SMART WATCH

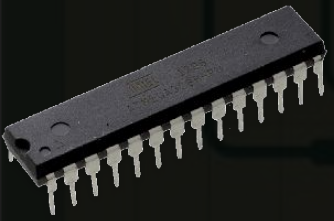
By -

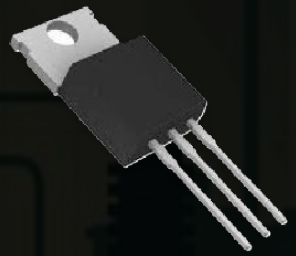
Raagam Parmar
Sreenath Karthick
Murali Karthick
Srirama Srikar

Components and Tools

ATMega328p	This is the microcontroller for our circuit, which is also used in Arduino Uno
RTC	Real Time Clock
OLED	The Screen of our watch (pixel size)
LM7805	5 Volt - Voltage Regulator
Push Buttons	3 push buttons are used as controls
Jumper Wires	Jumper wires are used to connect the PCBs
Crystal Oscillator	16MHz crystal oscillator for the RTC
Battery	3.7 V Lithium ion rechargeable battery

Components and Tools





Components and Tools

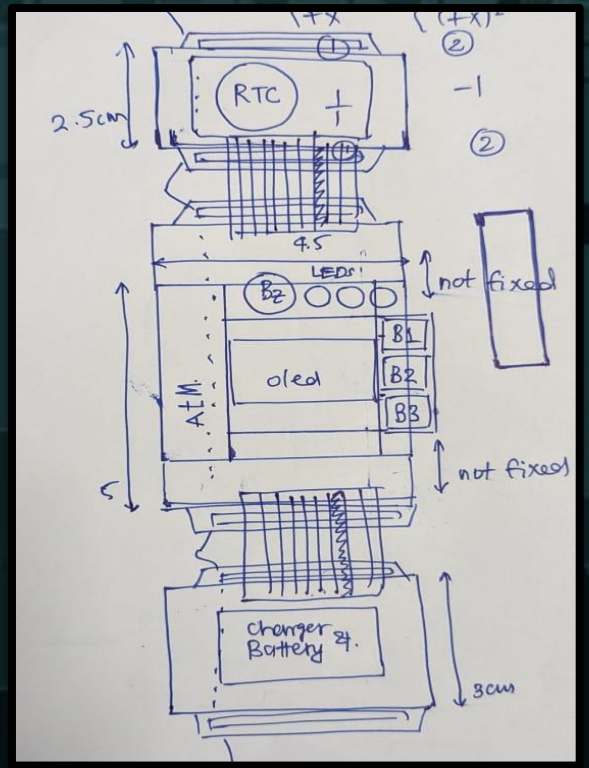
Resistors and Capacitors	Resistors and Capacitor are used to regulate the current and voltage
Fusion 360	The case for the PCB is made by the fusion 360 software , and 3D printed with ABC plastic
KiCad	The PCB schematic and routing is made with the help of KiCad software
Wokwi	The simulation of the circuit is done with the help of Wokwi
DC-DC Boost Step Up Converter	To convert our 3.7 V battery to 12 V

