Timber - A Gardening App
Project Deliverable # 1 User Research

Project Idea

We intend to develop a guide for amateur gardeners to shape their nurseries and backyards into something they can be proud of. This will generally be accomplished using gardening tips, processes, seasonal advice etc. to help the gardener come to their own decisions, giving them the confidence and allowing their garden to reflect themselves. Our app is intended to be used as a focal tool for all gardeners, for example to compare prices in local stores or to see gardening processes for specific types of plants.

Stakeholders

Gardeners: Gardeners would be a stakeholder of this project because they are the target users of this application. A gardener is a very broad term from what the team discovered through interview and other research methods. A gardener can have different levels skill sets that ranger from beginner to professional. They can also have different motivations for gardening. For example, one gardener can simply enjoy the activity of gardening and the time they spend outside. While another gardener will be motivated to garden because to them it is a friendly competition between neighbors. In one of our in tutorial interviews, a student noted that they didn't really garden but still associated with being a gardener because they liked to help their

family with gardening on occasions. They relate to the design of the system because they are the user that we are trying to tailor our application towards. We want to make sure our system is one that will fit the needs of a gardener. So, we want to get enough information and insight to meet these requirements.

Garden store-keepers: Garden store-keepers are also the stakeholders of the project. They are the individuals that work at or own a gardening store. They are very business trying maintain all the plants in there store. However, they also take the time to explain to their customers about plants and to answer any question that they might have. Since, the stores get really business and there are a limited amount of staff that can work at a time. The problem for them because time management. One of our goals for this project is to educate gardeners about plants. This means that before they go to purchase the plant at a gardening centre, they are already well informed about the plant. Which means the it will be easier for the garden store-keeper to do their actual job. That is why they are stakeholders in the project. They are involved in the interactions of the users of the application. It also means that they can spends more time making sure the plants are kept in great condition and also they will become less stressed the more knowledgeable the customers become.

Research Method #1

Learn: Secondary Research

Justification

We chose to use Secondary Research because we wanted to have a more informed point of view about the problem. The resources that we used are mainly mobile applications that are similar to our concepts, mobile applications that have user interfaces that we are interested in, and online websites that contained information that can help guide our design. All the information gathered will help us make more informed decisions on the direction of our project. It will also help keep our design user centric.

Method Description

We are using Secondary Research as one of our research methods. Secondary research is about gathering information from other resources. This resources can range from articles to other papers from the internet. The task for this research method is to review and analysis information gathered. As a result of gathering information we can become more informed about the matter and also develop a point of view on the current state of the matter. For our project this meant looking at similar products. We decided to look at various garden related application and also to look at user interfaces of applications that we thought are well designed. As a team we discussed that this would give up more information and perspective on the matter.

Major Findings

For our **first major finding**, we took a lot at a online dating application. We mainly focused at the user interface of the application. We initially liked the simplicity of the swiping navigation. If you are interesting in an individual you would swipe to the right. The opposite applies if you are

not interested in the individual. If you want to look at their biography, then you would tap the picture to bring it up. The team discussed the possibility of incorporating this feature into the project. This methoding of communicating information would help keep the user interface clutter free. From this we gathered that simple user interfaces are enjoyable to use and are great for users with limited knowledge about touch-screen interactions. We also discovered that in application instructions similar to a short tutorial helped teach the users about how to navigate the interface. In addition, users are more likely to remember simple interfaces compared to complex ones.

Our **second Major finding** is that there are symbols that represent characteristics of a plant or represent instructions for the plant. This information is valuable because before having investigated resources, we did not know about the existence of these symbols. We have gathered that these symbols let the users understand the plant prior to purchase. The information from these symbols include but are not limited to amount of sunlight, amount of water, depth of pot, amount of shade, and maintenance difficulty. Since we have learnt this we can come up with design that can incorporate this symbol based communication method. This also ties into the simplicity of the user interface. The team discussed the benefit of having symbols along with a text description of the plant. We visioned that this would make the application more approachable.

