Interim Presentation
Informatics 132

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Our Project

Build and test the interface for an interactive trail guide Android Application

Designed for UCI Ecology Preserve, but can be adapted to different trails

Goal: Assist hikers by providing a map of the trails that will "present" information about plants and animals

Progress

We chose to modify our original project schedule and begin with a prototype rather than with interviews.

We decided to research and build a prototype to bring to the test users and incorporate into our interviews.

We created more meaningful interview questions with our active prototype. Huzzah!

Prototype Research

We looked into GPS trail apps to see if we could find interfaces to take our design cues from. We found trail guides that tracked:

- how far the user has traveled from point to point
- how elevated the user is on the trail
- augmented reality that showed information over the area of the trail

None of those matched the criteria we were trying to meet, so we designed and coded completely from scratch and not from example.

Impressive!

The Prototype - The Original Plan

Originally, we planned on making a prototype that would work on the Motorola Droid so that we could take users to the trail and have them use the prototype on the trail.

Image Source: http://torres21.typepad.com/.a/6a00e54fafb9508834010535cfe543970b-800wi

Having users use the prototype on the trail would allow us to closely replicate the circumstances that the final trail guide app would be used in.

The Prototype - The Original Plan

Most current mobile devices don't support Flash (and no one in our group is experienced with Flash) so we decided to use HTML, CSS, and Javascript for our prototype.

I made a few sample HTML pages to test the feasibility of running a Javascript prototype on the Droid, and quickly learned that there were some limitations of running the prototype on the Droid.

Problems With Droid Prototype

- No way to get rid of the browser's URL bar.
- The browser won't load large image files (No way to display the large trail map)
- The browser automatically re-sizes pages to make them fit the screen
- JavaScript runs fairly slow
- When you rotate the phone, the browser automatically rotates with the phone, causing problems with keeping track of coordinates in relation to the user's position, which remains at the center of the screen.
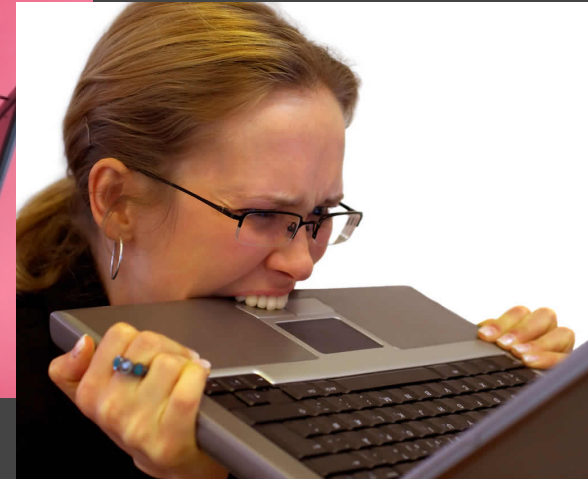
Our Solution

Due to the many issues with prototyping on the Droid, some of which we believed were insurmountable, we decided it would be better to run the JavaScript simulation on a computer.

Image: http://www.greendisk.com/images/Computer.jpg

Image: http://www.solteamint.com/images/Solution-Team-International.gif

 I created a simulated Droid phone, and a trail guide that runs on this simulated phone's screen.

