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GreenThumb

PROFESSOR: ROBERT KUMAR

CONTRIBUTORS: EXENRECO BELL, DUA HASAN, SCOTT GREEN

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Introduction

Company Overview

GreenThumb is a comprehensive gardening application designed to assist gardening enthusiasts with plant care, garden management, and accessing a wide range of gardening services. GreenThumb aims to provide users with the tools they need to plan, manage, and thrive in their gardening endeavors. The application seeks to introduce new features to enhance user experience, including plant identification, garden planning tools, and a marketplace for gardening supplies. GreenThumb is looking to expand its application to include these new features and improve user engagement.

Part I – Personas

Overview

Generate three (3) personas to represent users of the GreenThumb website. Describe each personas using a minimum of ten (10) descriptive characteristics. Those characteristics must include:

- Name
- Distinguishing characteristics that could impact design
- Photo, illustration, icon or emoji
- Feature(s) the persona would use most often. i.e. most important features
- Feature(s) the persona would not commonly use
- Needs the application can meet for this persona
- Computer skill level
- NOTE: Add three or more additional elements of your choice

Skill Meter	
LEVEL	CAUTION
Basic	Can navigate simple online tasks but may need assistance with more complex features
Intermediate	Can navigate online shopping carts but may need help with more advanced features
Advanced	Can troubleshoot technical issues

Persona 1: Emily "Green Thumb" Wilson

IMAGE	ABOUT	
	Name	Emily Wilson
	Age	32
	Job	Marketing Manager
	Family	Married with two young children (ages 4 and 6)
	Computer Skill	Intermediate
	Characteristics	Beginner gardener, busy mom, loves nature
	Needs	<ol style="list-style-type: none"> 1. Simple, easy-to-use garden tool to help her and her children grow a flower, herb and vegetable garden 2. Flower bed and vegetable garden layout recommendations
COMMON FEATURES	UNCOMMON FEATURES	ADDITIONAL ELEMENTS
<ul style="list-style-type: none"> - Plant identification feature to help her kids learn about plants - Garden planning tools to prioritize tasks and manage time - Local gardening resources and suppliers for community support 	<ul style="list-style-type: none"> - Equipment rental - Xeriscape tools - Automated watering integration 	<ul style="list-style-type: none"> - Is interested in cultivating an herb and vegetable garden - Wants to have one or more decorative flower gardens - Needs tips for keeping weeds at bay

Persona 2: Tom Greenfield

IMAGE	ABOUT	
	Name	Tom Greenfield
	Age	35
	Job	Freelance Landscape Designer
	Family	Single, no kids
	Computer Skill	Advanced; proficient in using design software, apps, and various tech tools
	Characteristics	Experienced gardener, prefers modern interfaces, tech-savvy
	Needs	<ul style="list-style-type: none"> - High-quality planning and visualization tools to create detailed and aesthetically pleasing garden designs. - Comprehensive plant data and identification features to support her design work and experimentation. - Access to a curated marketplace offering specialized and high-quality gardening products.
COMMON FEATURES	UNCOMMON FEATURES	
<ul style="list-style-type: none"> - Garden planning tools for designing and visualizing garden layouts, optimizing plant placement, and managing garden project - Plant identification to explore and identify new plant species and incorporate them into her designs - Marketplace for gardening supplies to purchase specialty tools, unique plants, and high-quality gardening materials 	<ul style="list-style-type: none"> - Integration with popular weather apps for real-time plant care advice - Basic plant care reminders 	<ul style="list-style-type: none"> - Passionate about creating beautiful and functional outdoor spaces and staying updated with the latest gardening trends. - Prefers visual and interactive tutorials or guides, rather than lengthy text-based instructions. - Active on social media platforms and follows industry experts and trends to stay informed and inspired.