Initial Design

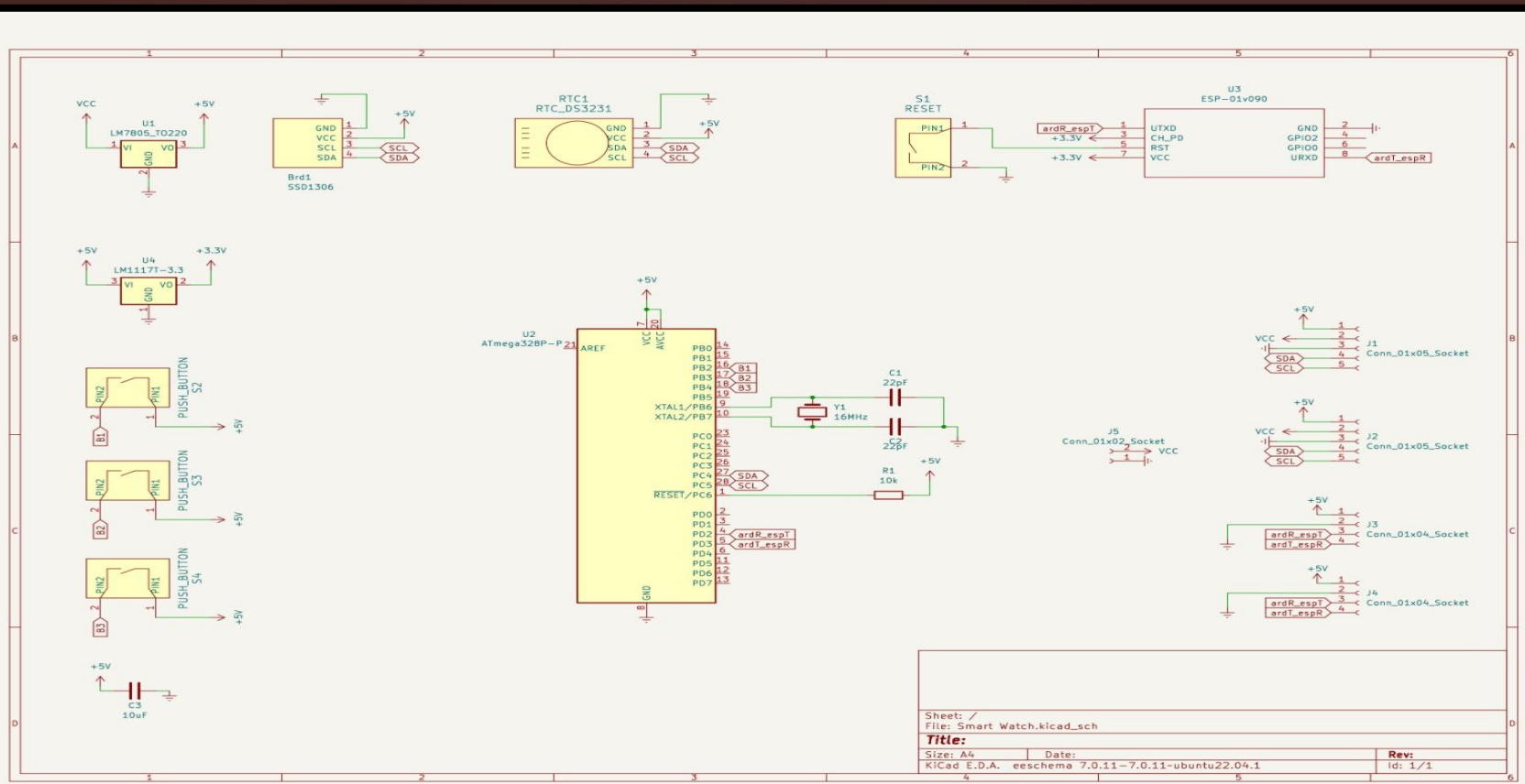
The initial design consist of all the above mentioned components. We splitted them to 3 PCBs

- Battery module
- RTC Module
- OLED Module

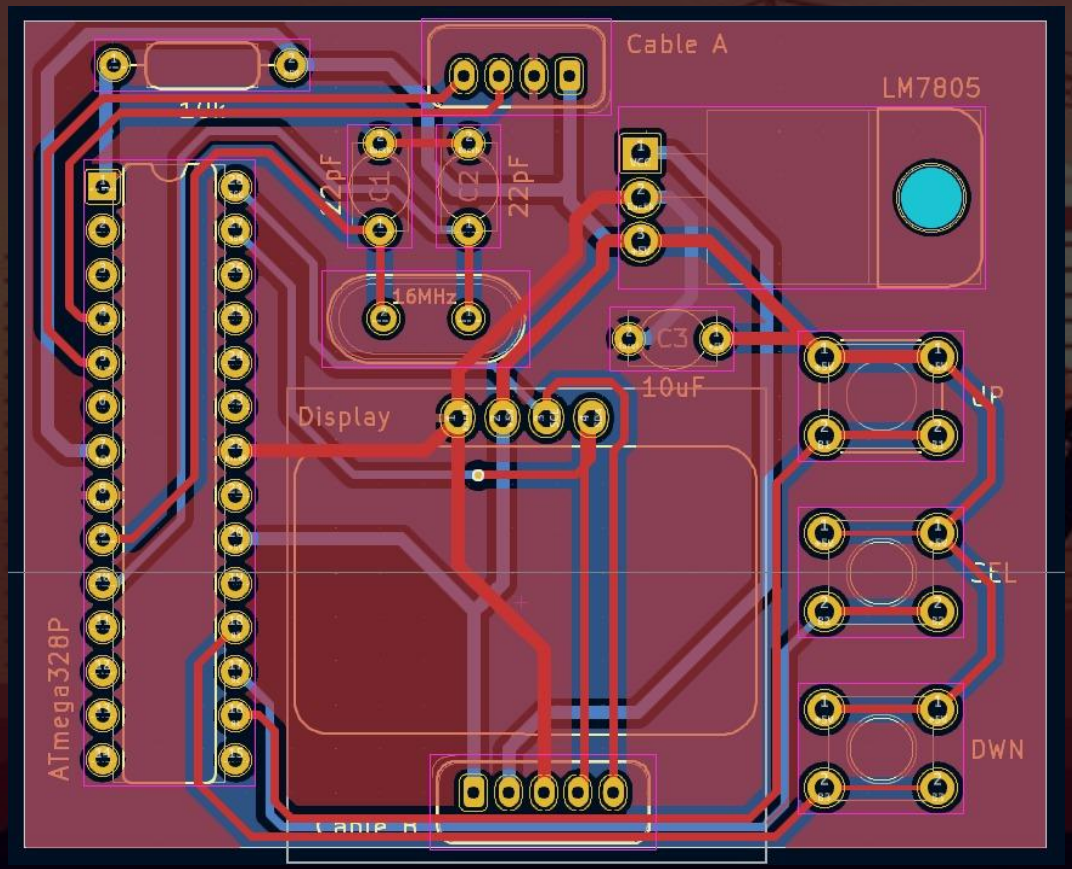
These PCBs will connected between each others with some wires.

