CSE 440 Project 3F
Final Report
Broccoli for All
Aishwarya Nirmal, Kelsie Haakenson, William Huang, Yilin Jin

Title
Broccoli for All

Group Member's Name and Roles
Kelsie Haakenson - main writer
Will Huang - jack of all trades
Yilin Jin - design lead
Aishwarya Nirmal - communications/outreach

Problem and Solution Overview

      A hidden and pernicious hardship of poverty is the inability to provide to fresh fruits and vegetables to one's family, either due to high costs or to geographic distance from supermarkets. Community gardens could be a solution to the poor diet of the impoverished, but they are currently rather exclusive-- it can take on average 1 to 2 years to obtain a plot. Our solution is to create a platform revamping the current community garden process, introducing a volunteering program and a mentorship program while simultaneously streamlining management of the garden. This encourages the community to work together, with existing plot owners opening up their space for volunteers, interested members of the community volunteering their time and effort in exchange for a portion of the harvest, and new gardeners learning important agricultural skills from those more experienced.
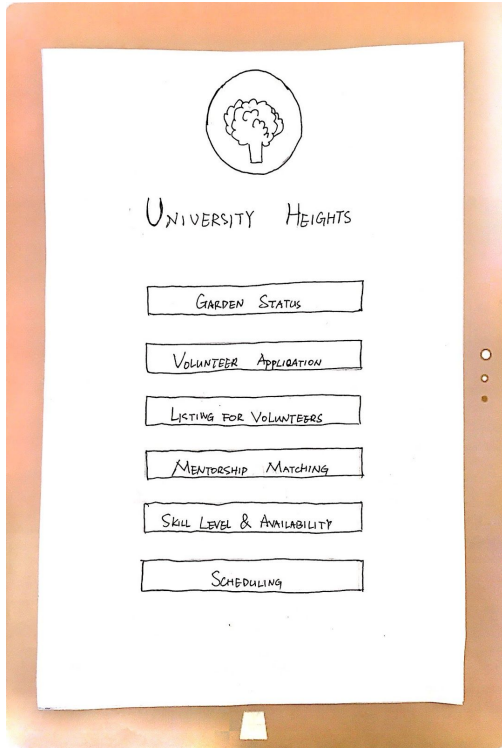
Initial Paper Prototype

Our paper prototype features two parts. One is a tablet interface allows user to check and update garden status and apply to work as a volunteer. The other is a mobile version which allows user to send or receive notifications about garden status.
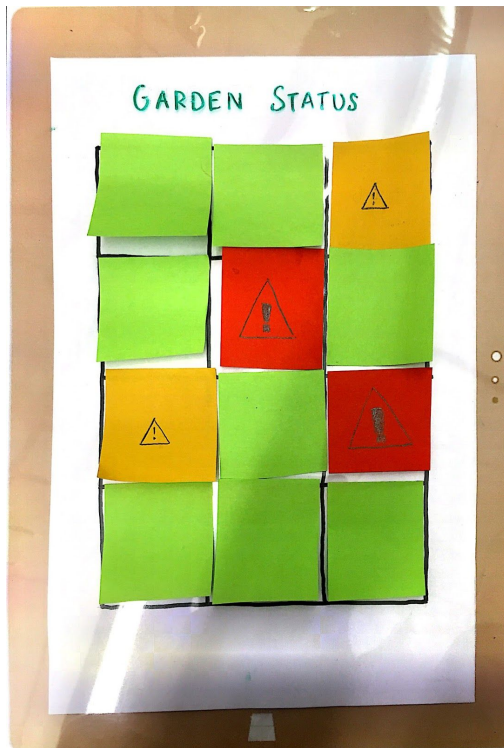
Task 1: Determine what needs to be improved in the garden.
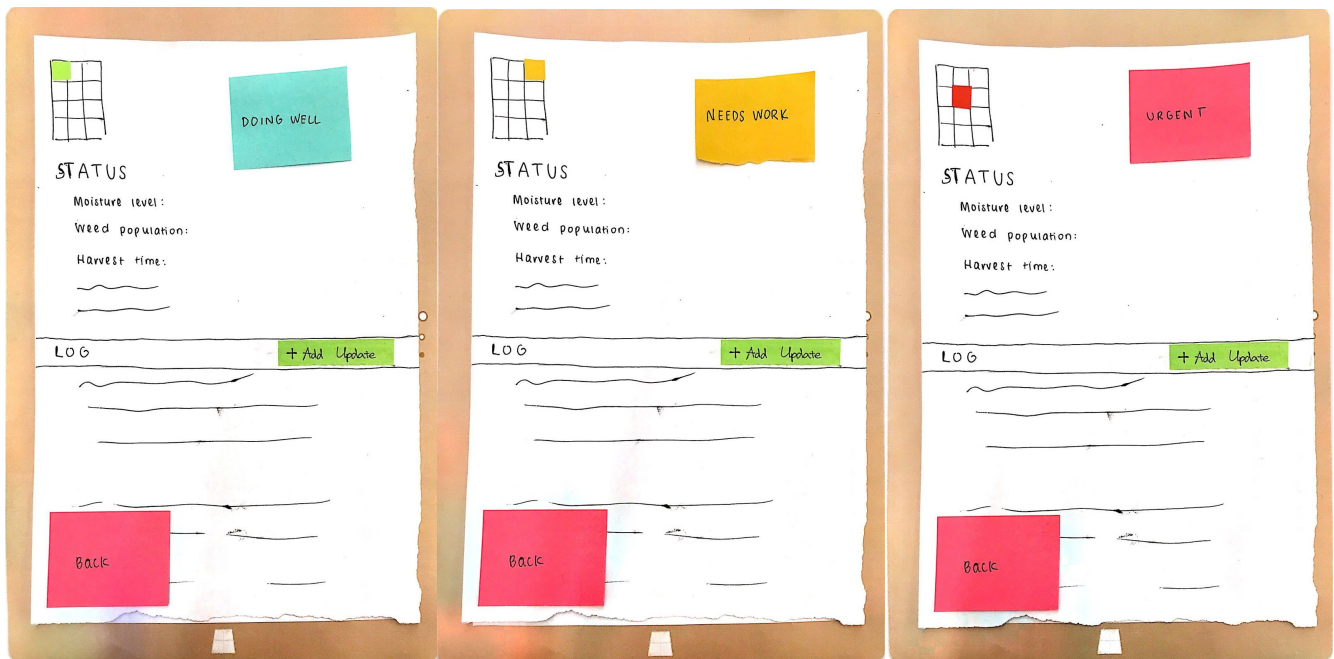
From the tablet view:

1.a

1.b

The homepage of the tablet app (1.a). The user can click on "Garden Status", which brings up the gridded and color coded status page (1.b).

1.c   1.d   1.e

Clicking on one of the squares brings up a certain type of status page depending on the selected plot's color and corresponding status. Green means doing well (1.c), yellow means needs care (1.d), and red means needs urgent attention (1.e).

A user can look at the status of the plot regarding topics like moisture level, weed population, and others in order to get more details on the plot's status and gain more insight on how to improve the status if necessary.

Much of the status information would be updated automatically based on water sensors in the soil. Perhaps video recording of the garden could inform the app about weed population, etc. However, we may need to incorporate manual logging of actions like weeding, fertilizing the soil, etc. Therefore, we have included a button "+ Add Update" for the user to report recent actions or add notes regarding the garden status.

A user can also click the green add update button to enter a new log.
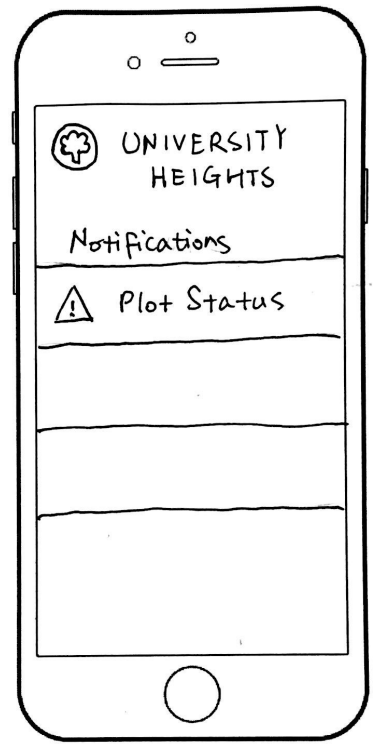Pressing "Back" brings the user to 1.b.

From the companion phone app view:

From the dashboard of the iPhone, a number will appear next to the app icon if notifications are present, including when a plot the user contributes to is in trouble (1.f).

