



THE UNIVERSITY OF  
MELBOURNE

Engineering Entrepreneurship  
(ENGR90026)

**NATURE NURTURE**



## Our Team



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# Problem statements

## Observations:

1. Do not know how to care for their plants
2. Neglected plants when they assigned others to take care of them.
3. They realize the problem way too late.
4. No continuous method to monitor or know if plant treatment is working effectively.



## Problem statements driven:

1. Providing comprehensive care for plants is time consuming and can be inconvenient
2. People have difficulty identifying and addressing problems with their plants
3. Effective and tailored plant treatments or fertilizers are not readily available

# Solution proposed

- An ecosystem of discrete sensors and a free app: moisture content, sunlight and NPK+PH
- Can be paired with an optional subscription service for automatically generated, tailored plant care advice.
- Customised fertiliser treatments.
- Expert consultations will also be available at an additional price.



## Initial Problem statement

If they struggle with the task of watering their plants. Do they forget to water them regularly or find it inconvenient to do so consistently?

### Insights:

**Number of problem interviews:** 15

**Locations:** Bunnings Collingwood and Preston

**Other:** Friends and family plant enthusiasts

## Impact on initial problem statement

Address ALL the challenges faced by customers instead of just focusing on the issue of watering the plants, such as ongoing monitoring, providing comprehensive care and effective and tailored plant treatments and fertilisers.

### Questions asked:

1. How long have you been growing plants?
2. How important is the appearance of your plants to you?
3. What are the challenges faced in taking care of your plants?
4. Do you find it easy to remember to take care of your plants?
5. How often are you unsure how to fix a problem with your plants?
6. What do you do with your plants when you go on holiday?
7. How often do you check on your plants' health and troubleshoot any issues?

### Common feedback:

- Struggle with understanding plant care, including watering, sunlight, fertilization, and pest control.
- Identifying plant problems and finding tailored solutions.
- Continuous monitoring and guidance to ensure their plants' well-being.
- Inconvenient to care for their plants consistently, particularly when they are away from home.
- Accessible and personalised information on plant care.

# Identifying our customers

- People learning how to successfully grow plants
- People who having trouble taking care of their plant
- People who cannot / do not regularly monitor their plants (lazy or busy)
- Aged between 25-45 years
- Tech/data enthusiasts who keep plants
- People who assign high value to keeping their plants healthy - home farms, sentimental plants
- Partners who don't trust their partners to (successfully) care for their plants
- Small office owners or cafes.
- Individuals who are disabled.





# MVP Interviews

- Initial solution based on problem interviews

Universal pot plant watering system

- MVP Solution interviews Insights:

**Number of problem interviews:** 15

**Locations:** Bunnings, Local nurseries

**Other:** Friends and family plant enthusiasts

## Summary of types of questions asked

- Do you like to monitor them regularly?
- What is the value they hope to obtain from sensor information?
- How long did it take for you to get value from other solutions from the market?
- How comfortable are you with sensors in plants ?



# MVP Interviews

## Common feedback

- A quick resolution to prevent attack from insects and bugs (primary) and if they were fed with enough water(secondary).
- Not knowing the right quantity of nutrition or water based on the stage of plant along with effects of weather changes.
- A set of sensors for every individual plant was a lot.

## Impact on solution

- Personalizing plant care routine to considering the plants affecting factors
- A device that could be used with multiple plants
- Providing a platform for people to be a part of the community and share similar concerns





## Market Size

**TAM**

Households  
**12.6m**

All households in  
Australia

**SAM**

People involved  
in gardening  
**6.3m**

Families, couples and  
Single individuals

**SOM**

Technically  
enabled plant  
enthusiast  
**633K**

ARR: 3.3m App sales  
With 8% growth till  
2041

# Acquisition Channels



## ACQUISITION

- Website
- Pop-up
- Social Media
- Influencer promotion
- Magazine
- Retailers

## ACTIVATION

- Free app download
- Affiliate links
- Utilize app notifications
- Free trial

## REVENUE

- Direct sales
- Affiliate sales
- Free to Paid subscribers

## RETENTION

- In app goals and achievements
- Community involvement
- Discount for repeat order

## REFERRAL

- Referral bonus or discount
- Social media shares
- Ambassador program



# Cost breakdown

- Hardware:
  - Cost price of \$10 per unit
  - Projected stock in year 1: 10000
  - Total cost \$100,000
- Cloud hosting costs:
  - \$1 per user per month
  - Avg monthly users in year 1: 1500
  - Total cost \$18,000
- Ongoing business costs:
  - \$600,000 per annum
  - Includes real estate costs (\$100k), salaries (4 staff), marketing (\$100k) etc
- Total operating costs in year 1: \$718,000