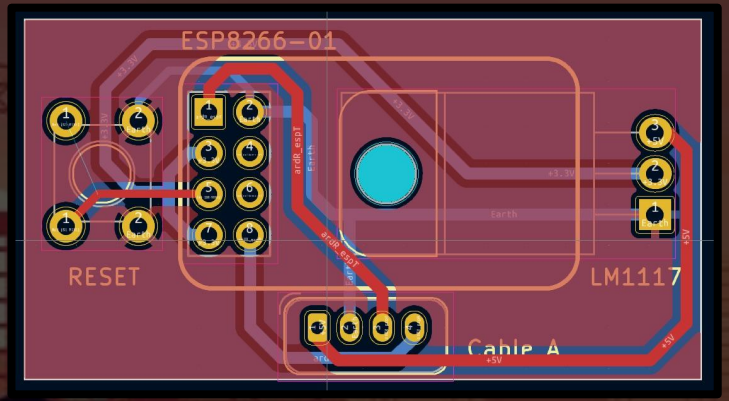


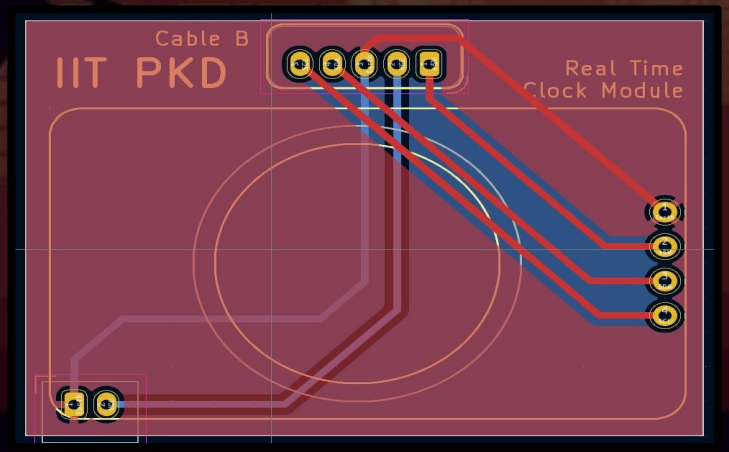
Circuit Design (schematic)