Clicking the app icon will open the homepage of the mobile app, listing notifications (1.g).
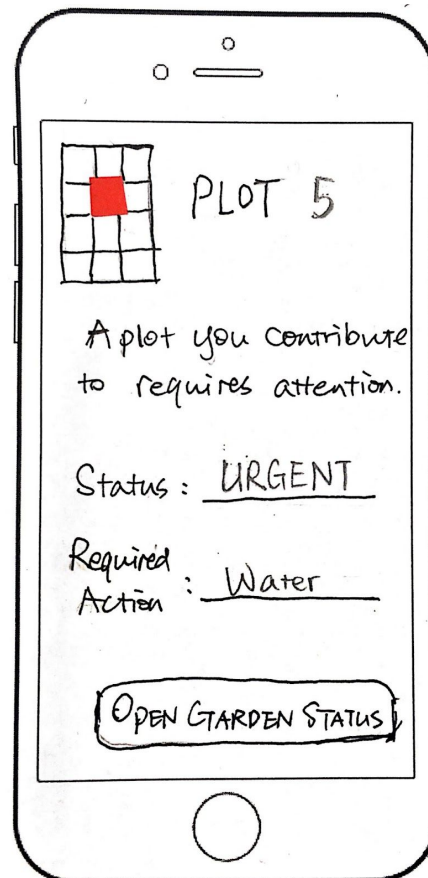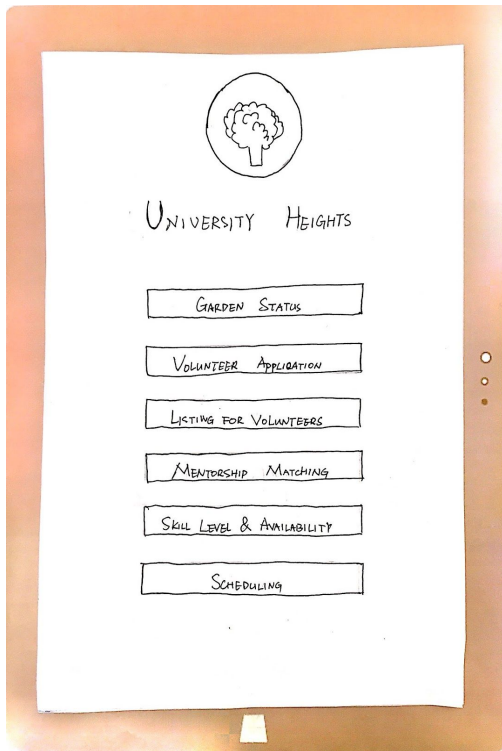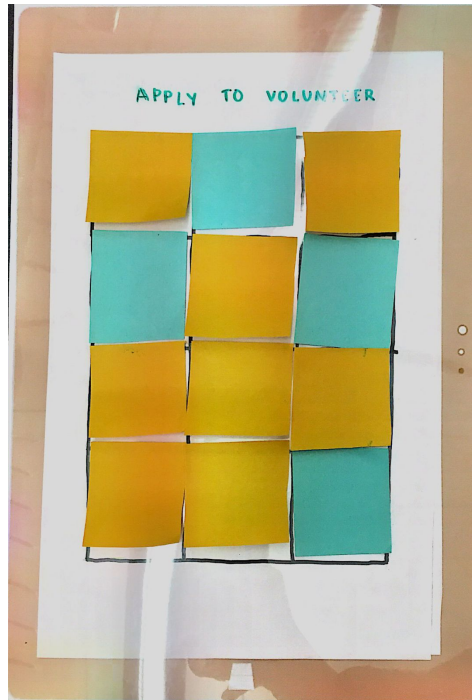

1.f.

1.g.

1.h
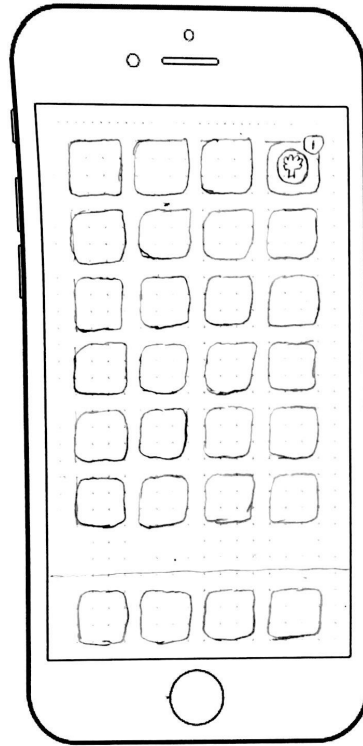
The user can click on the "Plot Status" notification to see the full notification (1.h). For more information, the user can click the button to "Open Garden Status," which will bring up a page similar to the tablet "Garden Status" page (1.b.).

**Task 2: Find a plot growing plant x and apply to volunteer on that plot.**


2.a

2.b.

From the home page (2.a.), the user can click on "Volunteer Application" to go to the gridded and color coded page (2.b), representing which plots are listed and available. The user can click on a square, which brings up a page with some information and, depending on whether the plot is listed for volunteering, a button for "apply" (2.b), or a notice for "not available" (2.c). Pressing "Back" brings the user to the grid view (2.b).
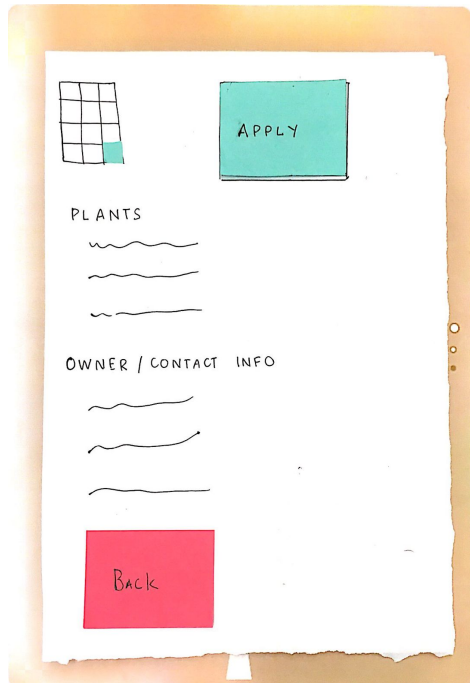
2.b
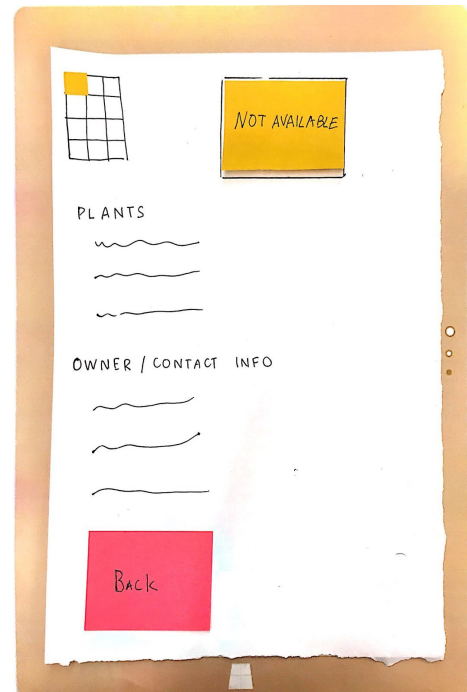
2.c

2.d

Clicking on the "Apply" button will bring up the application page (2.d). The user then fills out all of their personal information, their availability, skill level, and a message. Clicking on "Back" brings the user to 2.b. Clicking "Submit" while leaving any of the required fields empty brings up an error message on top of the page which fades away, leaving the user on the same page (2.f). Clicking "Submit" with a complete application brings the user back to 2.b with a confirmation popup which fades away (2.e).

2.e

2.f

Testing Process

1.

Our first usability test was conducted with a college student who is currently not involved in a community garden, but is interested in becoming a member of one. We chose this participant in order to acquire insight from one of our target user groups (i.e., novices who would like to join the gardening community). We conducted this test in the university environment, primarily due to convenience for the participant.

For the tests completed with this user, Will acted as the facilitator, Aishwarya acted as the computer, and Yilin was the observer. We conducted the test by having our participant try to complete two separate tasks. The first task was two-fold and involved garden status: the user had to use notifications from a mobile app to determine what was wrong/needed to be improved with the garden, and the user was asked to use the tablet interface to determine these same issues. For our second task, the user was asked to find a plot in the community garden open for new volunteers, and apply to volunteer on it. After each individual test, we consulted to test user on their thoughts about the process to complete the task and if they found anything confusing, non-intuitive, or otherwise problematic. Once both the tests were completed, we allowed the user to play around with the app and explore the features. Most of our revisions involved clarifying the grid view. We added plot numbers, and removed excess colors from the volunteer application grid view.

2.

The second usability test was conducted with a member of a community garden. We chose this participant to gather feedback from one of our other target groups: actual members of a garden who would use our product. The test was carried out at a garden due to the site's relevance to the project, as well as the convenience of the participant.

Aishwarya was the computer, Kelsie was the observer, and Will was the facilitator. We conducted the usability test the same way that we carried out the previous test. The participant was asked to carry out the two tasks, find out about the status of the garden and apply to be a volunteer, and then provided feedback. The prototype used in this test was revised in accordance with the responses from the previous test. We added numbers to the plots on the grid display for easy identification, a pop-up box showing required action in status page for plots that need urgent care for clarity, and removed a color and subsequently the color key on the volunteering grid to reduce clutter. We also made changes with accessibility in mind. A call button was added on the home page for illiterate users to contact garden management, support for other languages, and an updated volunteer application page with options on how the users would receive notifications.

3.

Our last usability test was conducted with a community garden coordinator. Since the participant held a management position, we thought that we could get some valuable insight. Also, the

community garden coordinator/manager is our third and last target group. The test was carried out at another garden, also because of the site's relevance to the project and the convenience of the participant.

Yilin was the observer, Kelsie was the facilitator, and Will was the computer. The test was also conducted with the same method of the previous two tests. The participant was asked to carry out the two tasks, find out about the status of the garden and apply to be a volunteer, and then provided feedback. The prototype that was used was the same as the one used in the previous test. Major revisions involved rewording the menu buttons and adding a welcome page to the volunteering application section that referenced a term used at gardens already to denote long term joint participants on plots similar to what we call volunteers, "co-gardeners." To our participant, "volunteer" instead meant short term helpers when the plot owner is out sick, so this was important to clarify. Given that our participant was a member of the garden leadership team, we also received important feedback regarding the workings of the garden and how they would relate to our app that we have not received elsewhere.

