

INTERNSHIP/START-UP PROPOSAL

PLAN'T

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Description of the business

The goal is to wake the modern-day hippie in all of us and bring back the peace we all feel when in contact with nature, therefore, Plan't aims to build on the connection between people and nature by employing technology to further this relationship. Plan't will create a social and educational network for all app users by instructing them on how to combine species for a thriving habitat, showing the daily amount of produced oxygen in a network, and fostering a positive environment for Plan't users.

Executive summary

As a device, Plan't will be assisting with the care of plants. No more inconveniencing friends and family when on vacation, no more hassle with watering and fertilizing plants regularly, and no more hurting plants because of our busy human lives. The user will only need to refill the water and fertilizer tanks when the device notifies them via the app, allowing for carefree cohabitation.

Personal devices will have “setup video tutorials” explaining the parts and functionality of Plan't. Devices implemented on a bigger scale (such as for businesses or larger home projects), will benefit from on-demand set-up services by Plan't tech support. Businesses, cafes, offices, and similar will be incentivized to implement the device for ambiance as well as benefit from the beauty of plants, the natural microhabitat created, and an "eco Plan't" badge to advertise themselves as sustainable.

The Device

Components

- Microcontroller: ESP32(variant to be defined)
- Sensors: Capacitive soil, light, temperature, air humidity, motion
- Actuators: Servo motor, water pump
- Other: Relay, plastic tubing

Function

Plan't can detect and create the perfect environment for any plant it takes care of. After the components are set up, the device connects to the local wifi network or gets the "information of care" via Bluetooth. Once the setup is complete, Plan't will provide nutrients and slowly create the perfect habitat for the living being.

Home Security (future implementation)

A network of Plan't devices can track multiple variables in the space they occupy. This means users can choose to use Plan't as a state-of-the-art security system that will notify any danger when at home or not.

Examples of Plan't as security system:

- Air pollution detection
- Smoke/ fire detection
- Motion detection within the house when users are on the road

The App

The Social

A social network arises once Plan't devices operate. The app allows people to see and discover surrounding plants, and the online database informs the observer about the plant's properties. The visitor will be able to know the age, health, produced oxygen, happiness, etc. The network will

allow the user to compliment the plant for its service, which translates to thanking the Plan't owner via a notification that will show at the end of each day.

"Normalizing" human-plant interaction is addressed with the network by creating genuine interest in plants and allowing the owner a stress-free environment to give the plant the happiest possible life.

The Interactive (future implementation)

The interactive process begins when the owner describes the plant and it becomes “alive” within the network once the system authenticates it. By “alive” we mean that the plant is now visible to other users and can grant them a “Discovered Plan’t” badge, whilst granting its owner a "Plan't Parent" badge. Plan'ts interactiveness will allow each plant to hold value and spark interest in the mind of users, as well as open the possibility of plants developing unique personalities.

Market Analysis

Market Size

The automatic plant care systems market has been growing steadily and is expected to grow significantly over the next few years. The global market size for plant care products and services was valued at USD 12.1 billion in 2020 and is expected to grow at a CAGR of 6.7% from 2021 to 2028.

Market Segmentation

The market can be segmented by automatic plant care system type and end-use application. The former includes irrigation, nutrient delivery, pest control, and lighting systems whilst the latter elaborates on the space of application (es. residential, commercial, and agricultural).

Competitive Landscape

The automatic plant care systems market is highly competitive, with many companies offering a range of products and services.

Some of the key players in the global market include:

1. **Bluelab Corporation Limited** – New Zealand-based company that specializes in designing and manufacturing nutrient management and pH monitoring solutions for hydroponic growers.
2. **Netafim Limited** – Israeli-based company that provides irrigation solutions for agriculture, landscaping, and mining industries worldwide.
3. **Delta-T Devices Ltd.** – UK-based company that specializes in developing and manufacturing environmental sensors and data loggers for plant research and agricultural applications.
4. **The Scotts Miracle-Gro Company** – American-based company that produces and distributes lawn and garden products, including fertilizers, soil, pest control, and hydroponic systems.
5. **Hydrofarm, Inc.** – American-based company that manufactures and distributes hydroponic equipment, lighting systems, and plant nutrients for indoor and outdoor gardening.

6. **Grownetics, Inc.** – American-based company that provides advanced plant growth monitoring and automation solutions for commercial indoor farming.
7. **Urban Cultivator Inc.** – Canadian-based company that produces and sells indoor hydroponic gardens for residential and commercial use.
8. **AeroFarms LLC** – American-based company that operates vertical indoor farms using aeroponic technology to grow leafy greens and herbs.
9. **Signify Holding BV** – Dutch-based company that provides lighting solutions for horticulture and agriculture, including LED lighting systems and grow lights.
10. **Heliospectra AB** – Swedish-based company that produces and sells LED lighting systems for indoor plant cultivation, with a focus on sustainability and energy efficiency.