Persona 3: Ruth "Gardening Guru" Thompson

IMAGE	ABOUT	
	Name	Ruth Thompson
	Age	62
	Job	Retired Teacher
	Family	Married with three adult children (ages 30, 32, and 35)
	Computer Skill	Basic
	Characteristics	Senior gardener, loves sharing knowledge, rural dweller
	Needs	<ul style="list-style-type: none"> 1. Simple, easy-to-use plant identification feature to help her identify new plants 2. Garden planning tool to help her prioritize tasks and manage her time
COMMON FEATURES	UNCOMMON FEATURES	ADDITIONAL ELEMENTS
<ul style="list-style-type: none"> - Simple plant identification feature for identifying new plants and learning more about their care - Garden planning tools for prioritizing tasks and managing time - Local gardening resources and suppliers for community support 	<ul style="list-style-type: none"> - Integration with popular senior living apps for sharing garden-related activities with friends - Personalized gardening tips based on age-related physical limitations and mobility issues - Virtual "garden mentor" feature for connecting with other experienced gardeners who share similar interests 	<ul style="list-style-type: none"> - Enjoys baking cookies for her grandkids - Loves reading historical fiction novels in her free time - Wishes she had more time to travel and visit her grandkids

Part II – Stories

Overview

Write fifteen (15) user stories (five user stories per personas). Use the following story format: "As a role (who), I need functionality (what), so that justification (why)."

Persona 1: Emily "Green Thumb" Wilson Stories			
#	Stories	Task	Task Description
1	As a busy mom, I need a simple plant identification feature to help my kids learn about plants so that they can develop an appreciation for nature.	Interface	Design identification system
		Backend API Development	Develop an API of plants info
		Frontend Integration	Integrate identification API
		Development	Develop identification system
		End to end testing	Deploy identification system
2	As a beginner gardener, I need garden planning tools to prioritize tasks and manage my time to enjoy gardening without feeling overwhelmed.	Interface	Design planning System
		Frontend Integration	Integrate planning system
		Development	Develop planning system
		End to end testing	Deploy planning system
		Interface	Design suppliers' system
3	As a GreenThumb user, I need access to local gardening resources and suppliers for community support to connect with other gardeners in my area.	Backend API Development	Develop an API for supplier system
		Frontend Integration	Implement supplier system
		Development	Develop supplier system
		End to end testing	Test supplier system
		Interface	
4	As a GreenThumb user, I need access to information for laying out flower beds so that our flowers can look great and are easily maintainable.	Frontend Integration	Design flower garden page
		Development	Develop flower garden page
		End to end testing	Test flower garden page
		Interface	
		Frontend Integration	Design vegetable garden page
5	As a gardener who loves cooking home cooked meals, I need resources to help grow basic vegetables so that I can include them in our family dinners.	Development	Develop vegetable garden page
		End to end testing	Test vegetable garden page
		Interface	
		Frontend Integration	
		Development	
		End to end testing	

Persona 2: Tom "Urban Gardener" Greenfield Stories

#	Stories	Tasks	Task Description
1	As a landscape designer, I need advanced garden planning tools, so that I can create detailed and visually appealing garden layouts that meet my clients' specifications and preferences.	Interface	Design garden planning interface
		Frontend Integration	Integrate planning system
		Development	Develop drag-and-drop functionality
		End to end testing	Deploy planning system
2	As a gardening enthusiast, I need a plant identification feature, so that I can quickly and accurately identify new plants I encounter, ensuring I can incorporate them into my garden with the right care requirements.	Interface	Integrate AI-based image recognition
		Backend API Development	Develop identification system API
		Frontend Integration	Integrate identification system
		Development	Develop identification system
		End to end testing	Test identification system
3	As a frequent gardener, I need reminders for plant care schedules, so that I can stay on top of watering, fertilizing, and other maintenance tasks, ensuring the health and growth of my plants.	Interface	Create notification system
		Backend API Development	Develop user interface for scheduling and reminders
		Frontend Integration	Integrate with calendar and task management system
		Development	Implement customizable reminder options
		End to end testing	Test reminder system
4	As a user looking to purchase gardening supplies, I need access to a curated marketplace, so that I can easily find and buy high-quality tools, seeds, and other gardening materials without having to search across multiple platforms.	Interface	Design product listings interface
		Backend API Development	Develop shopping API
		Frontend Integration	Integrate shopping cart and payment system
		Development	Build supplier management and inventory system
		End to end testing	Implement user reviews and recommendations
5	As a tech-savvy gardener, I need a user-friendly interface that integrates seamlessly across both desktop and mobile devices, so that I can plan, manage, and monitor my garden from any device, regardless of where I am working from.	Interface	Design responsive user interface
		Backend API Development	Develop mobile and desktop compatibility
		Frontend Integration	Integrate different devices feature
		Development	Optimize performance for both platforms
		End to end testing	Test across different devices and screen sizes