Our Methods and Revisions in Retrospect
For our usability tests, we gave a brief introduction of our project, then explained our tasks to the user. We then allowed the user to attempt to finish both tasks in succession. After this, we gave the user an opportunity to explore any other parts of the app they had not done previously, and asked for any additional feedback the user may have.

Our methods became more refined with practice. Our introduction became more complete, including the disclaimer that we were testing the design, not the person, that the person should interact with the paper product as if it were digital, and that test participants should speak out loud as they took the test. We also realized that in early tests we mentioned keywords from the app, explained too much of how the app worked, and sometimes explained tasks were complete when the user still seemed confused as to their success in completing the task. We worked on withholding revealing information during the later tests, and reworded our task descriptions to omit keywords.

Testing Results

- **From Heuristic Evaluation:**

1. Missing "Back" buttons

Both the garden status and volunteer application grid views are missing back buttons, making the user unable to get back to the main menu. It violated user control and freedom, as well as consistency, since all of the other pages have "Back" buttons. For our revision, we simply added back buttons to the two pages that were missing them.
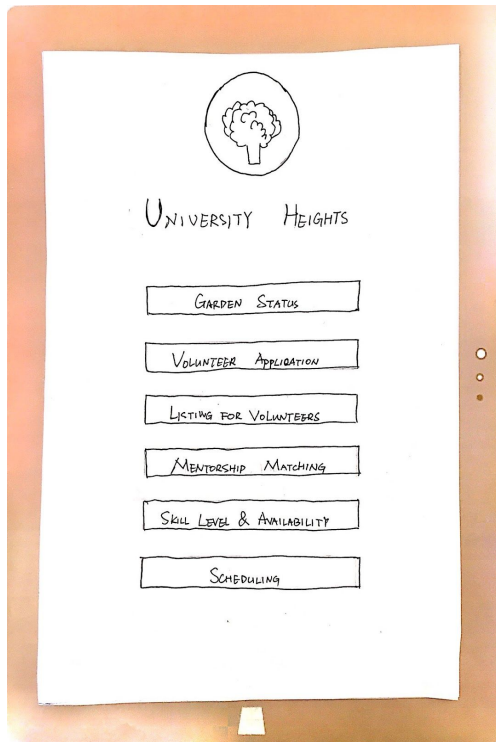Severity: 4
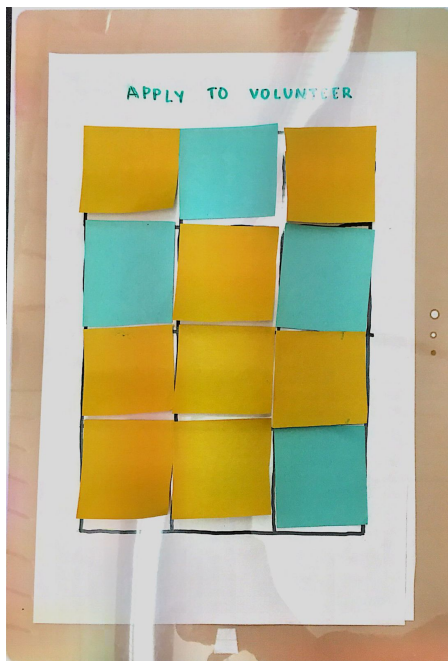
Issue: Revision:
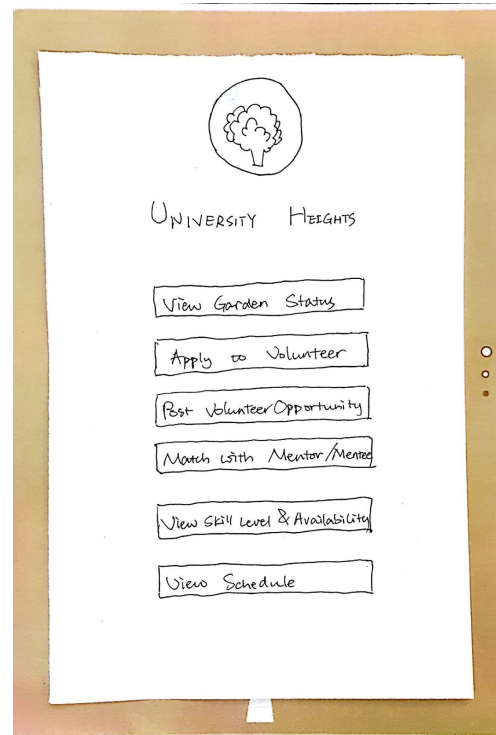
2. Menu wording is not clear

The descriptions for the buttons on the menu page is not intuitive, which violates recognition. For our revision, we updated the text on the buttons to better fit the tasks that they perform.
Severity: 3

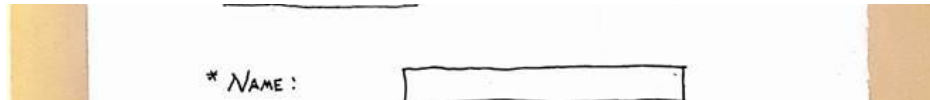Issue: Revision:
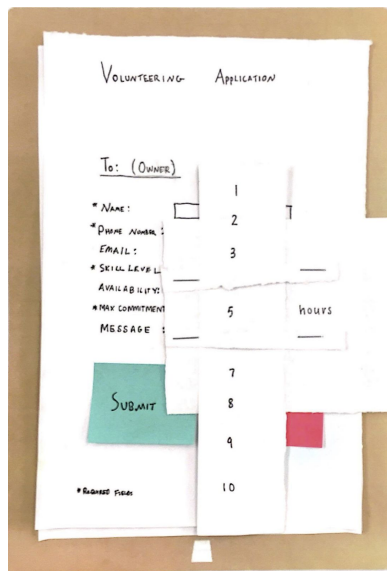
3. Application input unclear

On the volunteer application page, the "max commitment" section does not specify that the input needs to be a number. This violates error prevention. For our revision, in order to prevent users from entering text, we introduced a scrolling popup which lets users pick a number from the list.
Severity: 3

Issue:

Revision:


4. Poorly worded button

On the status page for the phone, after the user has received a notification, there is a button for opening details about the garden status that is poorly worded, which confused our test user in the heuristic evaluation. This violated the recognition heuristic. We changed the wording of this, and also added a back button for better functionality.
Severity: 3
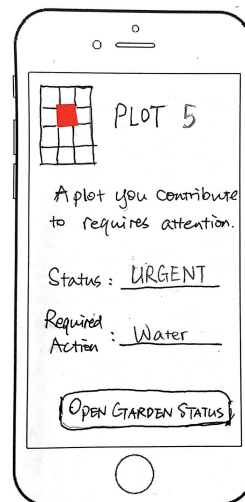
Issue: Revision:
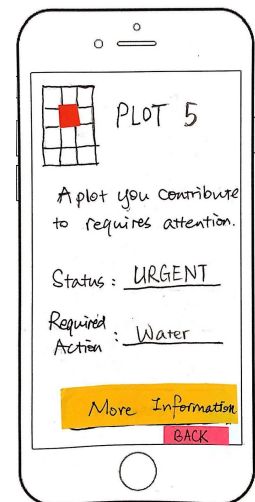
5. Feedback for volunteer applications missing

After the user has successfully submitted a volunteer application, the confirmation message does not provide much substance. The simple "Application Sent" popup lacks assurance that the application was actually sent and does not permanently leave anything behind for the person who sent the application. It violates visibility of system status. For the revision, we updated the popup message and a confirmation will be sent by way of the mode of communication the user selected as their preferred method (corresponding notification will be shown).
Severity: 3
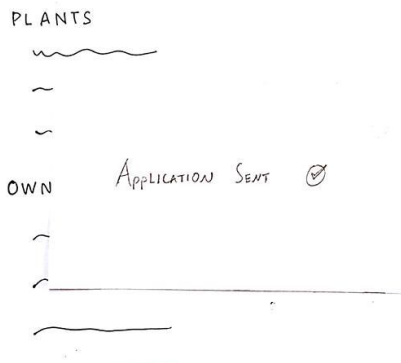
Issue: Revision:
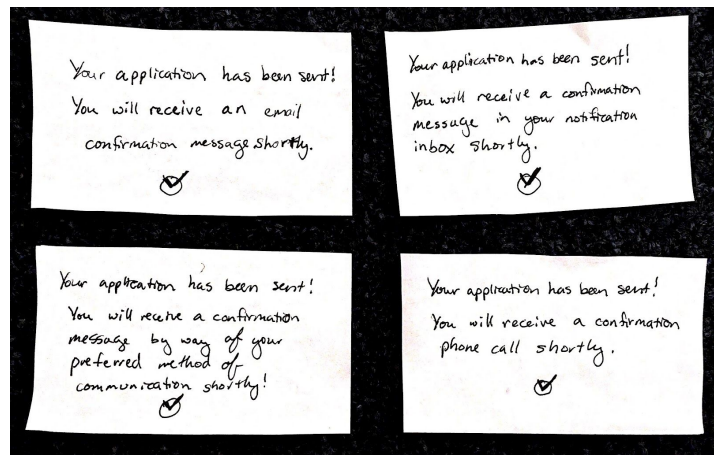
- From Accessibility Discussion:

1. Currently, our interface is very text based, especially throughout the application process. Applicants from a low-income bracket especially may be illiterate, and therefore incapable of submitting an application using our current interface. Our start to approaching this problem was to add an option for a user to call garden management from the home page. We believe most users would not initially choose this option, but rather use the app. For illiterate users however, this prominent phone icon would give them the option to call and leave a message (presumably to the garden) in which they can express interest in the garden, leave contact info, and receive a call from management later to further the application process.

