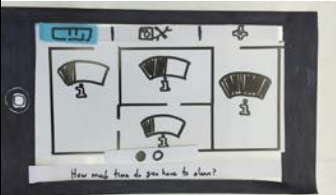
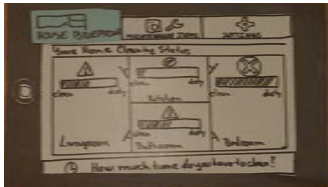
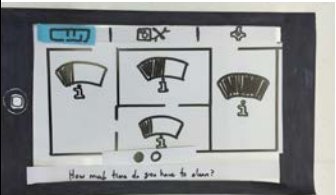
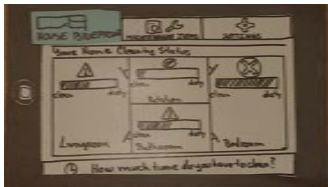

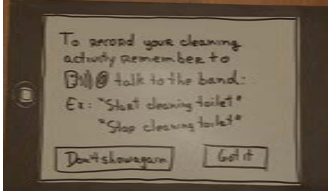
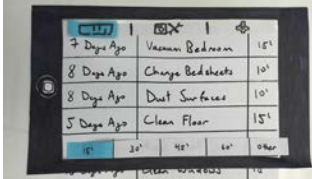
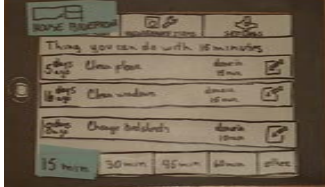
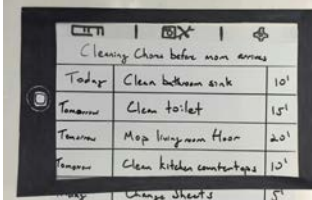

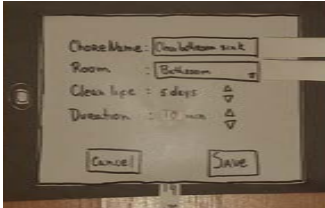
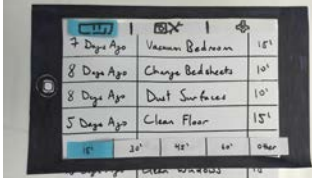
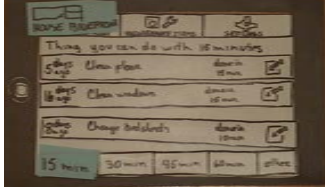


Assignment 3b: Usability Check-In

(Neat) Yoanna Dosouto, Siddhartha Gorti, Andrew Tat & Doaa Alsharif

Heuristic Evaluations

Image	Issue	Severity	Change	Fixed Image
	<p>The blueprint depiction of the house was not recognizable as a the room divisions of the house.</p> <p>Heuristic violated: Match between system and the real world.</p>	4	Header added to blueprint "User's home" to indicate what the graph is. Also each room was properly labeled indicating what room each quadrant represented.	
	<p>Unable to identify bar in each room as cleaning status indicator for that room. "looks like a gas tank indicator"</p> <p>Heuristic violated: Match between system and the real world.</p>	4	Bar was modified to show lower bound: "clean" and upper bound: "dirty". Ok, Urgent and Emergency icons were added on top of bar for fast recognition of room status	
	<p>Did not know how to interact with the band. "Should I tap to speak".</p> <p>Heuristic violated: Visibility of system status and Consistency and standards</p>	4	Speech icon added to band to indicate how to use it and once a chore is selected on the board a screen shows up indicating the novice user how to record cleaning metrics	 

			using the band. User can select "Don't show me this again".	
 <p>Menu icons are in all screens and the minute symbol is in many screens. This is just an example that has both points.</p>	<p>Confusion with some of the selected icons for menu items and symbols like the minute symbol.</p> <p>Heuristic violated: Recognition rather than recall and Consistency and standards</p>	3	Menu icons reworked. Since these are not standard icons we added labels at the bottom of the icon and as part of the button.	
	<p>Wanted to edit a chore and modify the order of the chore list and was unable to do it.</p> <p>Heuristic violated: User Control and freedom</p>	3	Added an edit button next to each chore to allow user to modify the chore. Edit button will bring popup for modification of task. Also allow for drag and drop of the chores so the user can have the freedom to modify the chore plan.	 
	<p>Unclear of what to do with the cleaning history after they select how much time they have available to clean.</p> <p>Heuristic violated: Recognition rather</p>	4	Added header to cleaning history to make sure user understands that these chores can be accomplished in the time the user previously	

	than recall.		entered to indicate how long they have for cleaning.	
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Usability Test 1

Our first participant was a female student at the HCDE lounge. She is a full time student pursuing a Bachelor's degree in HCDE at the University of Washington. She has only been recently admitted to the program, therefore she is not familiar with paper prototyping nor usability testing yet. Our participant rents an apartment near the University campus. We chose this environment because many master's and undergraduate students tend to hang out in this spot, especially during lunch hour. We are interested in users who live busy lives and have a hard time making time to do some cleaning around the house. Therefore, we approached potential participants and asked some pre-screening questions to learn if they could represent our intended user. Our participant responded yes to all the prescreening questions. The questions we asked were as follows:

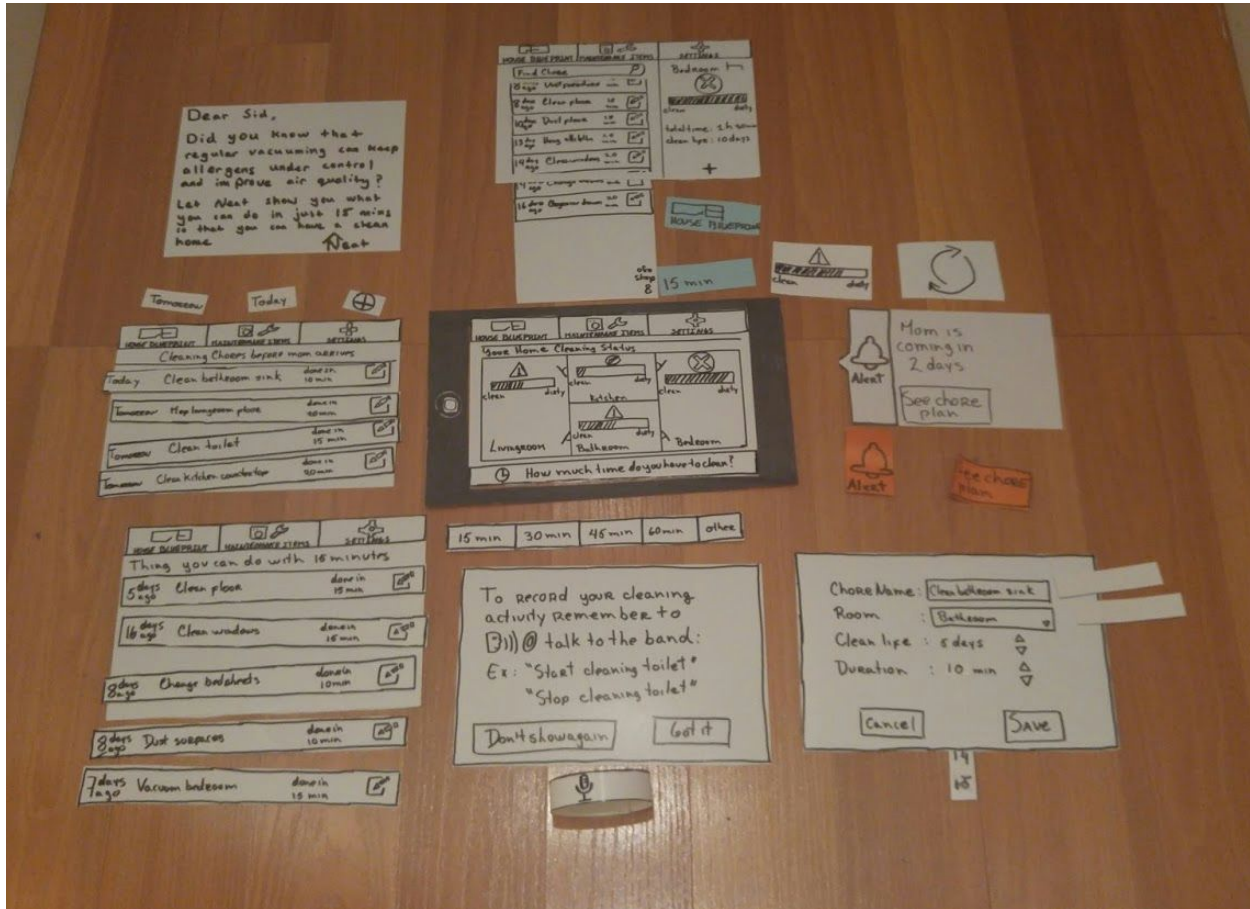
- Are you the person responsible in your household for managing the house chores?
- Do you have a hard time allocating time for cleaning?
- Do you find that is hard to keep your household clean and organized most times?