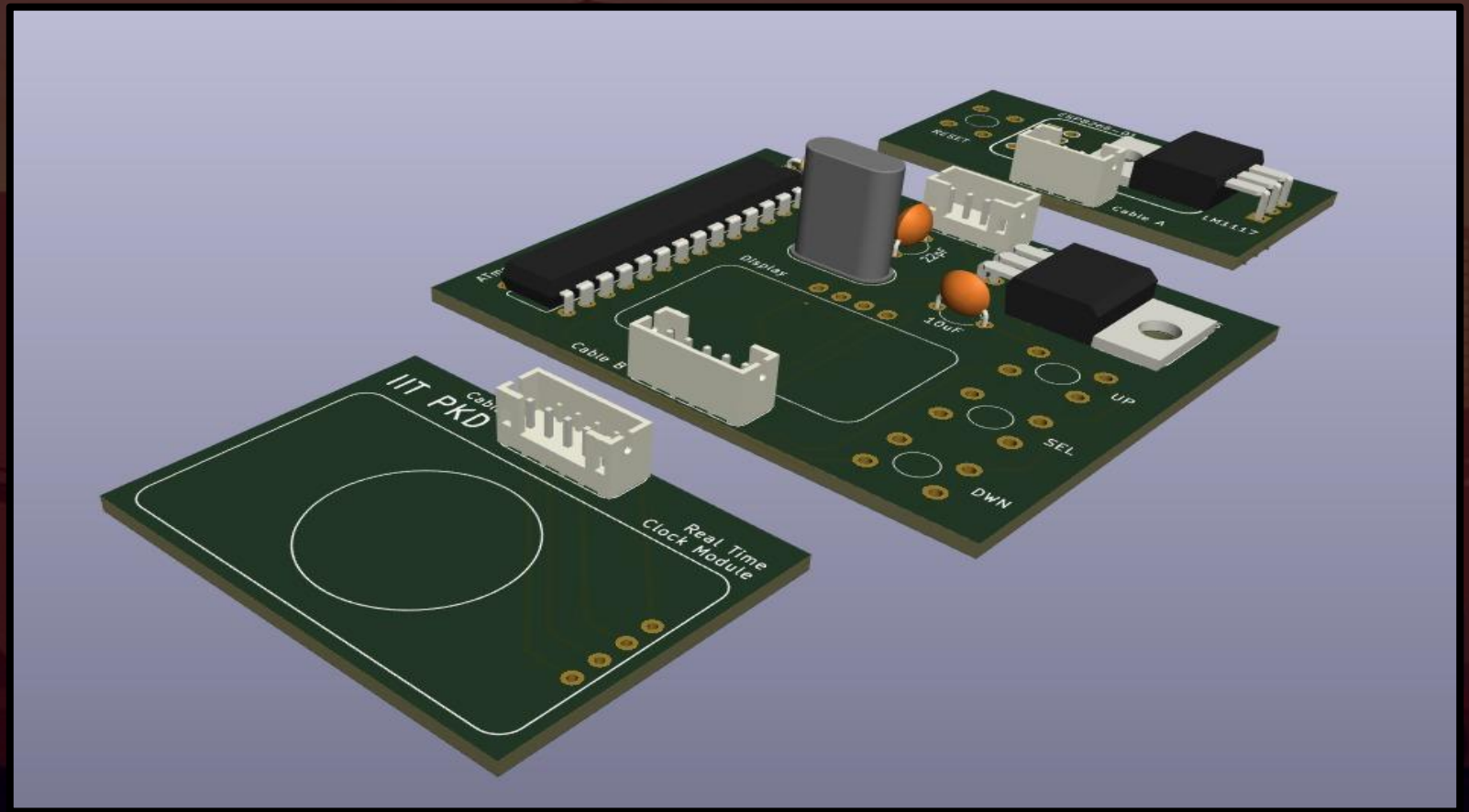
Circuit Design



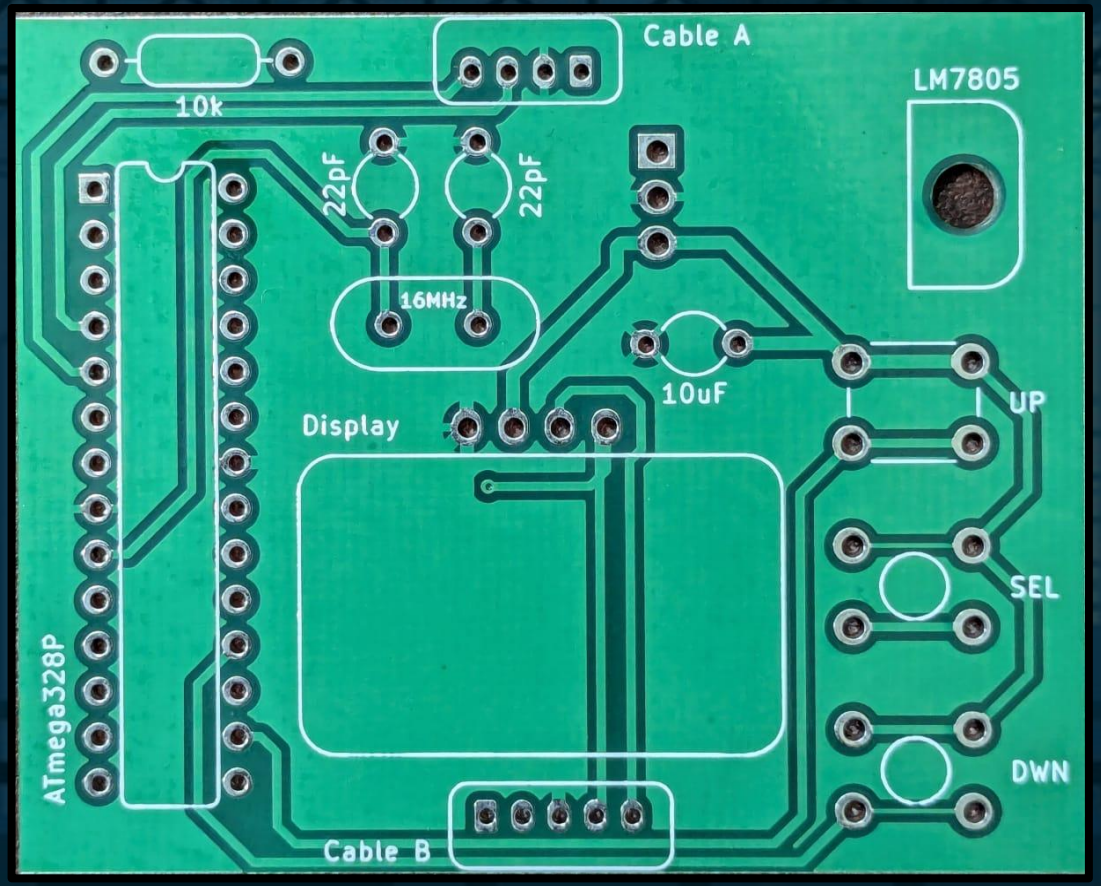


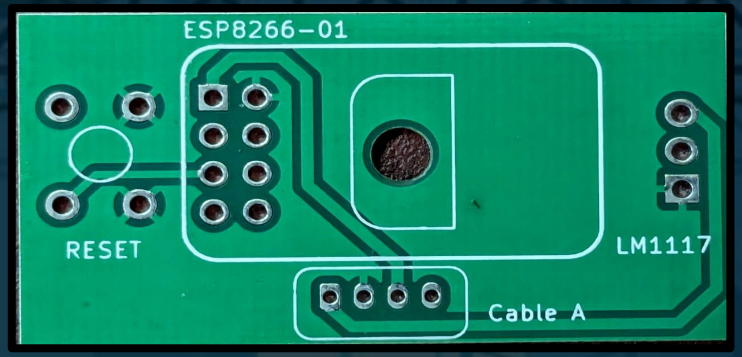