2. We also realized that as a text-focused application, it is important to include functionality in other languages. We chose to support English, Spanish, French, and Chinese at this point, but depending on the needs of a certain community this could perhaps be changed. By clicking on the corresponding flag in the top right corner, users can select their language.
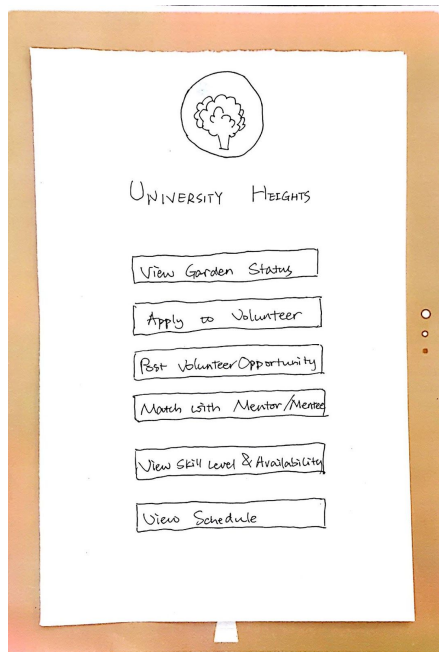
Before: **After:**
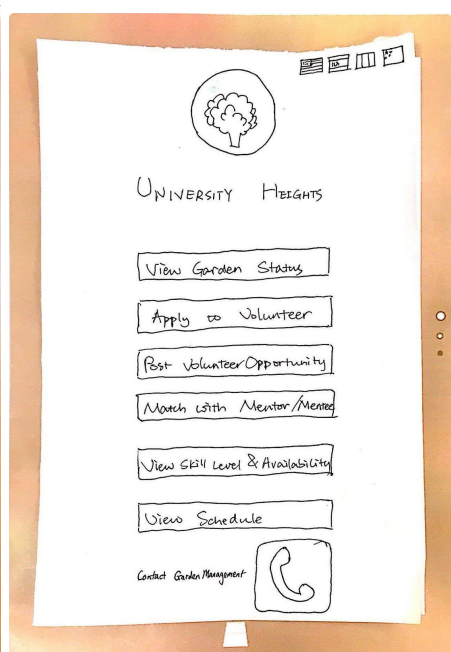
3. Although we thought of our users not all owning smartphones when deciding on a tablet interface, we neglected to consider how these users would receive notifications about their volunteer application status, or about the status of their garden plot. Our solution was to ask the user their preferred method of communication within the volunteer application. We then would also support phone call notifications alongside email, through the app, or other (calling friends or organizations through which a user may be contacted, for example).

Before:
After:

1. Plots unnumbered

It's hard for participant to match plot number with plot. In the usability test, the participant saw plot 5 needed urgent care so went to the garden to use the tablet to see more details. However, in the grid layout, the participant had trouble on deciding which grid represents the plot 5.
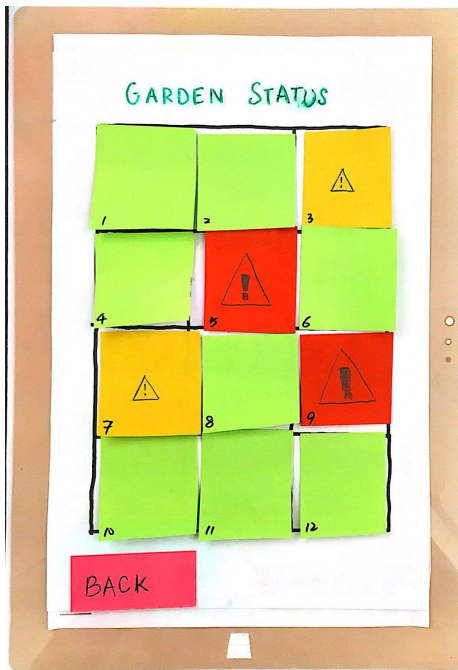Severity: 2
Revision: we added number on each plot in the grid layout.
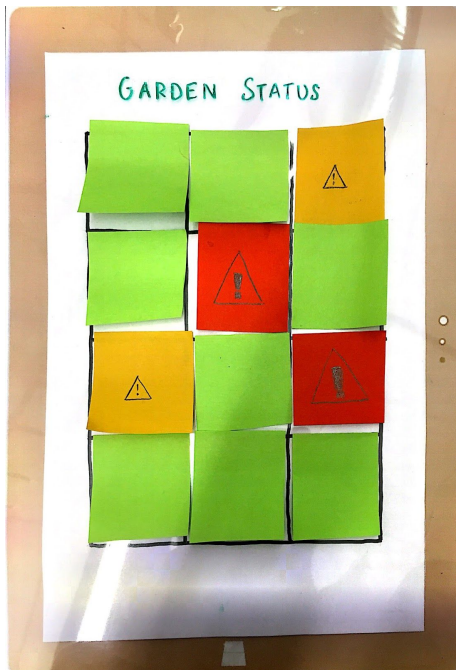
Before: After:

2. Required action missing on garden status

Garden status page is not consistent in mobile App and tablet App. In the mobile app, required action(i.e., water, fertilize, etc.) is shown. However, in the tablet app, there is only detailed information, like moisture level.
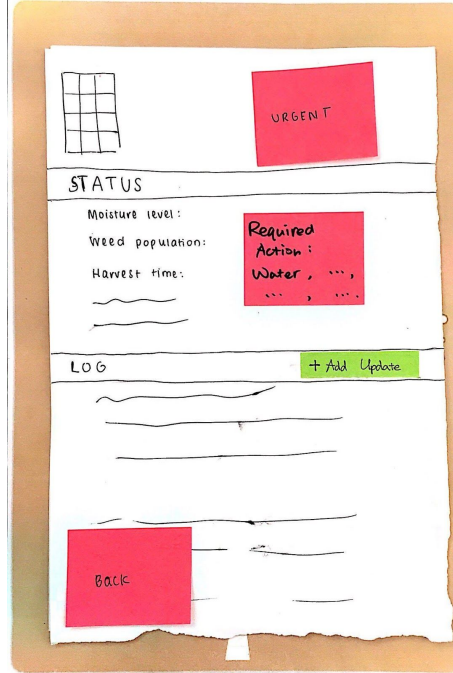Severity: 4
Revision: we added a pop-up box showing required action in status page for plots that need urgent care.
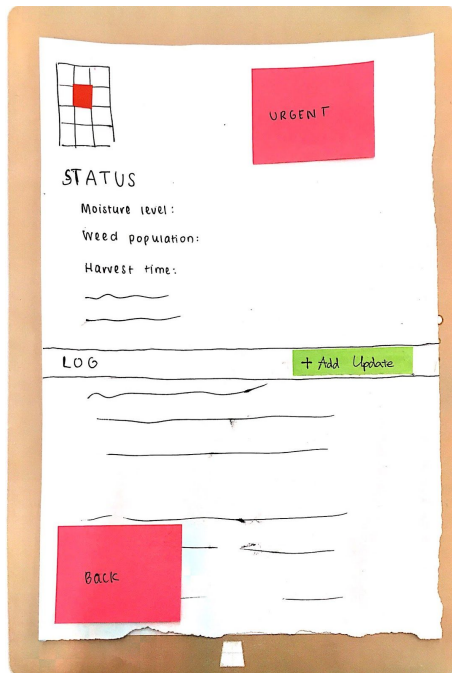
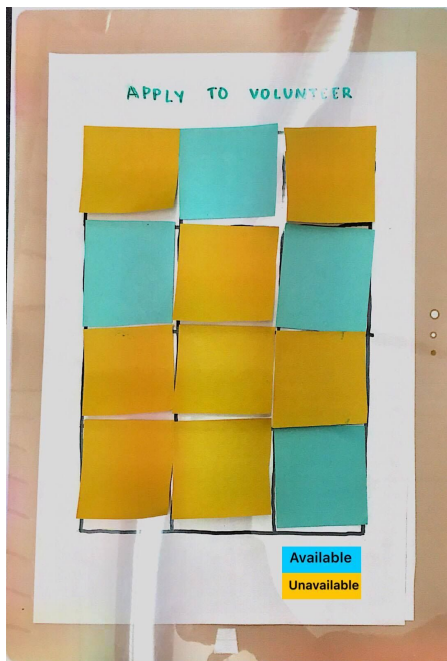Before: After:

3. Too much color on volunteering grid

The participant felt overwhelmed by colors of grids. We had blue grids representing available plots for volunteer and yellow grids representing unavailable plots for volunteer. We also had color keys to show what colors mean. Participant felt there is too much information on that page.
Severity: 3
Revision: we kept available plots blue, but made unavailable plots transparent, so there is only one color in the page. We also took away the colors keys since it is intuitive for users that blue grids are available while transparent grids means they are unavailable.

Before: After:

4.
(Positive) Our participant liked the drop down menu for maximum working hour commitment in volunteer application page since it makes the format of input very clear.

