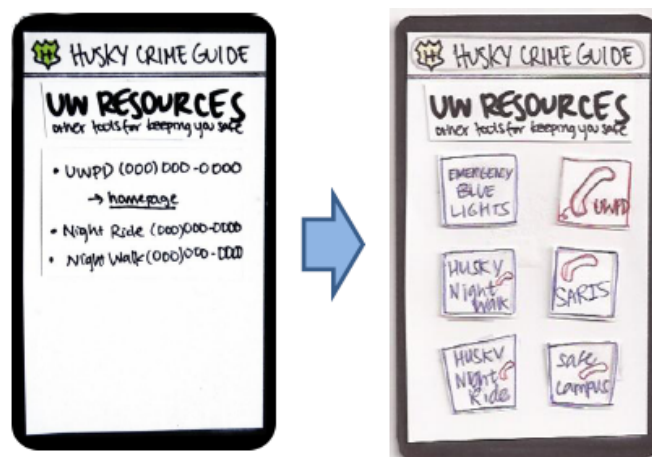


Figure 4: The evolution of the UW Resources interface. On the left is a sketch of the original, simple interface. On the right is the design after speaking with the UWPD. It has more links, including a link to a map of the Emergency Blue Lights.

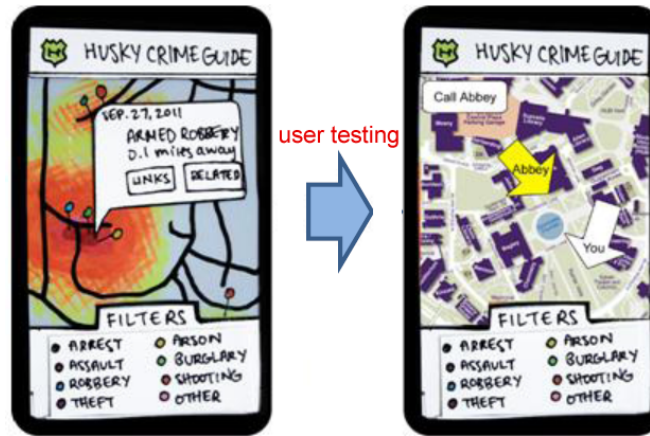


Figure 5: The evolution of the Map interface. On the left is a sketch of the original map. On the right is the design after user testing, where the map is more clearly labeled.

E. Removed Functionality

As we stated earlier, live monitoring and alerts were removed from our function. We also removed the “Panic Button” function, which would have allowed the user to immediately call 911 during a dangerous situation. Like many of our other decisions, we were convinced by the UWPD to reconsider this part of our application. Because a Panic Button does not focus on *preventing* crime (rather, it is a tool for *reacting* to crime), we and the UWPD felt that this function should be removed.

Prototype Overview

We completed the hi-fidelity prototype for the Husky Crime Guide application using HTML and Javascript code. The user is capable of performing the three aforementioned tasks by clicking on the prototype as if their mouse was their finger and they were using a smart phone.

Our prototype consists of a main menu and interfaces for each of the four main functions. The main menu can be seen in Figure P4. In Figures P5 and 6, we can see the map’s interface. In Figure P7-9, the Find Friends, Crime Report, and UW Resources interfaces are displayed, respectively.

In the rest of this section we will describe A.) exactly how the user performs the three tasks using the prototype, B.) our coding process, and C.) work that was left incomplete.

A. Task Storyboards

The **first task** can be completed in five steps, as seen in Figure P1. In this storyboard, we can see that the user navigates from the phone’s main screen to the Husky Crime Guide Main Menu (Step 1). From there, they have the choice of navigating to one of our four main functions. The user chooses “Find Friends” (Step 2), and is taken to a list of their nearby friends (Step 3). Jake is the closest friend, so the user selects that friend (Step 4). From there, the user can either directly call/text or view a location. The user chooses to view Jake’s location, so they click on “Map” and can see Jake on their map (Step 5). Now that the user knows exactly where Jake is located, he can complete the task by calling him.

The **second task** can be completed in eight steps, as seen in Figure P2. In this storyboard, the user again navigates from the phone’s main screen to the main menu (Step 1). They want to first check the Emergency Blue Lights, so they click on “UW

Resources” (Step 2). After the click on “Emergency Blue Lights”, they will see a map of the lights’ locations (Step 3). Now the user wants to look at the Timely Warnings, so they go back to the main screen (Step 4) and click on “Crime Reports” (Step 5). From there they can observe the latest Timely Warnings, but the user is interested in the most recent so they select “Bank Robbery” (Step 6). The user can then either look at that crime’s links or map. They are interested in the crime’s location, so they click on map (Step 7) and can see a map of the bank robbery (Step 8).

