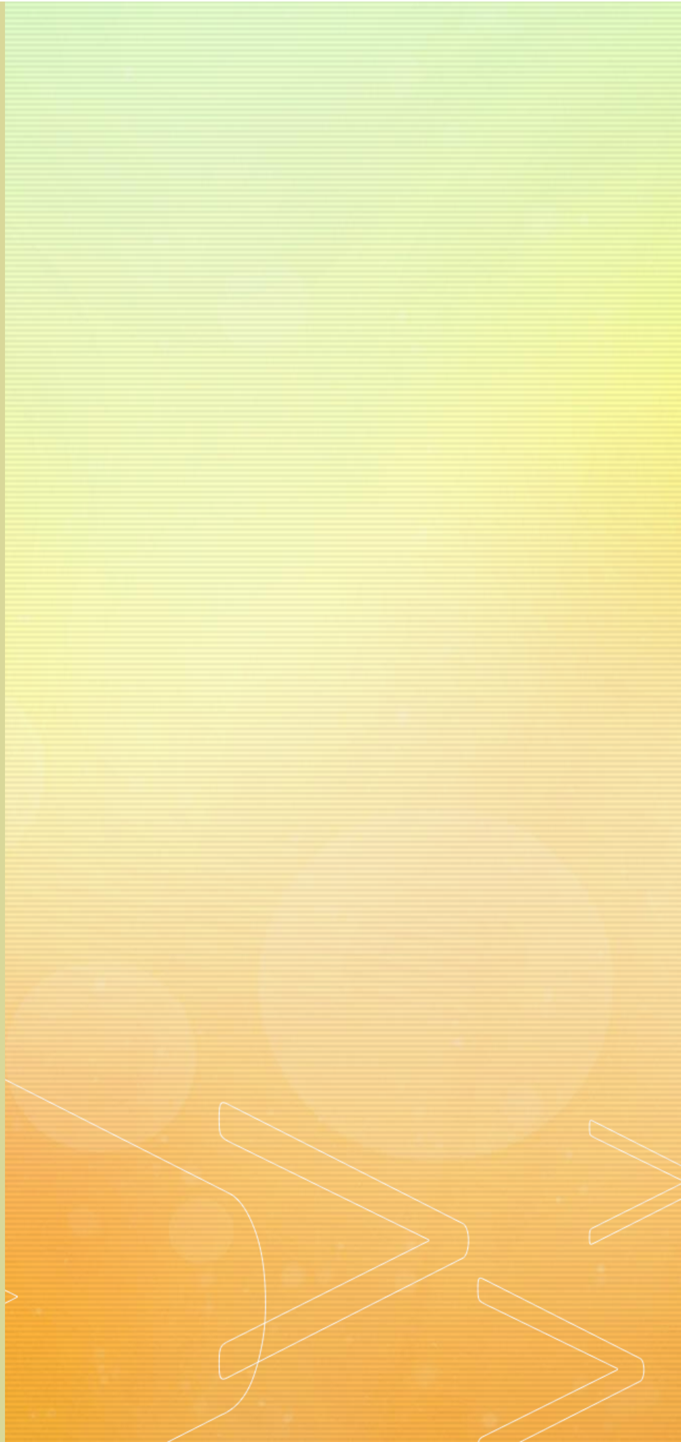
Group 11

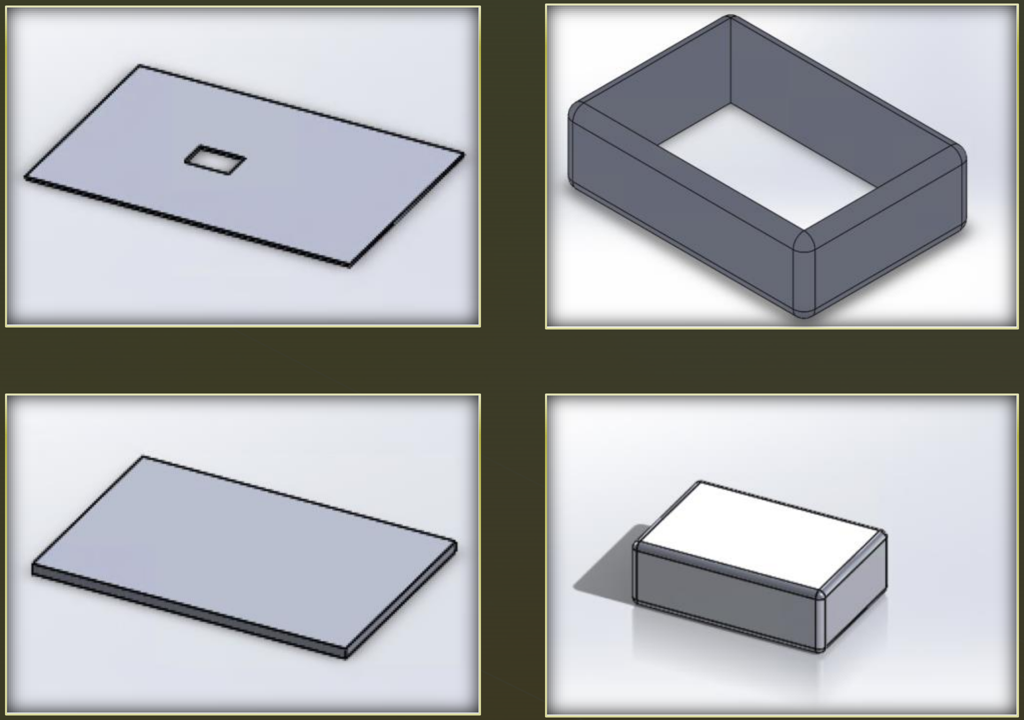
Opioid Overdose Detection Device



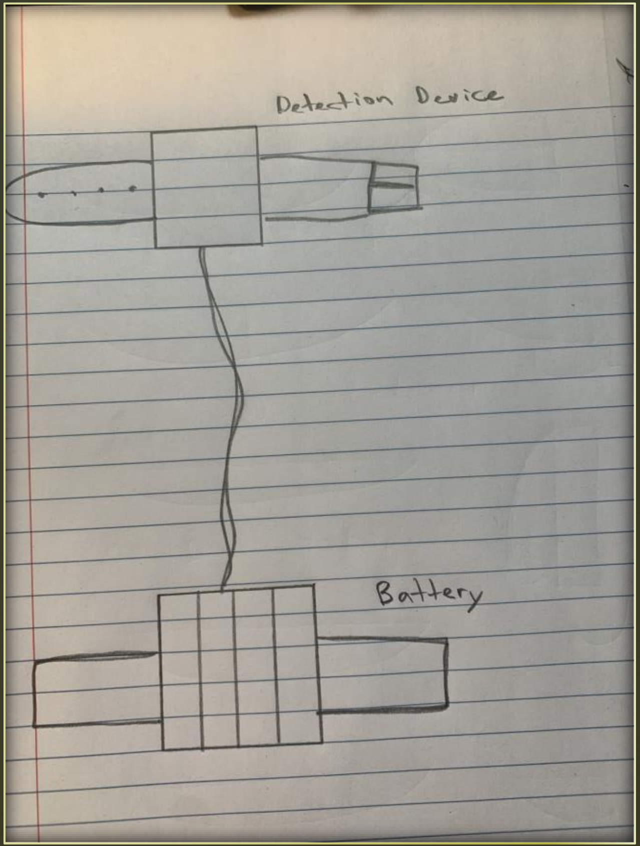
Original Device Aesthetics

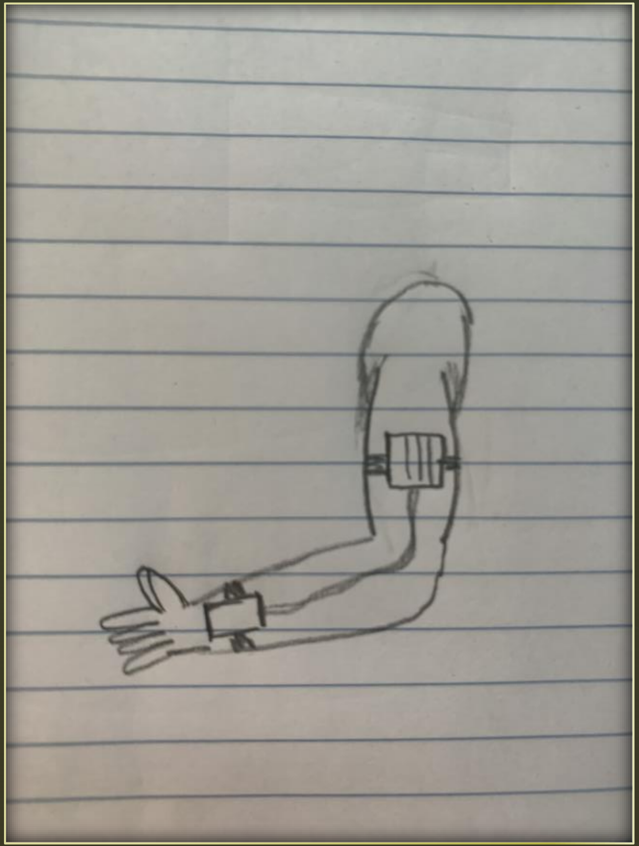