We looked across a wide spread of gardening application on the IOS app store. Our **Third Major finding** is that all of the applications available have the same user interface. They have a list based category system and if you select on a plant that you are interested in it leads you to a article style page. We found it interesting that there are very few variants around gardening applications. We also noted that when using the applications, the overall experience of primarily text based user interfaces are rather dull. One member of the team found that when switching between multiple gardening applications it be became difficult to tell which application was which. As a team we discussed based on this finding, our application for this project should stand out from the other competitors.

Appendix Material:

Picture #1 (Left): other gardening apps

Picture #2 (Center): plant description card

Picture #3 (Right): online dating app
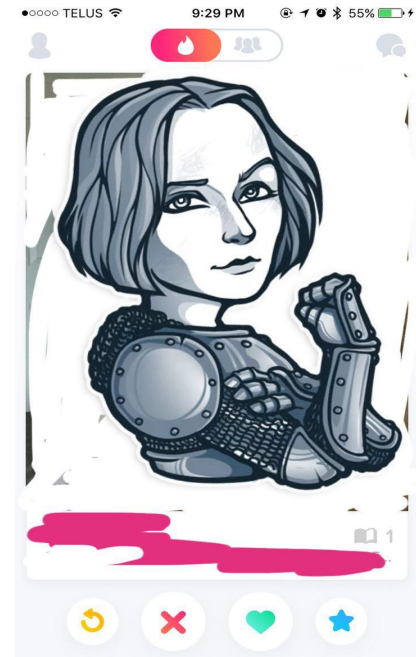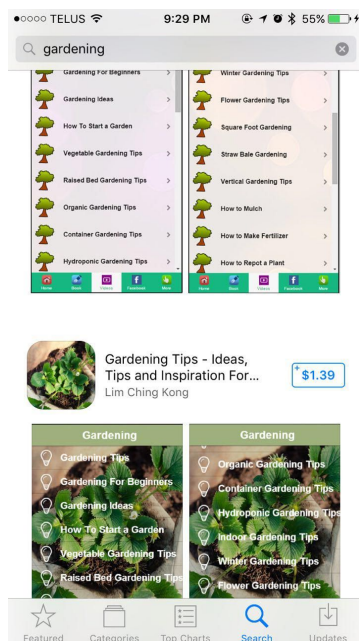
Research Method #2

Try: Body-Storming

Justification

As gardening is a physical (and sometimes strenuous) activity, we felt it was best to explore how that physicality could be translated into our app using one of the Try methods. Specifically, we wanted to engage in gardening ourselves so that we could better gauge where the physical aspect of gardening would be hardest to represent in our app.the pot at the end of the activity. This group member in particular had no information or experience regarding the activity at hand, and was performing the action for the first time.

By seeing this group member's reaction to the tools presented to him and to the task at hand, we would be able to evaluate the degree of confidence most gardeners would have as first timers, or as people who simply do not have information to perform a certain task (like potting/de-potting a plant, building a space in their backyard for their nursery, using and placing the right amount of soil, etc.). Then, we can hopefully find a way to accommodate for those gardeners' workarounds to the problem - either by telling them their workaround was correct, as was the case with our group member, or by teaching them the solution to the problem.

Method Description

One of our group members engaged in a gardening activity called de-potting, which involves removing an potted indoor plant from its pot and ensuring that most of the soil was still within experience on how to de-pot a plant. He was also to narrate his experience and thought process as he conducted the experiment. This experience would give us a wide distribution of data to work

with, as the physical cues of the group member can mean a lot with regards to what they expect will happen versus what actually happens - this was especially apparent in what tools the group member used, as even a paint scraper was involved in trying to get the soil out.

The narration was even more revealing, as the group member constantly doubted whether their actions were suitable for de-potting a plant. For example, he wanted to remove the plant entirely with a single pull, but because the soil came out with it, hesitated in doing so - in actuality, one is meant to pull out the plant with the soil, and then to simply replace the soil. However, despite considering the possibility, he decides ultimately to try to dig at the soil with the paint scraper to loosen the roots, which ends mostly in failure.

