



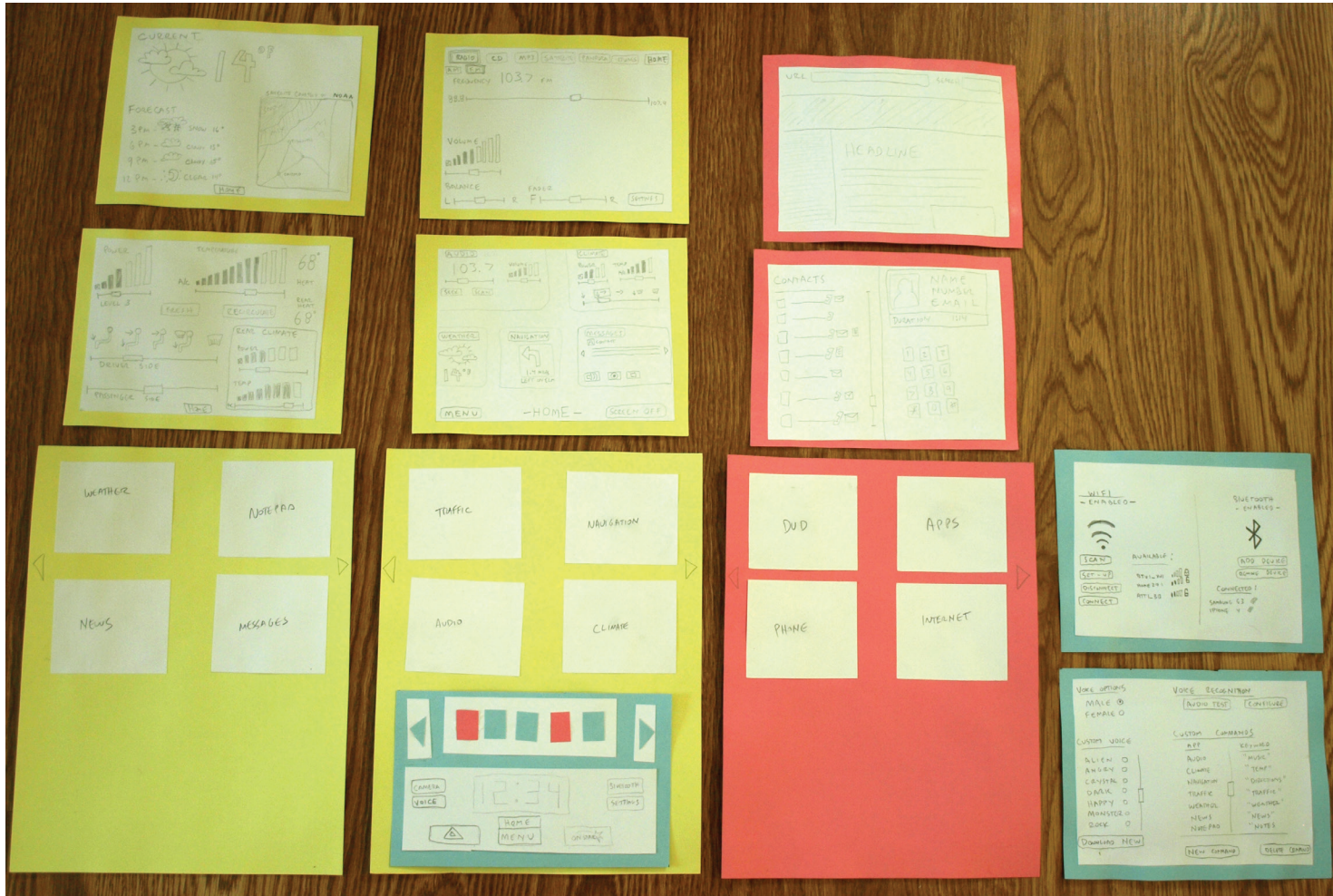
A hands free, voice controlled, vehicle dashboard that handles climate controls, audio control, navigation/weather/traffic and additional app elements for in-car use.