- First plan was to have everything encased on the wrist
- A small box design with some curves for aesthetics
- Thin bottom plate for close skin contact with sensor

This was the original idea for the case



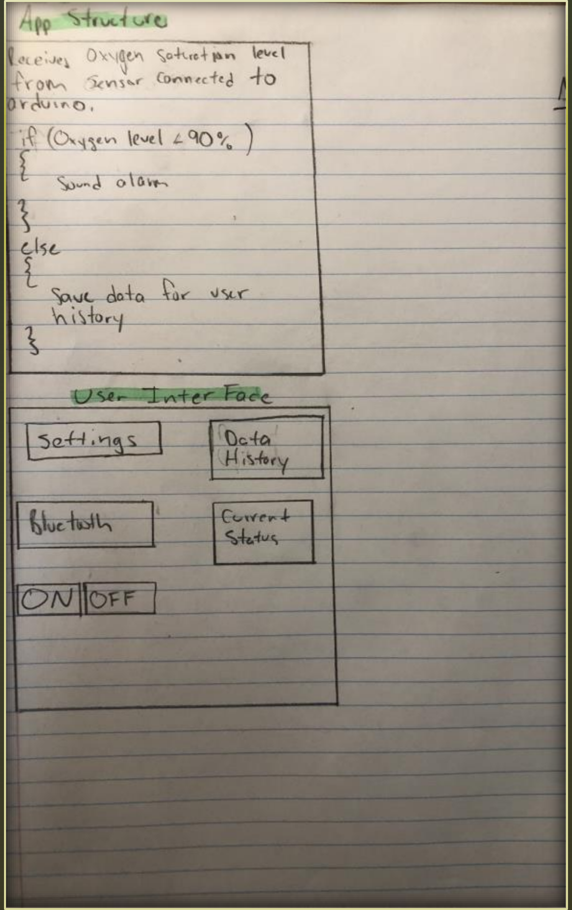
Adapted Device Aesthetics





- Design was adapted to make the product more discrete.
- Battery will be stored separately from the rest of the parts
- Visible part of the device is much more low-key

