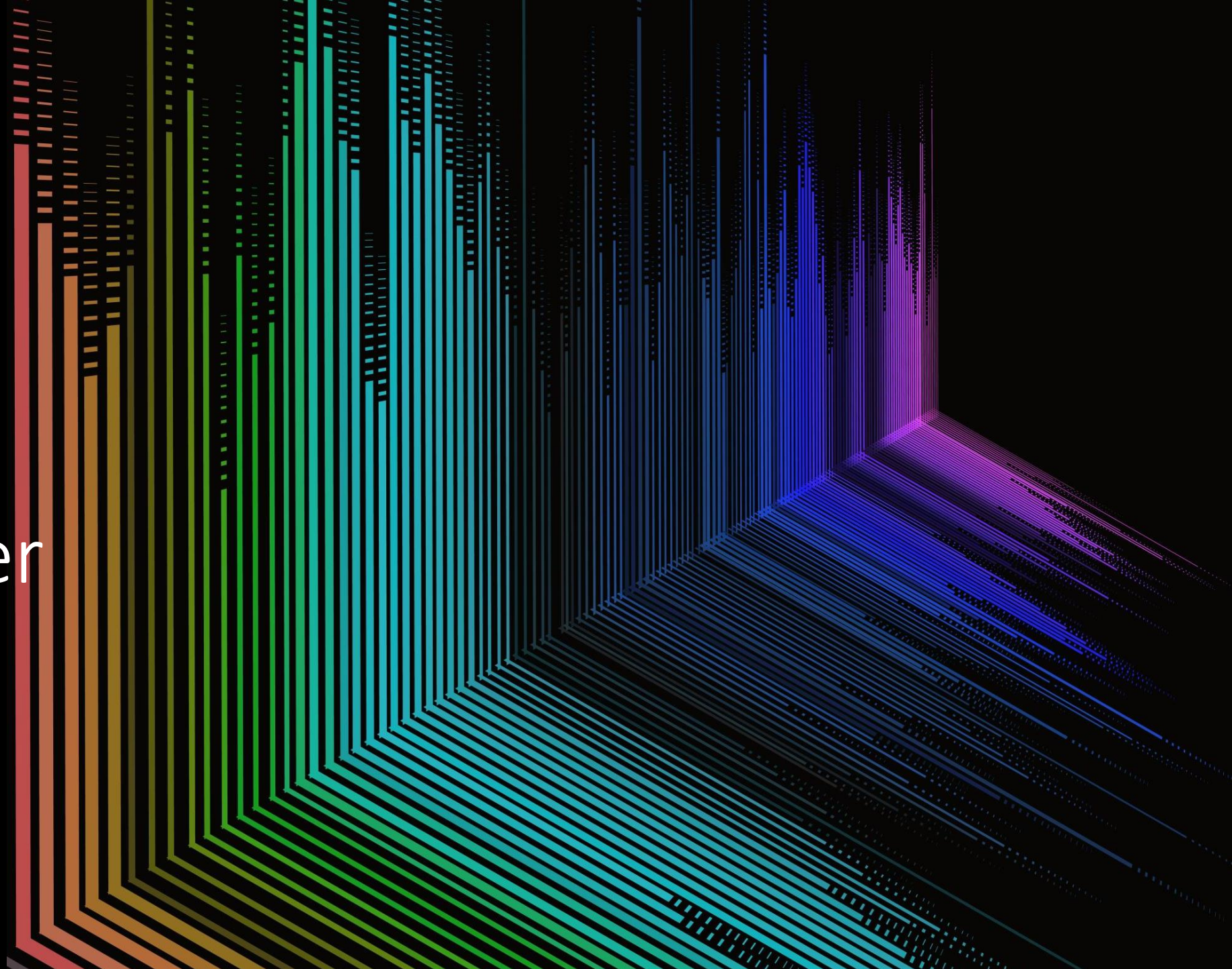
Smart Cooler

Week 30 Feb 24 – Mar 2



Progress Made

- Lids constructed
- Compartment testing
- Parts 3D Printed
- Mobile Application

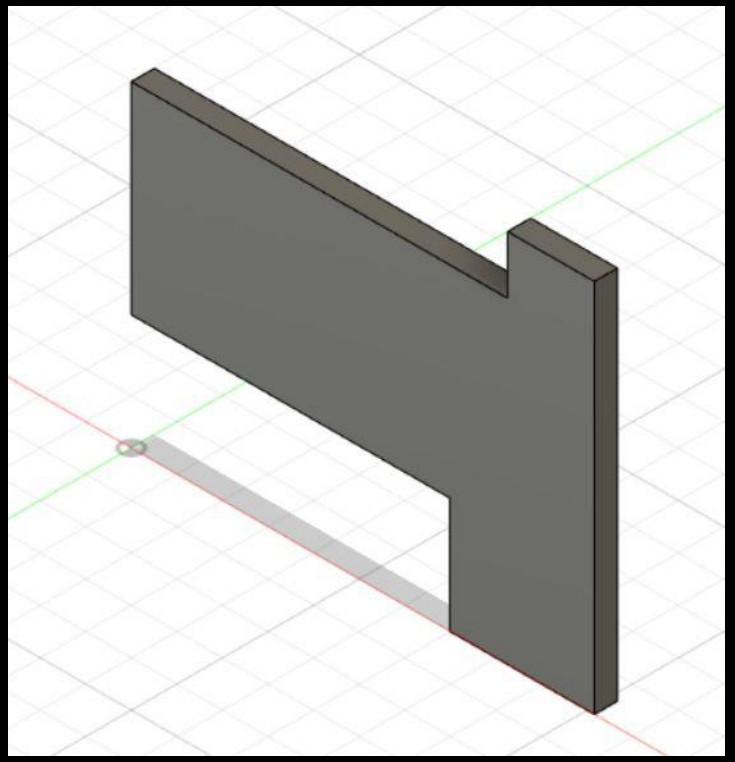
