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6.813 – HW2
Heuristic Evaluation
4/22/12

<center>Heuristic evaluation of SmartGrid using Neilson's 10 Heuristics</center>

Note: This evaluation was performed using the Android emulator. As a result, the evaluator could not interact with the tablet device that actual users of the SmartGrid application will be using. Also, the emulator was extremely slow and highly unresponsive, so the evaluator did not make any comments regarding feedback times, as they were all very slow, because of the emulator.

1. Two Tabs for Job of One – Aesthetic and Minimalist Design (Cosmetic)

On the first tab ("Consumption") we find two things we can look at – the *Device Tree*, and the *Sorted Device List*. Why do these both need to exist? The only difference I found was that the device tree had all devices as a something that could be viewed, where the sorted device list did not. Why can they not be combined?
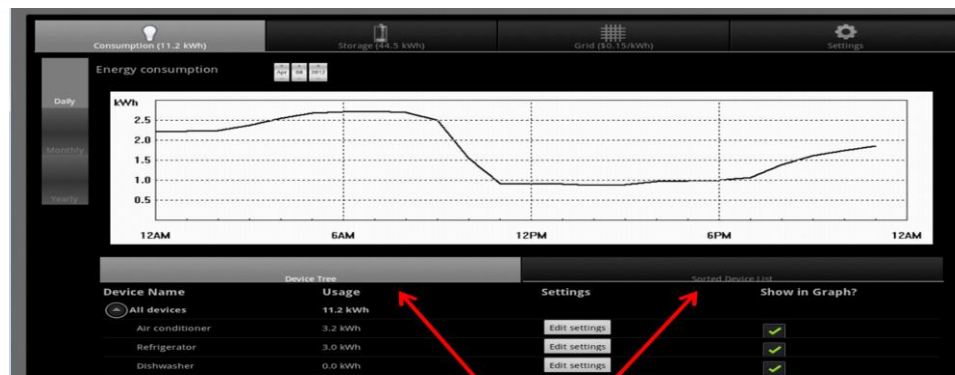

<center>Figure for Issue 1: Two tabs for similar tasks</center>

2. Date Picker Buttons are Small and Hard to Click/Read – Error Prevention/Readability (Minor)

Clicking on and reading the date picker is rather inconvenient. A larger date picker would be more convenient, and lead to less errors.

<center>Figure for Issue 2</center>

3. Inconsistent Graph/Information Alignments – Aesthetic and Minimalist Design (Cosmetic)

When viewing a tab, the daily/weekly/monthly selector is not vertically aligned with the graph. Simply moving the time selector down will fix this problem.
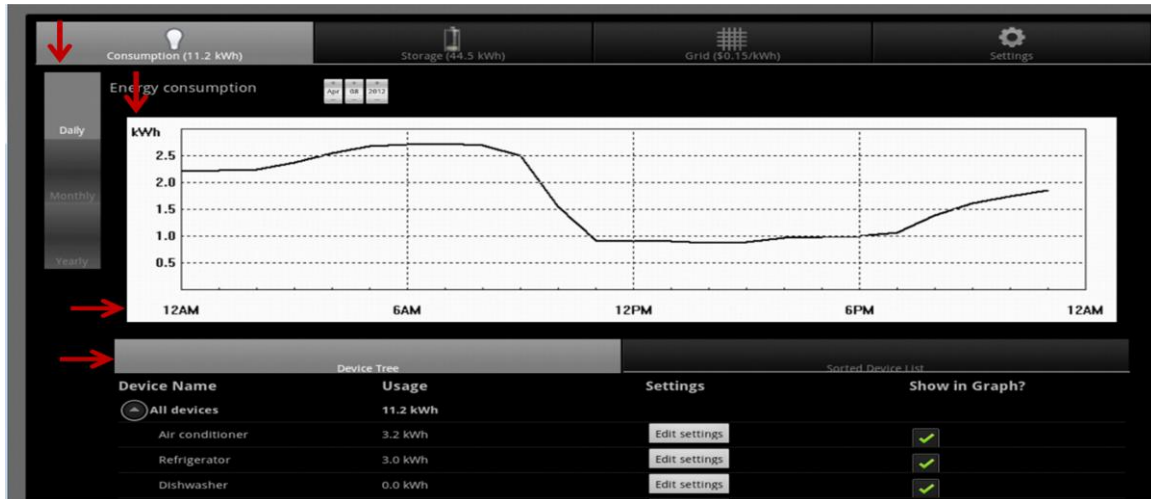

Figure for Issues 3 and 4

4. Inconsistent Graph/Options Alignments – Aesthetic and Minimalist Design (Cosmetic)

When viewing a tab, the bottom part of the screen is not horizontally aligned with the graph. Simply moving the bottom half of the screen a few pixels to the right will fix this problem.

5. Inconsistent Tab Alignments – Aesthetic and Minimalist Design (Cosmetic)

The contents in the left tab on a certain page line up with the left margin in which they are contained, yet the contents of the right tab do not. A fix would be to move the contents of the right tab to the left so that they align with their parent containers.

