

CAD X MECHANICAL DESIGN PORTFOLIO

ANINYI IFEANYI

2026





Education

2018-2024

**Federal University of Technology
Owerri**

B.Sc Polymer and Textile Engineering



Experience

First Digit Communication- Systems Designer

- *Designed and Prototyped electronic casings/enclosure for various IoT hardware solutions*
- *Optimized product designs for 3D printing and injection manufacturability*
- *Designed and prototyped PCBs, including schematic creation, component selection, and layout optimization*

AUDIKSON NIGERIA LIMITED- Quality Control Personal



Project 1 5 Channel Smart Extension/Socket



Summary: Designed a compact, efficient, and aesthetically appealing smart socket controllable via Bluetooth or Home Assistant. Focused on material optimization, space-saving layout, and sleek casing design to enhance usability and visual appeal.

Project 2

Dispenser Pump



- 6
- 7
- 8
- 9

Summary: Designed a rechargeable dispenser pump optimized for injection molding, with the two upper components engineered for family mold production. Focused on manufacturability, assembly efficiency, and functional design for mass production.

Project 3

Soil Monitoring Control System

Summary: Designed a robust casing for a soil monitoring device, optimized for stability on loose soil, mechanical durability, and easy solar panel mounting. Focused on practical functionality, environmental resilience, and efficient assembly.