A touch screen supplements the voice interface option, and a “smart” steering wheel allows for basic functions within reach of the driver.



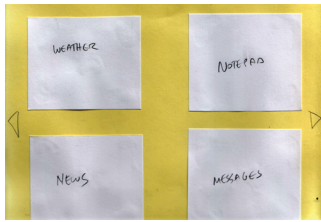
Chad Fillion

Field Internship - Garnet Hill 8/18/14
PHP | MySQL Database project

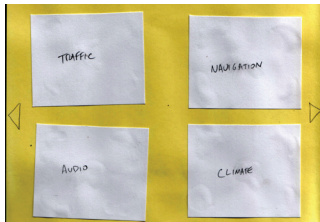


Early paper testing of the VIC prototype revealed some interesting test results on the placement of the different navigation screens and how many screens are available to a user. Younger testers found the interface usable, whereas older test takers found it overwhelming and difficult to use. A redesign was needed for sure.

Standard options 1

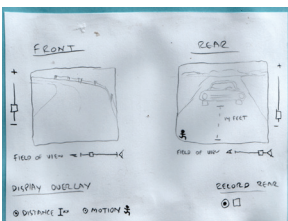
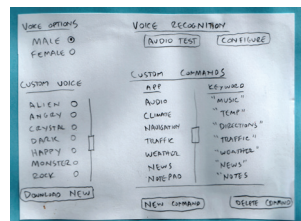
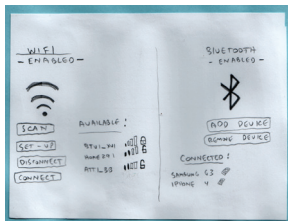
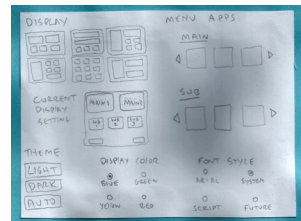


Standard options 2

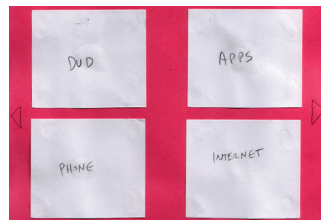


System settings:

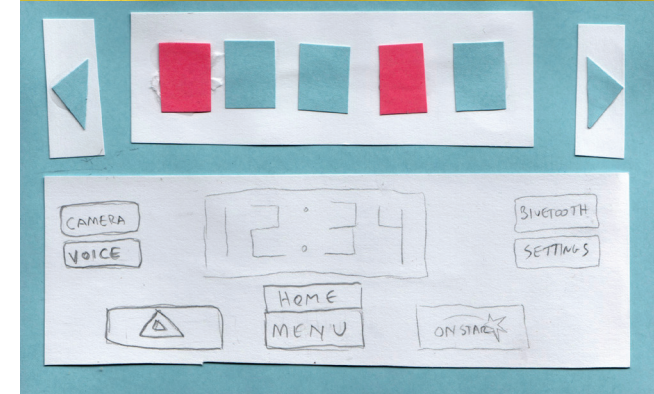
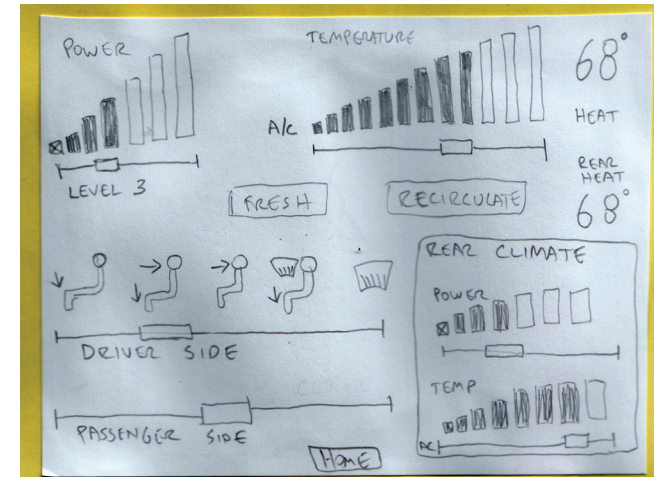
Camera, Voice control, Display settings, Bluetooth



