

Rapid Iterative Test, 19 July 2016

NGI 2.0 Horizon Concept 2

Test Results

Introduction and Method

This usability study was conducted with 5 participants using a think aloud methodology. The study examined the design produced after the previous A/B user test (of 12 and 13 July). Each participant was asked to complete 13 tasks in the system while providing feedback to the design.



Fig. 1 Horizon Concept 2 home page

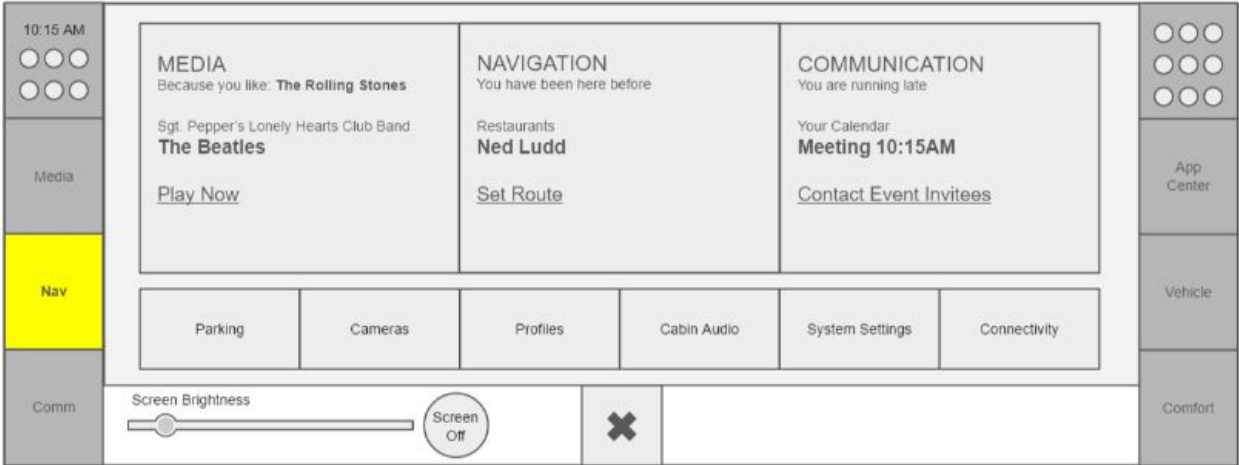


Fig. 2 Horizon Concept 1 home page

The system is a iteration of the Horizon Remix concept presented in the [previous user test](#), as seen in Figure 1 and Figure 2.

System Usability Scale Scores

Each participant also completed a [Jaguar Land Rover \(JLR\) modified system usability scale \(SUS\) scoresheet](#). The JLR SUS differs from the standard SUS by replacing standard SUS usage of the word “system” with the word “feature.” A passing SUS score is 68 or better.