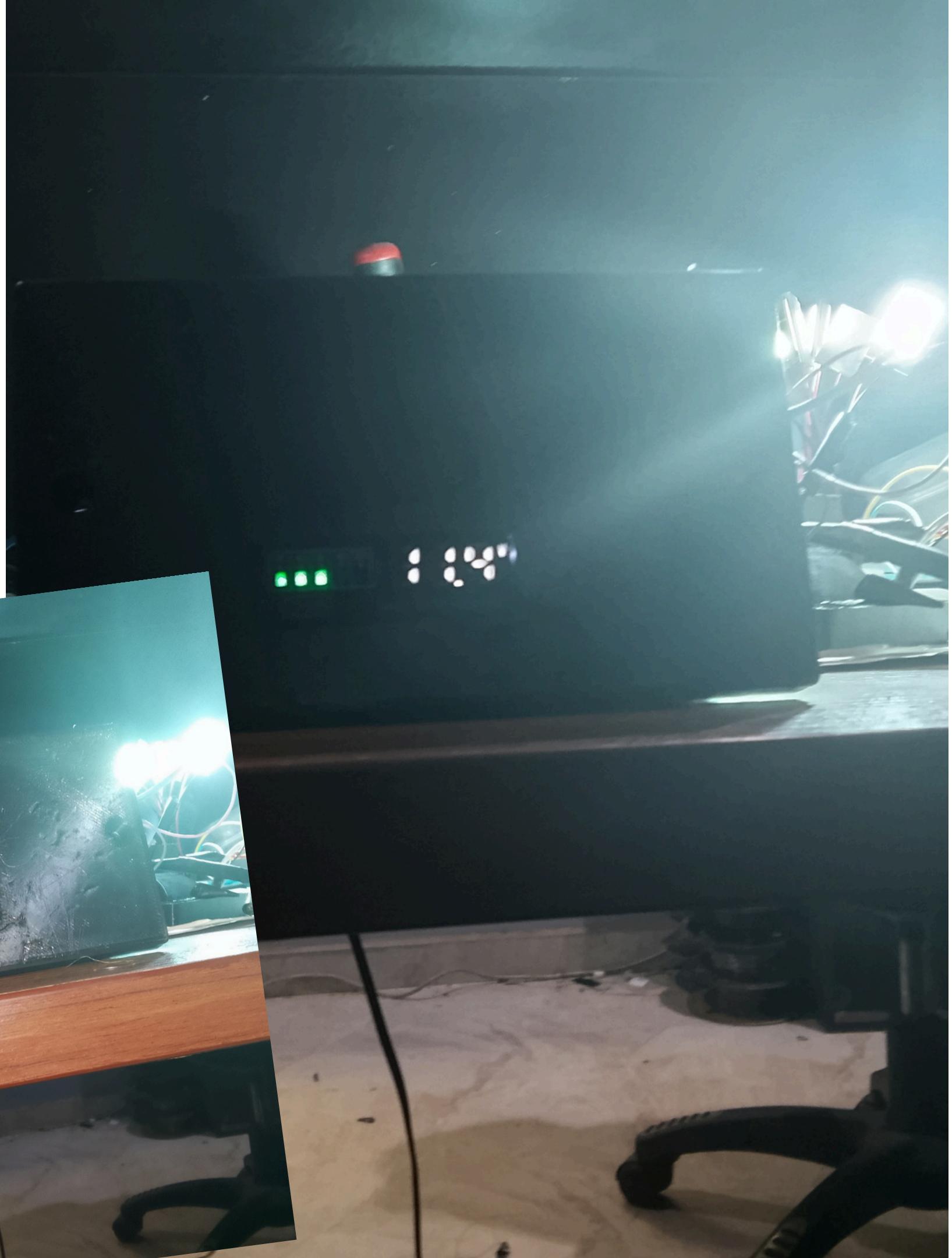
Project 4

Stair Case Light

Summary: Designed a robust casing for a soil monitoring device, optimized for stability on loose soil, mechanical durability, and easy solar