Restricted options 1



Main Screen



With a variety of interface screens available at any given time, the user had a too many options available to them. The clock, settings, and “hazards/OnStar” buttons felt buried at the bottom of the app, while the scrollbar for “active apps” seemed to lose importance once a specific app was loaded or being used.

VIC Usability Test

This usability test document is designed to assist in the development of a new vehicle console system. This document is to accompany the Voice Integrated Console (VIC) interface. Please answer this first set of questions before accessing the interface for the usability test.

This section of the usability test asks about your experience with Touch Screens and Voice Enabled devices.

*** Required**

- Have you had experience using a personal touch screen enabled device? (tablet, mobile phone, laptop etc) ***
(If No, skip to question #4)
 Yes
 No
- Which one of these personal touch-enabled devices have you used?**
 Laptop
 Tablet
 Mobile Phone
 Game System
 Other: _____
- Do you feel comfortable using the touchscreen as the interface on your device?**
 Yes.
 No.
 Not Sure
 Other: _____
- Have you ever used a Voice enabled feature on a device? ***
(If No, skip to question #7)
 Yes
 No
- Do you feel the voice recognition feature worked as expected on the device?**
 Yes
 No
 Not Sure
- Do you like interfacing with a device by voice commands?**
 Yes
 No
 Not Sure
- If given the option to add these features to your vehicle's dashboard console would you take advantage of the opportunity? ***

Continue » 25% completed

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VIC Usability Test

*** Required**

VIC Usability Test

This usability test document is designed to assist in the development of a new vehicle console system. This document is to accompany the Voice Integrated Console (VIC) interface. Please answer this first set of questions before accessing the interface for the usability test.

This section of the usability test asks about your desires for an interface within a vehicle.

1. Of the options listed below, which ones would you enjoy having in a touch/voice enabled vehicle dashboard? *

- Music / Audio control
- Climate control
- Clock
- Hazards
- OnStar
- Navigation
- Bluetooth
- WiFi
- Traffic
- Weather
- News
- Messaging / Email
- Notepad / Tasks lists
- DVD
- Internet
- Other: _____

2. Would you allow the interface to disable certain features that may be considered "distracting" while driving? *
(For example, a DVD feature or Internet feature would be disabled if the car was in motion.)

Yes
 No
 Not Sure.

3. Would you want a standard layout, or would you like to customize available "features" from within a settings menu? *

Standard
 Customizable

4. If you could decide, which part of the interface would remain available at all times? *

- Music / Audio control
- Climate control
- Clock
- Hazards
- OnStar
- Navigation
- Bluetooth
- WiFi
- Traffic
- Weather
- News
- Messaging / Email
- Notepad / Task lists
- DVD
- Internet
- Other: _____

5. If you could download apps to the device, similar to a phone, would you do so? *

Yes
 No
 Not Sure

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VIC Usability Test

*** Required**

VIC Usability Test

This usability test document is designed to assist in the development of a new vehicle console system. This document is to accompany the Voice Integrated Console (VIC) interface. Please answer this first set of questions before accessing the interface for the usability test.

The interface to be tested is available at <http://www.phlume.com/chad/723/VIC/>

Please open a new window, or a new tab, and review the interface for these next questions.

Please note - This interface is a very rudimentary wire frame in a beta format. Functionality of the elements are very limited and are for mere demonstration purposes only.

1. Did you locate these pages in your test? *
(check the boxes as you discover, and click through, each interface component.)