Compartment Lids

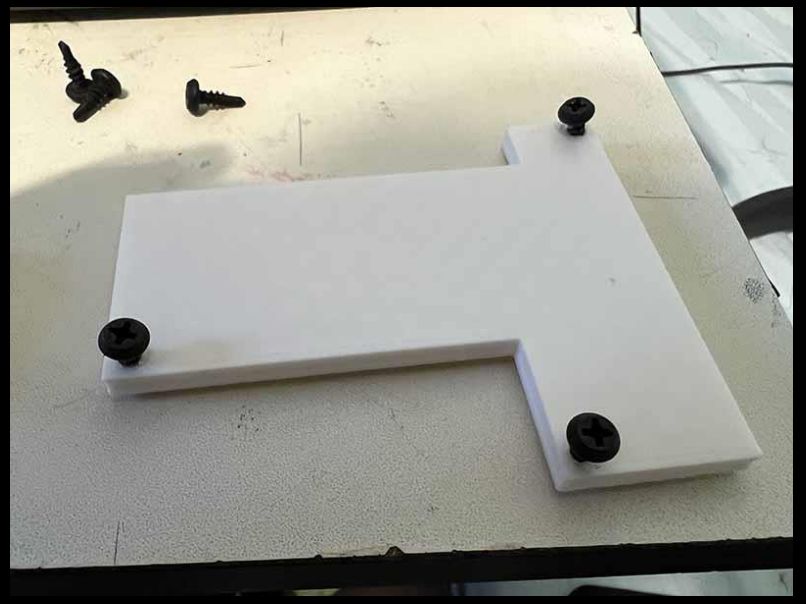
Fitment

- Both lids were made of Plexiglass and Styrofoam
- Both fit snuggly and securely
- Both successfully insulated each compartment