Average Score

74.50

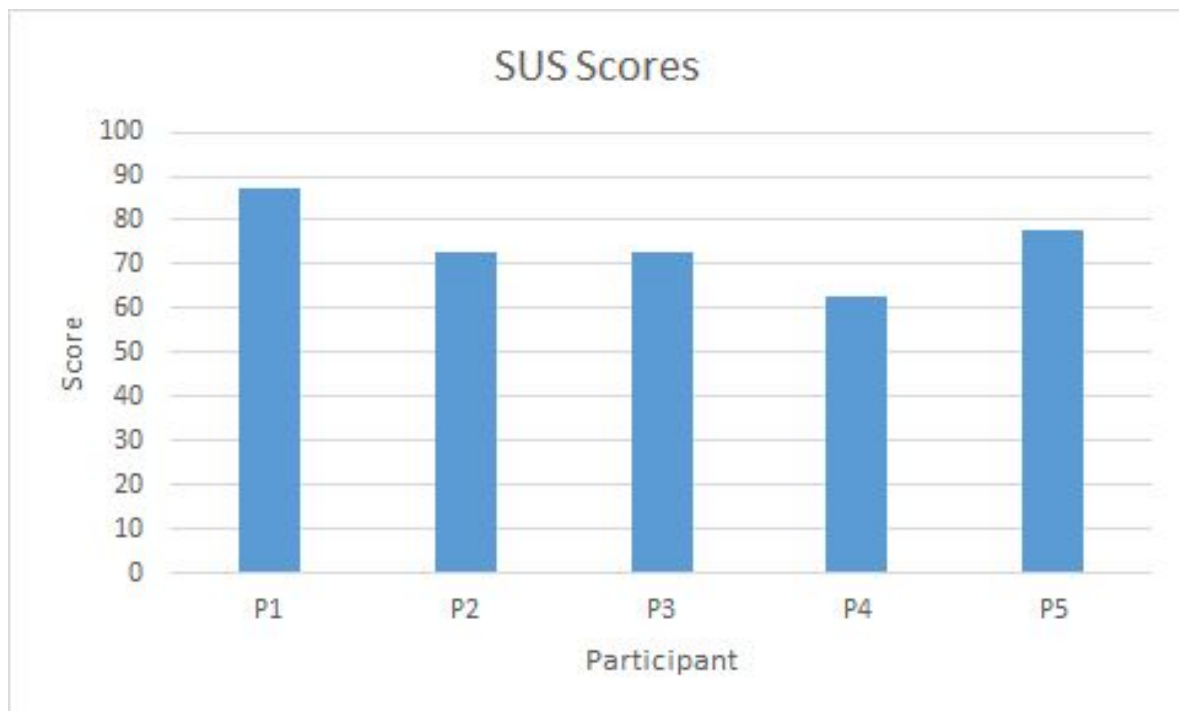


Fig 3: SUS scores given by each participant.

The concept scored well on the SUS, achieving a 74.50; one participant scored the concept 62.5, while the other four scored much higher. The highest score was 87.5.

SUS is a qualitative measurement; these scores suggests test participants were largely happy with the concept as presented.

Task Breakdown and Results

Participants were asked to complete 13 tasks during their test. The Tasks are documented in Reference 1: Test Tasks. The evaluation of the system is broken into the following subsections: design, system tasks, media tasks and communication tasks.

The graph below illustrates overall task completion rates. Some tasks had prerequisites for their completion; if the requisite task was not completed the participant was not able to complete the task. Based on the success rate of the task when participants passed the prerequisites we expect those tasks to have higher completion rates. In the graph below they are noted with a lighter green and labeled “anticipated pass rate.” Two tasks had failed prerequisite tasks: task two, return to home screen and task seven, close source menu. Each task was passed by 100 percent of participants who passed the prerequisite tasks.

