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Module 3 Milestone

Milestone three is a continuation of the last 2 milestones. I had chosen the grower app for my project, and in the last 2 milestones I investigated the goals and features I want the app to have and conducted interviews to find out what potential users wanted. This milestone is about creating a paper prototype for the app. The first section will be pictures of the paper prototype, followed by a description of each page. After that I will summarize the interactions users had with the prototype, and what I plan on changing. Finally, I will include the notes from the interviews.

A piece of paper with a drawing on it

Description automatically generatedA paper with writing on it

Description automatically generatedA piece of paper with writing on it

Description automatically generatedA drawing of a window

Description automatically generatedA drawing of a tree sensor

Description automatically generatedA white paper with black writing

Description automatically generatedA paper with text on it

Description automatically generated

Landing page is just a login. Can login or create new user.

Home page pulls up after login. The header has the app name, the user that is login in, a way to access and update account information, and a logout. The bottom will have a section for 3 buttons – a home button that displays the overview of the folder you are in, a graph button that will display all the sensors that are in that folder and the folders it contains, and a map button that will display a map of the locations of the sensors that are in the folder and the folders it contains. The header and footer will be the same across all pages of the app. The main content for the page will be a card that displays the home folder’s name, an option menu for adding folders, sensors, and removing or updating them. I will discuss this menu more later. There will be a list of folders and sensors after the folders name that will be color coded green, yellow, and red depending on the status of the folders and sensors in them. These will be clickable and will reload the page to have the folder you clicked as the top level showing its contents, or if you clicked on a sensor, show the status of the nitrogen and moisture, which will be shown later in this list.

The next page demonstrates what would happen if you clicked on the backyard folder on the previous page. The backyard folder becomes the top level and displays the folders and sensors in it.

The next pages demonstrate what happens when you click on a sensor. In the home tab it would show both components of the sensor and the condition of each sensor.

Then the graphs tab would show where the levels are on a graph and set the color of the sensor according to the levels. Crossing the upper or lower bound would set the color to red, in between warning and the bound would be yellow, and in between the warning lines would be green. This only applies to the current reading level, and the graph is just to show a little history. The bounds and warnings would be set when the sensor is set up, which will be shown later.

The next page is the menu for the options in the top folder card. There will be 2 different menus, one for if the top level is a folder and one for if the top level is a sensor. The sensor menu will be able to remove or update the sensor. The folder menu will be able to create a new folder or sensor, remove the folder and have the contents shift up, remove the folder and its contents, and rename the folder.

The next page is for when we insert or update the sensor from the previous menus. It will have a sensor name and a setting for nitrogen and moisture content. There will be a dropdown menu of trees, bushes, flowers, etc. and each of these will have a predetermined upper and lower bound and caution levels set. If you wanted to set up your own upper / lower / cation levels, or if the tree is not in the list, you can use the custom option and input whatever you want. There will also be a connect sensor button that will help you connect the physical sensor to the app. This will be followed by cancel and done buttons.

The most surprising part was after doing testing it became very clear that I overlooked a portion of the navigation system. Moving forward is easy and straightforward, but moving backward is impossible. I can fix this by creating a breadcrumb trail in between the header and the main body. This will also let a user see the hierarchy of where they are in the system. Neither of the interviewees saw this problem, but on the second interview I noticed it. The common icons for check, warning, and x work pretty good, but color will add a much needed at-a-glance element to the interface. On the page that has the chart there is a lot going on. Will probably eliminate the label for the warning and alert levels and just color coordinate the chart to use red in the alert area, yellow in the warning area, and green in the all is good area. I had questions about how to connect the sensor, but since I don’t have the sensor or know how it connects, I am unable to answer these questions and have to leave it as just a connect sensor button for now until I have more information. The feedback I found most useful was when something appeared cluttered. Granted I am not an artist, and my handwriting is terrible, so it probably looks more cluttered than it should, but it does make you very conscious of where and how much information you can put in an area. Overall, I think the app was fairly easy for the users to navigate with the exception of not being able to go back, but it was also only tested with 2 people. The first interview also added a few suggested features that had not come up before – a way to create favorites and a way to hide good sensors.

Interview Questions

Walk interviewee though all the pages of the prototype while reading the description I have written for each page. Instruct them to let me know if there is confusion or something they like or don’t like. After this see if they can accomplish these tasks.

* Log in.
* Tell me what areas need attention.
* Delete the sensor that is showing caution in the Back Yard folder.
* Add a new sensor to that folder named Tree 4 sensor.
* Delete the entire House folder and its contents.
* Log out.

Interview 1

Interview at my house, at a table. Lasted about 25 minutes. Instructions I gave are below. Collected information from discussion for the first part, and from observation for the tasks.

Walk interviewee though all the pages of the prototype while reading the description I have written for each page. Instruct them to let me know if there is confusion or something they like or don’t like. After this see if they can accomplish these tasks.

* Log in. No problems
* Tell me what areas need attention. No problems
* Delete the sensor that is showing caution in the Back Yard folder. Little confusion if delete from folder or sensor. When in folder that has sensor checked the menu for delete sensor, which is at the actual sensor level. Figured out real fast though.
* Add a new sensor to that folder named Tree 4 sensor. No problems after understanding the last problem
* Delete the entire House folder and its contents. No problems
* Log out. No problems

For login wants to use email instead of arbitrary username.

Concerned about using an x as the symbol for alert sensor. Might be confused with closing out window.

Doesn’t like hamburger menu because google uses three dot menu.

Interested in a favorites folder and a way to hide good sensors

Interview 2

Interview at my house, at a table. Lasted about 20 minutes. Instructions I gave are below. Collected information from discussion for the first part, and from observation for the tasks.

Walk interviewee though all the pages of the prototype while reading the description I have written for each page. Instruct them to let me know if there is confusion or something they like or don’t like. After this see if they can accomplish these tasks.

* Log in. no problems
* Tell me what areas need attention. Was not immediate which is what I want. Took a couple seconds to scan the icons.
* Delete the sensor that is showing caution in the Back Yard folder. No problems getting there but took a second to remember menu in bar with delete button.
* Add a new sensor to that folder named Tree 4 sensor. Trying to go back to top but can’t. Need to fix.
* Delete the entire House folder and its contents. No problems
* Log out. No problems

They liked the layout for the most part, color will make distinguishing between the states way easier.