



Self Caring Plant Pot

By :Kevin M, Jonathan M, Sathwik P.

Who Are We?



Kevin Mei



Jonathan

Team Leader



Sathwik Prabhu

Context

1 What the problem is?

2 Our Research

3 Who Has This Problem?

4 What Are We Solving

5 Our Solution

6 How it Works

7 Pot in Usage Video

8 Process Pictures

The Problem

We're solving a very real and very common problem. **Most people struggle to keep their plants alive.** Through our research, we found three major barriers:

Busy lifestyles & travel

People simply forget to water or aren't home consistently.

Lack of expertise

Many can't judge soil moisture, sunlight, or watering needs.

Unreliable assistance

Roommates or family often overwater or neglect plants when the owner is away.



Our Research



What Users Say

100%

Struggle with consistent watering

75%

Have trouble knowing the right amount

80%

Want peace of mind while traveling

50%

Reported issues with fragile pots that break easily

Our Audience

Students who leave for weekends or semester breaks

Young professionals with busy schedules

Travelers and frequent movers

New plant parents with low plant knowledge



Imagine this experience

You're traveling for a week. → You don't text your roommate. → You hope they remember. → You cross your fingers.

Thousands of plant owners experience this each month.

Introducing our Smart Plant Pot

A modular plant pot that:

- ✓ Automatically waters based on soil moisture
- ✓ Indicates plant health through simple feedback





A Better Way to Take Care of Plants



Stores enough water for days



Is durable and designed to prevent overwatering

How it Works

Your pot
checks soil
moisture.



Your pot
waters the
plant
automatically.



Your pot tells
you when water
is low.

This is the experience we are creating: stress-free plant care.

How we made it

Low Fidelity Prototype Choices

MATERIAL

Foam Core

Foam core was chosen for its ability to be stronger than cardboard and flexible enough to be cut and bent

SHAPE AND DIMENSIONS

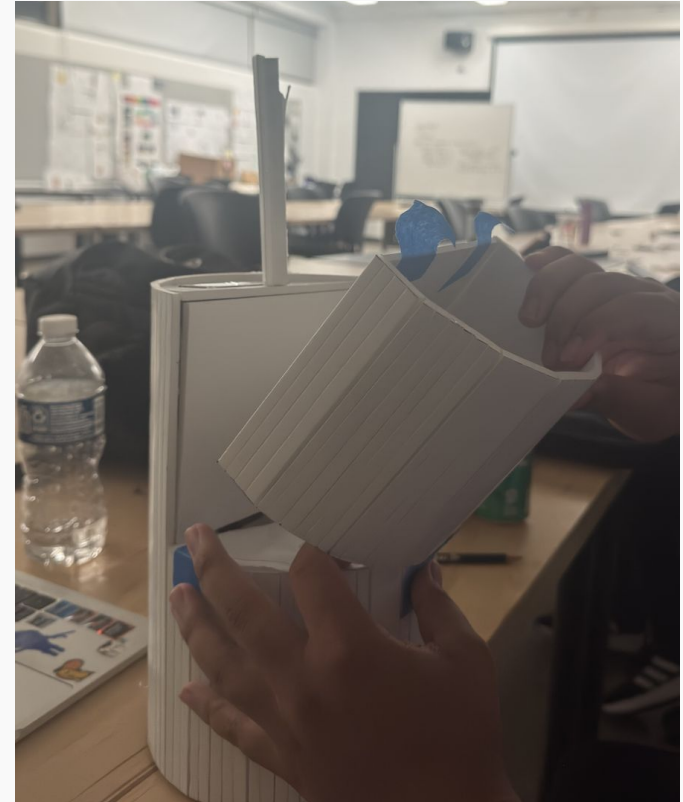
Cylindrical

The two primary, separable components: the upper soil pot (where the plant sits) along with half of it for electronics and the lower half as a water tank.

USAGE AND FUNCTIONALITY

Magnetic Attachment

Magnetic Attachment were selected to connect the main pot body to the overall base.



Challenges Faced for High-Fid Prototype

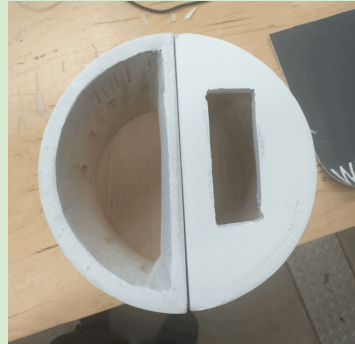
Size of Electronic Components

The modeled sizes for the Arduino board, water pump, and battery pack were too big to fit in the model's electronic space



Carving the foam core

Precision carving of the foam core proved difficult for integrating internal components, leading to inaccurate modeling of the final dimensions.