The **final task** can be completed in nine steps, as seen in Figure P3. In this storyboard, the user again navigates from the phone’s main screen to the main menu (Step 1). They want to look at a map of crimes, so they click on “Map” (Step 2). By default, the map displays the crimes from the past week. However, the user is interested in crimes from the past two months, so they click on “Filters” (Step 3) and select “Last Two Months” from the drop-down list (Step 4). The user is also only interested in assaults, burglaries, and thefts, so they unselect the other crimes by clicking on them (Step 5). After hiding the filters by clicking on “Filters” (Step 6), they can see their requested crimes. They want to see more details, so they zoom in by double-clicking (Step 7) and click on the blue pin (Step 8). They can now see information on the theft nearest to University Village (Step 9).



Figure P1: Storyboard for Task One



Figure P2: Storyboard for Task Two



Figure P3: Storyboard for Task Three

B. Coding Process

In order to create this hi-fidelity prototype, we used a combination of HTML and Javascript (as well as CSS and JQuery). Overall, we created a webpage for every main screen of our storyboards (e.g. the main menu, the map, the crime reports, etc.). The static parts of the prototype (the image of the iPhone) using simple HTML tags and CSS. Creating the dynamic parts of the prototype (e.g. the map filter), however, required using JQuery and Javascript to manipulate the HTML code so that it reacted to user events. We did all of our coding by hand, and this worked very well. We avoided using other programs because code that is generated by an interactive interface design tool is often difficult to read. Going in and changing code late by hand would then be very difficult. Our technique of doing everything manually was time-consuming, however. Adding in the required functionality was not an issue, but getting our interface to look correct on every browser (Chrome, Firefox, IE, Safari, etc), was a CSS challenge.

C. Incomplete Work

There were several parts of our original design that we did not include in our hi-fidelity prototype:

- Most significantly, we did not choose to have the user complete the second task using the Husky Crime Guide web application. Instead, our prototype consists entirely of the mobile application. We chose to exclude the web application from our prototype because it was simply not necessary to complete our tasks. Since the mobile map and the web map have the same functionality, the user could have just as easily completed the third task using either application. This decision was also based on time; we chose to focus on and spend our time on the making the mobile application better instead of spreading out our efforts and creating a web application. A sketch of our intended web application can be seen in Figure 6.
- We also did not password protect the Find Friends interface, which we decided earlier was necessary for security reasons. Since this was not a necessary part to complete our tasks, we chose to exclude this from the interface.
- Note: We did not user any Wizard of Oz techniques.

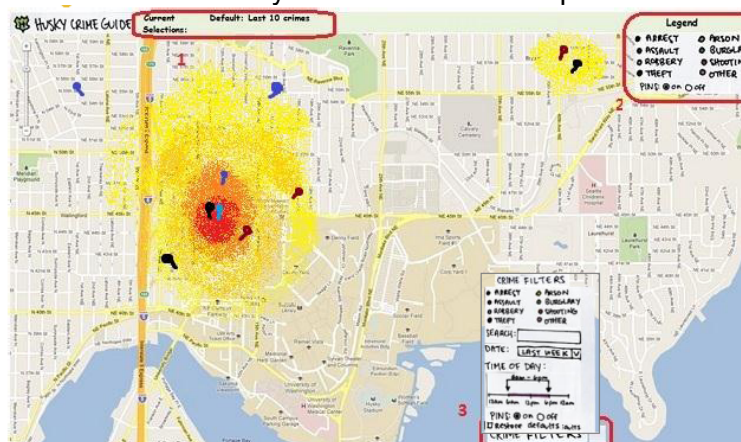


Figure 6: The web application design. This was not implemented in the hi-fidelity prototype.