Persona 3: Ruth "Gardening Guru" Thompson Stories

#	Stories	Tasks	Task Description
1	As a senior gardener, I need a simple, easy-to-use plant identification feature to help me identify new plants so that I can continue to learn and grow as a gardener.	Interface	Design identification system
		Backend API Development	Develop an API of plants info
		Frontend Integration	Integrate identification API
		Development	Develop identification system
		End to end testing	Deploy identification system
2	As someone who loves sharing knowledge, I need garden planning tools to help me prioritize tasks and manage my time to focus on what's essential in my garden.	Interface	Design planning System
		Frontend Integration	Integrate planning system
		Development	Develop planning system
		End to end testing	Deploy planning system
3	As a retired teacher, I need access to local gardening resources and suppliers for community support to connect with other gardeners in my area and share my expertise.	Interface	Design forum feature
		Backend API Development	Develop forum feature API
		Frontend Integration	Integrate Forum feature
		Development	Develop forum feature
		End to end testing	Test forum feature
4	As someone who loves reading historical fiction novels in her free time, I need to integrate with famous book clubs to discuss gardening-related books to combine my love of reading and gardening.	Interface	Design library portal
		Backend API Development	Design library portal API
		Frontend Integration	Integrate library portal
		Development	Develop library portal
		End to end testing	Test library portal
5	As a grandmother who wishes she had more time to travel and visit her grandkids, I need a virtual "garden mentor" feature for connecting with other experienced gardeners who share similar interests so that I can find people to chat with while I'm busy in the garden.	Interface	Design Assistant feature
		Backend API Development	Develop Assistant feature API
		Frontend Integration	Integrate Assistant feature
		Development	Develop Assistant feature
		End to end testing	Test assistant feature

Part III - Sizing/Estimation

Overview

For each task and at the story level, estimate the number of hours and the number of story points.

- Building upon the table containing stories and tasks from part II, create a column for Work Hours.
Estimate the number of Work Hours for each task and summarize at the story level.
- Building upon the table containing stories and tasks from part II, create a column for Points.
Estimate the number of Points for each task and summarize at the story level.
 - As a baseline reference when sizing work to estimate points, assume the size and complexity of creating a hand-drawn sketch of the appointment scheduling screen is 3 points.
 - If a task is larger than 10 points, it is too large or complex and must be broken down into smaller components.
 - If a story is larger than 40 points, it is too large or complex and must split into smaller components.
- Using your estimation work so far as a reference point, will you be able to complete these two stories within one 2-week sprint? Why or why not?

Hours to Points Conversion System	
Work In Hours	Hours to Points
1 Work Hour	Equates to 1 Point

Persona 1: Emily "Green Thumb" Wilson Sizing/Estimation

#	Stories	Task	Task Description	In Hours	In Points
1	As a busy mom, I need a simple plant identification feature to help my kids learn about plants so that they can develop an appreciation for nature.	Interface	Design garden planning interface	5	5
		Backend API	Develop an API of plants info	8	8
		Frontend Integration	Integrate identification API	5	5
		Development	Develop identification system	8	8
		End to end testing	Deploy identification system	5	5
	Story 1 Total			31	31
2	As a beginner gardener, I need garden planning tools to prioritize tasks and manage my time to enjoy gardening without feeling overwhelmed.	Interface	Design planning System	8	8
		Frontend Integration	Integrate planning system	8	8
		Development	Develop planning system	8	8
		End to end testing	Deploy planning system	8	8
	Story 2 Total			32	32
3	As a GreenThumb user, I need access to local gardening resources and suppliers for community support to connect with other gardeners in my area.	Interface	Design suppliers' system	5	5
		Backend API	Develop an API for supplier system	8	8
		Frontend Integration	Implement supplier system	5	5
		Development	Develop supplier system	8	8
		End to end testing	Test supplier system	5	5
	Story 3 Total			31	31
4	As a GreenThumb user, I need access to information for laying out flower beds so that our flowers can look great and are easily maintainable.	Frontend Integration	Integrate share button on products and events.	5	5
		Development	Develop share system	8	8
		End to end testing	Test share system	3	3
	Story 4 Total			16	16
5	As a gardener who loves cooking home cooked meals, I need resources to help grow basic vegetables so that I can include them in our family dinners.	Frontend Integration	Integrate schedule worker System	5	5
		Development	Develop schedule worker System	8	8
		End to end testing	Test schedule worker System	3	3
	Story 5 Total			16	16