- News
- Weather
- Climate
- Audio
- OnStar
- Apps
- Traffic
- Notepad
- Settings
- Phone
- DVD
- Camera
- Home Screen
- Messages
- Voice settings
- System Settings
- Bluetooth
- Navigation
- Internet

2. Were you able to return to the menu screen with ease? *

Yes
 No

3. Were you able to return to the Home screen with ease? *

Yes
 No

4. Did you find you used the Menu screen or the Home screen more? *

Menu Screen
 Home Screen
 Neither
 Both the same amount

5. Did you have difficulty leaving a feature screen to return to the Main menu or the Home screen? *

Yes
 No

6. Was there enough information on the screens to help you to find your way through the interface? *

Yes
 No

7. In your browsing, did you notice that the Settings menu would allow you (when operable) to customize the layout of your home screen? *

I did notice
 I did not notice

« Back | Continue » 75% completed

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VIC Usability Test

*** Required**

VIC Usability Test

This usability test document is designed to assist in the development of a new vehicle console system. This document is to accompany the Voice Integrated Console (VIC) interface. Please answer this first set of questions before accessing the interface for the usability test.

These following questions are about your experience with the interface.

- What was your overall feeling of the interfaces layout? ***
- Were you able to navigate within the interface with ease? ***
 Yes
 No
 Other: _____
- What elements of the interface did you find easy to understand? ***
- Did you find yourself stuck at any time not knowing what to do? ***
 Yes
 No
 Not Sure
- Were you able to find all of the buttons you were looking for? ***
 Yes
 No
- If "No" to question #5 above, what button, or functionality, were you unable to find easily? ***
- What could have been improved? ***
- Final thoughts? ***

« Back | Submit 100%: You made it.

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<http://www.phlume.com/chad/723/VIC/>

Using Google docs I set up a usability test to gauge what was important to users of an interface such as this, what could be removed, what should be added, and what level of priority I should place on some of the apps. being used The prototype site is still up with an active form for review. *Click link to the left to view the test page.*



9 responses

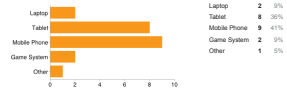
[View all responses](#)

Summary

1. Have you had experience using a personal touch screen enabled device? (tablet, mobile phone, laptop etc)



2. Which one of these personal touch-enabled devices have you used?



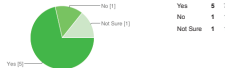
3. Do you feel comfortable using the touchscreen as the interface on your device?



4. Have you ever used a Voice enabled feature on a device?



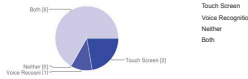
5. Do you feel the voice recognition feature worked as expected on the device?



6. Do you like interfacing with a device by voice commands?

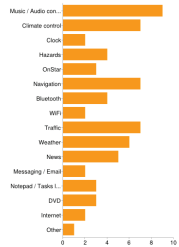


7. If given the option to add these features to your vehicle's dashboard console would you take advantage of the opportunity?



VIC Usability Test

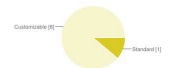
1. Of the options listed below, which ones would you enjoy having in a touch/voice enabled vehicle dashboard?



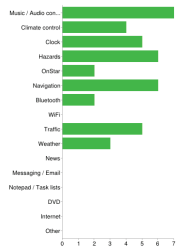
2. Would you allow the interface to disable certain features that may be considered "distracting" while driving?



3. Would you want a standard layout, or would you like to customize available "features" from within a settings menu?



4. If you could decide, which part of the interface would remain available at all times?

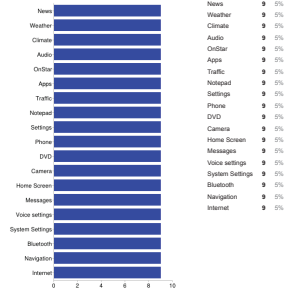


5. If you could download apps to the device, similar to a phone, would you do so?

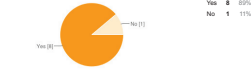


VIC Usability Test

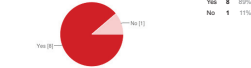
1. Did you locate these pages in your test?