5. Menu page buttons are not clear

Participants were confused about what exactly the "Garden status," "Post volunteer opportunity," and "View schedule" buttons actually do. To alleviate confusion, we changed some button names and deleted one of the buttons. "View status" could mean anything; in our case, it meant viewing the health of the garden. One of our participants felt that "List your plot for volunteering" is more specific than the button it preceded. "View schedule" was vague, so we clarified that it would display events. Lastly, Viewing skill level & availability was redundant as its own button, so we removed it and decided that it is already something that the "Match with mentor/mentee" would do.
Severity: 3
Revision: we changed the wording of the menu buttons.
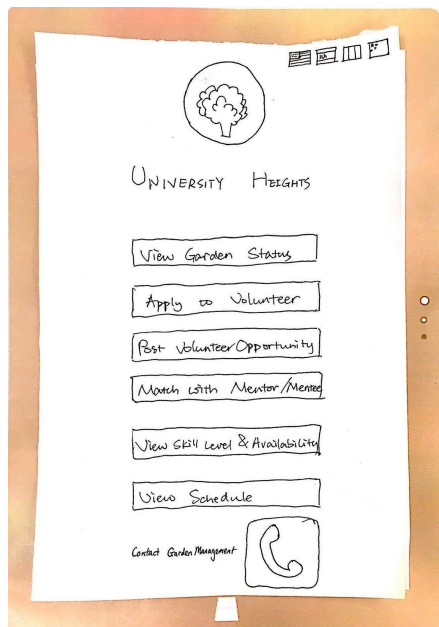
Before: After:
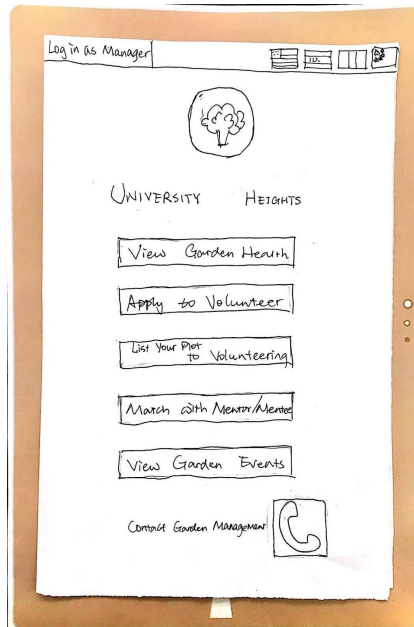
6. Availability section on volunteer form is redundant

Our last participant mentioned that knowing the number of hours a member will work is enough, and that knowing exactly which days is not needed. Usually, the member would just work on the garden whenever he/she is free while fulfilling the hours. However, the participant was talking about members in general, and we believe that knowing which days a volunteer is available is an important piece of information for the owner of the plot. As a result, we have decided that no revisions are needed for now.
Severity: 2

Image:

7. Role of "volunteer" unclear

Our last participant's definition of being volunteer was a role of short-term commitment, while our definition is one where the user would be committed long-term, from planting to harvesting. To address this major issue and prevent users from committing to something they do not want, we decided to add an additional page when the user clicks on "Apply as Volunteer," which would describe in detail the role and benefits.
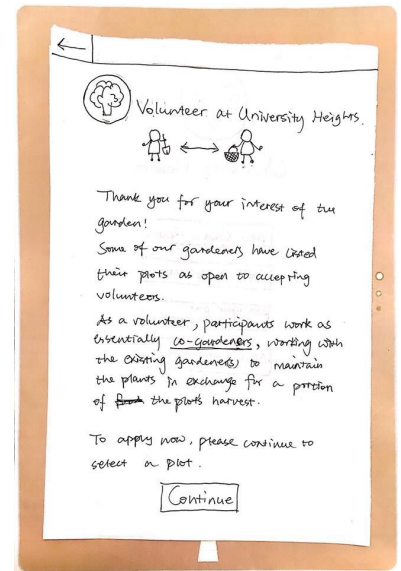
Severity: 4

Revision: we added a new page to describe in detail the role and benefits of volunteer.

Before:

After:

->

8. Default selections on skill level & availability on volunteer form confusing

When our second usability test participant was completing the task of applying to volunteer, she hesitated on the application page on the section where default values were selected for skill level and availability. She explained that she was not sure if these values were something that she could change, or if those were the values desired by the owner of the plot for his or her volunteers. We fixed this by simply removing the default blue selectors on "M," "Intermediate," and email as the default preferred contact method.

Severity: 2

Revision: we took the default selections away.

Before:

After:

9. Unclear whether "Urgent" and "Required Action" statuses were buttons or just notifications to read

In our paper prototype, we use the same post-it notes for back buttons and these urgent and required action buttons, perhaps lending to confusion. However, we need these to be post-its that can easily be removed from our design when showing different plots that may have "Needs Work" notices instead of "Urgent," for example. Therefore we certainly take this incident into account and plan to revise later, but will do so in our digital prototype where differences can be more nuanced.
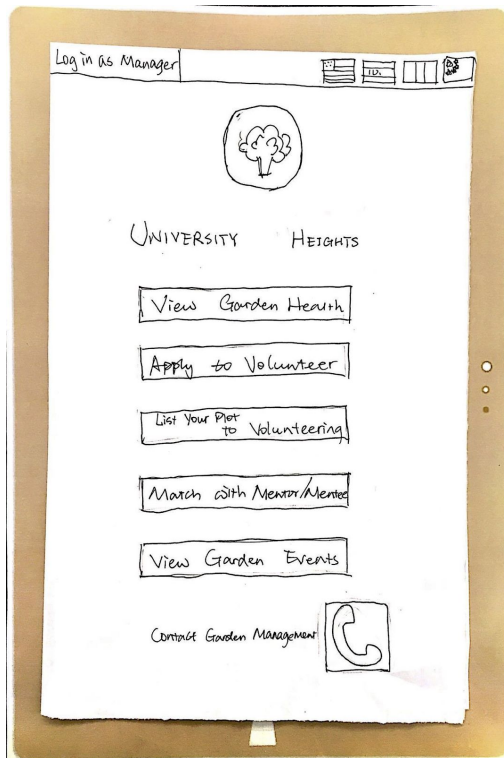Severity: 2

Image:
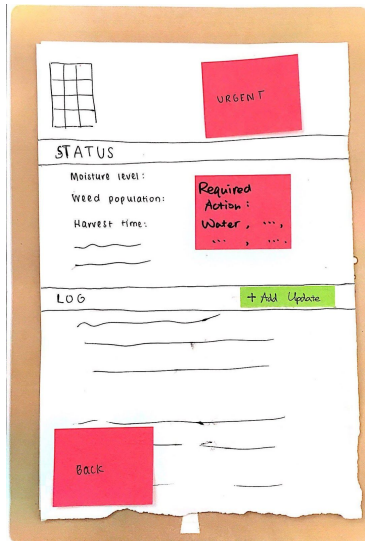
- **From Design Critique in Section:**

Back buttons are not in the top left hand corner

This violates external consistency with other applications. However, we decided that we would alter this in our digital mock up rather than our paper prototype, as this was not part of our usability test.
Severity: 3

Final Paper Prototype

Prototype Overview:

Task 1: Determine what needs to be improved in the garden.
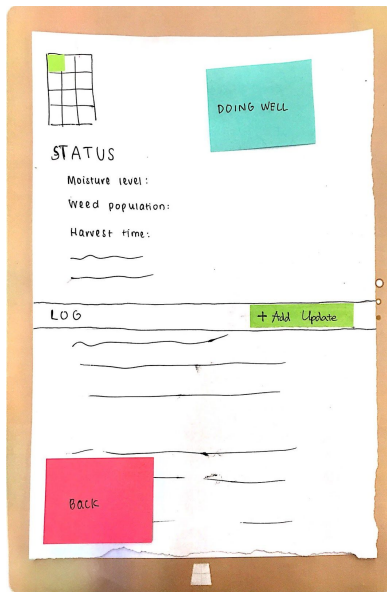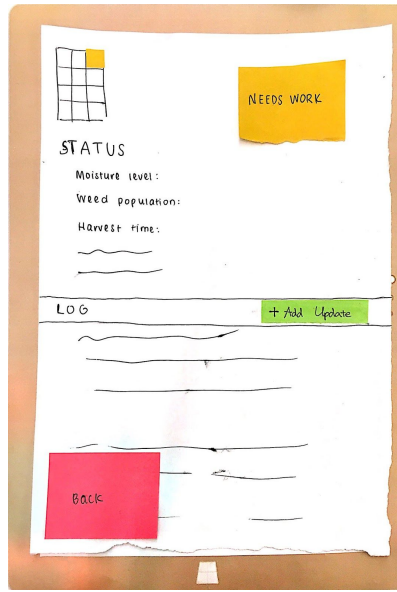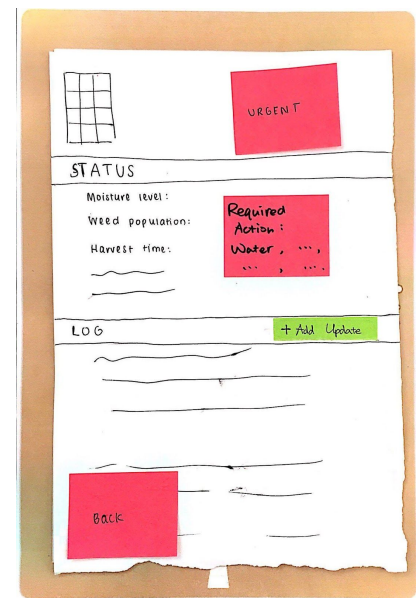
From the tablet view:

1.a

1.b

The homepage of the tablet app (1.a). The user can click on "View Garden Status", which brings up the gridded and color coded status page (1.b). Clicking on the back button brings the user to 1.a.