Prototype I



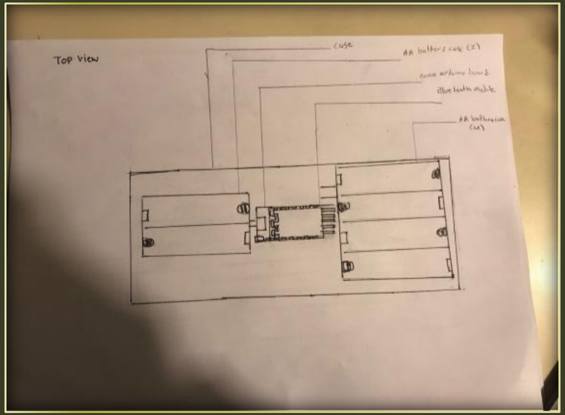
App Structure

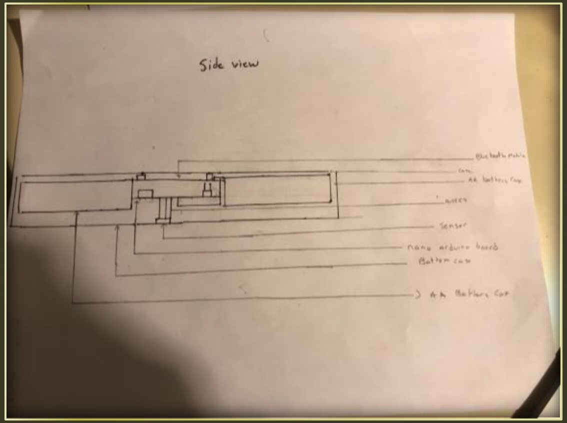
Receives Oxygen saturation level from sensor connected to arduino.

```
if (Oxygen level < 90%)
{
    Sound alarm
}
else
{
    Save data for user history
}
```