Persona 2: Tom "Urban Gardener" Greenfield Sizing/Estimation

#	Stories	Task	Task Description	In Hours	In Points
1	As a landscape designer, I need advanced garden planning tools, so that I can create detailed and visually appealing garden layouts that meet my clients' specifications and preferences.	Interface	Design garden planning interface	8	8
		Frontend Integration	Integrate planning system	10	10
		Development	Develop drag-and-drop functionality	10	10
		End to end testing	Deploy planning system	9	9
	Story 1 Total			37	37
2	As a gardening enthusiast, I need a plant identification feature, so that I can quickly and accurately identify new plants I encounter, ensuring I can incorporate them into my garden with the right care requirements.	Interface	Integrate AI-based image recognition	8	8
		Backend API	Develop identification system API	5	5
		Frontend Integration	Integrate identification system	8	8
		Development	Develop identification system	6	6
		End to end testing	Test identification system	7	7
Story 2 Total				34	34
3	As a frequent gardener, I need reminders for plant care schedules, so that I can stay on top of watering, fertilizing, and other maintenance tasks, ensuring the health and growth of my plants.	Interface	Create notification system	10	10
		Backend API	Develop user interface for scheduling and reminders	6	6
		Frontend Integration	Integrate with calendar and task management system	8	8
		Development	Implement customizable reminder options	10	10
		End to end testing	Test reminder system	6	6
Story 3 Total				40	40
4	As a user looking to purchase gardening supplies, I need access to a curated marketplace, so that I can easily find and buy high-quality tools, seeds, and other gardening materials without having to search across multiple platforms.	Interface	Design product listings interface	8	8
		Backend API	Develop shopping API	9	9
		Frontend Integration	Integrate shopping cart and payment system	6	6
		Development	Build supplier management and inventory system	8	8
		End to end testing	Implement user reviews and recommendations	8	8
Story 4 Total				39	39
5	As a tech-savvy gardener, I need a user-friendly interface that integrates seamlessly across both desktop and mobile devices, so that I can plan, manage, and monitor my garden from any device, regardless of where I am working from.	Interface	Design responsive user interface	9	9
		Backend API	Develop mobile and desktop compatibility	8	8
		Frontend Integration	Integrate different devices feature	6	6
		Development	Optimize performance for both platforms	10	10
		End to end testing	Test across different devices and screen sizes	7	7
Story 5 Total				40	40

Persona 3: Ruth "Gardening Guru" Thompson Sizing/Estimation

#	Stories	Task	Task Description	In Hours	In Points
1	As a senior gardener, I need a simple, easy-to-use plant identification feature to help me identify new plants so that I can continue to learn and grow as a gardener.	Interface	Design identification system	8	8
		Backend API	Develop an API of plants info	6	6
		Frontend Integration	Integrate identification API	8	8
		Development	Develop identification system	10	10
		End to end testing	Deploy identification system	8	8
	Story 1 Total			40	40
2	As someone who loves sharing knowledge, I need garden planning tools to help me prioritize tasks and manage my time to focus on what's essential in my garden.	Interface	Design planning System	8	8
		Frontend Integration	Integrate planning system	8	8
		Development	Develop planning system	7	7
		End to end testing	Deploy planning system	8	8
		Story 2 Total			31
3	As a retired teacher, I need access to local gardening resources and suppliers for community support to connect with other gardeners in my area and share my expertise.	Interface	Design forum feature	8	8
		Backend API	Develop forum feature API	7	7
		Frontend Integration	Integrate Forum feature	9	9
		Development	Develop forum feature	10	10
		End to end testing	Test forum feature	6	6
		Story 3 Total			40
4	As someone who loves reading historical fiction novels in her free time, I need to integrate with famous book clubs to discuss gardening-related books to combine my love of reading and gardening.	Interface	Design library portal	3	3
		Frontend Integration	Design library portal API	10	10
		Development	Integrate library portal	10	10
		End to end testing	Develop library portal	10	10
		Story 4 Total			33
5	As a gardener who loves baking cookies for her grandkids, I need personalized gardening tips based on age-related physical limitations and mobility issues so that I can enjoy gardening despite any physical challenges.	Interface	Design schedule worker system	6	6
		Backend API	Develop an API for schedule workers	8	8
		Frontend Integration	Integrate schedule worker System	10	10
		Development	Develop schedule worker System	4	4
		End to end testing	Test schedule worker System	10	10
		Story 5 Total			38

Sizing/Estimation Summary

Based on the sizing and estimation tables covered in this section, we have chosen to compare Story 5 Total for Persona 1: Emily "Green Thumb" Wilson is 16 points, and Story 3 Total for Persona 2: Alex "Urban Gardener" Chen is 40 points. We have also included an Hours to Points Conversion System that allows us to convert points into hours.