Locking Mechanism Covers

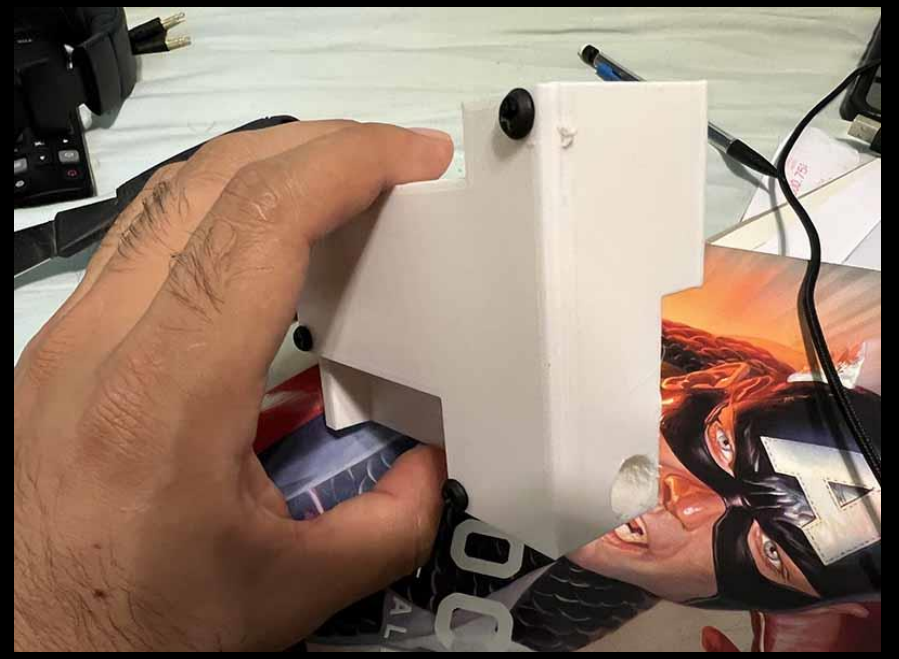
- Covers were printed for the locking mechanism parts.
- There will be three covers, but only two have been printed so far.
- This is the cover for the lock lid bracket.
- Self-tapping screws were used to create the holes.





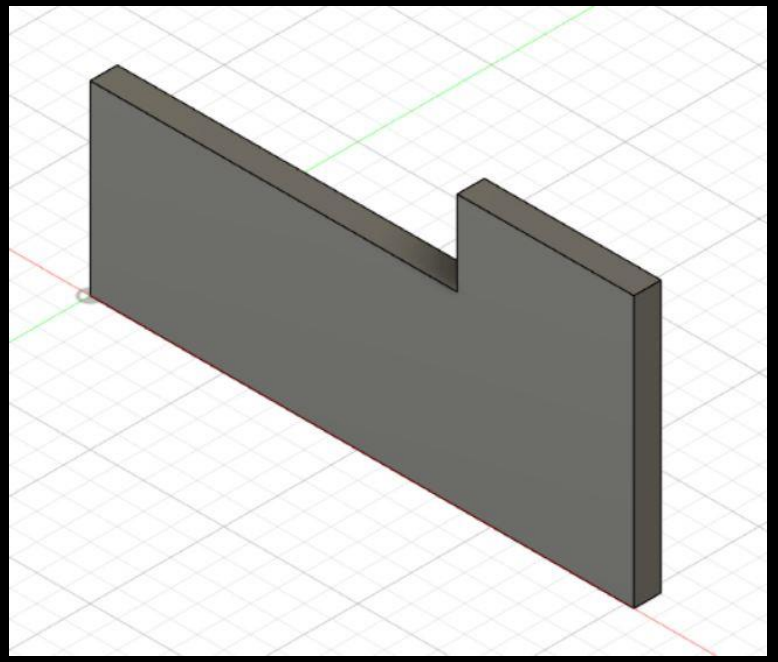
Locking Mechanism Covers

- The cover was screwed directly onto the lock lid bracket
- The side view of the bracket shows a tight seal.
- Also, the lock lid bracket sliding lock hole was readjusted and the part was reprinted as there were issues with the lock not sliding all the way.