User Interface

Settings
Data History
Bluetooth
Current Status
ON
OFF

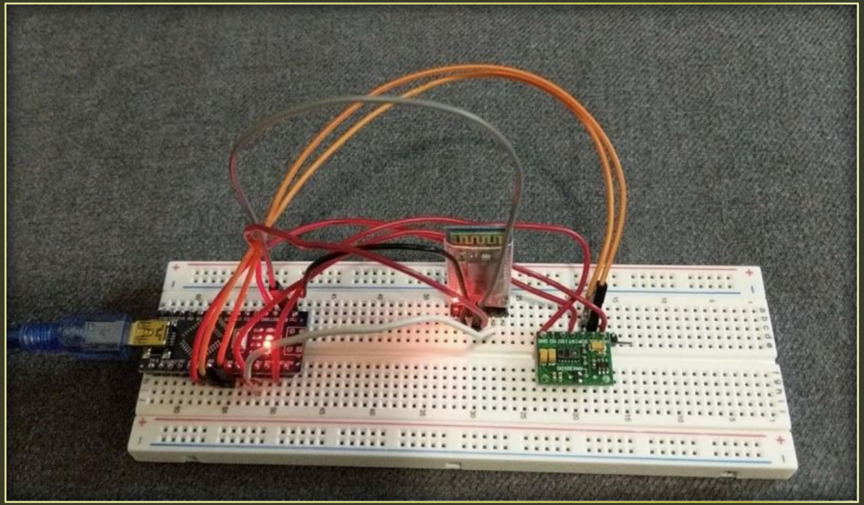


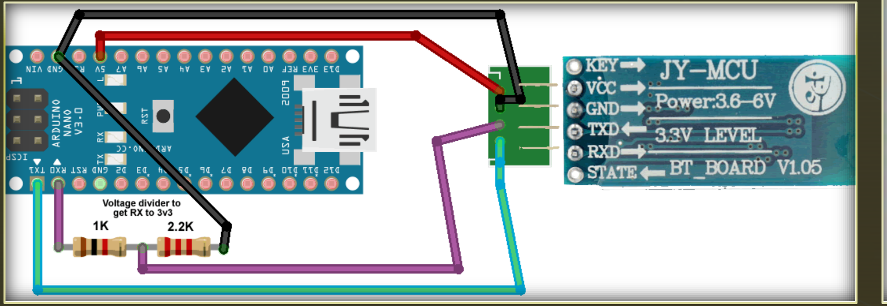


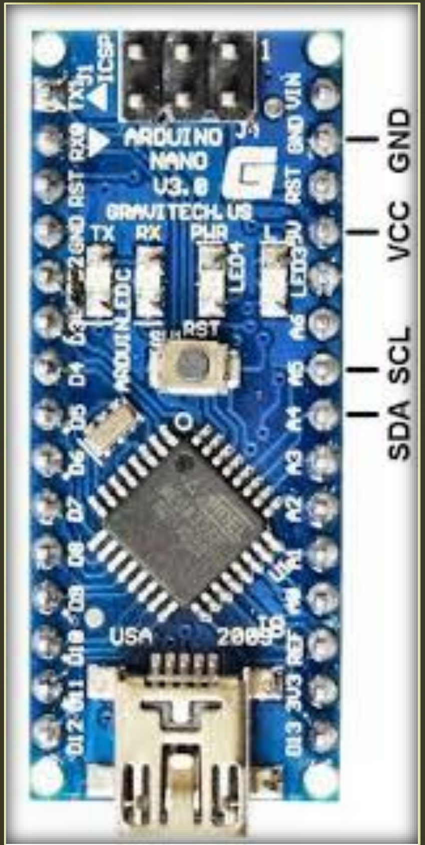
- Dimensions of the device
- App
- Arduino code
- Power consumption calculations

Prototype II

- Wiring the circuit
- Getting values from the sensor
- Tweaking previous prototypes