Companies based in the Netherlands include:

1. **Netafim Limited** – Israeli company with a subsidiary in the Netherlands that provides drip irrigation systems and solutions for agriculture, landscaping, and greenhouse applications.
2. **Signify Holding BV** – develops and sells LED lighting solutions for horticulture, including systems for vertical farming and greenhouse applications.
3. **Logiqs BV** – specializes in automated material handling and greenhouse systems, including vertical farming solutions.
4. **Priva Horticulture BV** – provides climate control and automation systems for greenhouse and indoor growing applications, including irrigation, fertilization, and lighting control.
5. **Certhon BV** – designs and builds turnkey greenhouse solutions, including automation systems for climate control, irrigation, and lighting.
6. **KUBO Greenhouse Projects BV** – designs and builds high-tech greenhouse systems for commercial growers, including climate control, irrigation, and lighting automation systems.
7. **Grodan BV** – produces and sells substrates and other products for hydroponic growing systems, including automated nutrient delivery systems.
8. **Ridder Group** – provides climate control and automation systems for greenhouse and indoor growing applications, including irrigation, fertilization, and lighting control.

9. **Hoogendoorn Growth Management** – provides climate control and automation systems for greenhouse and indoor growing applications, including irrigation, fertilization, and lighting control.
10. **Dalsem Group** – provides turnkey greenhouse solutions, including climate control, irrigation, and lighting automation systems.

Market Trends

- Increasing adoption of IoT (internet of things) and AI technologies in plant care systems to improve efficiency and accuracy
- Growing demand for sustainable and organic agricultural practices, driving the adoption of automatic plant care systems that reduce the need for chemical pesticides and fertilizers
- The rising popularity of indoor and urban gardening, leading to increased demand for compact and user-friendly automatic plant care systems
- Increasing use of hydroponic and vertical farming methods, driving demand for automatic plant care systems that are optimized for these growing environments

Barriers to Entry

Barriers to entry into the automatic plant care systems market include the potentially high research and development costs, manufacturing, and marketing. Additionally, companies must have expertise in various areas, including horticulture, engineering, and software development, to create effective and user-friendly plant care systems.

*Timeline**

Weeks 1-2: Conduct Market Research and Analysis

- Conduct market research to identify potential customers and competitors
- Analyze the data to understand the market size, growth potential, and trends
- Identify key features and functionalities of the product

Weeks 3-4: Develop Product Roadmap and Strategy

- Create a product roadmap that outlines the key features and functionalities
- Define the target audience and approach strategy
- Identify the resources and technologies required to develop the product

Weeks 5-6: Design and Develop the MVP(minimum viable product)

- Design the user interface and user experience for the MVP
- Develop the MVP using agile methodology and iterate on the design based on user feedback
- Test the MVP to ensure that it meets the key features and functionalities identified in the product roadmap

Weeks 7-8: Develop and Implement Marketing Strategy

- Develop a marketing strategy that aligns with the business goals and objectives(reaching out, video tutorials, etc.)
- Identify key channels for promoting the product, such as social media, email marketing, or influencer partnerships
- Create marketing content and materials, such as blog posts, videos, or infographics

Weeks 9-10: Build the DIY Kit and Solutions for Businesses

- Develop and test the DIY kit for consumers and businesses
- Create solutions for firms that customized to their needs and requirements
- Develop educational resources to teach customers how to use the product and maintain their plants

Weeks 11-12: Launch the MVP and DIY Kit

- Launch the MVP and DIY kit on the website and through the marketing channels
- Collect feedback from early adopters and iterate on the product based on their feedback
- Promote the product through marketing campaigns and partnerships

Weeks 13-14: Scale the Business

- Build a sales team to increase sales and distribution
- Develop partnerships with retailers to sell the DIY kit and other products
- Expand the business into new markets and geographies

Weeks 15-16: Establish Carbon Neutral Processes

- Research and implement processes to establish a carbon-neutral business focusing on a positive footprint
- Identify opportunities to improve the carbon impression of the product and market the positive impact on the people and planet

Weeks 17-18: Reach 100 Deployed Units and Seek Full Time Investment

- Deploy 100 units of the product to customers and businesses
- Develop financial projections and a business plan to seek full-time investment
- Pitch to investors and seek funding to scale the business further

*Note that this timeline is just a developing process, the points are interconnected, and I need to work on multiple simultaneously. I must stay flexible and adaptable as I navigate the challenges and opportunities of starting a business.