My prototype for the Imagine IoT challenge involves a way to keep track and monitor what is growing in a garden. I believe that this is scalable and could be used in a variety of gardens; from small personal gardens, to larger community gardens, etc. By carrying out research with some gardeners, I found that some people find it hard to keep track of what is growing in their garden. Another issue was that some people were unsure of their plants condition. For example, they were sometimes sure if a plant was being watered too much or too little.

My solution for this involves a mobile app, called ‘MyGarden’. This app is connected to the garden through sensors that are placed by plants. The app consists of two parts; a map to keep track of what is growing in the garden, and a detail section that informs on the plants conditions:

1. The map section involves augmented reality. When a user is in their garden, they can hold up their phone and the app will use the camera to show the view around them. There will be hotspots to show where plants are growing, and clicking on a plant will give a brief summary about it. If the user is not in their garden, there is also a map view. This is a grid which will also highlight where plants are growing and give a summary.

2. The details section shows all key information about the plant. This includes the name of the plant, the date planted, the temperature, and the moisture levels. It also displays a chart that shows how the plant is progressing.

The location, temperature, and moisture levels can be read by sensors that are placed near plants. These sensors can also connect to a water system. This water system could automatically be turned on when the sensors detect a plant needs water, or the user can decide to turn it on and off through the app. The app will also have a menu which will show the overall progress of the garden, this is shown in a percentage ring around an image of the garden. This menu will also show any alerts if any plants need attention.
I just planted a new flower

“I’ll add it to my app…”

...by entering some details

A few days later:

I got a new notification

“Oh I need to water that plant”

“All my plants are happy again!”

This is Jane
Persona

Jane Smith
A hobby gardener

“I want to make sure my plants are healthy, even when I’m not there”

About:
- I am 28 years old and work full time in an office
- I have a small garden at the back of my house
- I do some gardening whenever I have some free time, mostly after work or at the weekend
- I garden as a hobby, and to help me relax

Responsibilities:
- I am responsible for planting any new flowers in the garden, and keeping track of them
- I need to make sure my plants are watered enough, and that they are getting enough sunlight
- I need to harvest any fruit or vegetables when they have grown

Main Goals:
- To grow a wide variety of flowers and plants
- Having some fresh fruit and vegetables that I can be proud of growing myself
- For it to be a fun experience and not like another job for me

Needs:
- A way of knowing if my plants are healthy
- An alert if some plant needs attention, even if I’m not in the garden
- A way of watering them if I am not there

Pain Points:
- It can be boring to label each plant when I put it in the ground, so sometimes I forget what it is
- I’m not an expert gardener so I can be a bit nervous that I might be overwatering my plants
- It’s annoying when I water them and then it rains a few hours later, it’s a waste of my time
## Actions
- Goes to garden
- Brings some new seeds
- Plants the new seeds
- Labels the new flowers
- Uses a pencil and cardboard
- Comes back a few days later
- Waters flowers
- Measures temperature
- Comes back two weeks later
- Removes any plants that have died or are dying

## Mindset
- "Yay I’ve some free time to do some gardening"
- "All finished, I’m excited to watch them grow"
- "Ugh I got mud on my bag from taking out the pencil. How do I spell this plants name?"
- "Hmm, do these plants need to be watered or are they okay? The soil is a bit hot, I’ll keep an eye on it"
- "Oh no! Some of my plants have died. And now I have to waste time removing them"

## Feeling

## Touchpoint
| Seeds, Trowel | Soil | Pencil, Cardboard, Bag. | Soil, Watering Can, Thermometer | Dead plants, Scissors, Soil, Compost bin |
Jane, who gardens during her spare time, **needs a way** to monitor the condition of her plants, **so that** she can grow healthy plants, fruit, and vegetables.
Mockup

Flow:

Sketches:
Mockup

Mockups:

1. Login screen
2. Live view of garden
3. Map view of garden
4. Plant details
5. Side menu
6. List of all plants
7. List of alerts
8. Settings screen

Prototype:

My prototype can be found [here](#). I used Marvel to make the mockup images interactive. Clicking anywhere on the screen will highlight any of the interactive spots. I have also created a BUILD study, which you can see [here](#).