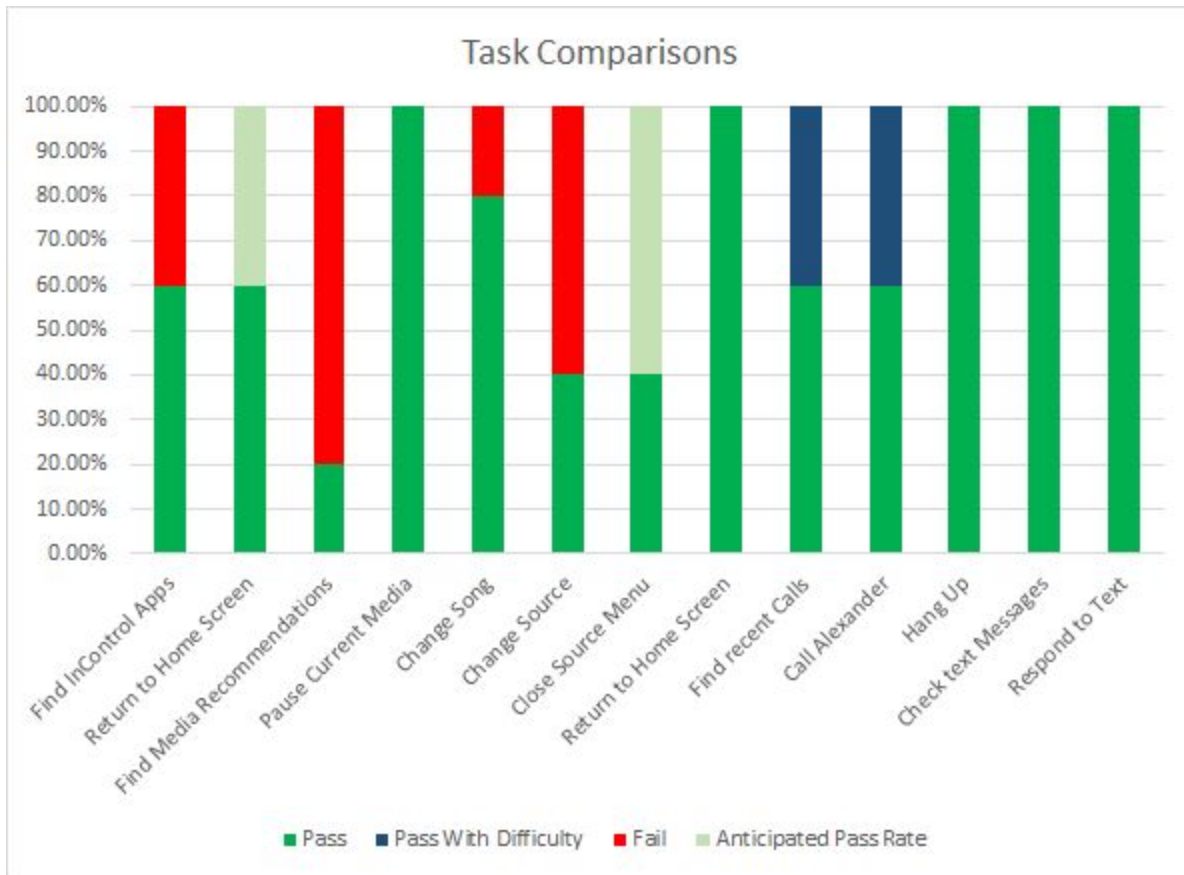


Fig 4. Task completion rates.

Design

The test was conducted on a laptop and it is evident the quality of the screen influenced the participants' perception of the design. Conceding the laptop screen is not an adequate stand-in for the target screen, future testing will be performed in-vehicle.

Participants reacted well to the design language. One participant said, "So far, it is ten times better than any of our [Jaguar Land Rover] cars I've seen. They try to put a bit of flash, but it detracts from the usability or whatever." Others described the system as "simple," another said the design language was "really good." One participant said the design was "dull," going on to say, "I expect something more stylish."

Portions of the design were less effective than the design language. Overall, participants expressed concern there was not enough contrast in the colors. One participant, the oldest in the study and closest in age to the Jaguar XJ demographic, had difficulty seeing the icons or reading the text, stating, "I do have to say the grey fonts are difficult to read. They are too close to black. In the small sizes they are definitely hard to read." Younger participants mentioned their concerns to the sizing of design elements, such as text and icons. While several participants complained about the small fonts, one went so far as to say, "Text this small is worthless." They went on to say, "For an IVI, I want big ol' icons and only the things I actually use."

Overall, the design was seen as simple and was well received. Recommendations can be seen in the design recommendations section later in this document.

System Tasks

The system elements performed well in this test. Of the group, two were unable to find InControl Apps. Their comments suggested a lack of understanding of InControl Apps leading to their inability to find it. Even when InControl Apps were explained, those participants struggled. One participant said, " Since I don't know what [InControl Apps] are, I don't know where I'd find them."

Overall system navigation seemed to work. As the system increases in depth and complexity, later in the design process, this will need to be re-evaluated. For now, participants understood the nature of the main system navigation bar (the left bar) and the feature footer (the bottom icons). The design feedback received suggests icons need to be larger, which could affect how the footer features are presented.