Appendix Material: Picture part of video (Below): screenshot of the video we took of our group member de-potting the plant.
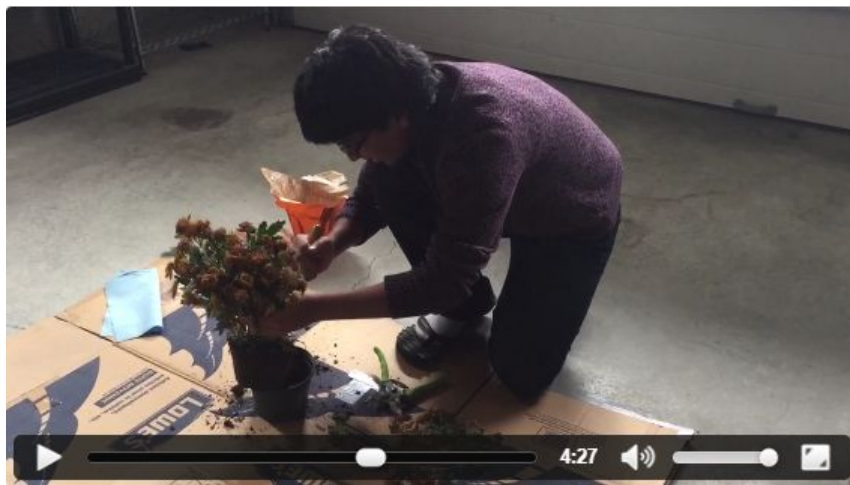
Major Findings

Our group member was confused about the majority of the process involving de-potting a plant, from the tools required to the point where he was 'complete'. We found that most of his confusion came from inexperience, rather than being unable to understand the problem itself. This manifested itself in multiple ways:

- He was unsure at which state he could consider himself finished. De-potting is usually considered complete when most of the roots are pulled out, but our group member wanted to comb through the soil to find remaining roots and leaves, which are normally kept in the pot after de-potting.

- He had problems understanding the exact purpose of the problem. This is to say, at first he was unsure of what exactly the pot was meant to have at the end of the process, and had questions regarding what the soil would then be used for and whether the plant was okay to throw out.

- He was unsure of what tools to use, and for what reason. Besides the case of using a paint scraper to dig at the soil in order to free the plant, he was also unsure of which of the

actual gardening tools would best service what he wanted to do and thus ultimately ended up simply using his hands for the majority of the process.

It is important to notice that these are very simple problems that can apply themselves to any new user of a system. However, they are specifically quite important for gardening because these questions specifically apply to many tasks throughout gardening, and not forming a basic comprehension at an early stage can easily develop insecurities or frustration with a beginner gardening.

We also came to the decision that our garden guide would have to be more resourceful than simply displaying the plants, as our Body-Storming method showed that gardeners can be more confused about the process of gardening itself rather than about which plant they should buy, or what resources that plant needs.

This lended itself to various ideas, including a general gardening tutorial for very basic tasks, such as watering or de-potting a plant. This idea was scrapped because we decided there was no easy way to determine what could be 'basic' for some but significantly complex for others. We then thought about a complete gardening tutorial using pictograms or some other diagrammatical form, for both basic and advanced tasks, with tips and tricks one would expect from a thorough gardening handbook, for instance. However, that again was scrapped, as we thought the physicality of gardening actions could not be easily translated into a picture form without making the diagrams quite complex.

Ultimately, by considering the answers we received in the survey we conducted (see Research Method #3) we agreed that some kind of physical tutorial, such as a video on YouTube that adequately explained the idea being discussed, on gardening being baked into the app was a very good idea; however, since there are many extant sources on gardening, we decided it would be much more efficient to link our app with one of these tutorial sources rather than develop our own tutorial.

Research Method #3

Ask - Surveys and Questionnaire

Justification

Since this application is assist gardeners of all levels to help with their gardening needs, we decided to ask a gardener their thoughts. Moreover, since neither of us are avid gardeners, it is crucial that our information that came from a trusted source, and a source that would not approach this problem with a designing frame of mind. The first research method helped us articulate and consolidate the types of questions we eventually asked. Moreover, we put the feedback we received in this interview into action, by having one of our own members, experience some of the issues new gardeners face (refer to Research Method #2) This method eventually helped us pivot from our original idea, into a concrete idea that the team is ready to start developing. Such as potentially adding the capability to see if there are plants available in store nearby and that the user interface should be kept simple. Therefore, based on the impact that this method had to the entire project, it was a wise decision to interview our participant.