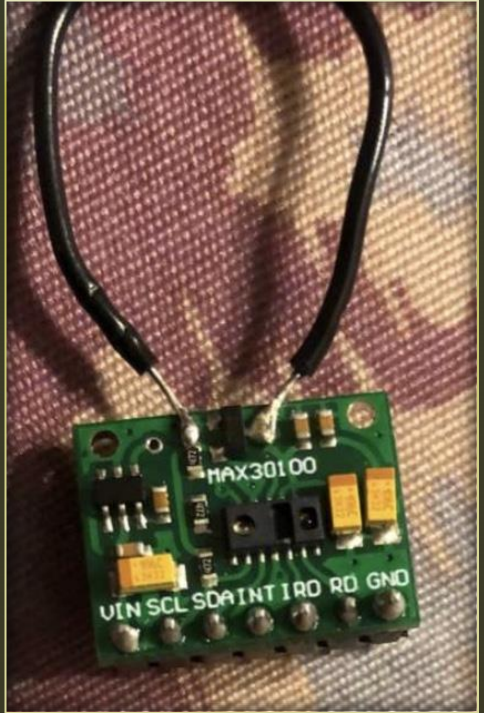




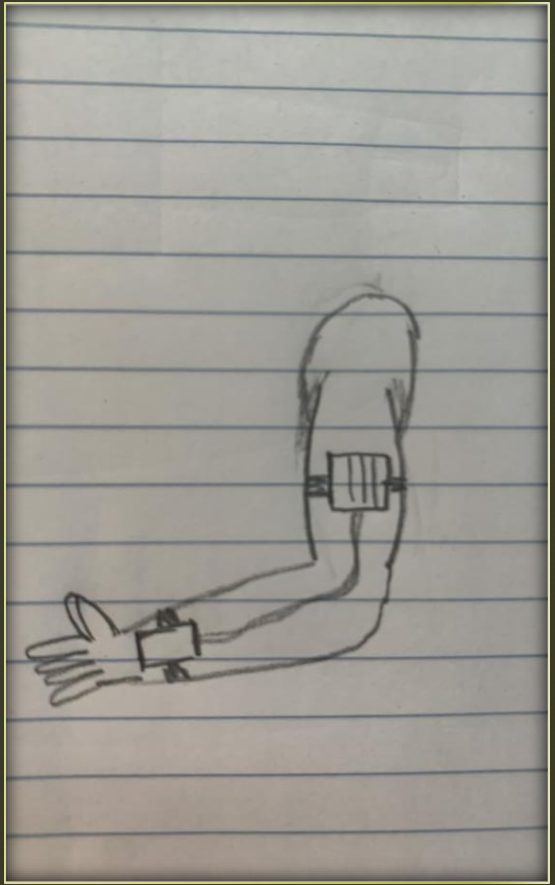


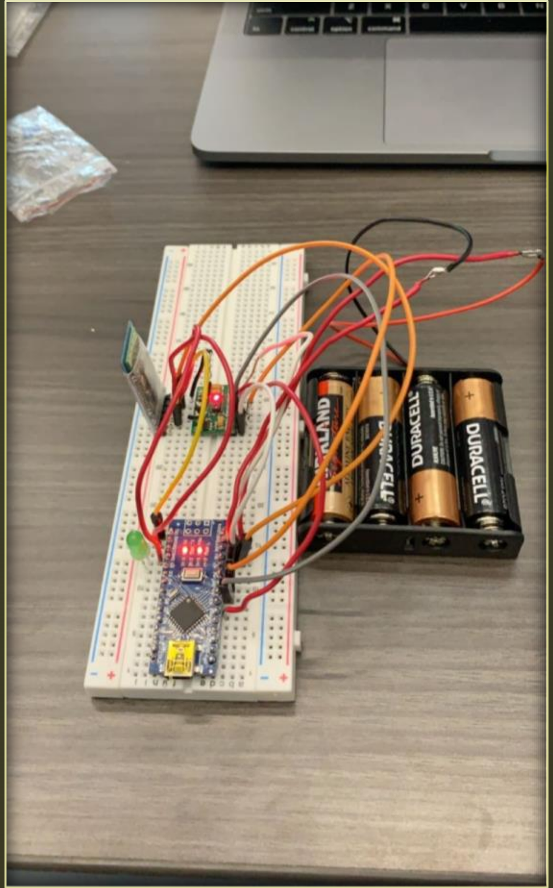
Problems Encountered

- Throughout our progress we encountered a few problems with our device.
- Our sensor was not functioning or reading values.
- We struggled to find a suitable battery for our device.
- We had problems developing our app



Prototype III





- Wrist Device
  - Test all components
    - Bluetooth module
    - Pulse oximeter
    - Battery Casing
    - Arduino Nano

Casing

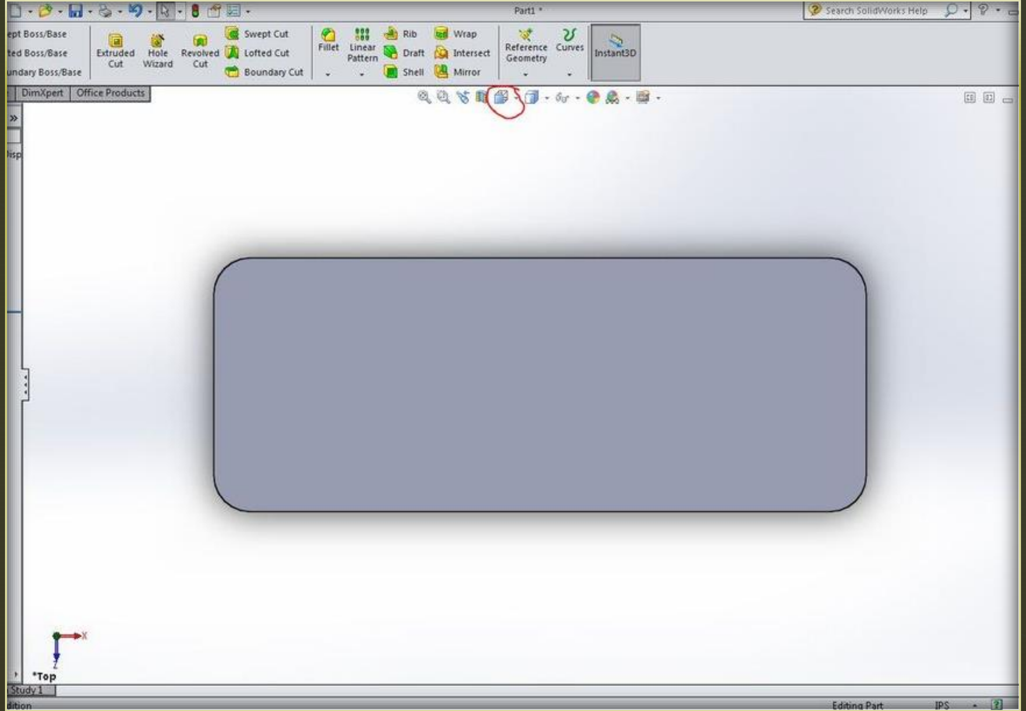
Casing is a critical component of the design