Figure for Issue 5

6. Hard to Read – Readability (Minor)

When trying to read title of the two tabs on each page, both tab headings are hard to read. The font is quite small where the area that you can click on a tab is quite large itself. Either add an image to the tab to make it easier to understand what the tab's function is (as is done at the very top of each page), or make the font larger.

7. Tab Name Hard to Read – Readability (Minor)

When trying to read the tab titles on each page, the unclicked tab is especially difficult to read, as the words are the same color as the line they sit on, which means that they blend together. Making the words and the line they sit on different shades of gray would solve this problem. Also, the words blend into the background somewhat. Changing its color may also be useful.

Figure for Issues 6 and 7

8. Dialog Instead of New Page – Match the Real World (Minor)

When I click on Edit Settings for any specific device, I expect to see a dialog box instead of a new tab, as that is usually what happens when there are only a few things to change. Since there is only one setting when I click the *Settings* button, the tab looks very empty, as the rest of the tab has black space filling it.

If you do not want to change to a dialog box, then change the name of the tab to match the device. For example, the tab I have shown below is for air conditioner settings, yet the tab is still called device tree (the name of the last tab). This does not match what I am looking at.
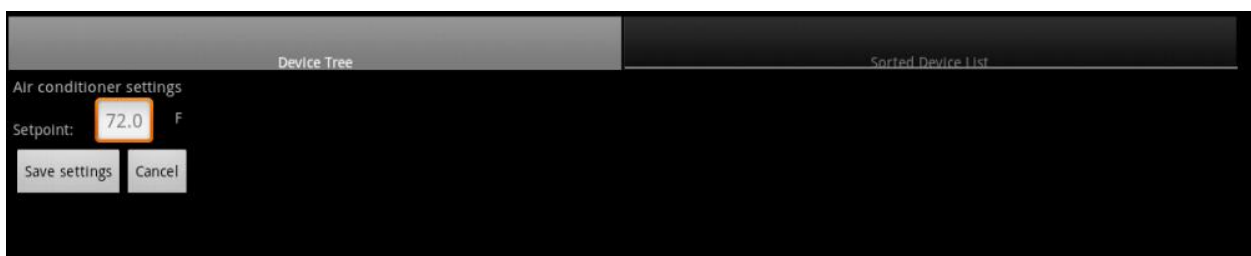
Figure for Issues 8 and 9

9. Inconsistent Alignments on Settings – Aesthetic and Minimalist Design (Cosmetic)

As you can see in the above example, the alignments of words before and after the textbox are one on the same line. The textbox in the middle of the line is already a bit confusing. However, taking the example above, it is difficult to have the words before the textbox be on one

baseline, the numbers in the textbox being larger than the words elsewhere, and the words after the textbox being at a different baseline (appearing as if they are floating in space).

10. Wording Not Clear - Help and Documentation/Match the Real World (Major)

On the storage tab, I am allowed to "sell power" from each device. I am not sure what exactly this feature allows me to do, even after clicking on the *sell power* button. How do I know who I am selling it to or how long the sale will be happening? Also, if this is for a regular homeowner, why would she want to sell power? It seems like this application may be focused on too many different users who may get confused by parts designed for other users (i.e. the homeowner may get confused by the parts designed for the worker from a manufacturing company).

Figure for Issues 10 and 11

11. Scrolling Not Clear – Flexibility and Efficiency (Minor)

Nothing tells me that I can scroll down the list of devices. Some sort of scroll bar indicating that would be nice, or always making the bottom entry cut off so that I know that there is more below may also work.

12. Inconsistent Alignments of Checkbox – Aesthetic and Minimalist Design (Cosmetic)

On the storage tab, when viewing a device, the *service name, storage amount*, and *sell power* button are vertically center within their horizontally divisions, but the *Show in Graph* checkbox is on the baseline below it, which is inconsistent with the other 3 items in its row. A simple fix would to vertically center the checkbox as well.
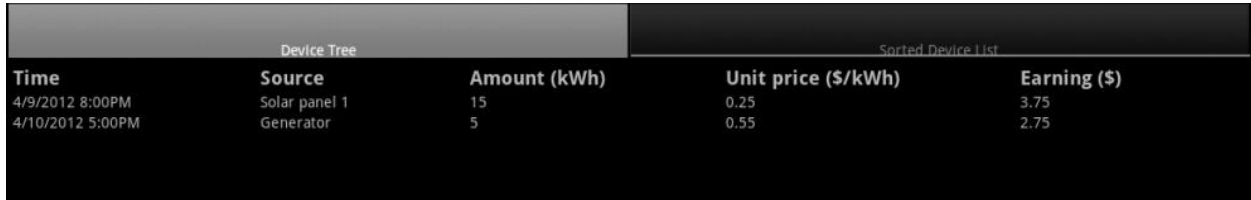

Figure for Issue 12

13. Unexpected Tab Look – Consistency and Standards (Cosmetic)

When I am on the Grid section of the applicaton, I find that the Device Tree tab has the same name but is not done by device and does not have the same look as the corresponding tab in the other sections of this application. Simply making it look the same as the first two would be helpful.