The HCDE lounge is for the most part a quiet and private place. It was also a familiar place for our participant, which helped her be more open and relaxed. Yoanna was the facilitator, Sid the note-taker, and Andrew the computer. Before starting the test we gave her a little bit of background about the Neat system to provide the user with some context. We gave three scenarios to the participant and asked the her to perform tasks inside the scenarios using a think-aloud protocol that turned into conversation sometimes to encourage expression. These were the scenarios we provided to our participant:

- You want to check the last time you changed your sheets in the bedroom. How would you do that?
- You have decided you want to spend 15 minutes cleaning. You want to find out what will be the most beneficial way to spend those 15 minutes to improve the overall cleanliness of the house. Can you show me how you would do that?
- Neat just reminded you that your mom is coming over in 2 days and that you may want to start doing some cleaning if you want to have the house ready before she arrives. You want to learn what has to get clean and how long those chores will take before your mom arrives. How would you do that?

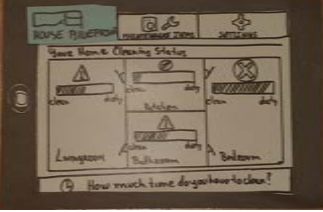
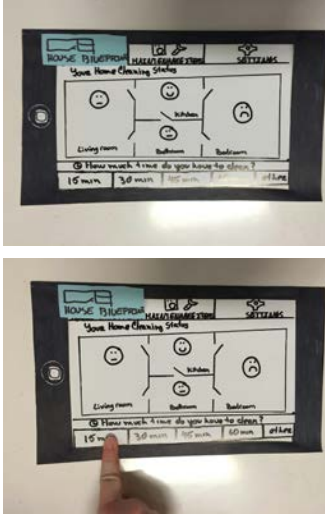
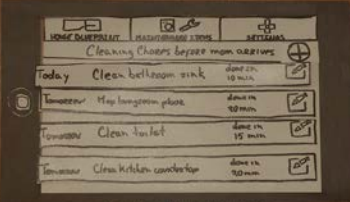
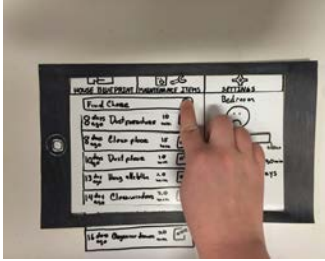
This test brought up the importance of taking quality notes. The notes from this testing session were a bit a sparse and for future tests, the notetaker will have to be more diligent, clear and thorough in their note taking process.

Prototype #2 for Usability Test 1



Usability Testing Evaluation

Image	Issue	Severity	Change	Fixed Image
	<p>The bar and the symbols added too much clutter to the screen. The user had trouble determining if an area was clean because she did not understand the symbols and she thought the bar should be backwards.</p> <p>Heuristic violated: Match between system and the real world.</p>	3	The bars and symbols on the main screen have simply been replaced with three faces (smiling, ambivalent and frowning) that reflect the room's status	

	<p>The user had trouble accomplishing our first task which asks the user to navigate to the suggested cleaning list given an input time. Instead of touching on the bar at the bottom, the user got stuck in navigating through the room. She did not identify this as a button for a long time.</p> <p>Heuristic violated: Consistency and standards</p>	<p>4</p>	<p>The time options have been added underneath the “How much time do you have to clean?” button and the button now serves just as a heading.</p> <p>Touching one of the time options brings up the suggested cleaning</p>	
	<p>It was unclear how to navigate to a certain task and the user had trouble searching a particular task</p> <p>Heuristic violated: User control and freedom Flexibility and efficiency of use</p>	<p>3</p>	<p>A new search function has been added. The list dynamically adjusts to user input</p>	

Future Usability Test Plan

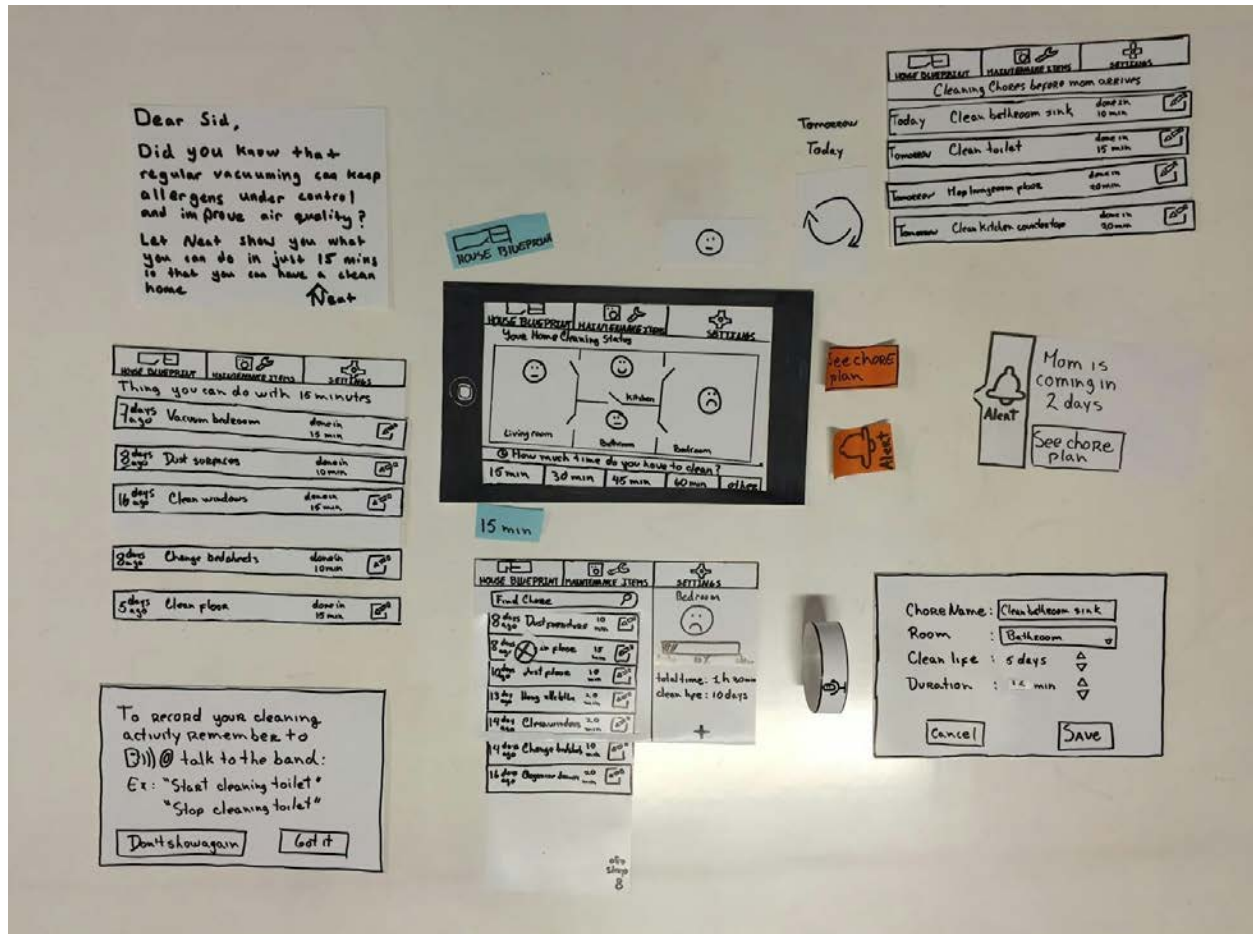
For future tests, we want to make sure that we get some non-student participants. Our previous contextual inquiries included a lot of data about students. Seeing as we are all students, we want to make sure we do not end up with a design that is only meaningful to our demographic.