# Revenue Breakdown

## Subscription Tiers

<b>Free</b> no account	Basic sensor monitoring, no tailored advice or cloud services	10% user base
<b>Basic</b> 1 free plant	Sensor monitoring, cloud data storage + tailored advice	60% user base
<b>Premium</b> Unlimited plants \$4.99/mo	Sensor monitoring, cloud data storage + tailored advice	30% user base

## Application revenue

Average monthly subscriptions: 1500

Basic users: 1000

Premium users: 500

Premium revenue:  
\$29,940

## Net position

Total costs: \$718,000

Total revenue: **\$79,915**

Net position: -\$556,085

## Product Sales

Sensor sales: 2500

Price per unit: \$24.99

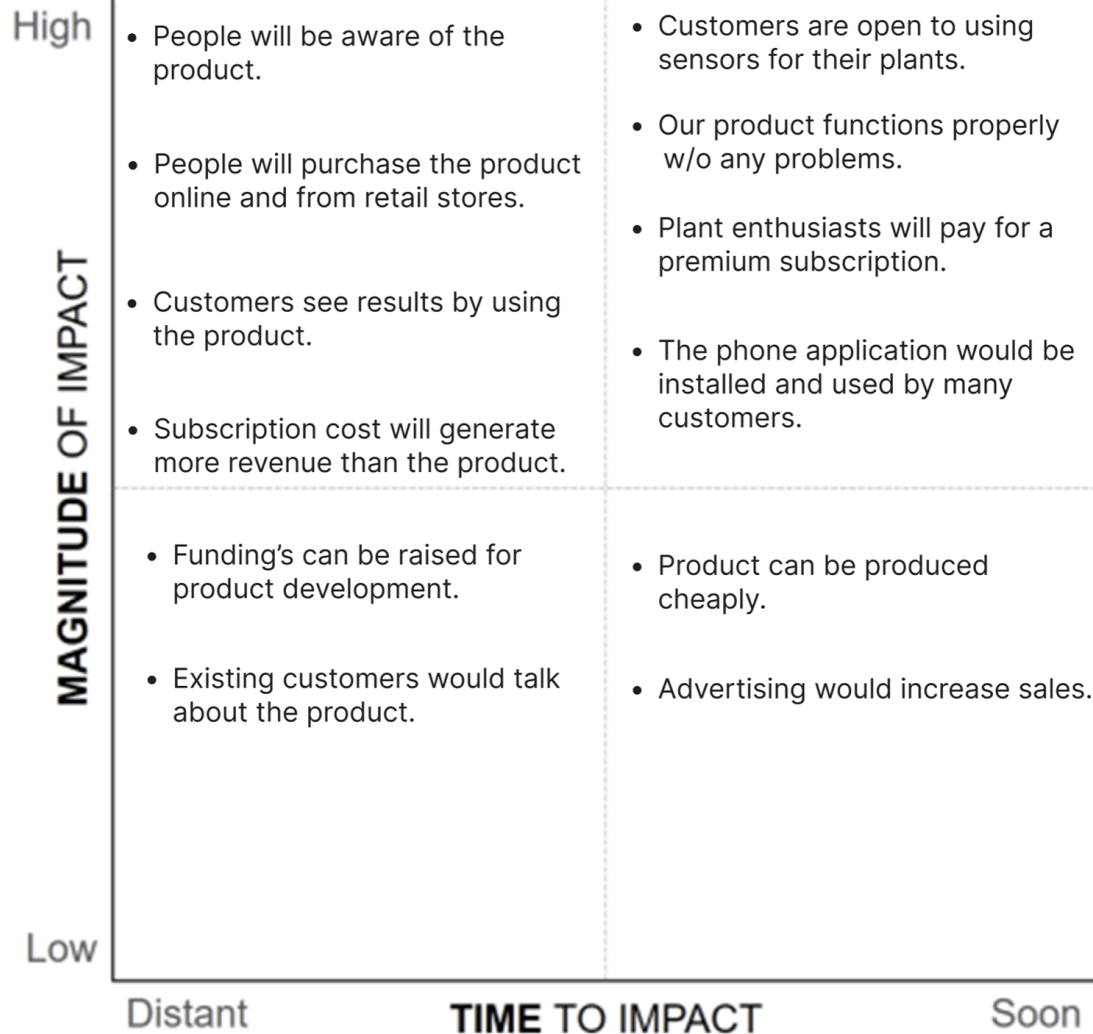
Total product  
revenue: \$49,975

## Break even

37,500 sensors p/a  
11,250 premium  
subscriptions



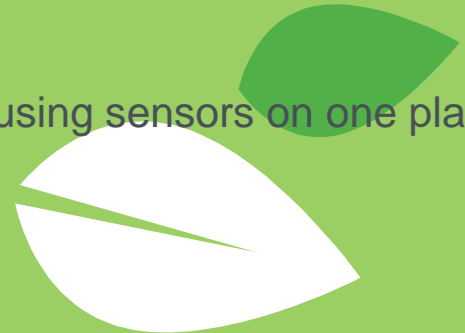
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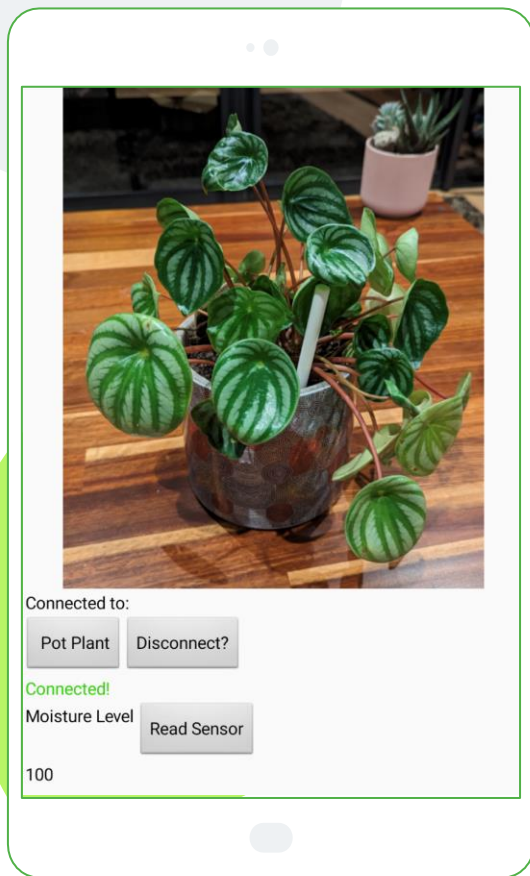
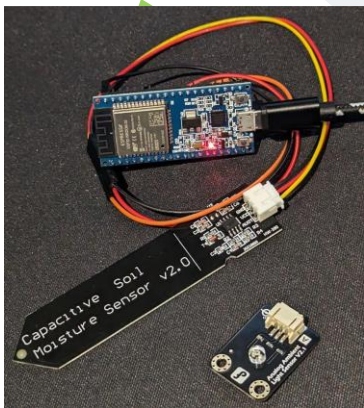


# Critical Leap of Faith Assumptions

## Customer interest in sensors, acceptance of appearance

- We needed to confirm customers saw value in our hardware, and would accept the appearance of the sensors
- We conducted interviews with customers to get their feedback
- Feedback was positive
- **Key takeaways:**
  - Value was understood by vast majority
  - Appearance was acceptable
- Key concern was cost of sensors + subscription
- Some customers suggested they would minimise cost by using sensors on one plant to indicate when several similar plants needed attention





## Functional prototype

- Critical to test the technology
- Pieced together from off-the-shelf components
