
Weekly Progress Report: #5**23 February, 2023**

Project: C.E.L.P. Gardens**Team:** Cole Moore, Eric Messer, Luke Barber, Philip Entrekin

Work Completed

The team has completed the Project Proposal Report and Presentation. These proved to show that some more research and testing is needed for our systems requirements. Testing specifications are being recorded for the upcoming design review. All of our components have been delivered and testing on all of the parts can continue.

Current Completed Deliverables:

- Team Bio's - 1/15/23
- Project Summary - 1/24/23
- Weekly Progress Report #4 - 2/16/23
- Proposal Presentation - 2/10/23
- Proposal Written Report - 2/10/23

Work in Progress

The software and hardware leads have started on the module assembly. Software and algorithm development is beginning so we can have a micromanaged plan of how the system will function. The team is researching and documenting how each function of the module will be tested. This includes specific details of what is expected and how and where the module will be tested. The solenoid valves are being tested to see the minimum power necessary to actuate them. If this value will drain most of the system's power before our target battery life, we may look into other power options or change in actuators for the self-watering. We will have to design some adapters for the solenoid valve using CAD software so that we may 3D print them.

Milestones We are Working Towards

- All sensors reading properly
- Transmitting data to GUI going as expected/developing GUI
- Getting the solenoid valve to run under the least amount of power possible.
- CAD designs for 3D printing solenoid valve adapters.

Challenges and Changes

The container for the hardware originally planned (90x70x28mm) is slightly too small to contain our entire hardware. We have looked into other enclosure options. The final decision for the enclosure will be decided once some CAD drawings for our valve adapters will be designed this weekend.

Project Cost

Bill of Materials

C.E.L.P. Gardens	Part Number	Part Description	Retail Price	Vendor
Hardware	ESP32-C3-DEVKITC-02U	Microcontroller	\$9.80	digikey.com
	DHT11	Temp./Humidity Sensor	\$3.15	amazon.com
	B07SYBSHGX	Moisture Sensor	\$2.00	amazon.com
	Adafruit-997	Solenoid Valve	\$6.95	adafruit.com
	COM-08589	Diode	\$0.25	mouser.com
	L7805CV	Voltage Regulator	\$0.69	digikey.com
	BS170	MOSFET	\$0.44	newark.com
	3D-Printed	Threading Adapter/Spout	\$1.70	coreprototyping.xyz
	B07W9H8M3Z	Device Case	\$2.20	amazon.com
	Alkaline	2x 9V Batteries	\$4.84	amazon.com
Total			\$33.76 (current)	

These components are mostly the final choice for this project. Any small and inexpensive components of the circuit design are not included. Any software used for the project will be free.

Team Member Hours

As of 2/23/23, the team has worked 12.5 hours on this project this week. This is a cumulative of 152.5 total hours invested in the C.E.L.P. Gardens project.

Week 7		Mon, Feb 20	Tue, Feb 21	Wed, Feb 22	Thu, Feb 23	Fri, Feb 24	Sat, Feb 25	Sun, Feb 26	Total	Year Total
	Cole Moore			3					3	35.5
	Eric Messer			3					3	36
	Luke Barber			3	0.5				3.5	44.5
	Philip Entrekin			3					3	36.5

Group Yearly Total	152.5
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