1.c   1.d   1.e

Clicking on one of the squares brings up a certain type of status page depending on the selected plot's color and corresponding status. Green means doing well (1.c), yellow means needs care (1.d), and red means needs urgent attention (1.e).

A user can look at the status of the plot regarding topics like moisture level, weed population, and others in order to get more details on the plot's status and gain more insight on how to improve the status if necessary. For plots that need urgent care, the user can refer to the required action block (1.e).

Much of the status information would be updated automatically based on water sensors in the soil. Perhaps video recording of the garden could inform the app about weed population, etc. However, we may need to incorporate manual logging of actions like weeding, fertilizing the soil, etc. Therefore, we have included a button "+ Add Update" for the user to report recent actions or add notes regarding the garden status.
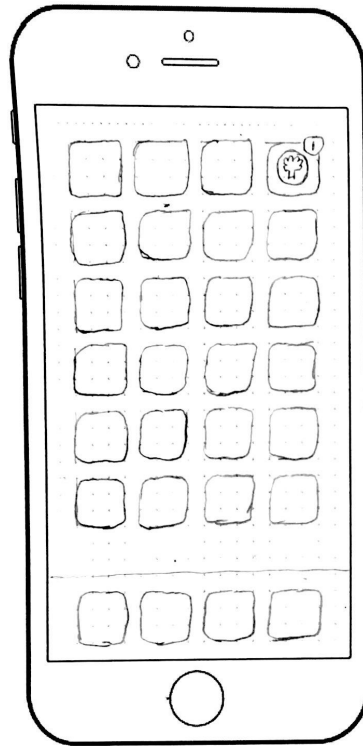
A user can also click the green add update button to enter a new log.
Pressing "Back" brings the user to 1.b.

Companion phone app view:

From the dashboard of the iPhone, a number will appear next to the app icon if notifications are present, including when a plot the user contributes to is in trouble (1.f).

Clicking the app icon will open the homepage of the mobile app, listing notifications (1.g).

1.f.

1.g.

1.h

The user can click on the "Plot Status" notification to see the full notification (1.h). Clicking the "More Information" button will open the full garden status page for that plot, as would be seen on the tablet. Clicking the back button brings the user to 1.g.

Task 2: You walk by the garden, are intrigued, and would like to get involved. How do you proceed?

Tablet view:

2.a

2.i

2.b.

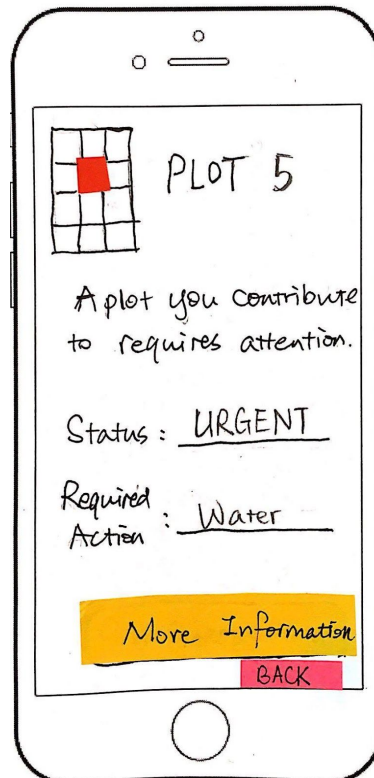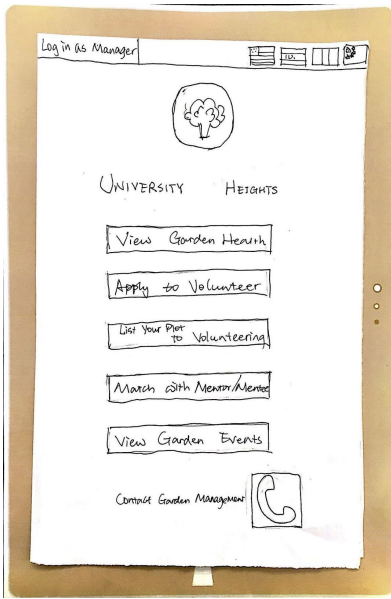From the home page (2.a.), the user can click on "Apply to Volunteer" to go to 2.i, where the user can read in detail about their role. By agreeing and clicking on "Continue," the user is brought to the gridded and color coded page (2.b), representing which plots are listed and available. The user can click on a square, which brings up a page with some information and, depending on whether the plot is listed for volunteering (blue), a button for "apply" (2.c), or a notice for "not available (white)" (2.d). Pressing "Back" brings the user to the grid view (2.b). Clicking the back button on 2.b brings the user to 2.a.

2.c

2.d

2.e

Clicking on the "Apply" button will bring up the application page (2.e). The user then fills out all of their personal information, their availability, skill level, and a message (clicking the "?" describes instructions for selecting preferred contact method). Clicking on "Back" brings the user to 2.c. Attempting to fill in the "max commitment" field brings up a scrolling popup which lets users pick a number from the list to indicate how many hours they are available per week (2.h). Clicking "Submit" while leaving any of the required fields empty brings up an error message on top of the page which fades away, leaving the user on the same page (2.g). Clicking "Submit" with a complete application brings the user back to 2.c with a confirmation popup which fades away. This popup will notify the user that they will receive a confirmation message shortly (notification depends on their preferred communication method, although in this illustration we use email) (2.f).
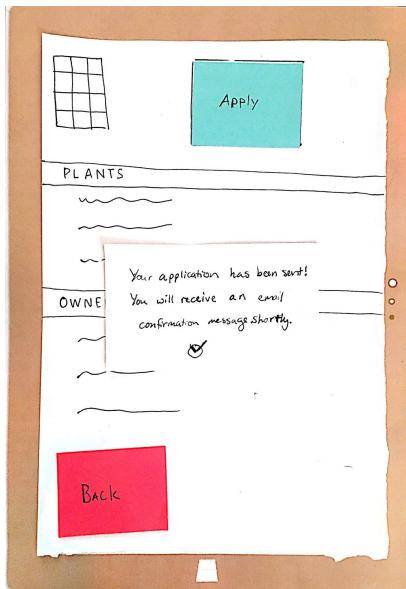
2.f
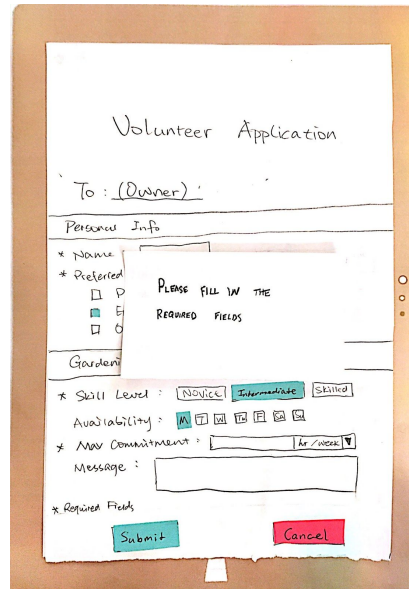
2.g
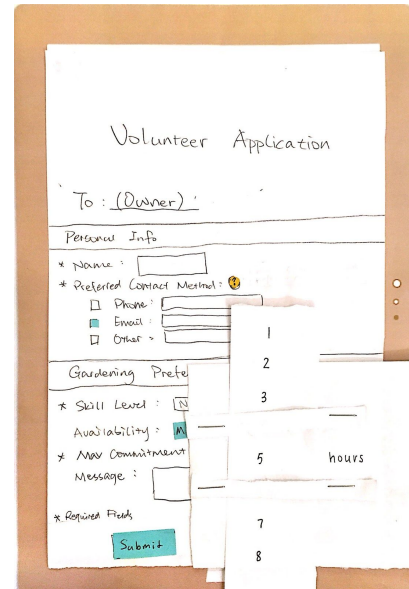
2.h