- Several key takeaways from process
  - BLE can be challenging
  - Need data syncing + storage strategy



# Lean Model Canvas

## Problem



- Providing comprehensive care for plants is time consuming and can be inconvenient
- People have difficulty identifying and addressing problems with their plants (and helping them thrive)
- Effective, tailored plant treatments are not readily available

## Solution



- A suite of sensors for detecting plant health + identifying problems
- A free app to provide a live snapshot of the plant's health, connect the user to a broader community of enthusiasts, and pass the sensor data through to our business
- A subscription service which provides tailored treatment advice for superior plant health + growth

## Key Metrics



- Monthly active application users
- Subscriptions retention
- Initial sensor sales and repetitive sensor sales

## Unique Value Proposition



Superior plant care enabled by smart monitors informing tailored treatment advice, supported by an online community of plant enthusiasts

## Unfair Advantage



- At launch: superior technology based approach, novel individualised treatment advice generator, competitive pricing
- Growth phase: enthusiast community support, customer testimonials, established reputation, low-cost entry point (app, single sensor cost), tailored fertilizer service
- Established phase: great reputation, large community, brand awareness

## Channels



- Social media advertising
- Influencer marketing
- Reputable (bricks + mortar) retailers
- Enthusiast events (farmer's market, plant exhibitions, plant conferences)