We also plan to have a standard format for how we conduct these sessions and introduce some metrics like ease of use, we are currently working in a more formal usability protocol to carry across the remaining sessions. Regarding roles we think they will remain the same while incorporating Doaa as a second note taker. Additionally, it is important to give a correct estimate to potential participants so we never feel rushed with any participant.

Something that we are interested to see during future test sessions is whether the happy faces are enough to indicate the status of a room, and if the “How much time do you have to clean” section is more obvious now. We will also keep an eye on the path they take to determine what to do when they know the time they have for cleaning. They may go to the room they think is the dirtiest and not tap on the time buttons.

Another new approach we may want to use for future sessions is the two user testing technique if we are able to get two users at the same time. By having the participants working in pairs it will encourage them to talk more. Finally, we must make sure to steer away from using words used in elements of the interface to avoid guiding our users.

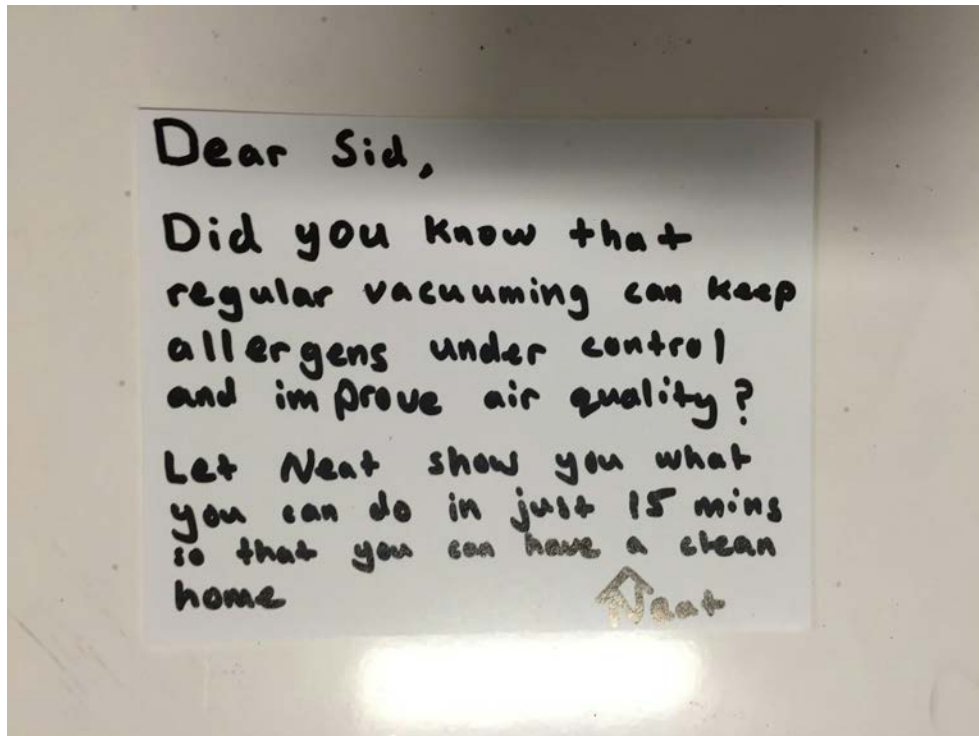
Prototype #3



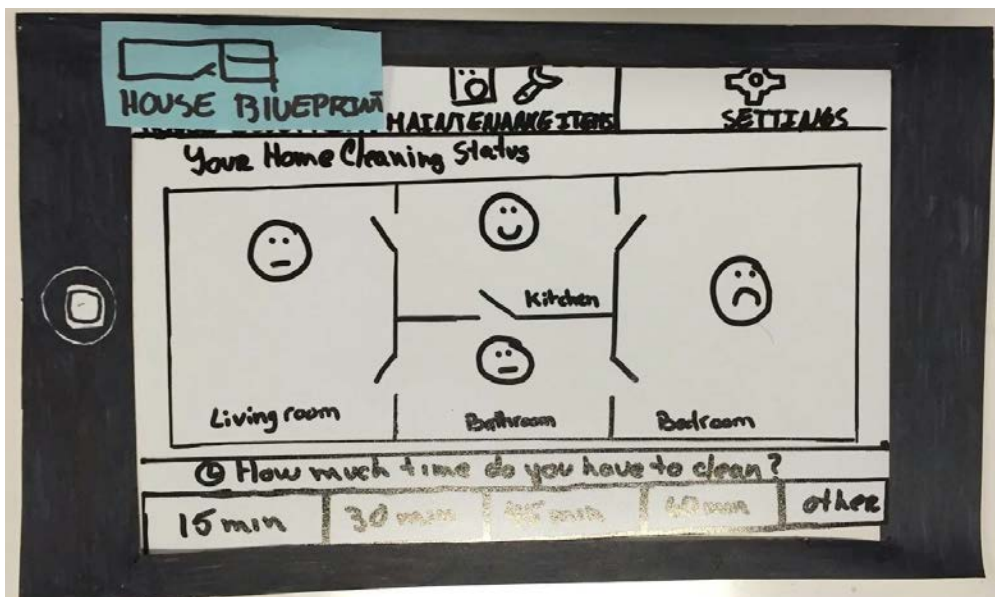
Note: Prototype 2, not 3, was used during usability testing evaluation