1. Log in as manager
After conducting the test with the person who was a member of the community garden management, we learned that it might be useful to allow management to input more severe notices about the garden status. We originally thought of having a login feature in our design, but we scrapped this because we did not want to make the user do extra work for securing information that isn't sensitive. We decided to add a login back in, but limit this to only the management so they can have extra capabilities from the device suited to the greater responsibilities of their role in the garden. The button for management to log in is on the main menu of our interface, and it is not something we will be designing in detail for this class. We decided this was an important revision to include in our design because it allows our design to more closely match the current community garden system and the responsibilities of various members.
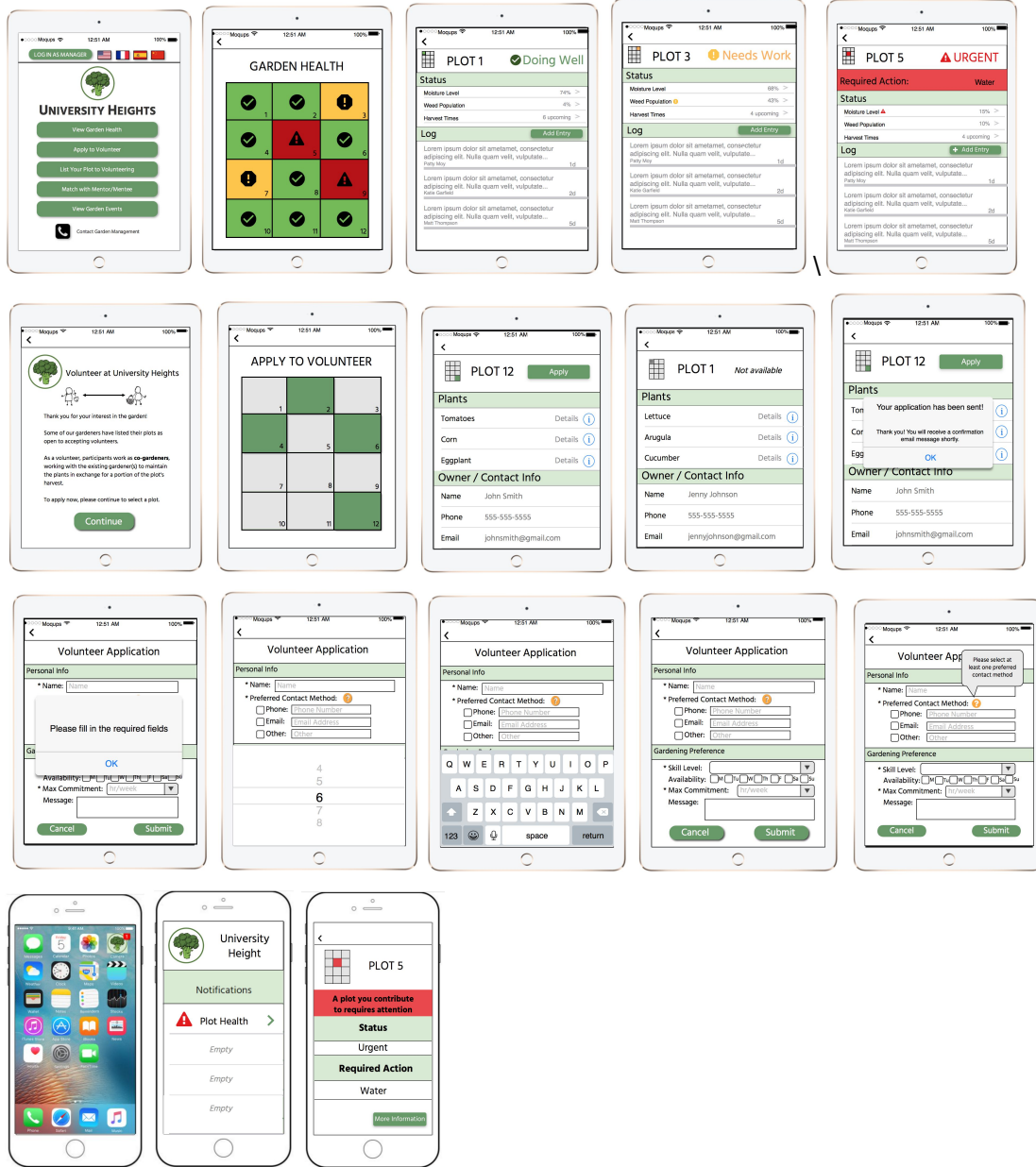
2. Changed Menu buttons
Throughout the process of our usability tests and heuristic evaluations, our main menu on our tablet interface underwent several revisions in the wording of options. Our participants often expressed confusion over these options when trying to complete the tasks we provided them--sometimes they weren't sure what something meant, or they clicked a button thinking it would complete a different type of task than we intended it to. Rewording our menu options was a very important step from our original design because the menu is the first interface with which the user will interact on the community tablet device, so we decided it was necessary to put a lot of consideration in this part of our design.

3. Accessibility
We decided it was important to include accessibility features in our design for people who have disabilities or would otherwise be impaired when using our standard design. We decided this was an especially important revision in our design in order to be able to truly foster a sense of inclusive community in our application, especially with lower income individuals who are more likely to have disabilities, lack of certain technologies, or be illiterate. To improve accessibility, we have options for different languages on the main menu page which allow a user to understand the interface with which they are interacting. In addition, we have a phone button for users who cannot read, so they can speak directly with garden management. Lastly, on our application page, we allow the applicant to select their preferred mode of communication. If they do not possess a smartphone for in-app communication or a computer for email access, they can select the phone option and receive updates and notifications via call or text on their application status and for future communication.

Digital Mockup
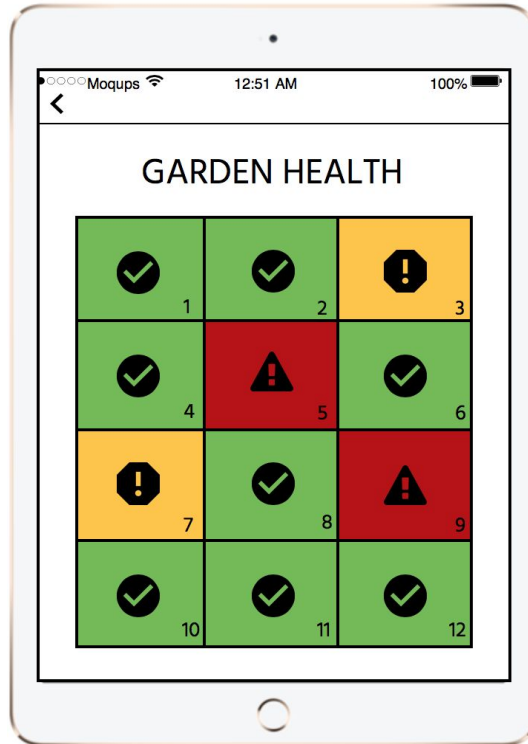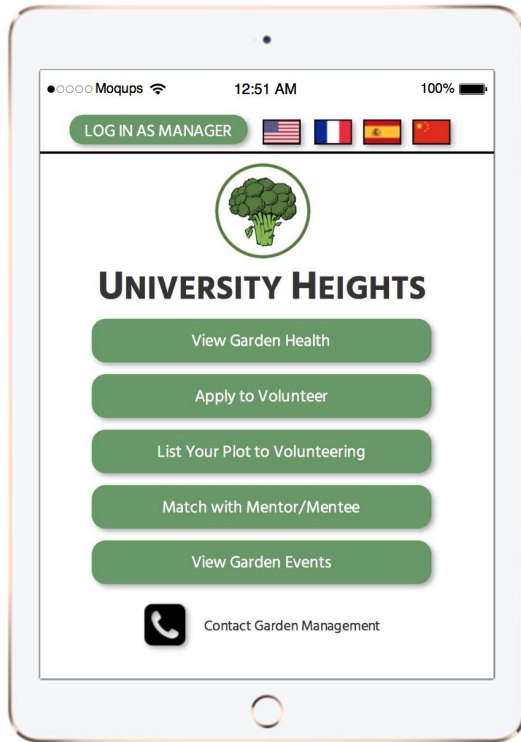
Digital Mockup Overview

Task 1: Determine what needs to be improved in the garden.

From the tablet view:

1.a   1.b

The homepage of the tablet app (1.a). The user can click on "View Garden Status", which brings up the gridded and color coded status page (1.b). Clicking on the back button brings the user to 1.a.

1.c   1.d   1.e

Clicking on one of the squares brings up a certain type of status page depending on the selected plot's color and corresponding status. Green means doing well (1.c), yellow means needs care (1.d), and red means needs urgent attention (1.e).

A user can look at the status of the plot regarding topics like moisture level, weed population, and others in order to get more details on the plot's status and gain more insight on how to improve the status if necessary. For plots that need urgent care, the user can refer to the required action block (1.e).

Much of the status information would be updated automatically based on water sensors in the soil. Perhaps video recording of the garden could inform the app about weed population, etc. However, we may need to incorporate manual logging of actions like weeding, fertilizing the soil, etc. Therefore, we have included a button "+ Add Update" for the user to report recent actions or add notes regarding the garden status.

A user can also click the green add update button to enter a new log.
Pressing "Back" brings the user to 1.b.

Companion phone app view:

From the dashboard of the iPhone, a number will appear next to the app icon if notifications are present, including when a plot the user contributes to is in trouble (1.f).

Clicking the app icon will open the homepage of the mobile app, listing notifications (1.g).

1.f.

1.g.

1.h

The user can click on the "Plot Status" notification to see the full notification (1.h). Clicking the "More Information" button will open the full garden status page for that plot, as would be seen on the tablet. Clicking the back button brings the user to 1.g.

Task 2: You walk by the garden, are intrigued, and would like to get involved. How do you proceed?

Tablet view:

2.a   2.i   2.b.

From the home page (2.a.), the user can click on "Apply to Volunteer" to go to 2.i, where the user can read in detail about their role. By agreeing and clicking on "Continue," the user is brought to the gridded and color coded page (2.b), representing which plots are listed and available. The user can click on a square, which brings up a page with some information and, depending on whether the plot is listed for volunteering (blue), a button for "apply" (2.c), or a notice for "not available (white)" (2.d). Pressing "Back" brings the user to the grid view (2.b). Clicking the back button on 2.b brings the user to 2.a.