panel mounting. Focused on practical functionality, environmental resilience, and efficient assembly.



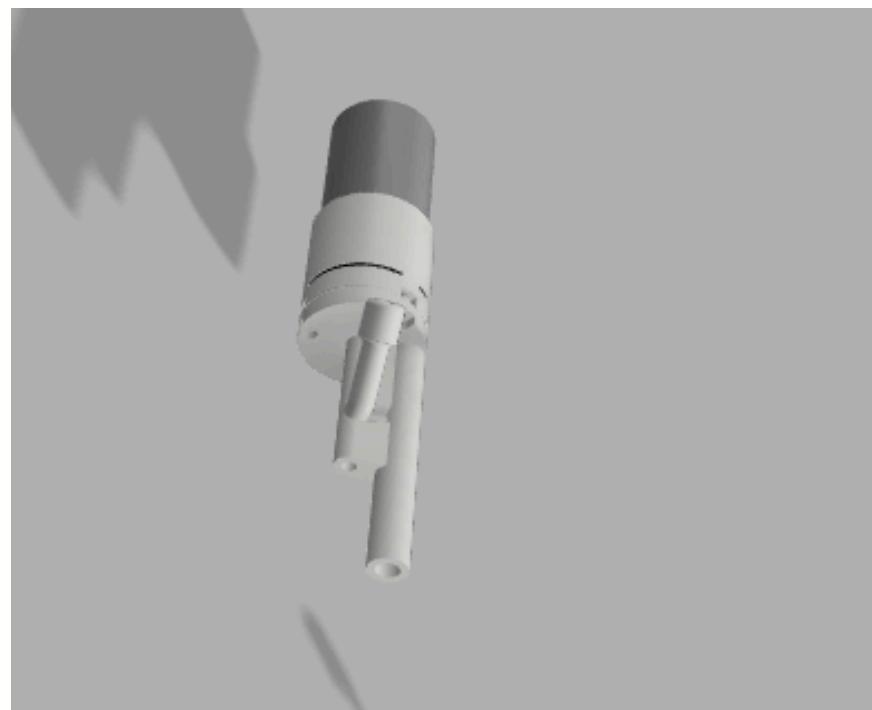
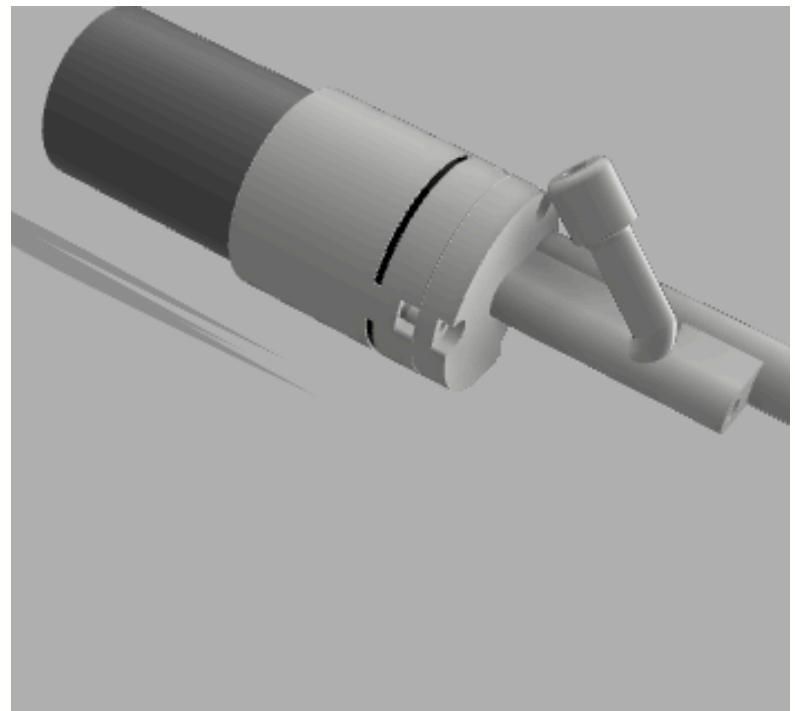
Project 5 Power Box