Method Description

As per method description, we asked the participant a series of questions, that ranged from gardening specific questions, to what problems they faced while gardening in terms of finding the right plants, where to find these plants, how to plant them, when to plants, etc… By asking questions that were broad and specific, we were able to gather data about issues that we had initially overlooked.

For this project, we asked one of the member's father, since he and the family have been gardening for a couple of years now. One-two members were always recording the interview responses while the other member asked the questions. We began by asking the questions we had planned earlier, then as the conversation deepened and based on the participant's responses we asked some follow-up questions at the end. Moreover, we were fortunate enough to have the participant show us some plants they had planted throughout their house, during this past season. This allowed us to get a better understanding of the issues that the participant was facing, and we also recorded additional data that further solidified the validations of assumptions that we had made.

Major Findings

Information they would like to know when gardening

During the interview it was brought to our attention that to this participant two criterias factored into which plants we was going to plant in the season; time commitment and how beautiful they are to the participant. In the words of the participant, "We get them based on how much time we can spend on it. Usually low-maintenance since we don't have that much time." This was one of the findings the heled pivot our idea. The fact that time commitment is important, is understandable, considering most people's biggest complaint is not enough time. Adding this to the description of each plant will better help application users decide if they can fully commit to the growth of this plant, in order to be successful.

How they would like the user interface to look

The participant was made aware that they were going to be asked gardening questions for a course project that includes the development of an application. An added benefit to this interview was that the participant was someone that interacted with various forms of technology on a daily basis. Therefore when asked if we were to build an application for what would they like in it, they said the following;

- Filtering capabilities.
  - Provide the user with narrowed-down results as opposed to plethora of results that overwhelm them, and potentially scare them away from the application.
  - After a while or individual data analytics, automatically suggest certain plants to user based on the probability of interest.
- Include information from unlikely sources, such as Costco, Superstore, or private nurseries.

- ○ Including the capability to allow users to find that plant in a location within their desired perimeter is very helpful. According to the participant, money was also a factor in deciding what plants/seeds to purchase. Therefore, if we provide users with the benefit of going to shop at places that are budget-friendly based on their choice of plants, that would encourage them to garden more frequently and experiment with different type of plants.
- Provide users with gardening tips based on the plant they are looking at.
  - ○ There's a lot more to gardening than just finding a plant and placing it in a pot your your porch. Consumers must be educated on basic gardening concepts and techniques to ensure they have a successful season. Eg. if you recently landscaped your garden, it takes time for the soil to settle, which means that you have to pour more soil each season until a solid foundation has been built. According to the participant this information only really comes from experience. Therefore, within the scope of this project, it would be beneficial to include this sort of information for the appropriate plants for the user's' benefit.
- Projects that gardeners can pursue based on the plants they have viewed/liked.
  - ○ This was a suggestion, based on the participant's interaction with Pinterest. Incorporating this into the application, would definitely take it to another level. If time permitting, it would be great to incorporate this feature into the application, to allow gardeners of all skill to have fun with their skill and be inspired to be creative with an uncommon medium.
- Do not include blocks of text.
  - ○ The participant themselves were someone that spoke English as a Second Language and were in the early 50s, so based on that demographic this response is clear as to why we should not have blocks of text. Nevertheless, this response should be implemented because of the fast-paced environment that we inhabit, we want information in a matter of seconds, and are not interested in reading blocks of test to ascertain information that can be displayed in a few words.
- Use image categories to describe the characteristics of the plants.
  - ○ Similar to the reasoning above, why say something in blocks of text when you can leave that same impact with just five words and pictures. This was inspired by the way information is conveyed on the stuck-in tabs, in plants with plant-care information. Refer plant care card image in Research Method #1.
- Constantly ask for user feedback because his opinion is only one side of this problem that we're trying to address.
  - ○ The participant suggested to ask other gardeners for feedback as well, to see who they perceive and interact with the design, and improve the application based on that feedback.

The gather information from unlikely sources

When asked where the participant got information about gardening they said the expected responses first; Google, the garden center clerks, and information tabs in the plant pots. Then they added YouTube. This was a surprising source for gathering information, but the participant explained that since gardening is sometimes intricate, it is best to see someone else do it first. Keeping up with the concept of having the user interface be clean and simple (no block texts),

linking a video to the plants will help guide the user's to start of their gardening journey successfully, in a visual manner.