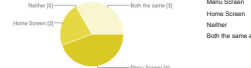
2. Were you able to return to the menu screen with ease?



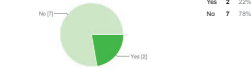
3. Were you able to return to the Home screen with ease?



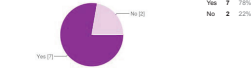
4. Did you find you used the Menu screen or the Home screen more?



5. Did you have difficulty leaving a feature screen to return to the Main menu or the Home screen?



6. Was there enough information on the screens to help you find your way through the interface?



7. In your browsing, did you notice that the Settings menu would allow you (when operable) to customize the layout of your home screen?



VIC Usability Test

1. What was your overall feeling of the interfaces layout?

The interface was very organized and easy to navigate through. The flow to the layout seemed reasonable. The drawings were very crude. Home and Menu screens seemed disjointed and secondary to other navigational functions on screen. Easy to use. The redundancy on the home and menu screens made it easy to find whatever I needed. Very many buttons. If I were to succeed I wouldn't reach everything by voice. It would be difficult to manage while in motion (on laptop with a mouse). Overall a very nice interface but could use some fine-tuning up. For example there should only be one home or menu button. Having both is a little confusing. Also setting features such as Bluetooth and voice should be under one settings menu. It was hard to get back to a known good state when distracted by an outside activity, and also lost within the interface. There's no clear identification of where in the app I actually am right now, neither is there a clear panic button I can hit to get to a safe driving point without going to my main screen. I couldn't change music volume when on another screen. Which was just weird, and much worse than a standard analog interface. The home screen had way too much going on. If I was really looking at the road and flicking my eyes to the centre console, I'd have no idea what the hell I was supposed to be looking at. It would take a full second of concentration just to process all the information I can see.

2. Were you able to navigate within the interface with ease?



3. What elements of the interface did you find easy to understand?

Bottom set of buttons. The buttons themselves were to where you wanted them to be. The clock. The menu screen. Home Home and Menu should be one option, or home should be sub-added to Menu not separate. The active app icon is easily processed and the menu buttons are easily spaced. The active apps seemed like a nice feature. Brand. All of them... with a slight exception on the "Voice" and "Settings" buttons (see comment below).

4. Did you find yourself stuck at any time not knowing what to do?



5. Were you able to find all of the buttons you were looking for?



6. If "No" to question #5 above, what button, or functionality, were you unable to find easily?

Car info. The clock needs settings app or way to add the time. All. WiFi, News.

7. What could have been improved?

When at certain apps. Navigation for example, the home and back button appear up top. I believe it's a little redundant. Looks like the interface is taking much of the real estate. Maybe have the bottom section auto-hide when scrolling through apps or viewing an app. The interactivity of the apps could have been more than just drawings. Pretty much everything. The clock and active app display. Need to be able to change the time. Issue buttons. Some things I can't find and need in a vehicle. Things such as menu options, climate traffic, radio, weather. Usually found on door side panels. The app section could be improved. If there's a more of them it could be an issue navigating through it. Element layout positions. Combine elements (Ex. Traffic should be part of navigation). Mark the Voice button "voice settings" and the Settings button "display settings". When looking at the bottom options, I assumed the voice button was just to activate voice command option, not to adjust settings. The "settings" button appears to really only be for display and should be marked as such for clarity/quick find.