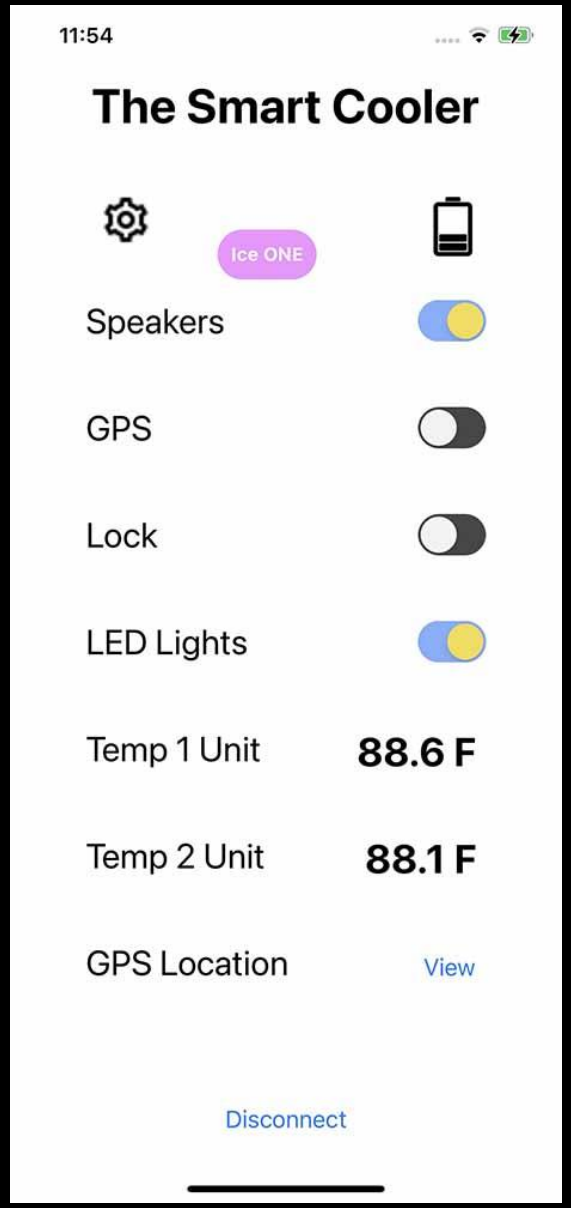
Locking Mechanism Covers

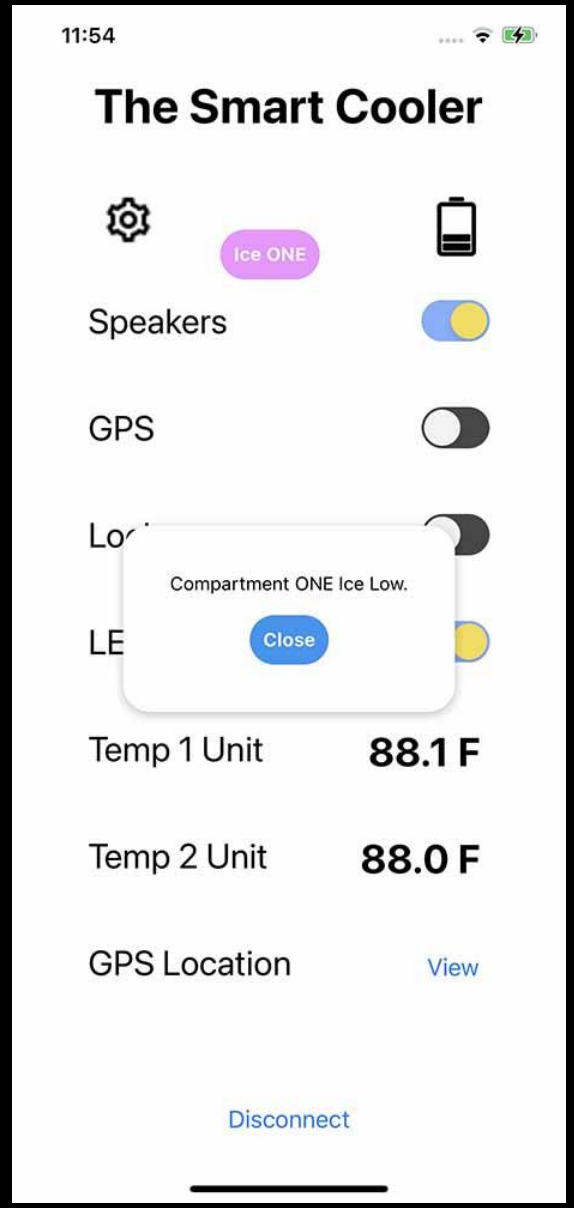
- This cover is for the door position sensor case on the cooler body.
- This is a clean print.
- The screw holes have not been drilled yet.