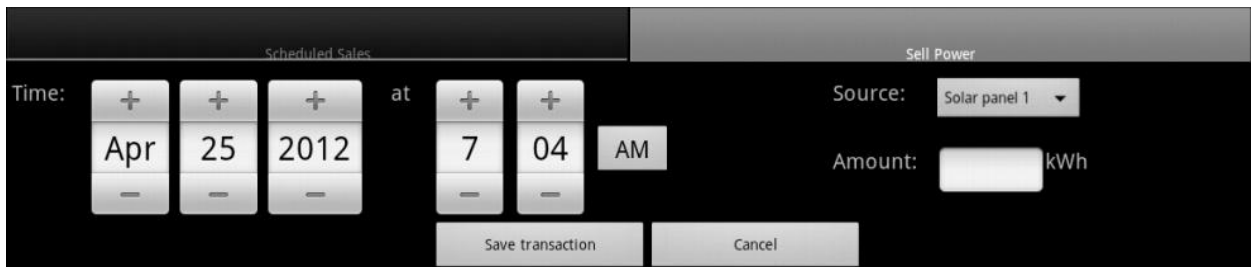| Time	Source	Amount (kWh)	Unit price ($/kWh)	Earning ($)
4/9/2012 8:00PM	Solar panel 1	15	0.25	3.75
4/10/2012 5:00PM	Generator	5	0.55	2.75

Figure for Issue 13

14. Same function twice – Aesthetic and Minimalist Design (Minor)

The "sell power" function exists twice, once under the storage page, and once on the Grid page. This seems redundant, since this function does the same thing on both pages.

15. Cancel Button on *Sell Power* Tab – Match the Real World (Major)

The *sell power* function is a button on the first page. After you click it, the cancel button takes you back to the page you were on when you clicked the *sell power* button. On the Grid page, the *sell power* function is a tab. The cancel button does not actually do anything right now, nor does it seem to serve a purpose, as *sell power* is actually its own tab. Unlike when I click on a button, when I click on a tab, I do not expect a cancel button. I expect to either click on another tab if I want to move away from this tab, or a *next/back* button to move away from this tab. A *cancel* button makes no sense to me.

Figure for Issue 15 and 16

16. No Feedback When Clicking *Save Transaction* or *Cancel* – Visibility of System Status (Major)

There is no feedback when I click on *Save Transaction*. Thus, I do not know if what I did saved or not after I click the *Save Transaction* button. (*Cancel* also gives me no feedback, although I do not believe *Cancel* should be there as mentioned in issue 15).

17. Alignment Issues with *Sell Power* Tab – Aesthetic and Minimalist Design (Cosmetic)

The *save transactions* and *cancel* buttons seem like they should be centered on the screen, as do the tabs, yet they do not split at the same places. Lining them up horizontally would be more aesthetically pleasing.
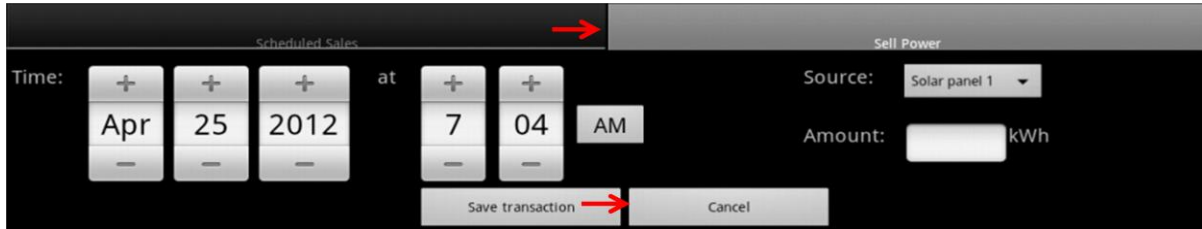

Figure for Issue 17

18. Good Feedback on Tabs – Visibility of System Status (Good)

I liked the fact that when I clicked on a tab it would highlight in yellow and then when I was on that tab it would be highlighted with a lighter gray then the other tabs. This clearly indicated to me where I was in the application.

19. "Show in Graph" Checkbox – Flexibility and Efficiency/User Control and Freedom (Good)

Checking and unchecking the "Show in Graph" checkboxes in the consumption page is a nice way to see how various devices effect a users consumption.

20. Unexpected Tabs - Consistency and Standards (Major)

When I clicked on the Grid once, I got tabs labeled Device Tree and Sorted Device List, but when I clicked on it the second time, I saw two tabs named Scheduled Sales and Sell Power. I have no idea why.

Figure for Issue 20

21. Changing Date on Graphs - Aesthetic and Minimalist Design (Good)

I like that I can change the date of my graph using the date picker right above the graph, immediately updating the graph (I hope).