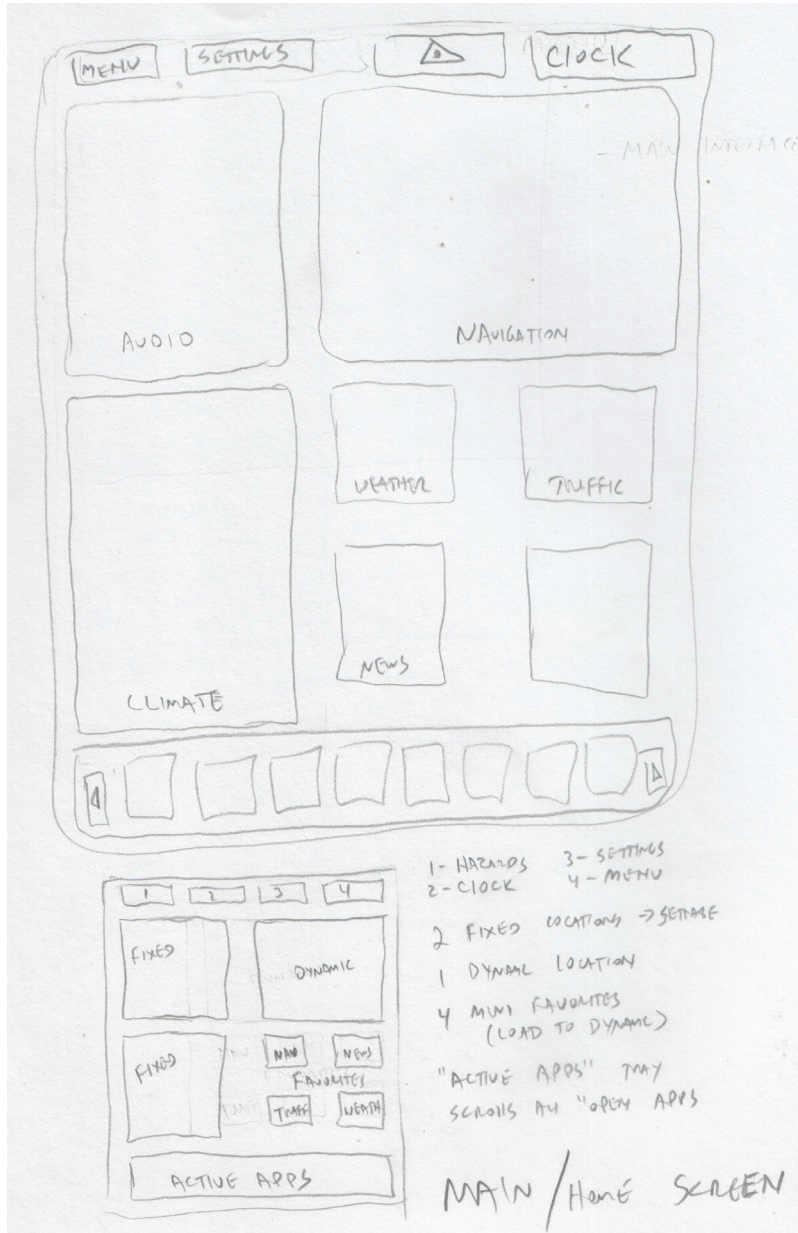
8. Final thoughts?

Everything was well organized and worked well. It's to be fair I haven't reached the era of widespread displays. Interface seems a bit busy or crowded. If you were driving you would want to find options fast by memory of their location first, not where it is on the screen. A very ambitious interface that I would love to allow in my car. Given that it was probably one that the touchscreens is as responsive as the latest and greatest tablets out in the market, an alright start. Still a long way to go. It's a great concept, for me, there are way too many things going on. You really need to rethink this interface. It's not really designed to be used by someone sat to the left of it, and who can only give it attention in 8 second bursts. There's too much information on every screen, and none of that information is presented in a clear visual hierarchy. In particular it isn't clear to me why some non-critical buttons like OnStar and voice options are up away from the bottom, meanwhile important buttons that I will want to hit whilst also controlling a car (like navigation, audio and traffic) are small and difficult to distinguish from each other. Good luck with this project, but I'd seriously consider thinking about this interface in terms of how someone would use it when actually driving a car, and sat off to one side of it.