## Customer Segments



- Plant enthusiast who are interested in tech/Plant geeks
- People who having trouble taking care of their plants
- People who can't/don't regularly monitor their plants (lazy or busy)
- People learning how to successfully grow plants
- Tech data enthusiasts who keep plants
- People who assign high value to keep their plants healthy – home farms, sentimental plants
- Partners who don't trust their partners to (successfully) care for their plants
- Academic institutions (universities and researcher)

## Cost Structure



- Cost of goods sold (plant sensors, plant treat)
- Marketing and advertising costs (social media ads, influencer fees)
- App development and maintenance costs (subscription hosting)
- Operational costs (customer support, shipping, etc)
- Production cost of sensors

## Revenue Streams



- Sensor sales
- Subscriptions-based model with recurring revenue from monthly service fees
- Other product sales - fertilizer, expert services



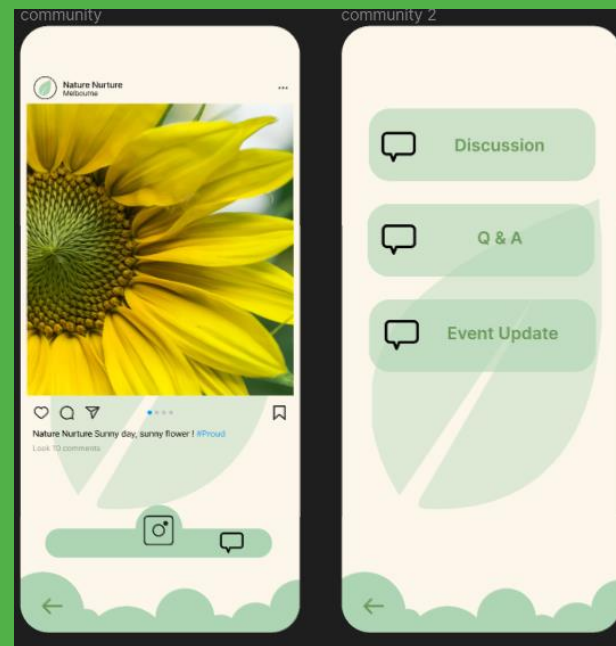
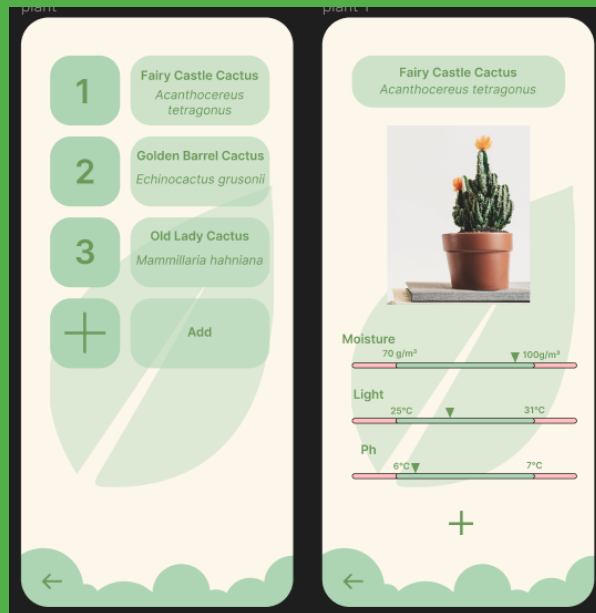
# SOFTWARE PROTOTYPE