Prototype Screenshots



Figure P4: Detailed view of the main menu

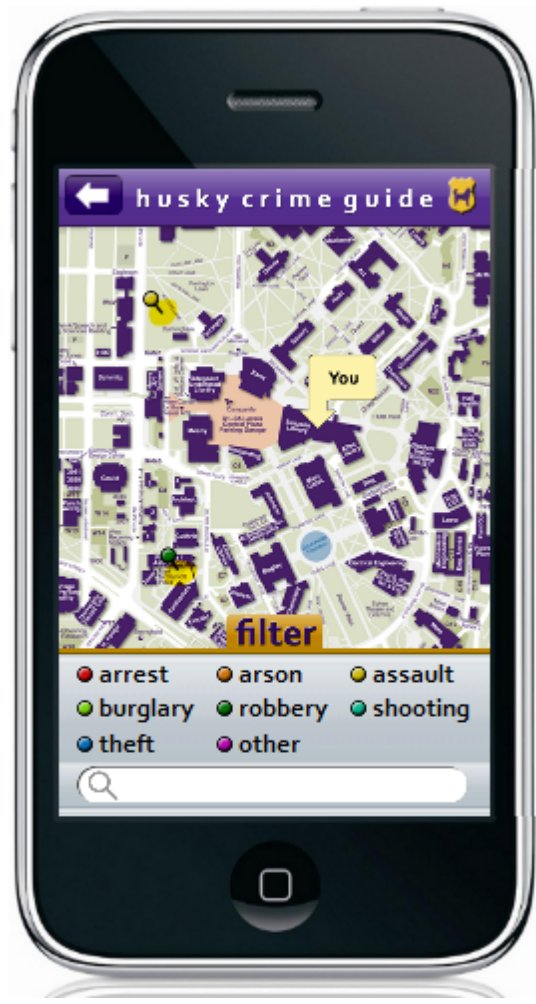


Figure P5: Detailed view of the map

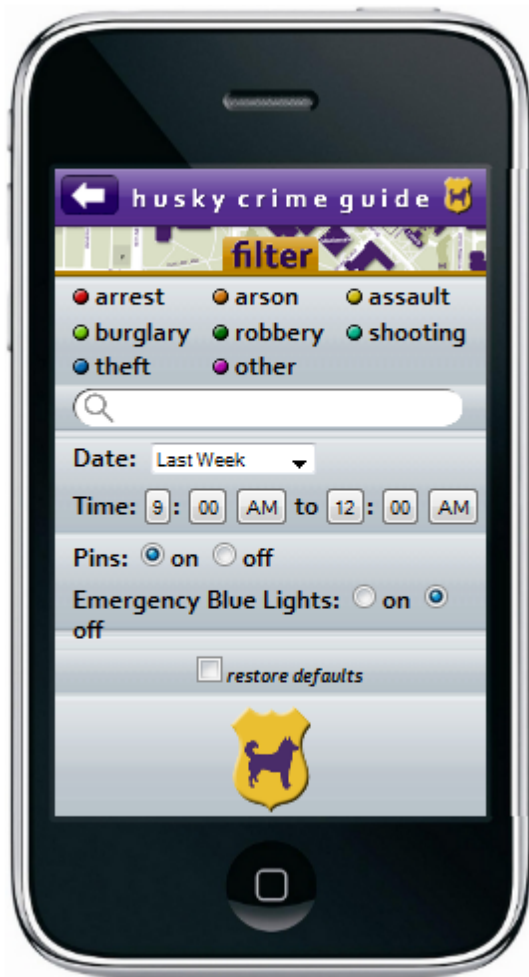


Figure P6: Detailed view of the map filter



Figure P7 Detailed view of the Find Friends



Figure P8: Detailed view of the Crime Reports

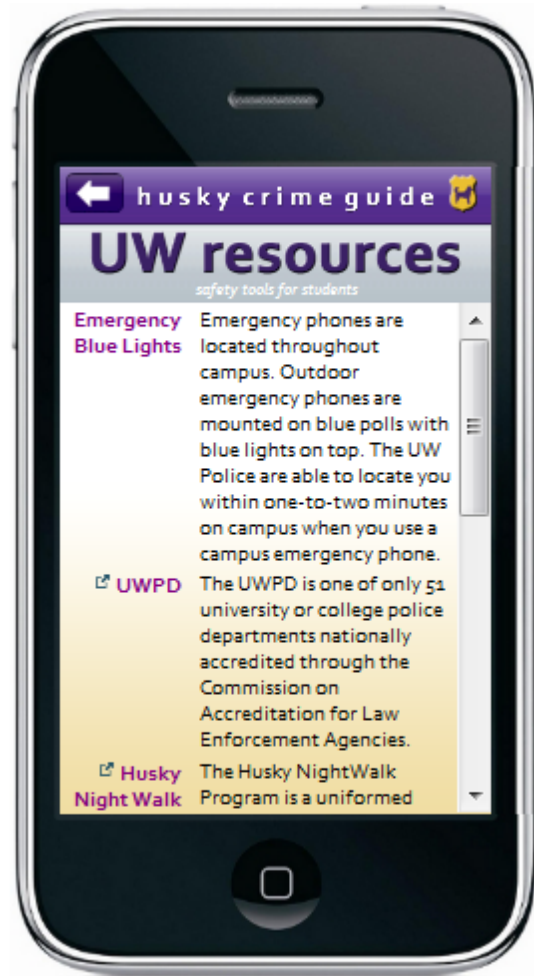


Figure P9: Detailed view of the UW Resources