Overview of Prototype

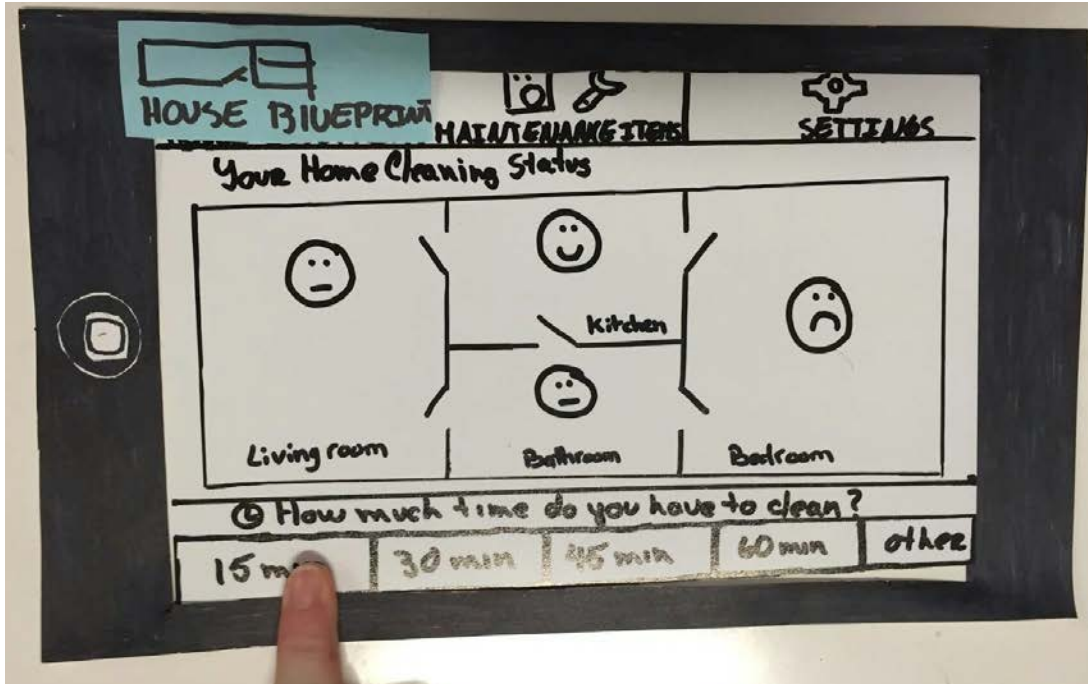
Task #1: Promote cleaning activities during idle times



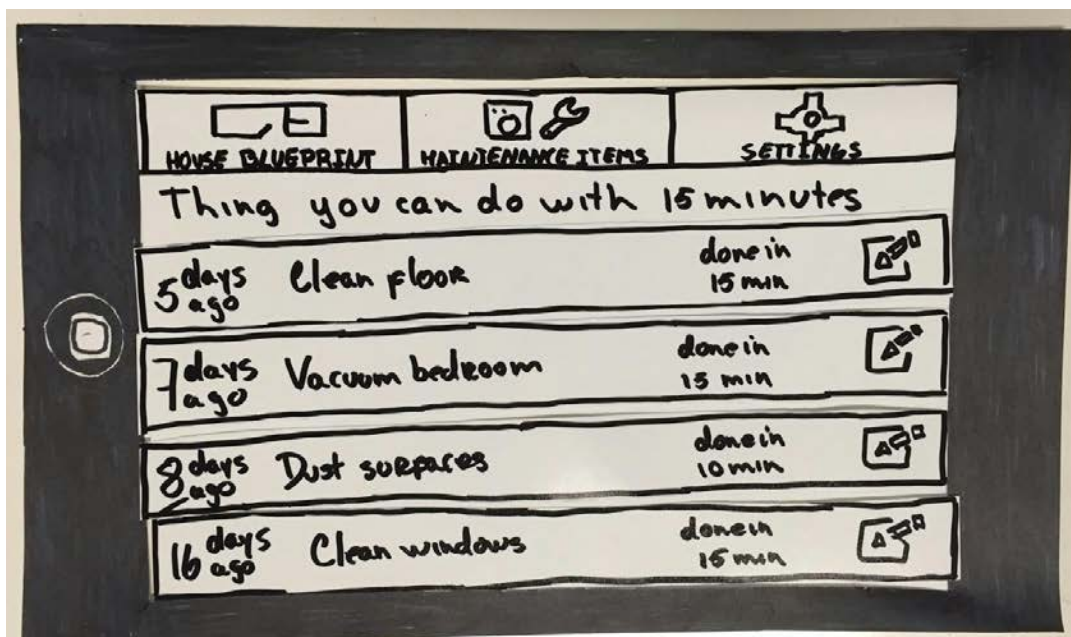
User sees message on TV screen during commercial or laptop and is encouraged to clean.



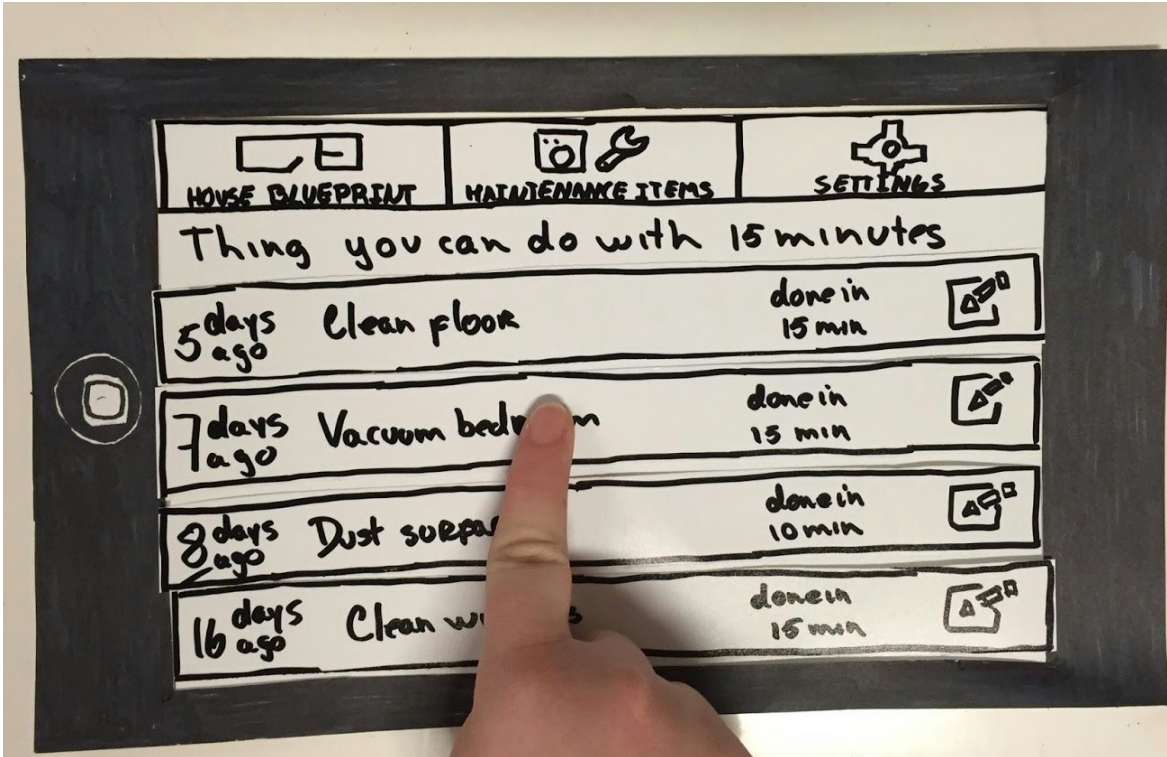
Overview of the house where user can see overall cleaning state of the residence.