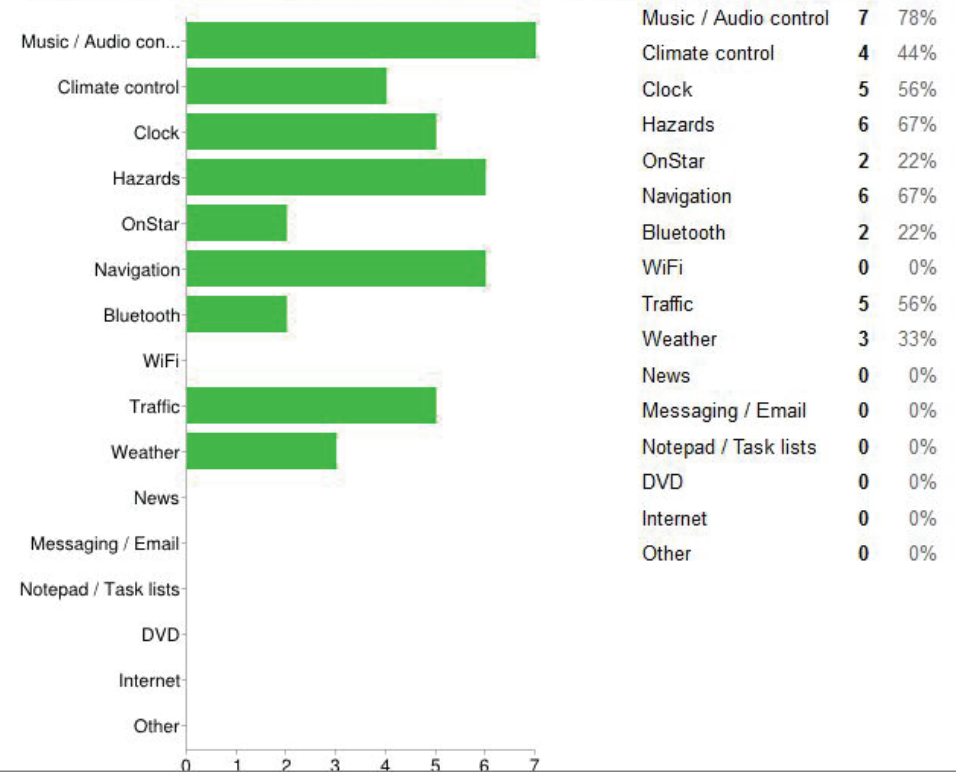
Number of daily responses



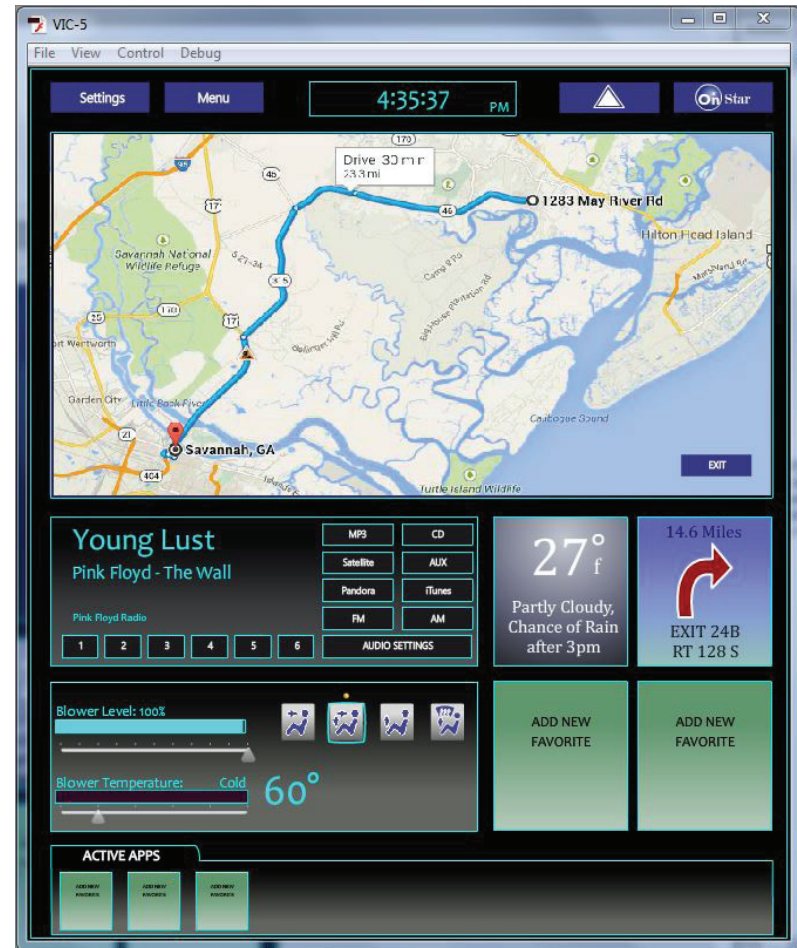
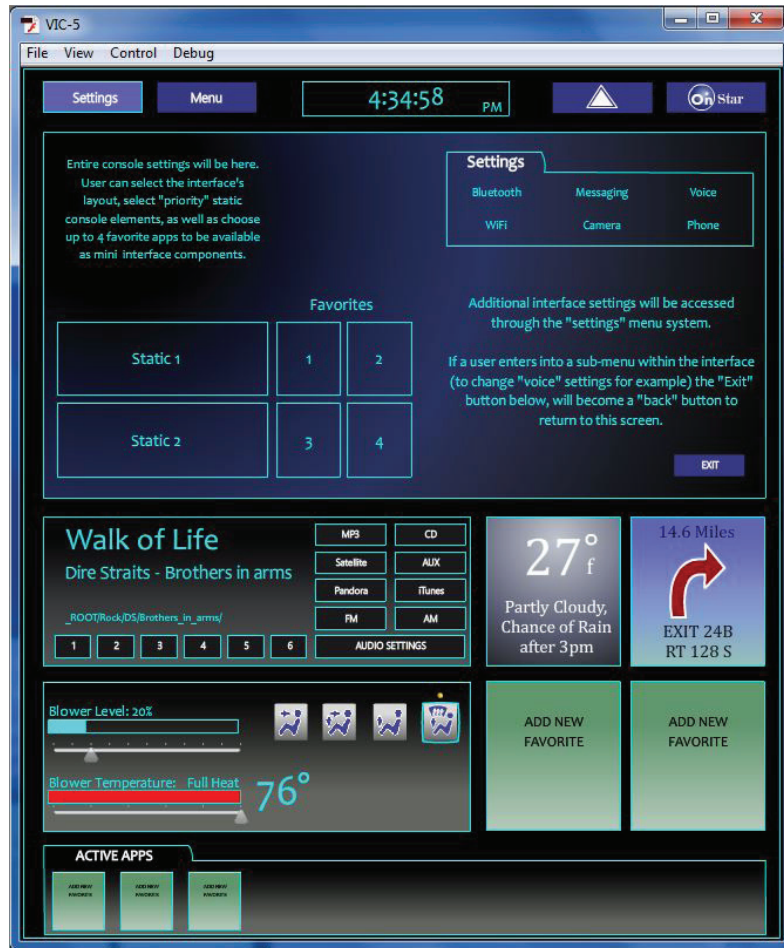
9 different users of varying skill and background used the test site and provided invaluable feedback an ideas for the next phase of development. Questions asked helped define the state of the next phase of the interface, and organize what was important nearly across the board with the test subjects. *Test result link is active, and available to the left.*



4. If you could decide, which part of the interface would remain available at all times?



The redesign of the interface started with a quick wire frame mock-up, and the swiftly moved into flash for refinement and interactivity. A resundin level of input from the testing indicated that audio, climate, traffic and navigation were the primary focal points of this interface, where the clock, messaging and wifi were not a primary focus.



Once within flash I utilized AS3 to navigate from location to location within the interface, dynamically set the radio stations as well as alter the climate control settings. In addition, as an added touch, I use dthe scripting to load the current date and time to the interface.