Project Summary – Wall-Mounted Lithium Battery Power Box

This project involved the design of a compact wall-mounted power box powered by a lithium battery and compatible with standard electrical gang boxes. The enclosure was developed with a strong focus on safety, ease of installation, and clean wall integration. Mechanical design considerations included internal component layout, battery retention, ventilation, cable routing, and mounting features aligned with gang box standards. The design was optimized for manufacturability, supporting both prototyping and mass production processes, while ensuring durability, serviceability, and a professional consumer-ready appearance.

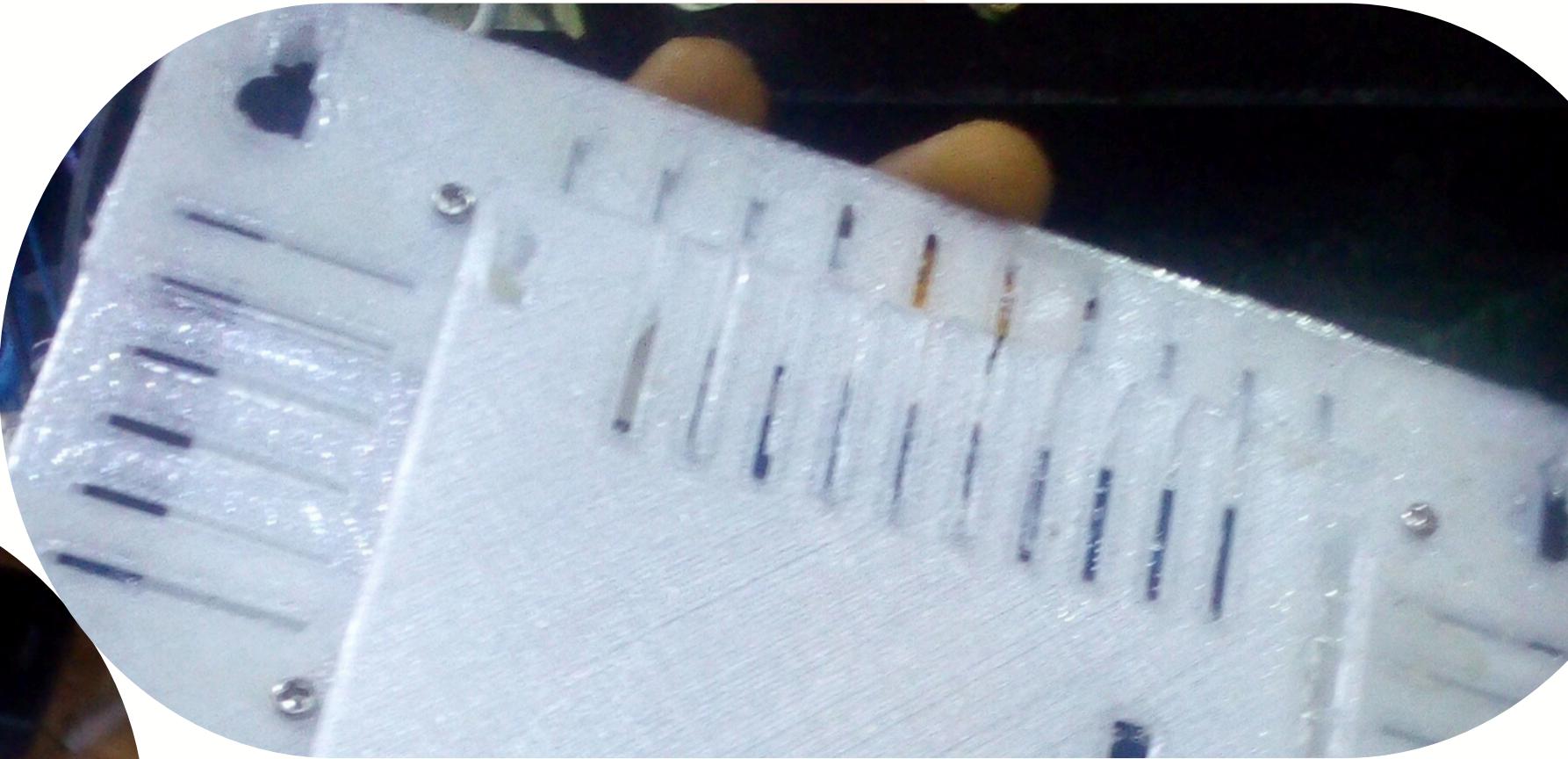
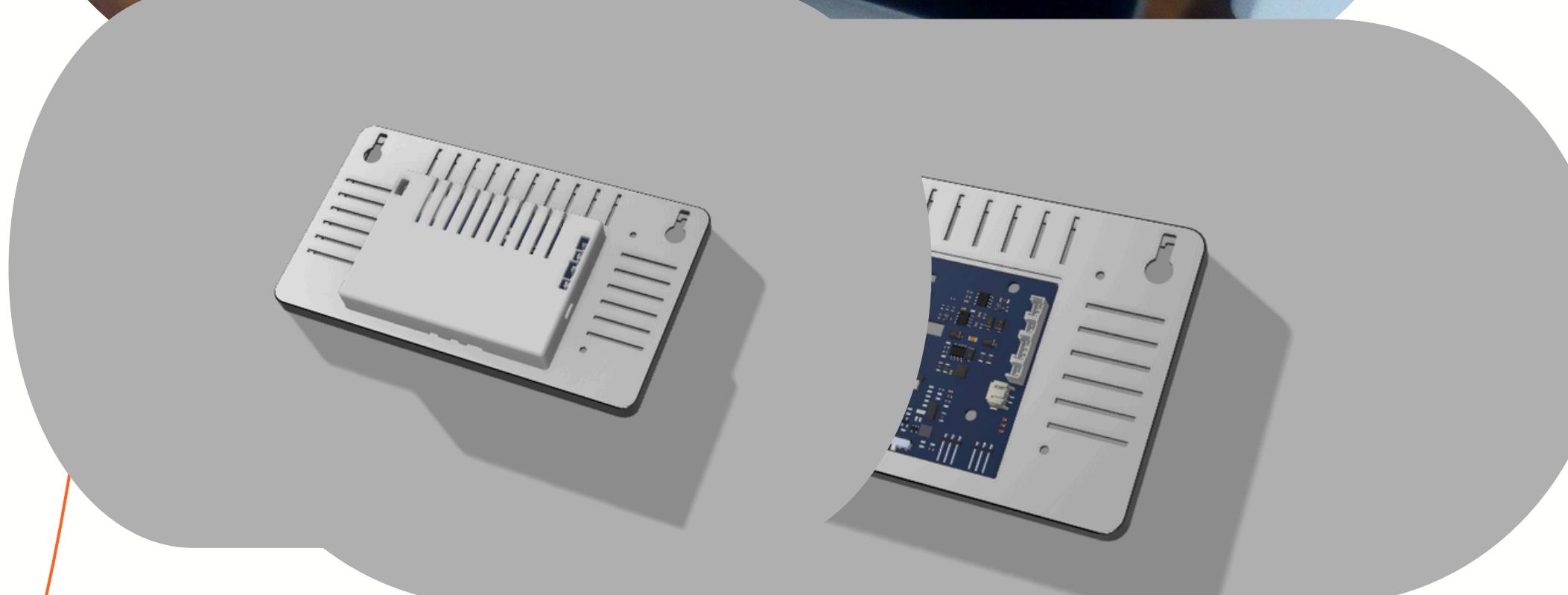
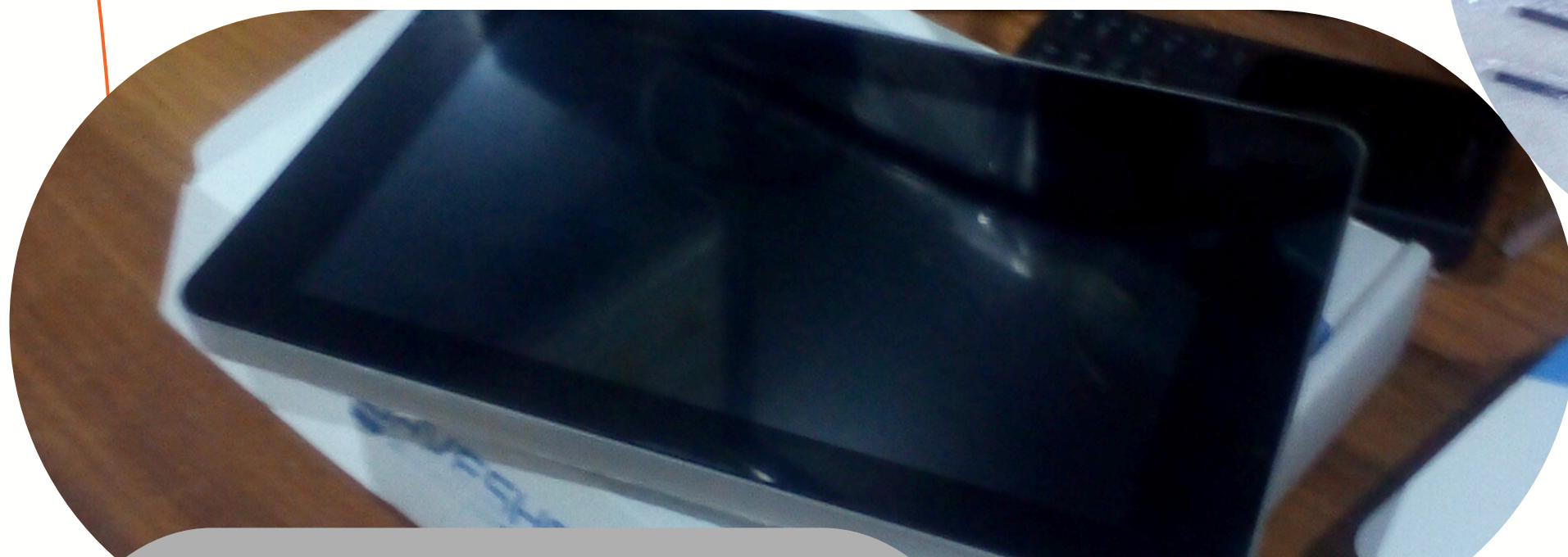
Project 6 Diaphragm Pump Head