Based on the given, we can conclude by assuming a standard velocity of 15-20 story points per sprint, it seems more than likely that we can complete both within a 1 - 2-week sprint. This is so since the total estimated points for the two stories ($16 + 40 = 56$) are significantly balanced with our typical velocity. This suggests that we would likely complete both stories within a week or two.

Therefore, our answer to this question is: yes, it does seem possible to complete both selected stories within a sprint of 1-2-week sprint.

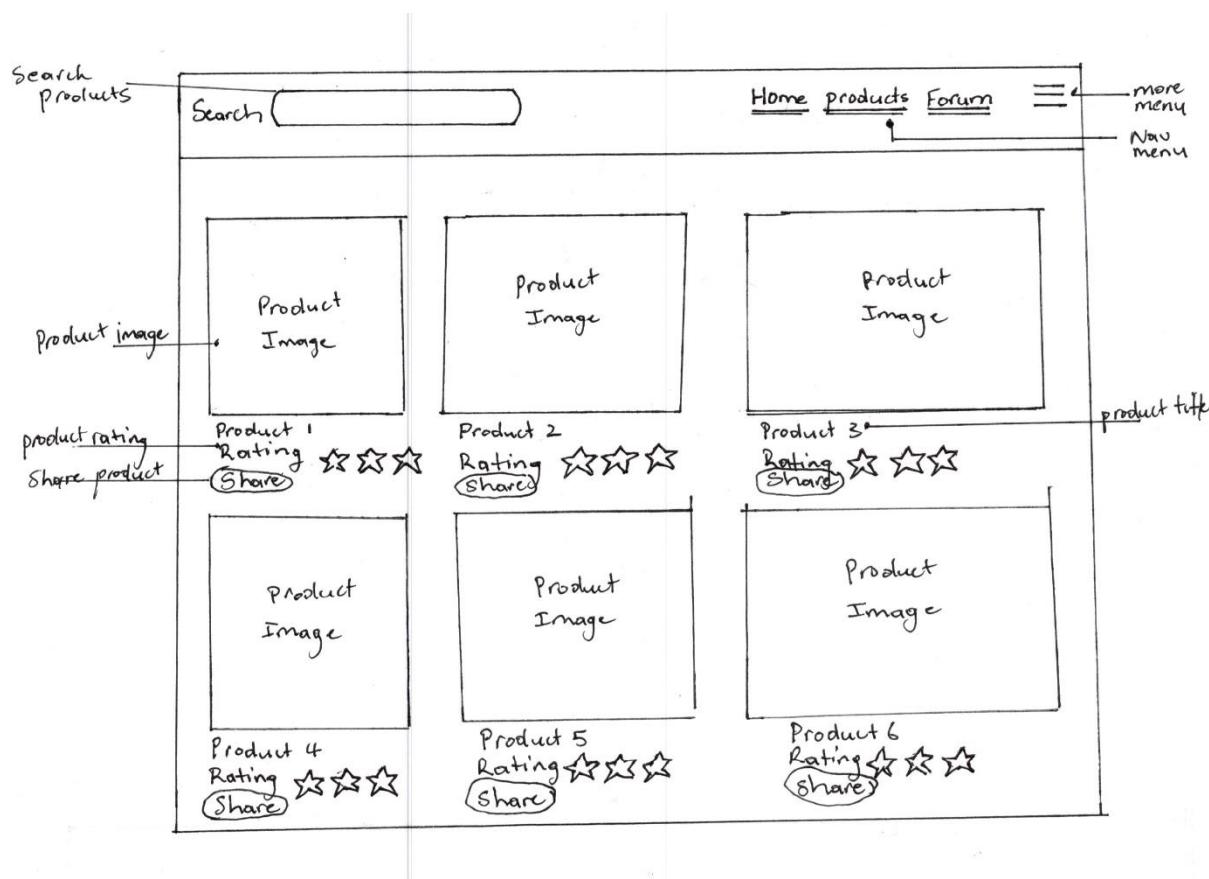
Part IV – Prototype

Overview

Create a hand-drawn prototype for the three proposed features: plant identification, garden planning tools, and a marketplace for gardening supplies.