The Main design includes a wristwatch type of concept with adjustable band .

customer feedback indicated that a sleek, slender device, that doesn't protrude or catch, was preferred.

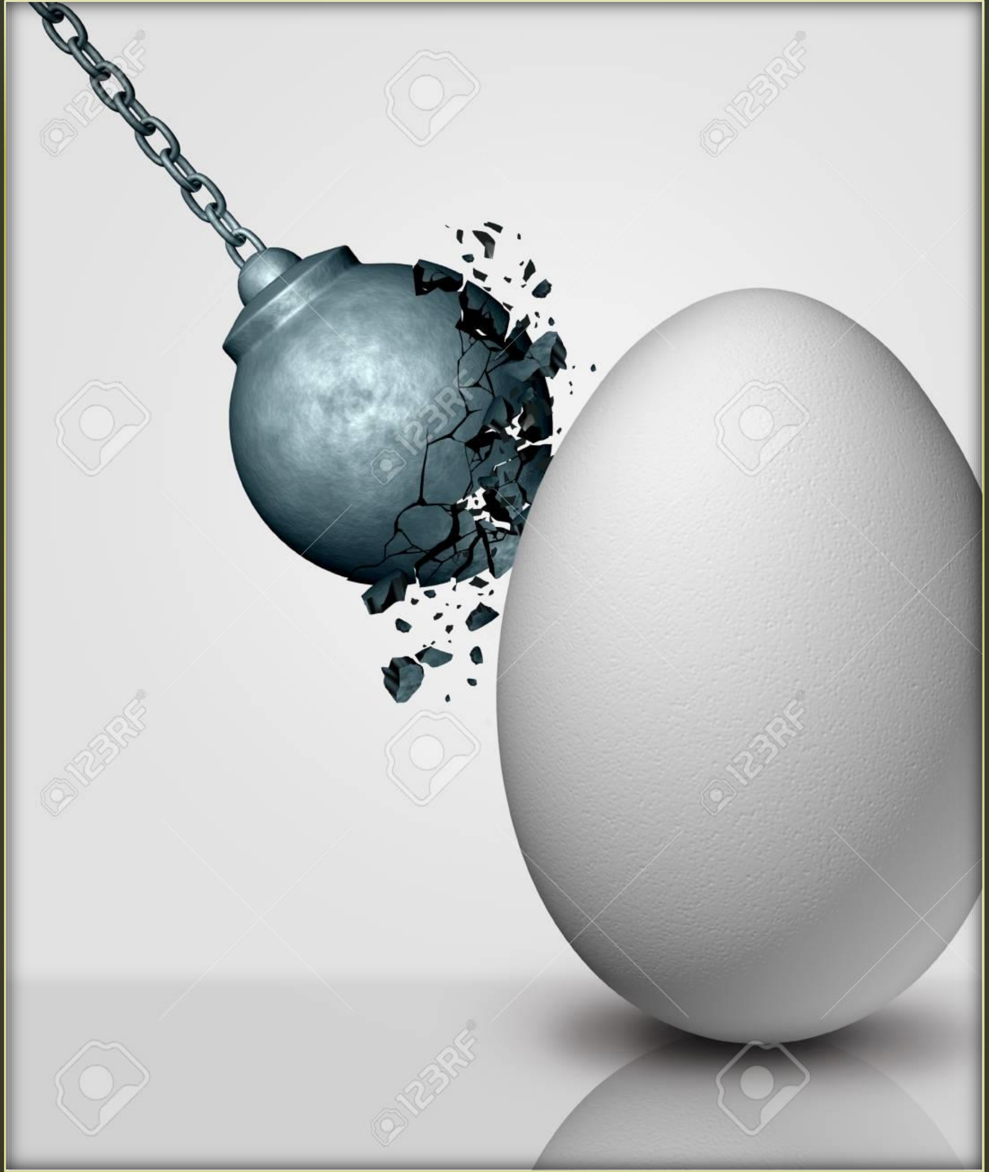
Using SOLID WORKS, Laser printer, or making an actual box