Appendix Material

Notebook notes from interview.
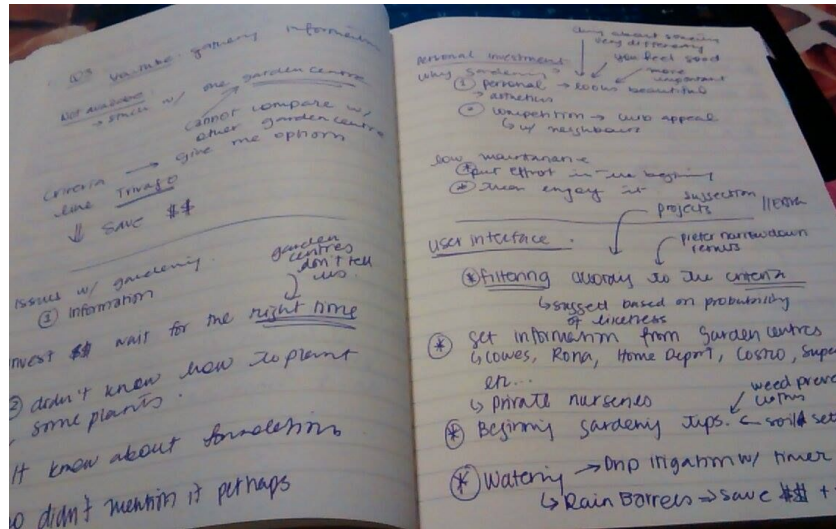
Left Image: Member asking questions and another member listening and recording the responses.
Right Image: Participant showing information card of one of their potted outdoor plants.

We started with the following planned questions;

1. What is your thoughts process when you buy plants to add to your garden?
2. How long does the decision making process take?
3. What is your main method of gathering information about gardening?
4. Do you feel the that information gathering process is efficient?
5. Is gathering information about gardening time consuming?

6. Do you plant seeds?
7. Describe how you would choose those plants.
8. What type of plant so you like to plant more? Flowers, vegetables, trees

Questions we asked as follow-up questions based on the responses of the questions above;

9. Why do you garden? And how much personal investment are you willing to put into gardening?
10. Since the participant had experience with technology and user interfaces, we asked them what would they like to see implemented to better their experience, compared to know?
    a. How would they like to see the information?
    b. What information do they think is crucial?

Task Descriptions

1. Need to look up if the plant is low-maintenance

- Ross Geller, is a CEO of an IT startup in Calgary, and is interested in improving the air quality in his penthouse. He read an article that suggests using plants to purify and filter the air inside your home through natural means.
- While browsing the list of suitable plants for his home, he finds that Aloe vera is the perfect plant because it can also be used for healing cuts and burns.
- Based on his busy lifestyle he sees that Aloe vera plants are easy-to-grow and since they are succulents and thrive off of sunlight he knows exactly where to put it - on his kitchen countertop that receives an abundance of sunlight throughout the day. He also learns that succulents are easy to maintain.
- He sees that the Home Depot nearby has one available, and decides to pick it up that evening after work.
- Ross has some experience with gardening before, usually looks up information on the internet before he makes a purchase, and is looking for information that is clear, straight-forward and doesn't waste his time.

2. Look up how much sunlight the plant needs

- Monica Geller, recently moved into her new apartment for her first job in Yellowstone, that is painted in very dark colors and all the windows face another building. Naturally, she wants to bring some natural elements into the environment.
- She browses through the list of plants and chooses one that requires minimal sunlight exposure - Ferns.
- She sees that they are being sold at the nearby Costco, and picks one up walk back from your morning Soul Cycle class.
- Monica is gardening for the first-time without help from her mother, has experience with technology, but since she is new to town she isn't aware of her surroundings just yet.