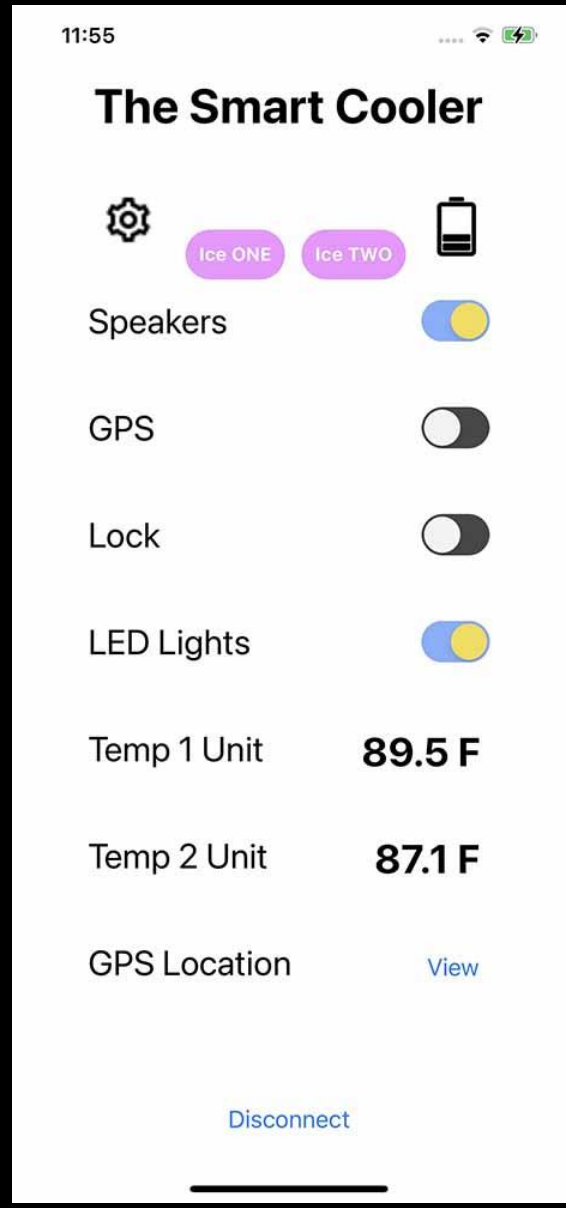


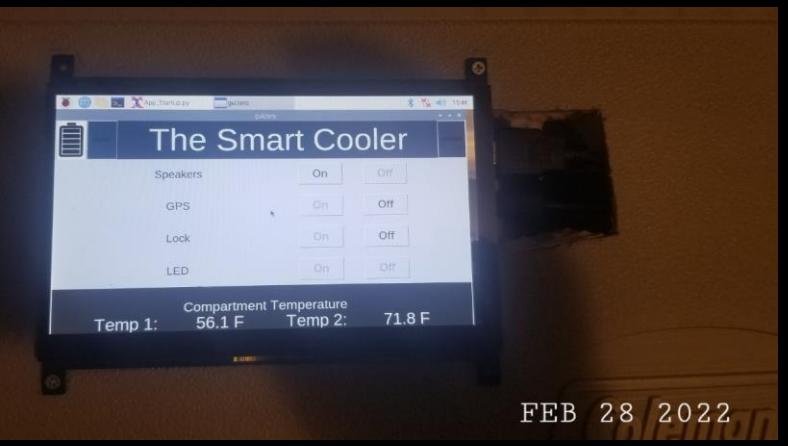
Ice Notification On Mobile App

- When ice notification activated on GUI, button appears on mobile app.
- Clicking button shows low ice message.
- When both compartments active, two buttons show.