To make the casing

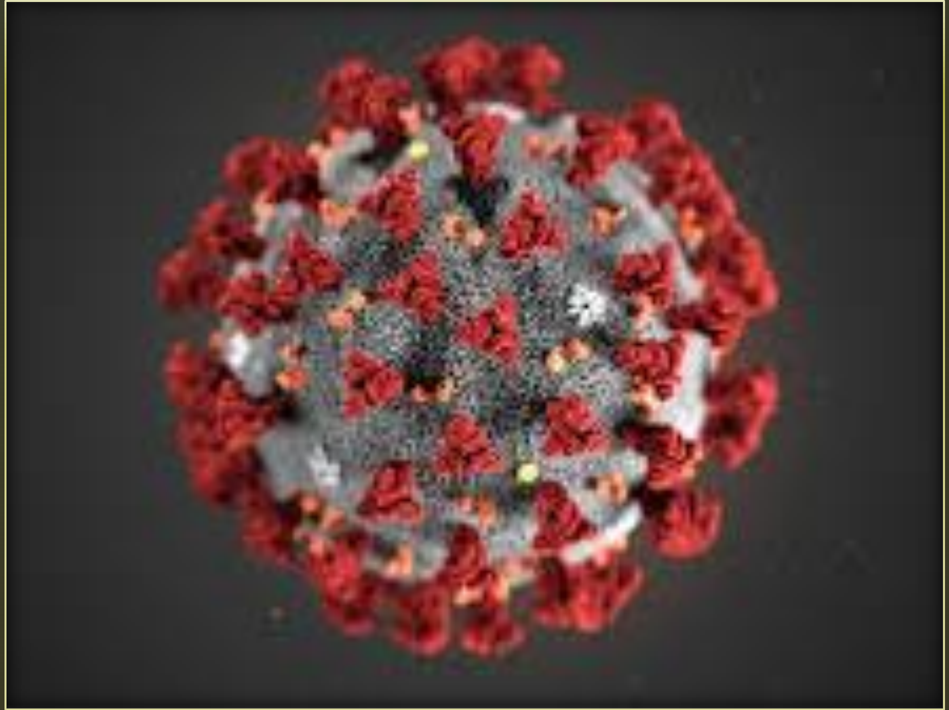


Testing

- Three critical tests will be performed for this design:
- The **first test** will examine the **overall functionality**
- The **second test** will examine the **durability** of the device.
- The **third test** to be undertaken will evaluate the overall **appearance and comfort**



Conclusion



- - 3 protoypes
- All three of these prototypes were beneficial in creating the final product. Unfortunately our design cycle was cut short because of COVID 19.

Questions