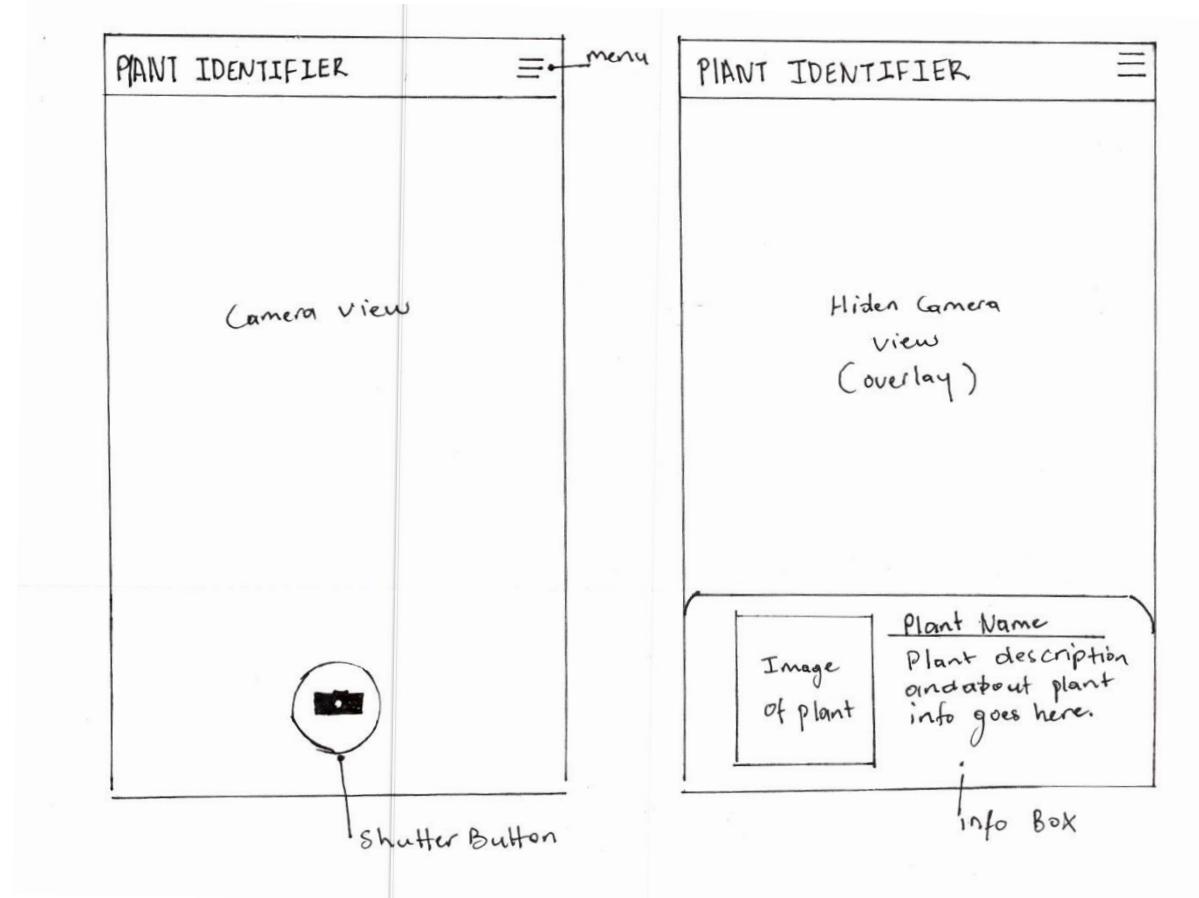
Market Place Sketch

This design takes simplicity and ease of use into consideration. The designer approached this design with the concept of web first and utilized standard fonts and image sizing to emphasize consistency. Finally, elements in this design are placed at locations where users can quickly identify the tools they need for a quick checkout.