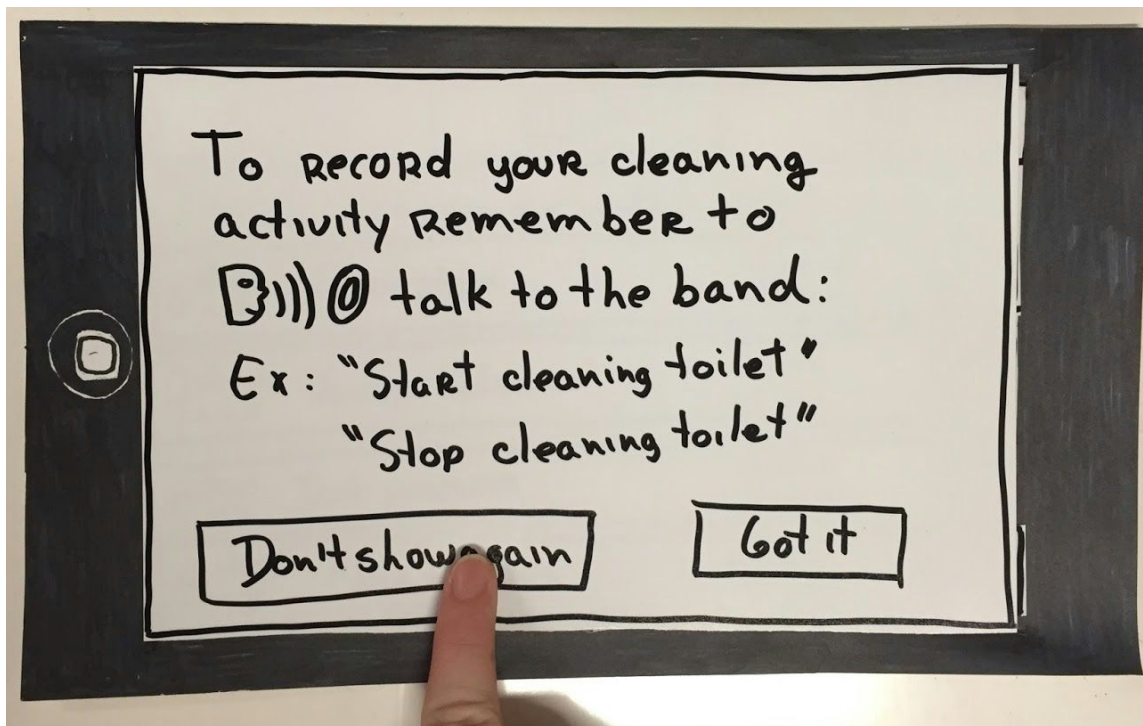
User determines they have 15 minutes to clean and want to do the most impactful possible task under 15 minutes. Selects 15 minutes button under the how much time do you have to clean section.



User gets provided with a list of tasks that can be accomplished under 15 minutes and are prioritized in order of most beneficial to the overall cleaning state of the house.



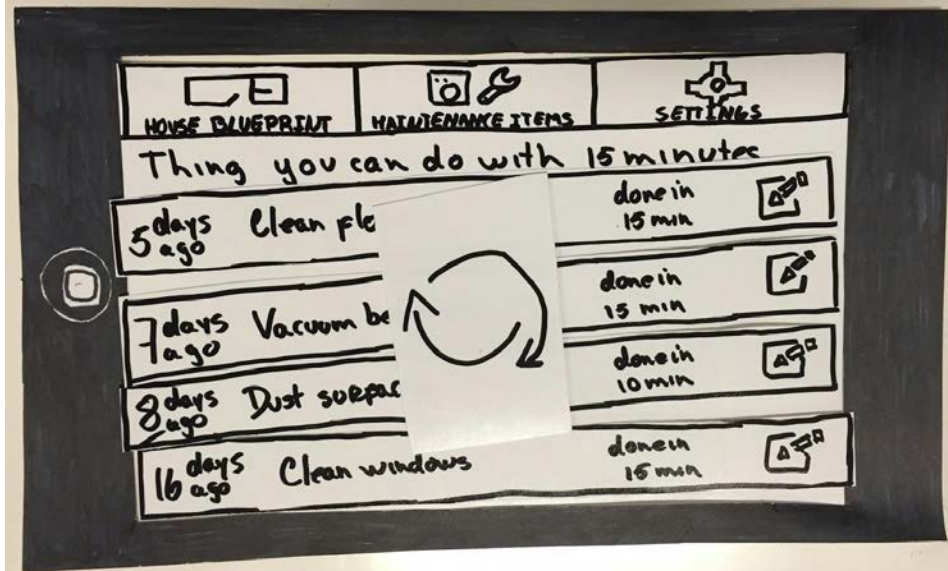
User shows interest on a task and selects it.



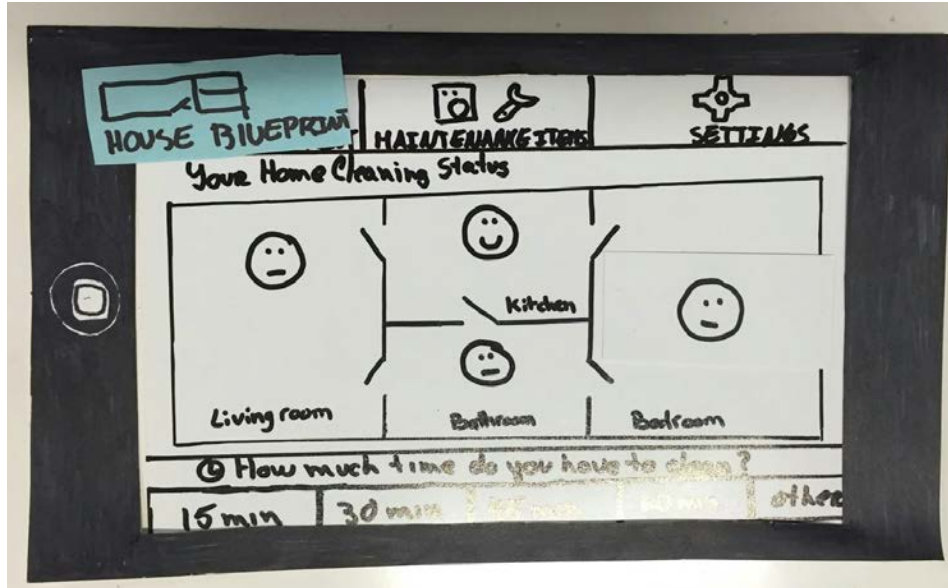
After tapping on a potential task user is presented with instructions on how to record the cleaning metrics. After user gets how to operate the band and selects the "Don't show this again" button a message encouraging cleaning like "We are ready when you are" shows up instead for future occurrences.



User records cleaning metrics through voice commands with the band. Note we are using the band because the user does not need to clean right away after they select what to do. They may want to go to the bathroom or eat a snack. So selecting a task on the interface does not indicate the start time of the task, it rather shows instructions on how to use the band or shows an encouraging cleaning message.

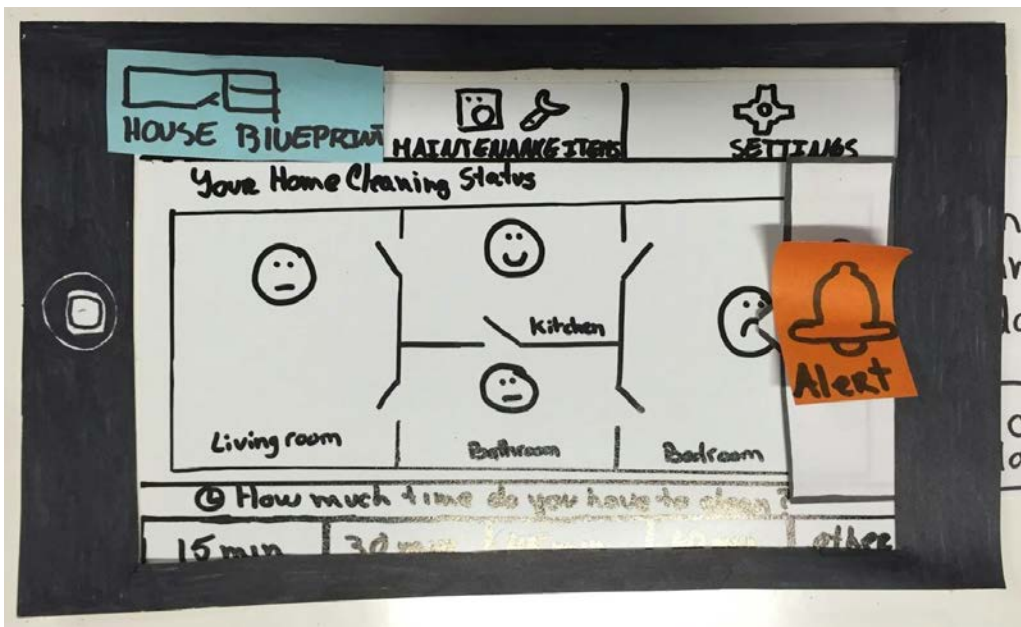


Data from the band syncs with the central board.