Media Tasks

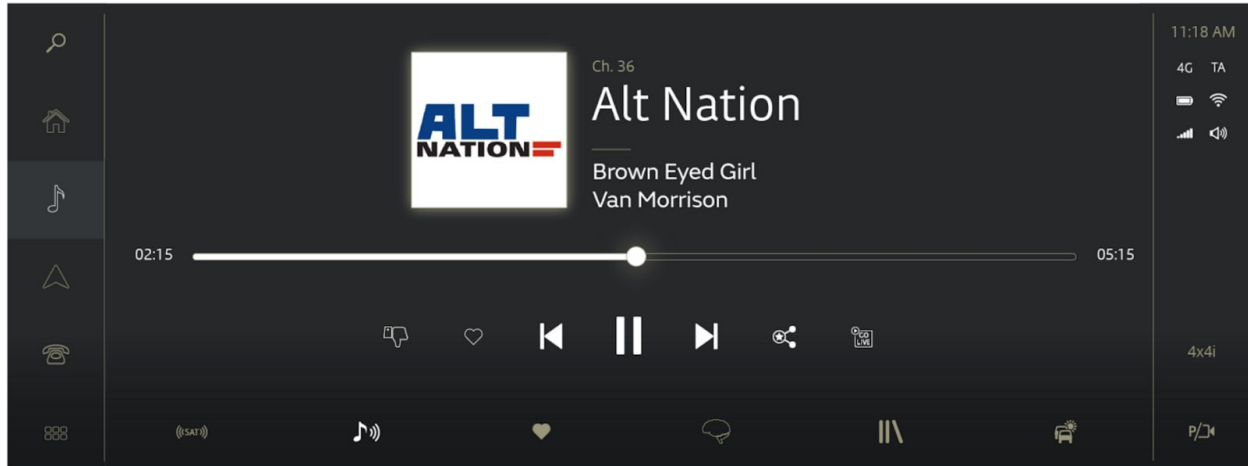


Fig 5. Main media player screen

The designs presented for media were problematic for participants. This section has the lowest task completion rates observed.

All but one participant were unable to find the media suggestions (the feature formerly known as smart tiles). In the footer, an icon of a brain was the access point the participants needed to press. One participant guessed the brain was for suggestions, stating “I guess I’d go to this. What is this? A brain? That’s a ... weird icon.” Of the participants who failed the task, some thought suggestions might be found through the icons seen in Figure 6. Participants suggested replacement icons that could look like a person talking or a light bulb. Participants also expressed a desire for media suggestions to function similarly to that seen in Pandora or Spotify, offering a playlist of similar music.

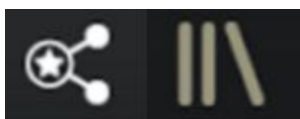


Fig 6. Icons thought to represent system suggestions.

When participants were asked to change the source they encountered further difficulties. The source icon presented them with the currently selected source, which the three who failed understood as “the satellite radio button,” not as the source selection button.

The icon seen in Figure 7 was also mentioned as something some participants did not recognize. Discussions with designers after the testing was completed suggests this icon is a SiriusXM traffic station.



Fig 7. An unrecognized icon.

Some participants believed playback controls (pause, skip track) would benefit from an increase in size, which would increase the available hit area for those controls.

Communication Tasks

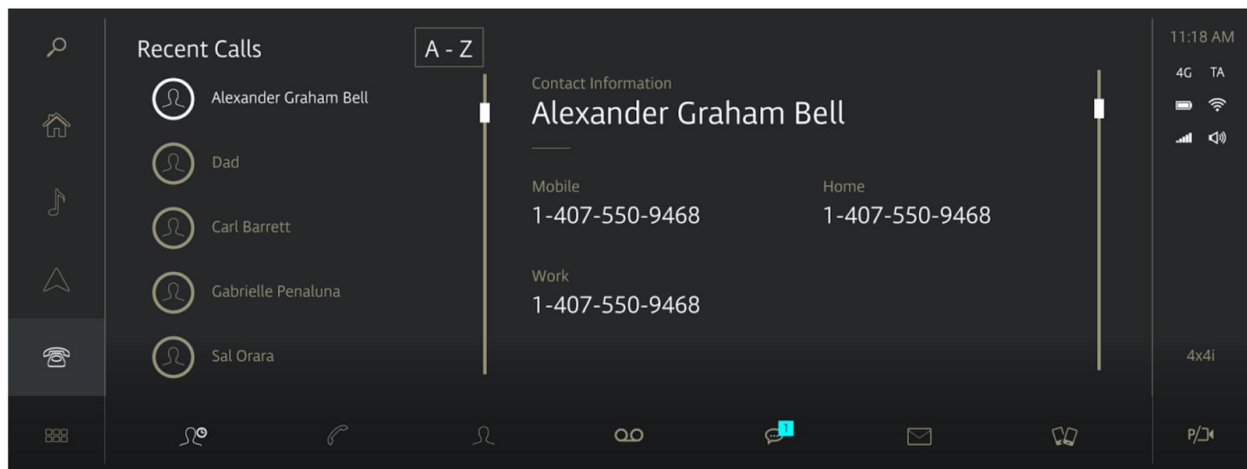


Fig 8. The Recent Calls screen.

This section also struggled with iconography. The “recent calls” icon was not immediately recognizable; while all five participants did make it to the recent calls section, two of them did so with difficulty. Once participants were asked to make a call, all were able to do so; however, the lack of a clear call to action around the available phone numbers caused two participants some difficulty.