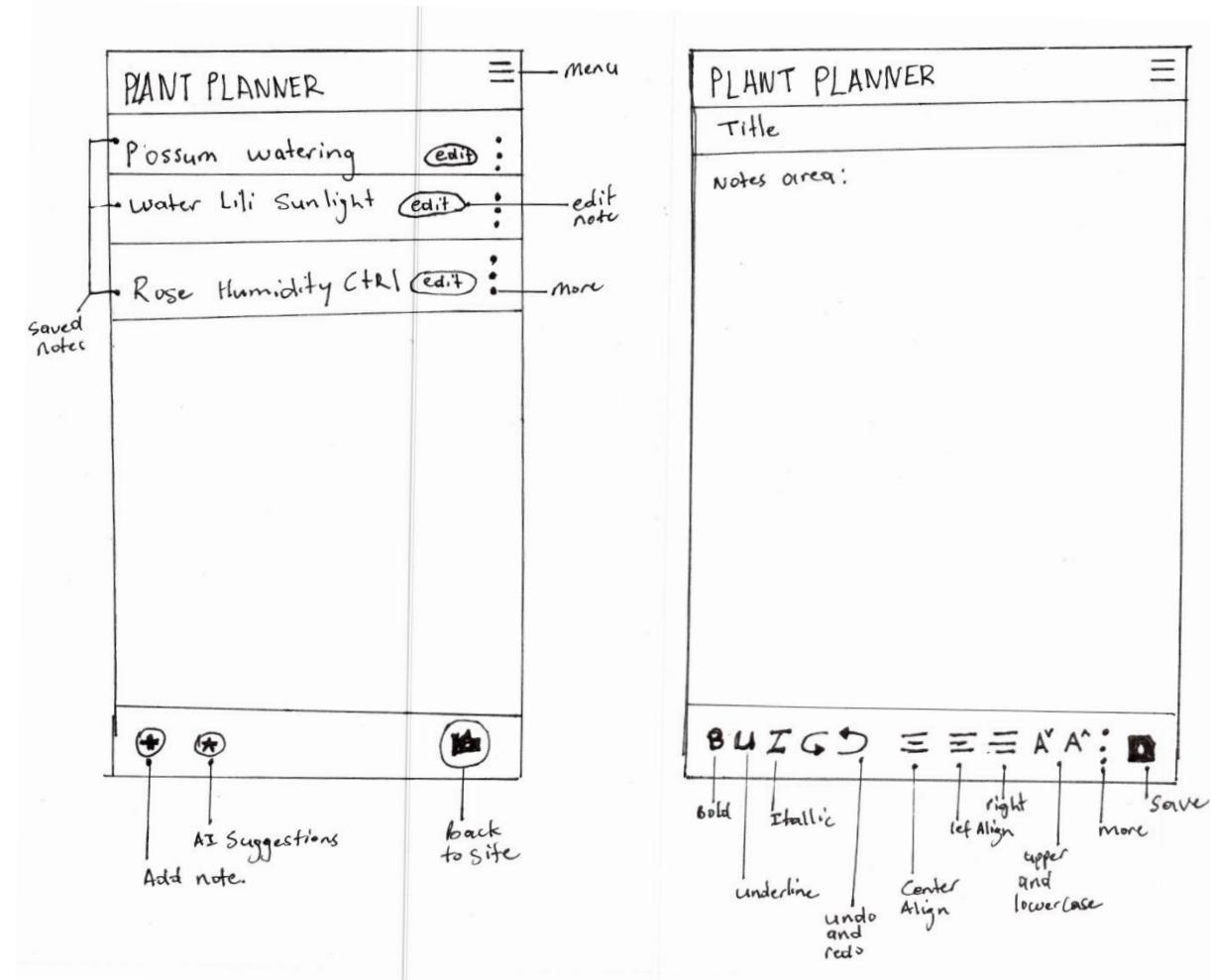
Plant Identifier Sketch

The plant identifier sketch focuses on ease of use in consideration of potential older clients; its design has a mobile-first approach that uses the device's camera to take photos of plants, which are then checked against our API for a match. On the web, UI users can upload an image if the device doesn't have a camera or access isn't granted.



Garden Planner Sketch

The garden planner sketch also uses the mobile-first approach and focuses on ease of use; the planner is designed to store and edit rich text files stored on a device. The application uses icons that are found across many documents editing apps, enabling it to be clear and concise.



Contributions

A table showcasing the sections completed by each student.

Student	Task
Scott Green	<ul style="list-style-type: none">• Persona 1• Persona 1 user stories• Persona 1 Sizing and estimation.
Dua Hasan	<ul style="list-style-type: none">• Persona 2• Persona 2 user stories• Persona 2 Sizing and estimation.
Exenreco Bell	<ul style="list-style-type: none">• Persona 3• Persona 3 user stories• Persona 3 Sizing and estimation.• Project Management