3. If the plant that they're looking up is sold nearby

- Phoebe Buffay, just moved to the coast, has a cute but very disobedient cat that has pushed over numerous vases from shelves, and because of this cat and change of scenery is looking to get some palm trees.
- She's sees palm trees as one of the popular searches while she is browsing for information. She learns that she need to have a heavy and moderately large vase, and should keep the plant on floors.
- She also sees that there is one available at the Walmart five kilometers from her current location, and goes out to get one ordered to her new residence.
- Phoebe is an avid gardener, elderly, is in the beginning stages of Parkinson's Disease (jittery hands), recently gotten a smartphone, and says that she likes apps on which she has to do minimal typing.

4. If their plant is edible or not

- Rachel Green, has a hyper-active toddler that has just started to walk, and wants to know if the plants she has in her kitchen are edible. She planted them years ago, and the only thing she remembers is that there are herbs and potentially some vegetables planted.
- She decides to browse the plants list based on the categories she remembers and discovers that she only planted herbs, and they are all in fact edible, however the soil is not.
- Rachel gives the herbs plant box away to a friend, and is relieved that her toddler is now in a safer environment than before.
- Rachel is a busy individual, when she is not running after her toddler she is running a home business. She needs the information quickly and clearly, which is why she uses Siri on her iPhone on a daily basis.

5. Selecting different preferences

- Chandler Bing, is a very interesting individual. He is intellectual and business oriented. He has been wanting to decorate his apartment for a while now and wants to make sure that it will match his personality and will not take over his busy schedule.
- He noticed that there are a lot of plants to choose from the he feels does not match his preferences. Chandler decides to narrow down his preferences based on appearance and time-commitment.
- He now notices that there is a much smaller list of plants. He has also gathered a list of plants that are similar that he may get in the future.
- Chandler has a very business schedule. He likes to have information that is readily available and is tailored to what he is looking for.

6. Look at the description of a plant

- Joey Tribbiani, is a very energetic guy. He likes to go out with friends and has an impatient and sporadic personality. He is also not very handy with technology. Joey has a few plants in his apartment but forgot how he ended up with them. However, he likes that plants and would like to know how to take care of them.

- He decides to look up the instructions for them by reading the information cards. To his surprise they are missing.
- Joey looks through the list of plants and spends a few minutes comparing the plans in his apartment with the plants he likes.
- Joey finally finds the plants he owns and wants to know how to take care of them. He gathers information about the amount of sunlight need, whether it is edible, and the maintenance level.
- Joey is a very sporadic individual. At times he doesn't really know what is happening around him. He is also very committed to what he is currently interested in. He want to be able to get information about things in a moments notice. That is why Joey likes using his smartphone.

7. Perform a 'like' on a plant.

- Peter Parker, is a teenager. He is smart and is on a promising path to success. Peter lives with his aunt May.
- He remembers that his aunt May's birthday is coming up and would like to get her the perfect flower as a gift. It is on the 23rd of October, which means the he has about a week to make a decision.
- Peter starts looking through the catalog of flowers. To his surprise, there are lots of flowers to choose from. He decides to take some time to think about a which flower to choose.
- Peter is looking at one flower that he thinks might fit the bill, based on appearance and time-commitment.
- Peter heads to the flower store right after-school to buy the flowers from the nearby store that had said that they carry those flowers.
- Peter is an average teeanger. Like all other teenager,s he likes to be on his phone. It help him feel connected with his friends.

8. Watch a video from the gardening tips playlist

- Marshall Ericksen is a very competitive person. He is especially competitive when he is with his wife. They like to try new things but always end up turning it into a contest to see who is better.
- The week Marshall and his wife want to start a garden. They both know that it will turn into a competition. However, Marshall knows that she has garden before in the past. Since Marshall is very competitive, he doesn't want to lose.
- Unfortunately Marshall doesn't know anything about the basics of gardening. He gather as much information as possible through informative labelling and watches some videos and takes notes on how to successfully plant.
- He is no longer at a disadvantage.
- Marshall is a new gardener with zero knowledge about gardening. He is a visual learner and is familiar with technology.

Sources

Title page collage

Pokemon clay pots: http://www.shutupandtakemyyen.com/product/pokemon-clay-pots/

Cartoon girl watering plants: https://www.tumblr.com/search/gardening#

Truck with flowers: https://www.tumblr.com/search/gardening#

Garden quote:
https://s-media-cache-ak0.pinimg.com/564x/a0/f2/da/a0f2da592329bc05e241b8afcf1b6fc5.jpg