Basic function

Main feature

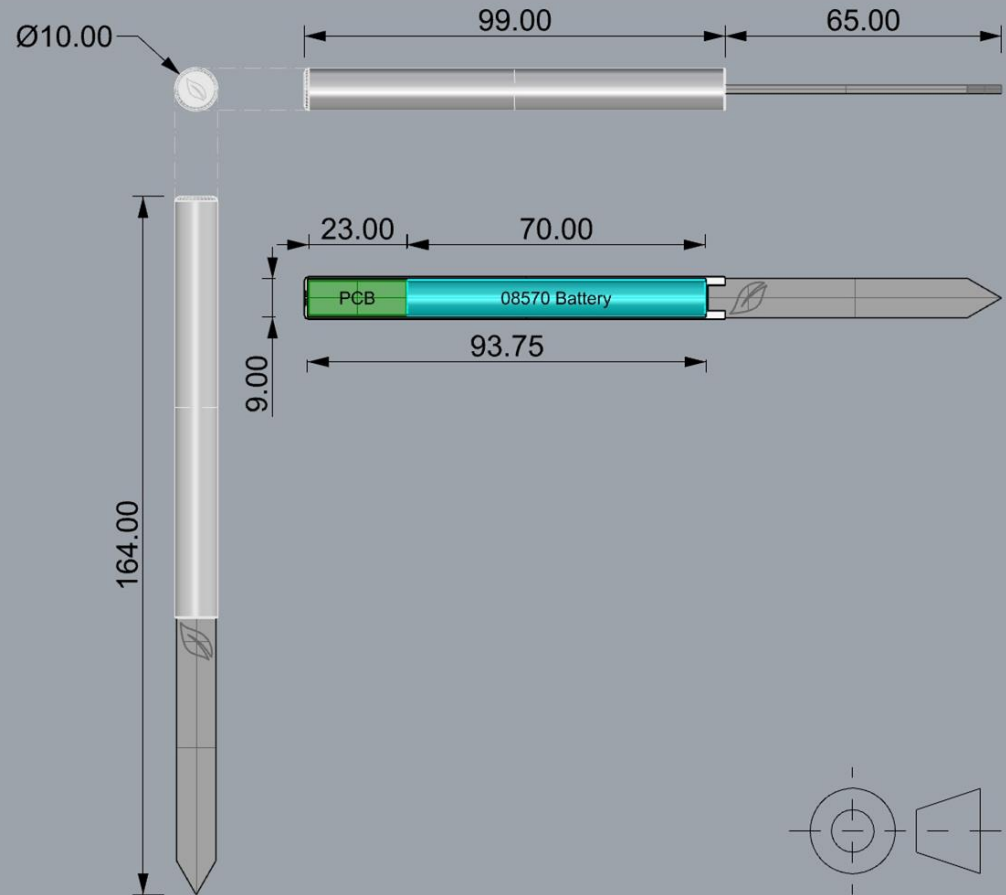
Additional feature

<https://www.figma.com/proto/Mw26A4FWIYVZoWJ9CipcCN/Nature-Nurture?type=design&node-id=1-4&scaling=scale-down&page-id=0%3A1>

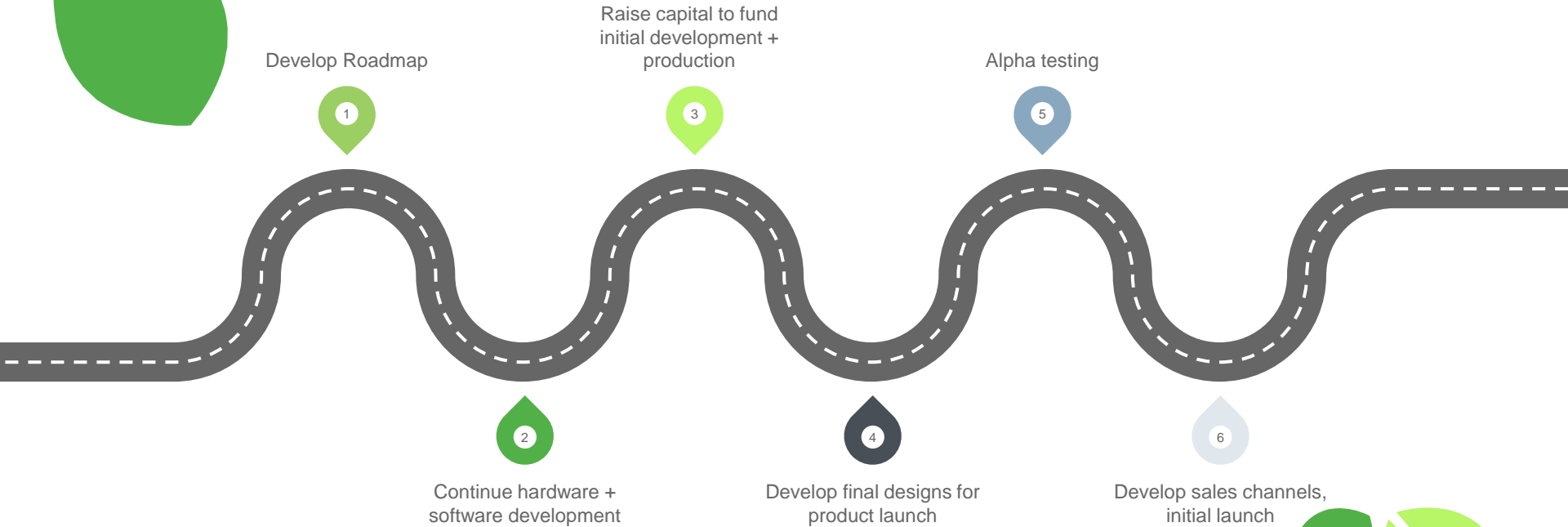




# Final Product Form



# Roadmap



Thank so much for  
listening!