Summary: This project involved the redesign of a diaphragm pump head to achieve maximum efficiency while ensuring seamless integration into a dispenser pump assembly. The geometry was modified to fit within existing dispenser constraints, with a compact form factor that allowed easy routing of an outlet pipe without restricting flow. The design optimized internal flow paths, sealing surfaces, and mounting features to improve efficiency, simplify installation, and ensure reliable operation in a production-ready assembly.

Project 7

Wave share ESP32 touch screen display housing



Summary: This project involved the mechanical design of a protective housing for a Waveshare ESP32 touchscreen display module. The enclosure was designed to securely protect the electronics while allowing wall mounting or fixed installations. Key considerations included ventilation for heat dissipation, accessibility to ports and connectors, and a compact form factor that maintains usability and aesthetics. The design balances durability, thermal performance,

Project 8

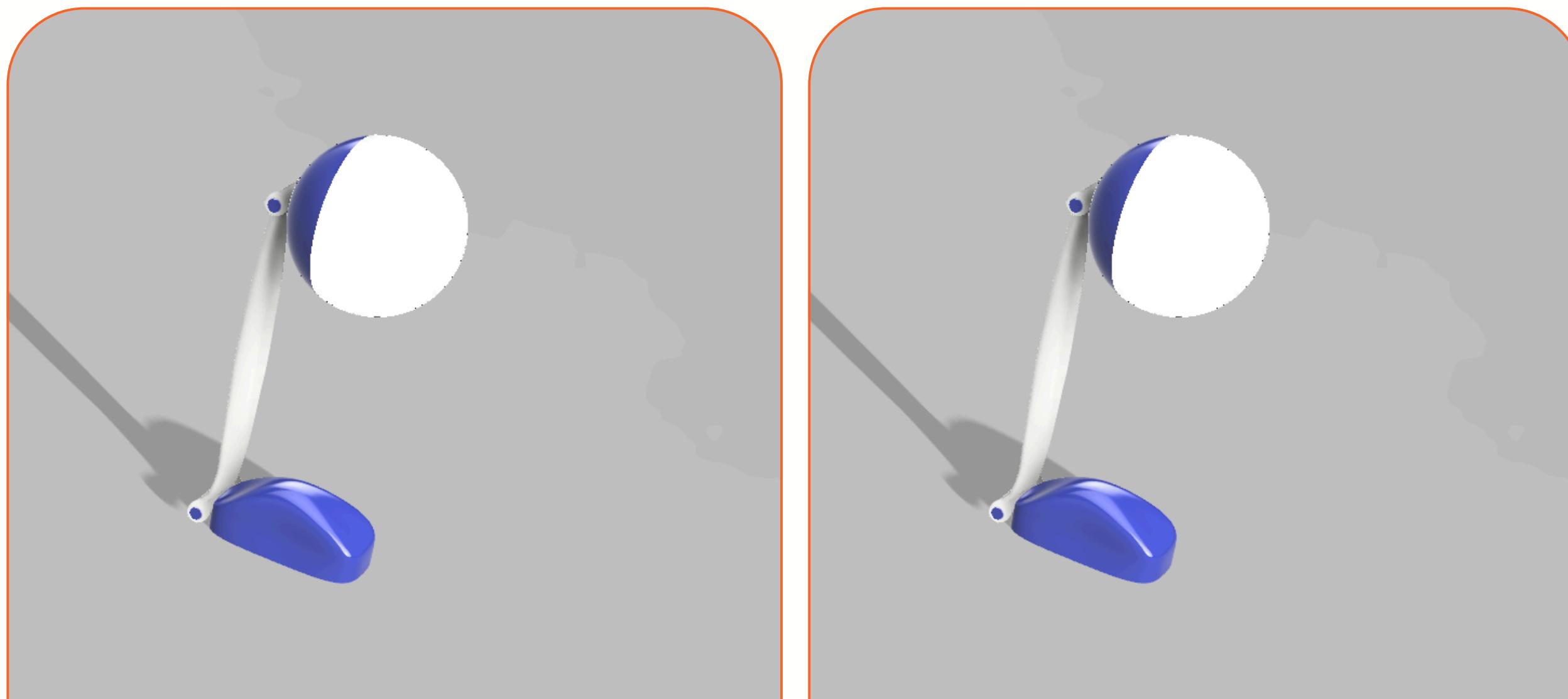
ESP32 DISPLAY TOUCH SCREEN WITH POWER SYSTEM



