EE 492 BIWEEKLY REPORT

02.11.24 - 02.24.24

sdmay24-22

Wirelessly Charged Nursery Light

Client/Advisor: Cheng Huang

Team Members:

Joshua Holloway (Team Lead/Client Interaction)
Thomas Youhn (Electrical Lead)
William Snyder (Tester)
Logan Farmer (Facilitator/Designer)
Alexandros Psomas (Product Designer)

Summary

Following an advisor/client meeting, the past two weeks were used to finalize the circuit with new components, test said circuit, and finalize the design to start getting measurements to build out the product housing after isolating the final design.

Accomplishments

- Client/Advisor meeting to update on progress, get confirmation on product housing design and work through some bugs on the circuit.
- Order/wait for new components through ETG.
- Test new components with a finished circuit.

Pending issues

- Validate procedure for PCB if required.

Plans for Upcoming Week

- Measurements, prepare component layout for project housing design
    - Josh
    - Alexandros
- PCB design, sourcing, manufacturer
    - Thomas
    - William
    - Logan

NAME	CONTRIBUTION	BIWEEKLY HOURS	TOTAL HOURS
Josh	Project housing ideation, further design/isolation of additive manufactured parts, and material testing layout designed	3	40
Thomas	Worked on finding a new battery module as the last one was having issues. Tested the new module and the charging capabilities.	4	41
William	Component Research and working on wireless charger.	3	36
Logan	Worked on the wireless charger	3	39
Alexandros	Refined 3D models of housing designs, researched PCB companies for price comparison	2	36

Broader Context

Some updates to the broader context we've encountered over the recent design process have been putting the product in the use case scenario and discovering what changes we would need to make to better suit that area. Things like adding a handle for easier carrying, button position, or looking at the effects of our previous designs and how they're influencing the future. Things like how many charging components are required, the best position for charging, and more are things we are encountering and learning from to make a better product. We can easily show these learnings and positive effects by showcasing the prototyping process and physical displays of our development through the project's timeline.

Both positive and negative effects are learned when looking at the project in hindsight. Throughout our process, we continuously re-evaluate where we've been as well as where we want this project to go with the goal of ensuring that we make the best product we can. One negative that has come up is when our client voiced the option of voice control, and we had to learn that due to the time investment of battery life, component specs, voltage, circuit design, and more, we couldn't make the system as modular in a hardware context as once thought. However, we learned from this to lean more into software modularity and are working well in that department.