Recommendations

System wide the design would benefit from design tweaks, which are outlined in the recommendations for design. Some of these recommendations may require a change in the way features are presented. While the footer bar works in some cases, in others it does not. In order to allow for larger icons representing the footer bar, it is recommended that similar features be combined to improve available space. A category landing page with large icons, labeled with text, would vastly improve the difficulties seen in this test. This also offers users the

opportunity for the user to see icons with their specific label, translated to their language, so they may more easily learn the actual meaning of important icons. This design recommendation includes removing the footer from the feature areas, which would necessitate a clearly labeled back button allowing users to traverse the hierarchy (IE: "Back to Media").

Design Recommendations

The strongest feedback received during the evaluation of the design suggests it will require a higher contrast ratio between colors used on screen. Elements such as fonts and icons should be increased in size to facilitate user comprehension of those elements. If a thin line weight is used, it should be on a large element and with high contrast.

System Recommendations

Aside from larger elements as mentioned in the preceding section, there are no specific recommendations for the system at this time.

Media Recommendations

Participants struggled with iconography in this test, as evidenced by their struggles to find media suggestions and changing the source. Icons without text can be particularly difficult to understand, especially when they are not icons participants are familiar with; iconography requires context to be understood, whether that be a label in the system or a user's experience with the icon from other systems. According to the Nielsen Norman Group, "most icons continue to be ambiguous to users due to their association with different meanings across various interfaces. This absence of a standard hurts the adoption rate of an icon over time, as users cannot rely on it having the same functionality every time it is encountered." ([SOURCE](#))

It is strongly recommended that media icons seek to closely associate themselves with icon designs users are most familiar with in other media players.

The SiriusXM traffic icon may be better placed with SiriusXM source specific controls. Placing in the media footer bar, while potentially convenient for vehicle owners who subscribe to SiriusXM, is potentially confusing for those who do not subscribe to SiriusXM. In addition, placing the icon in the main footer bar suggests it is a main function of the media feature.

Media suggestions were very problematic for participants in this test. This is largely due to unrecognizable icons presented to the participants. However, media suggestions is an opportunity for the media player to shine amongst the competition. Looking to the most mentioned music applications in the previous two tests, Pandora and Spotify, we may find that

suggestions can be subtly slipped into the main media player design, allowing users to quickly access a media suggestion without the struggle of understanding iconography.

Communications Recommendations

This section may need iconography that is more instantly recognizable, or include text to remove confusion about the meaning of icons. Adding a specific call to action for initiating a call would also benefit participants. It is recommended that phone numbers are presented as a button with a clear “call” labelling, such as the telephone handset icon seen on many cell phones. The “respond with voice” function performed very well, thanks to a clear label and call to action.

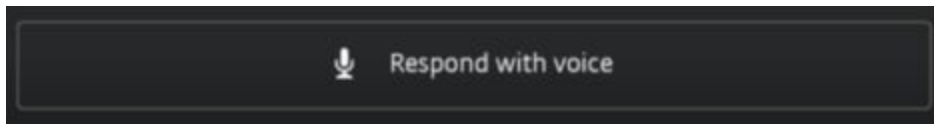


Fig 9. A clear call to action.

Reference 1: Test Tasks

NGI 2.0 RITE 2

Test Version:	Participant:
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Home Page:

Task	PDF
What can you tell me about what is being displayed here?	
What do you think of this page? What do you think you can do here? Where do you think you are in the system?	
Where would you find your InControl Apps?	
-- navigate back to the previous page	

Find Suggestions:

Task	PDF
If you wanted to find recommendations for media where would you go?	
What other types of recommendations would you expect here?	
How would you expect your vehicle to recommend content to you?	

Control Media:

Task	PDF
How would you pause your currently playing media?	
HOME PAGE MEDIA PAGE	
IF HOME- Get them to the media page.	

Is this where you would expect to find media controls?	
How would you change the song?	
How would you change the source?	
Can you close this menu without changing the source?	
How would you get back to the page you began at (HOME)?	

Communications

Task	PDF
Can you find your recent calls?	
Call Alexander at home	
What can you tell me about this screen? What do these icons mean?	
Hang up on Alexander.	
Can you check your text messages?	
How would you respond to a message?	
Is this what you expected?	