Project 9

READING LAMP

CONCEPT



Project 10

SMART HOME CONTROL DASHBOARD CONCEPT



Project 11 DISPENSER PUMP CONCEPT



Project 12

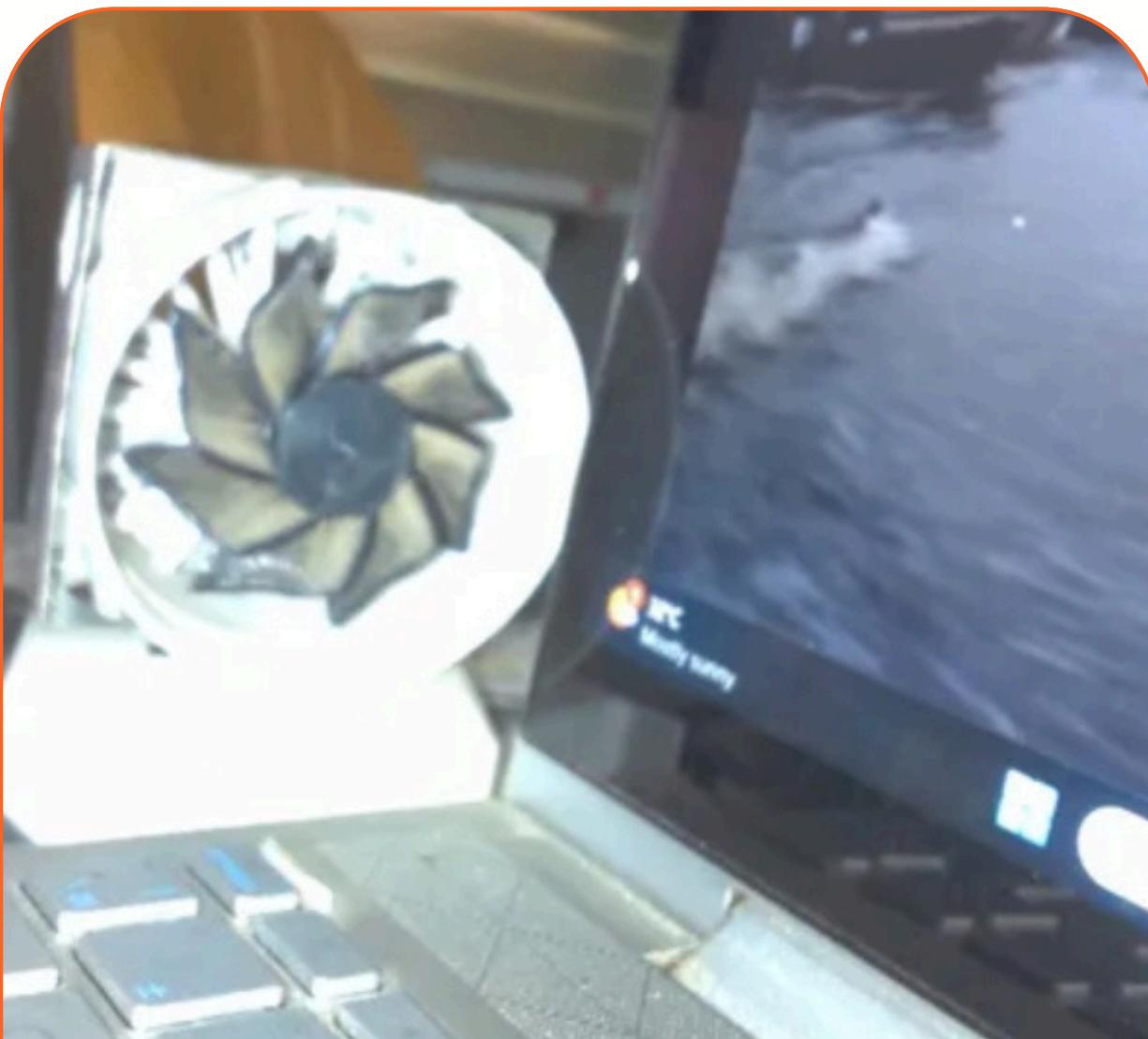


PLAY STATION 5 PAD HOLDER

Project 13

COOLING FAN

BLADE





Thank you

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