The Prototype

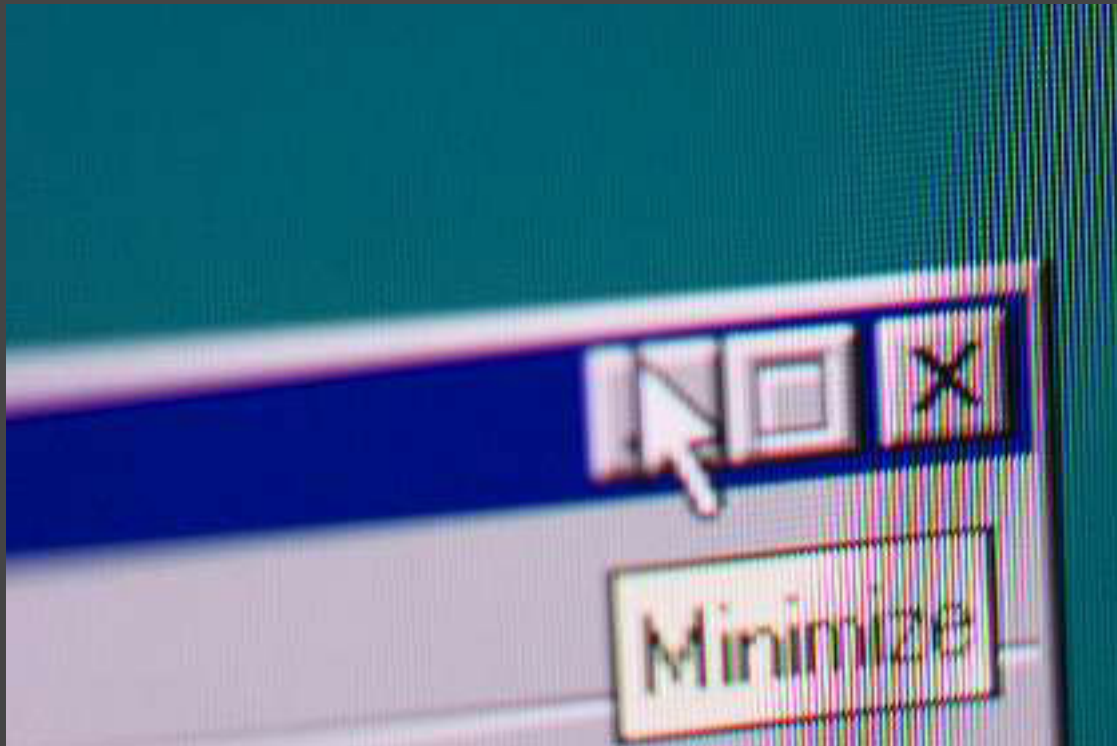We will now minimize this presentation to show our actual working prototype.

Image: http://www.netechnologies.ca/images/minimize.jpg

Surveys

To contact potential users forwarded to us by our customer, we used Survey Monkey to ask:

- how often the users had visited the Preserve
- if the users saw and used the information kiosk
- if the users had a web-enabled phone
- if the users had data plans on their phones

Surveys

- More than 40% of the users had never been to the Preserve
- Of those who had been, 55% had never used the information kiosk
- However, over 66% of the users were interested in a
- mobile-phone based trail guide
  - And over 75% of the users access Internet on their phones

User Study

Since most of referred users are non-technical people, we tried out the simulation with an Informatics major as a test user.

Because the simulation shows the "user" moving quickly through the trail guide, our test user watched the entire simulation complete before interacting with it.

He immediately realized that it was location-based to where he, the "user," was on the field, and liked that by watching the simulation run, he had an idea of how big the field is.

I like it!

User Study

When the simulation finished, he began clicking around on the simulation and first found the option to upload a picture of a flower. It took him seconds to complete and he was able to open and close the upload screen with ease.

After closing, he tried clicking the options on the phone itself (the home key, the back button) before continuing to click on the simulation.

User Study

After closing the window to upload a flower, it took him less than 20 seconds to learn how to move the screen and click on the blue points.

Overall, he liked that he was able to contribute to the guide and considered the interface very straightforward.

We used our experience to build the interview questions for our non tech experienced users.

Updated Schedule (the future)

What we have left:
- design interface (Done!)
- pilot testing (continue)
- interviews/user testing
- revisions/redesign
- report

Week 7 - Finish up design, Pilot test with prototype
Week 8 - Interviews, Begin redesign
Week 9 - Redesign
Week 10 - Final Report

Questions or Comments?