Alignment of Water dispenser

Precise alignment between the water dispensing tube in the delivery hole in the upper soil pot so it doesn't spill out was challenging.

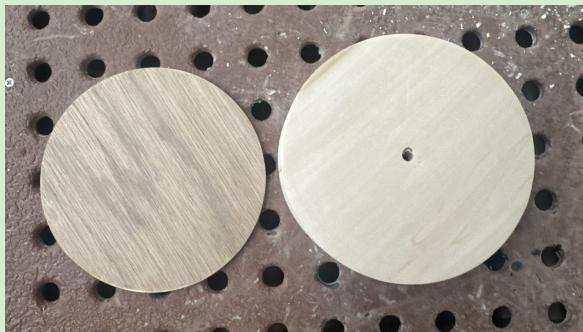


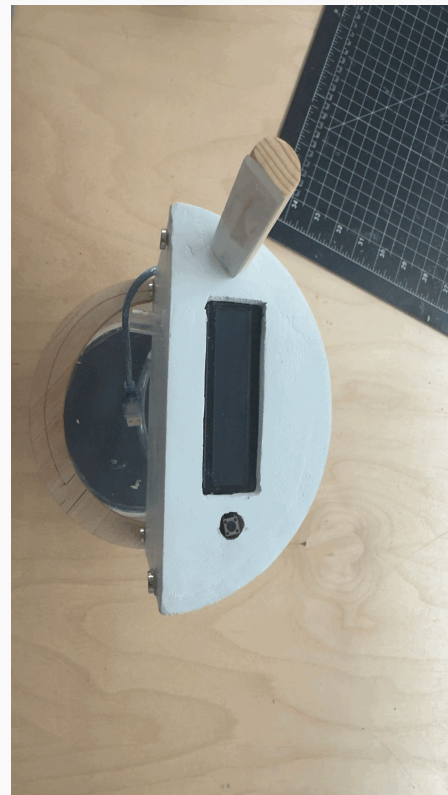
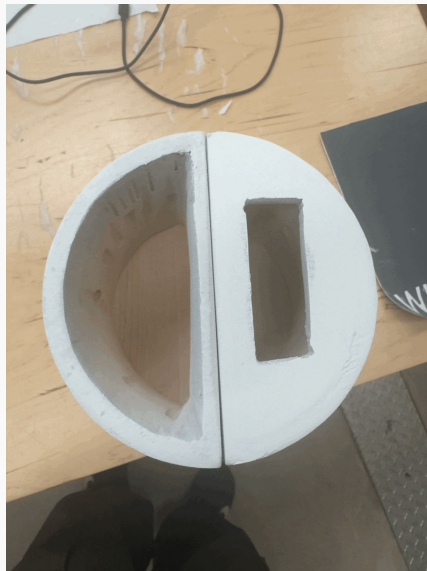
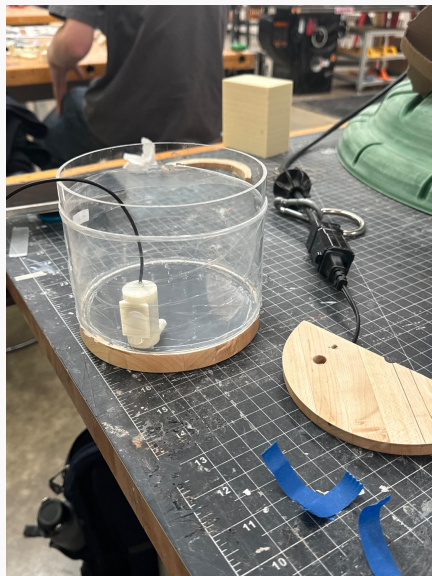
High Fidelity Prototype

Our high-fidelity prototype uses Arduino code to run a functional water pump and a health-indicator button. These features let us test real interactions and confirm the system can handle the core tasks of watering and monitoring.



Process Pictures





Pot in
use

Survey Findings After High Fidelity Model

Usage Results

100%

of participants reported that the interactions between them and the pot itself was very simple and straightforward.

Would you like to use this?

80%

of users that we have an surveyed would like to incorporate this plant pot into their life / routine if they were away.

Improvements

10%

of participants mentioned that some of the components such as the screen can be relocated elsewhere as well as the button on the overall pot can be moved elsewhere.

Thank You