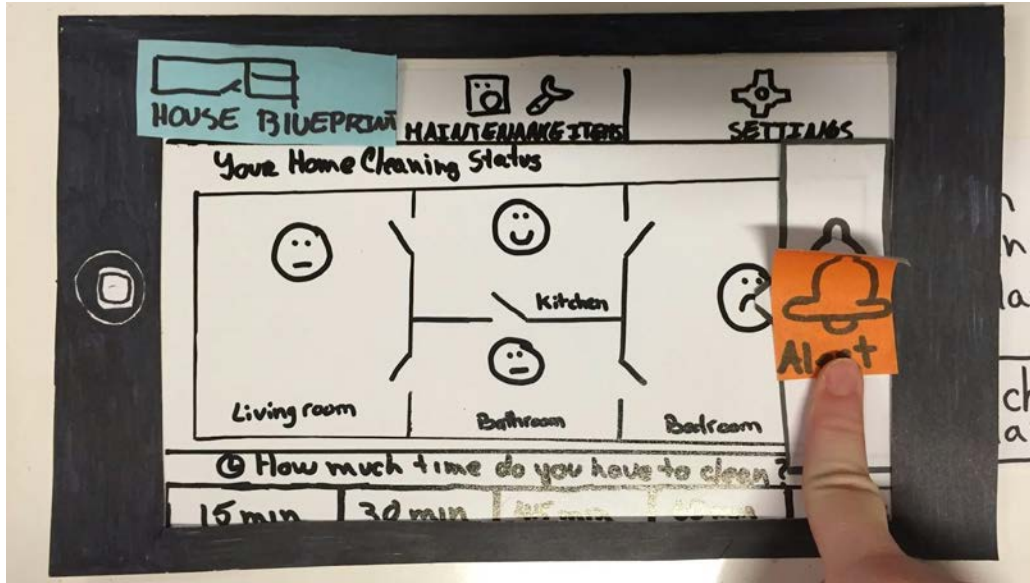


After user performs the task, the board updates and the main overview updates to show new cleaning status of the house.

Task 2: Prevent a messy home when receiving visitors



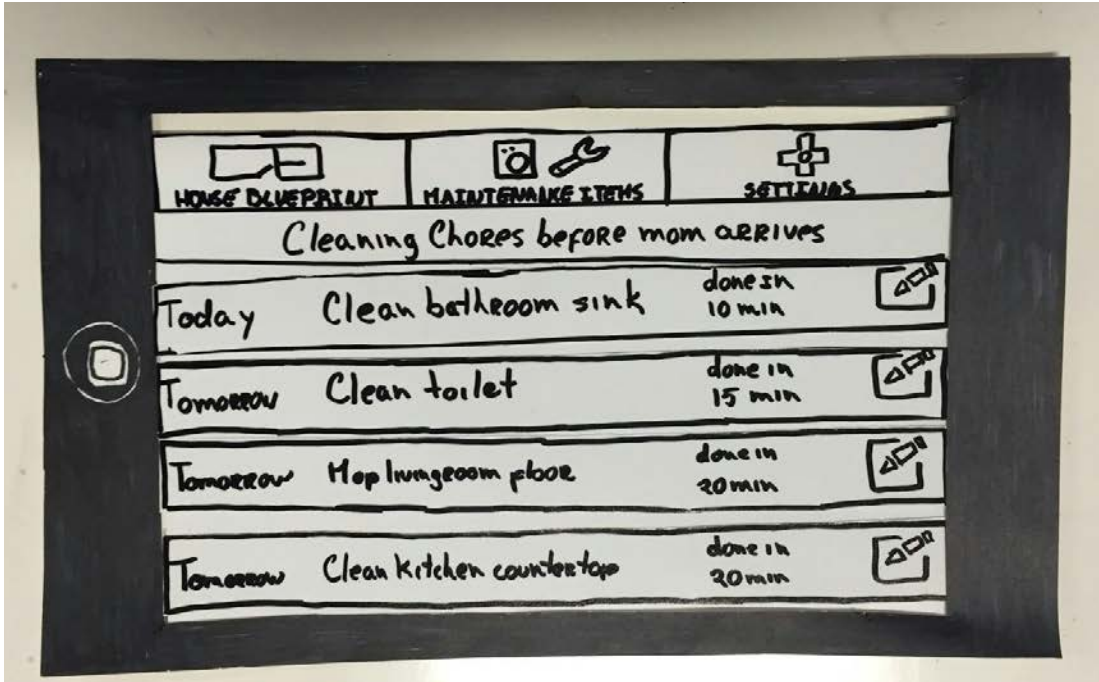
Neat identifies an external trigger by parsing through the user's emails and texts and generates an alert that is displayed on the main screen and among other smart devices around the house to encourage cleaning behavior.



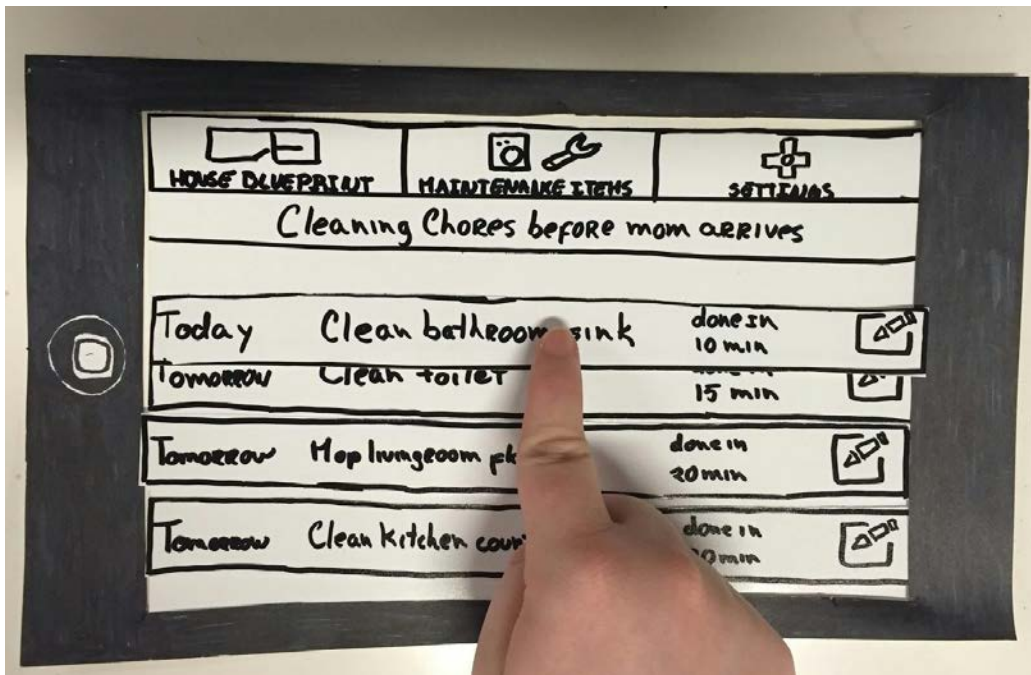
The user chooses to address the alert by swiping left.