2.c   2.d

2.e

2.f

Clicking on the "Apply" button will bring up the application page (2.e). The user then fills out all of their personal information, their availability, skill level, and a message (clicking the "?" describes instructions for selecting preferred contact method). Clicking on any text input box will bring up the keyboard (2.f). Clicking on "Back" brings the user to 2.c. Attempting to fill in the "max commitment" field brings up a scrolling popup which lets users pick a number from the list to indicate how many hours they are available per week (2.i). Clicking "Submit" while leaving any of the required fields empty brings up an error message on top of the page which fades away, leaving the user on the same page (2.h). Clicking "Submit" with a complete application brings the user back to 2.g with a confirmation popup which fades away. This popup will notify the user that they will receive a confirmation message shortly (notification depends on their preferred communication method, although in this illustration we use email) (2.g). Clicking the yellow question mark (2.j) will indicate to the user how they should fill out the contact info (i.e., they need to fill in at least one field).

2.g

2.h

2.i


2.j

Updates - from Paper to Digital

We made limited changes between our paper prototype and the digital mockup. Like we mentioned in our usability review, we planned on changing features that were difficult to show in a sketch, but could be better clarified digitally. One change we made was to standardize the location of the back button to follow externally consistent convention, placing the button in the top lefthand corner. We also worked to make the required action section on the garden status page less like a button and more like an alert banner in its formatting. Our final test participant was confused whether or not she was supposed to click those aspects of text. Following along this theme, we worked to ensure the most important aspect of each page was the one that was the most highlighted or that draws the most attention. For example, in the iPhone interface on the plot view screen, we emphasized the status and required action for the plot rather than the "More Information" button, since in most cases clicking "More Information" should not be needed to complete our first task of determining required actions to improve the health of the garden.

Updates - from Critique

We also made some changes in response to critique. Our previous interfaces had a green background. We received a critique that the green background and green buttons or texts had low contrast, so it can be difficult for users to perceive. We revised by changing our background to white and only using green accents (see below). Another critique we received was for our garden health task, we only double coded "urgent" and "needs work" plots with symbols and colors. There were no symbols for "doing well" plots. We revised by adding different symbols for all plots with three types of conditions, so our pages are more consistent within each other.
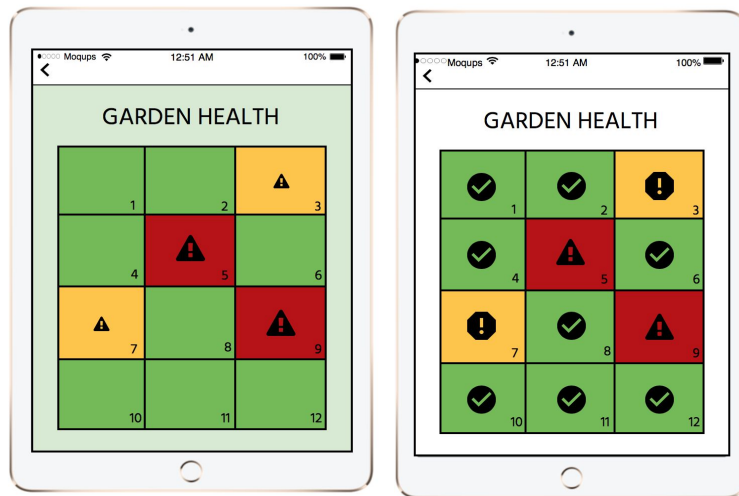
Before: **After:**
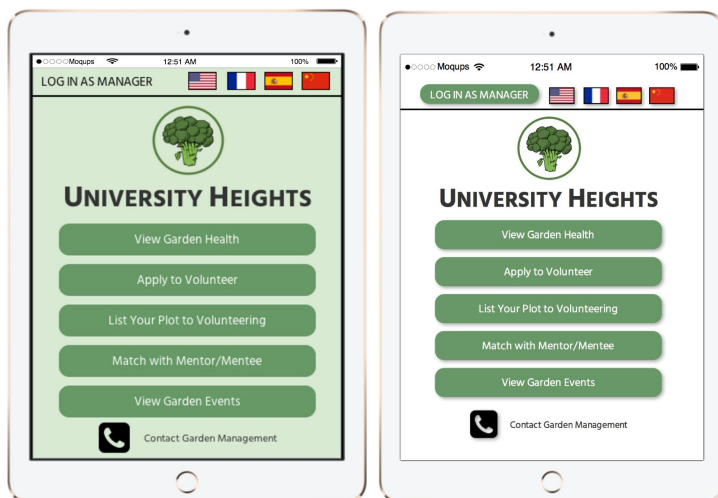
Before: **After:**

Discussion

It's surprising to look back at our original designs and compare them to what we have now. Throughout our iterative design process, we learned how valuable feedback from both users and experts can be in driving the formation of the final design. For example, when conducting our usability tests, we recognized that certain features we deemed "intuitive" to work with in our original design were not actually so. It took several rounds of redesign and usability testing to get to a point where our design was easier to work with without explanation or instructions. For example, in our apply to volunteer page, we original labelled available plots with blue and unavailable plots with yellow, going off of the idea that blue is more of a "go" color and yellow is more of a "stop" color. Our first heuristic evaluator did not understand the distinction, so we developed a color key at the bottom of the screen. Our first usability test subject tried out our prototype with this change implemented, but he missed the key and felt like it was an unnecessary extra step to match each color to the key. We analyzed this dilemma further, and decided to instead label available plots in blue and grey out unavailable plots, which worked better in later tests since grey is a more intuitive color for something that you should not click. In our digital prototype, we changed the blue to green for more internal consistency regarding the color scheme of our design. This anecdote from our design process is representative of our approach to designing other features of our tablet interface--create a design, conduct a usability test or heuristic evaluation, revise the design, conduct another usability test or heuristic evaluation, revise, etc. This design process was useful in significantly improving our original design, but it is important to consider the fact that it relied on our original design as a starting point.

Due to the time constraints of this class, we were not able to conduct the testing/revision cycle with our other design ideas that we came up with, so it is difficult to determine whether we have developed the best possible interface for our intended users.

Appendix

Materials Involved in Our Testing:

- Paper Prototype

- Task Description

Task 1: Determine what needs to be improved in the garden.
Task 2: You walk by the garden, are intrigued, and would like to get involved. How do you proceed?

We did not have a script for our testing, but after a basic introduction, we explained something like the following: "We are testing the design, not you as the user and your capabilities. Aspects that may confuse you are a problem with the design, not you. For the purposes of our test today, we ask that you treat this paper version of our product as a digital device (tablet or phone) and that you interact with it in the same way you would with the real device. Please explain what you are doing and thinking out loud, so that we may better understand your thought process."

Critical Incidents from Usability Testing:

1. Plots unnumbered

It's hard for participant to match plot number with plot. In the usability test, the participant saw plot 5 needed urgent care so went to the garden to use the tablet to see more details. However, in the grid layout, the participant had trouble on deciding which grid represents the plot 5.
Severity: 2

2. Required action missing on garden status

Garden status page is not consistent in mobile App and tablet App. In the mobile app, required action (i.e., water, fertilize, etc.) is shown. However, in the tablet app, there is only detailed information, like moisture level.
Severity: 4

3. Too much color on volunteering grid

The participant felt overwhelmed by colors of grids. We had blue grids representing available plots for volunteer and yellow grids representing unavailable plots for volunteer. We also had color keys to show what colors mean. Participant felt there is too much information on that page.
Severity: 3

4.
(Positive) Our participant liked the drop down menu for maximum working hour commitment in volunteer application page since it makes the format of input very clear.

5. Menu page buttons are not clear

Participants were confused about what exactly the "Garden status," "Post volunteer opportunity," and "View schedule" buttons actually do. To alleviate confusion, we changed some button names and deleted one of the buttons. "View status" could mean anything; in our case, it meant viewing the health of the garden. One of our participants felt that "List your plot for volunteering" is more specific than the button it preceded. "View schedule" was vague, so we clarified that it would display events. Lastly, viewing skill level & availability was redundant as its own button, so we removed it and decided that it is already something that the "Match with mentor/mentee" would do.
Severity: 3

6. Availability section on volunteer form is redundant

Our last participant mentioned that knowing the number of hours a member will work is enough, and that knowing exactly which days is not needed. Usually, the member would just work on the garden whenever he/she is free while fulfilling the hours. However, the participant was talking about members in general, and we believe that knowing which days a volunteer is available is an important piece of information for the owner of the plot. As a result, we have decided that no revisions are needed for now.

7. Role of "volunteer" unclear

Our last participant's definition of being volunteer was a role of short-term commitment, while our definition is one where the user would be committed long-term, from planting to harvesting. To address this major issue and prevent users from committing to something they do not want, we decided to add an additional page when the user clicks on "Apply as Volunteer," which would describe in detail the role and benefits.
Severity: 4

8. Default selections on skill level & availability on volunteer form confusing
When our second usability test participant was completing the task of applying to volunteer, she hesitated on the application page on the section where default values were selected for skill level and availability. She explained that she was not sure if these values were something that she could change, or if those were the values desired by the owner of the plot for his or her volunteers. We fixed this by simply removing the default blue selectors on "M," "Intermediate," and email as the default preferred contact method.

Severity: 2

9. Unclear whether "Urgent" and "Required Action" statuses were buttons or just notifications to read
In our paper prototype, we use the same post-it notes for back buttons and these urgent and required action buttons, perhaps lending to confusion. However, we need these to be post-its that can easily be removed from our design when showing different plots that may have "Needs Work" notices instead of "Urgent," for example. Therefore we certainly take this incident into account and plan to revise later, but will do so in our digital prototype where differences can be more nuanced.
Severity: 2