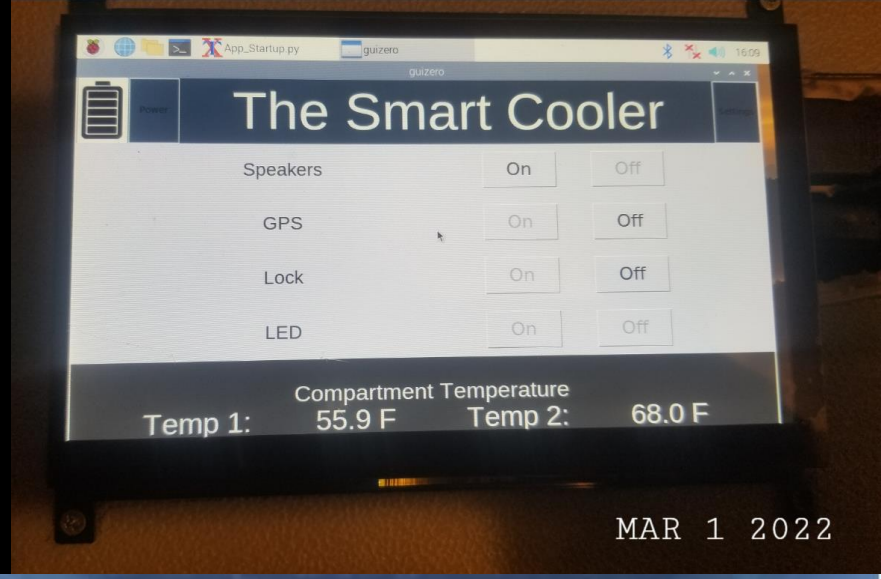






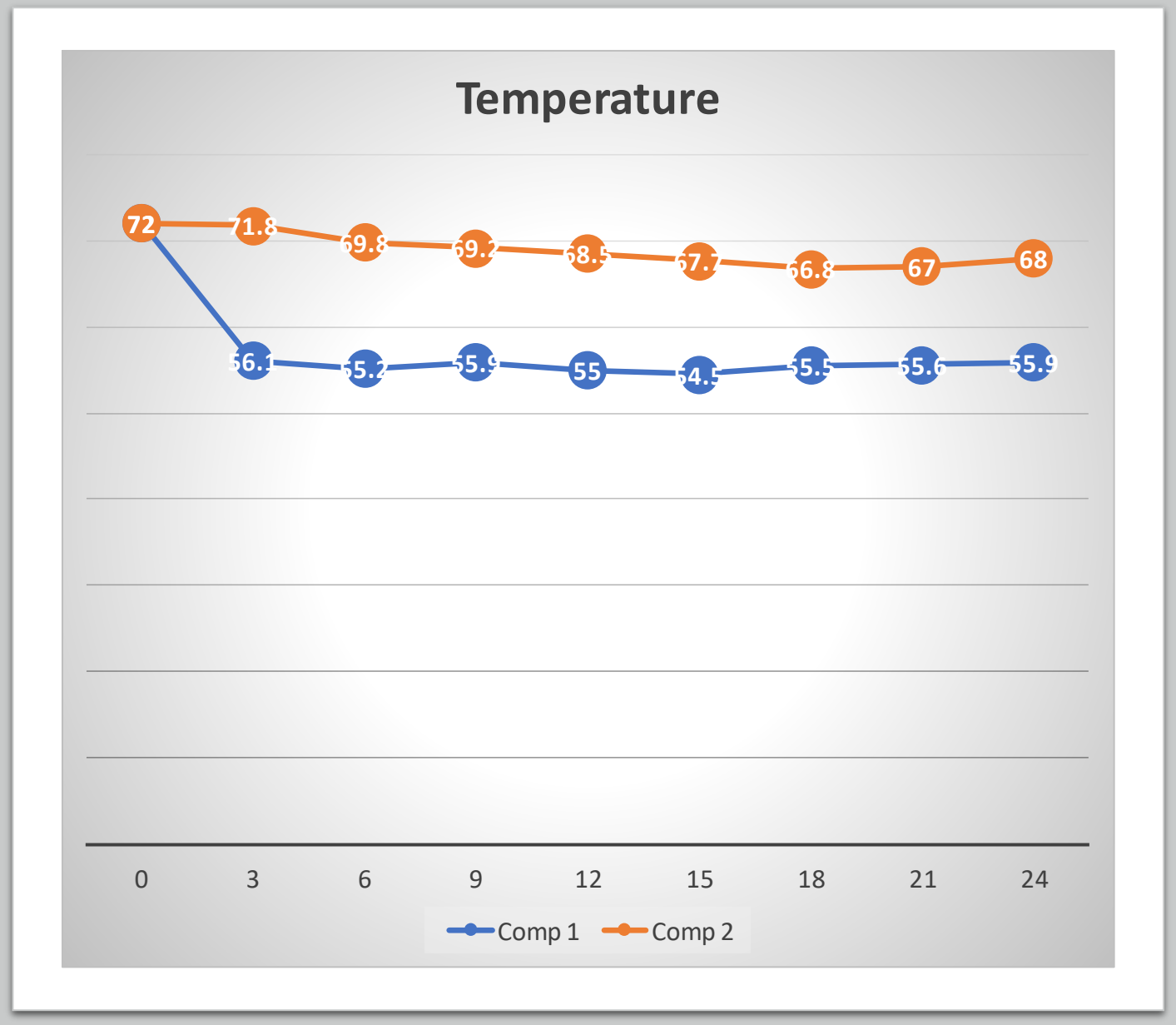
Testing

- Roughly Five pounds of ice was added to the first compartment
- The system was used to check the temperature
- Test confirmed the proper operation of the systems thermometers
- Temp was checked every 3 hours for 24 hours



Results

- Compartment 1 was consistently cooler then Compartment 2
- Significant ice mantling didn't occur until after 15 hours



Goals for Next week

- Install newly printed parts
- Focused testing
- Continue work on report
- Continue work on mobile app