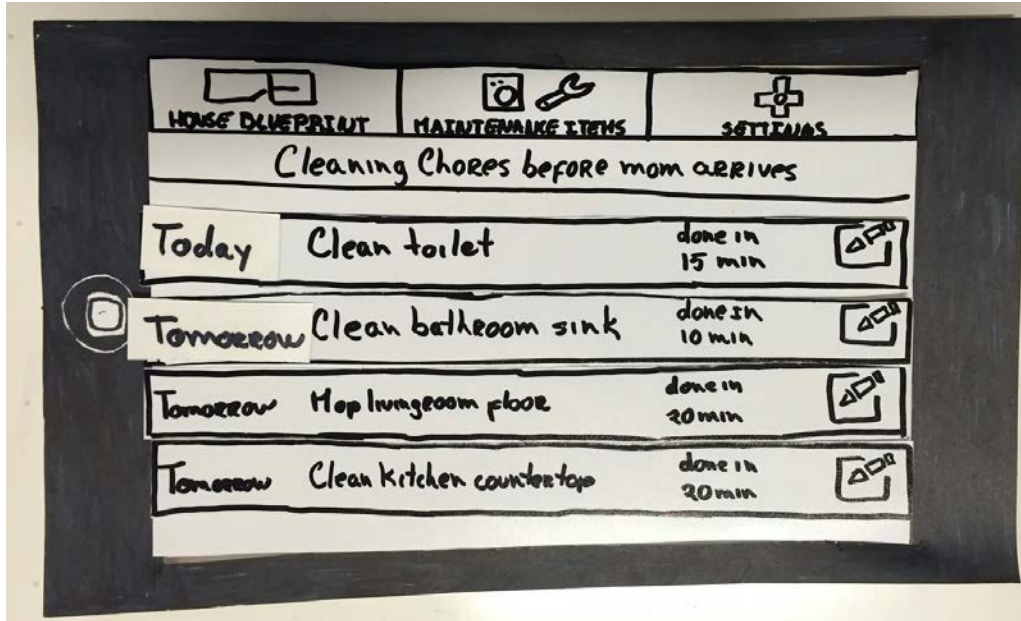
The alert now covers some of the screen and displays alert details. User selects chore plan.



Based on the areas that are most unclean and the areas that are most likely to be seen, Neat automatically generates a roadmap of tasks to complete.



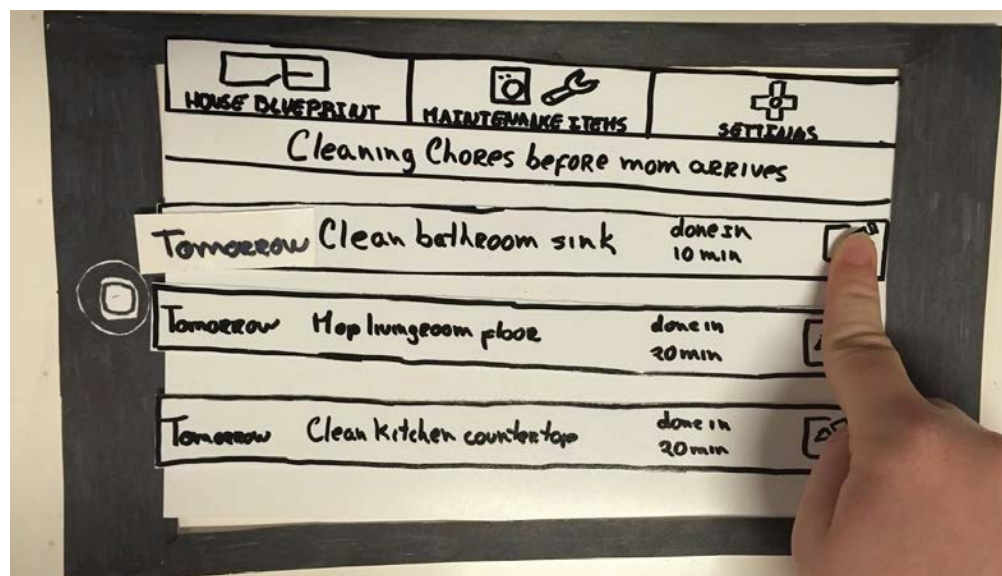
If the user does not like the order of the suggestions it can rearrange the suggested plan by dragging and dropping.



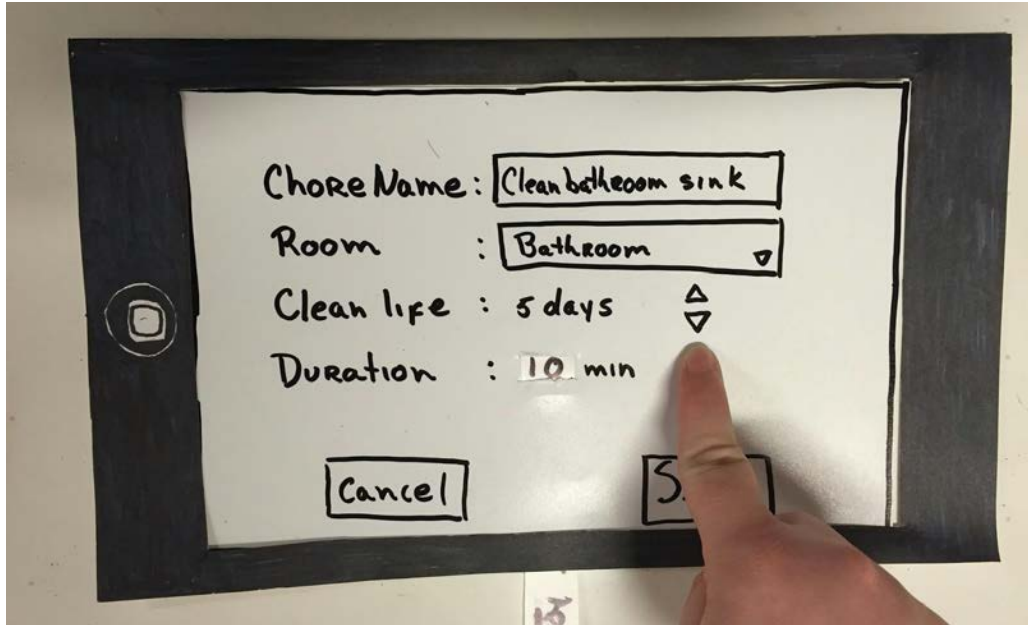
Cleaning chores before mom arrives after rearrange. From here the user can decide what to do and use the band to record cleaning metrics once they start cleaning.

Prototype Addition 1

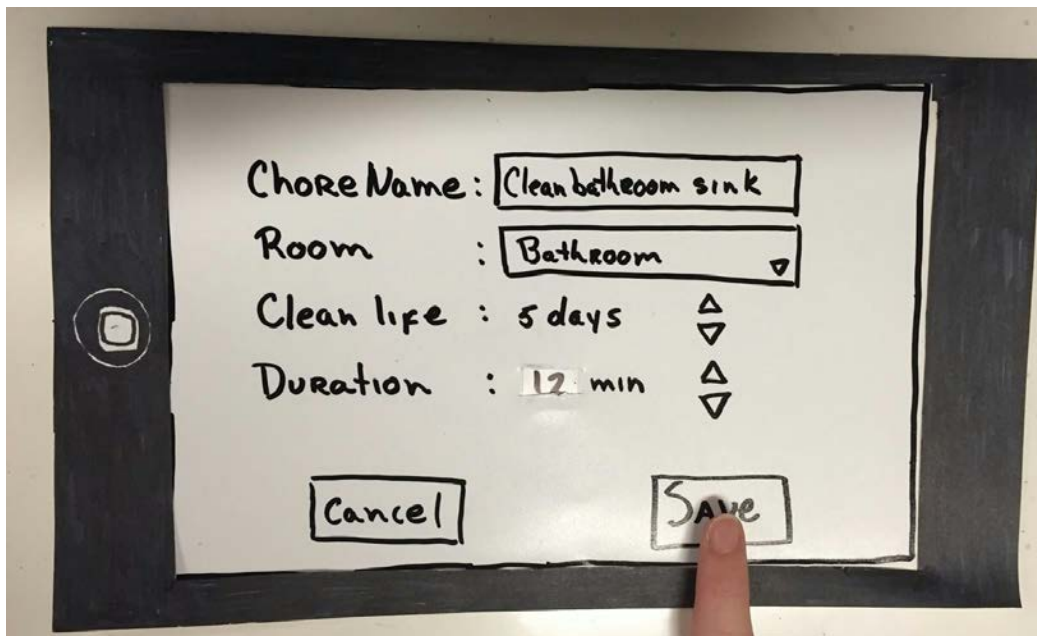
During the heuristic evaluations it was brought to our attention that if there was incorrect information in any of the tasks the user had no way to edit tasks. Therefore we decided to add an edit button as part of the chores. Edit task depicted below:



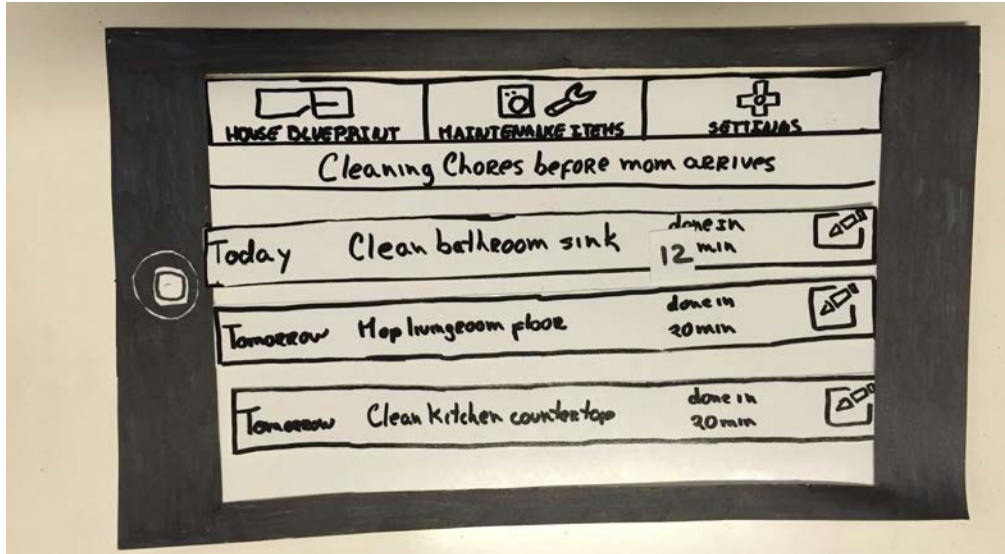
From any screen with a chore the user can click on edit button to modify chore.



Details about the chore will be brought up. In this example we are changing how long does a chore takes.



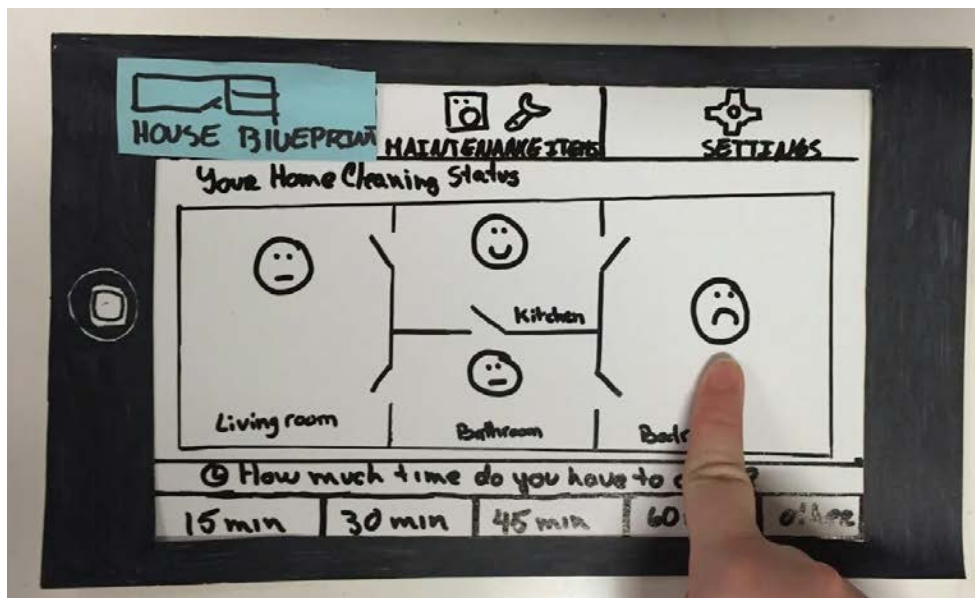
Then user can save changes by pressing the save button.



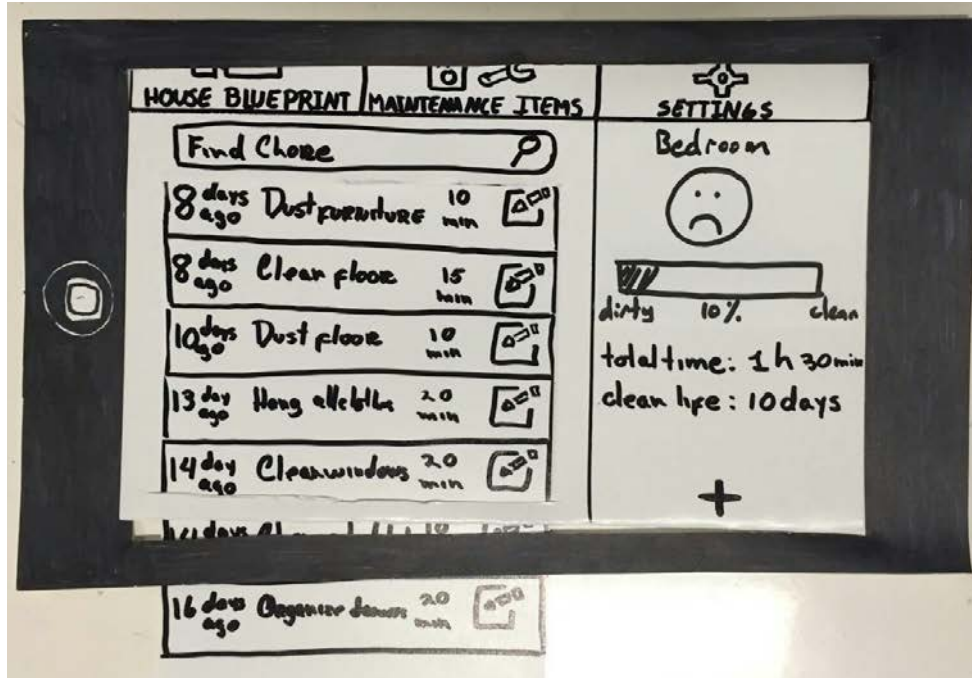
Screen from where the user reached the edit process will show updated chore.

Prototype Addition 2

Also from the usability test, we saw that users had the tendency to select what to do by selecting a room and viewing what has to be accomplished on that room. The following images show how to get from the main overview to the details for a room.



From the house blueprint tap on the room you want to see more details.



This screen will show more details about that room, like how clean is actually that room, how long will it take you to fully clean it, the clean life of the room, etc. This screen also lets you see the cleaning history of that room and search for a task see when was the last time it was performed.