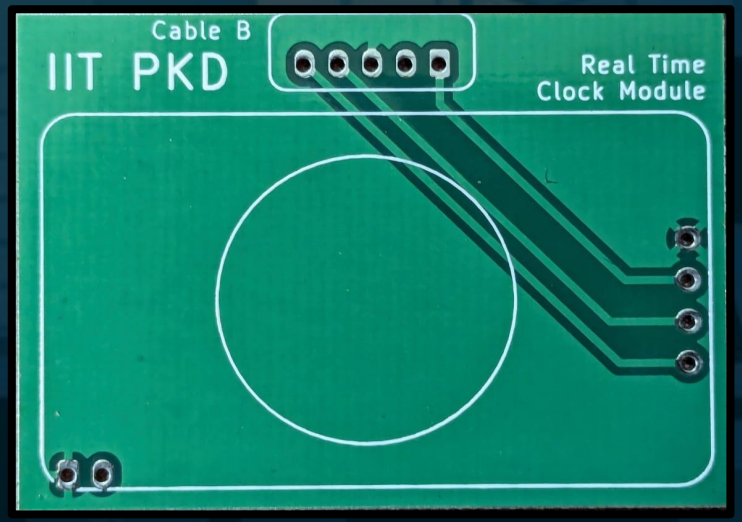
PCB Design


RESET
Cable A
LM1117
Display
22pF
10uF
Cable B
UP
SEL
DWN
IIT PKD
Real Time
Clock Module

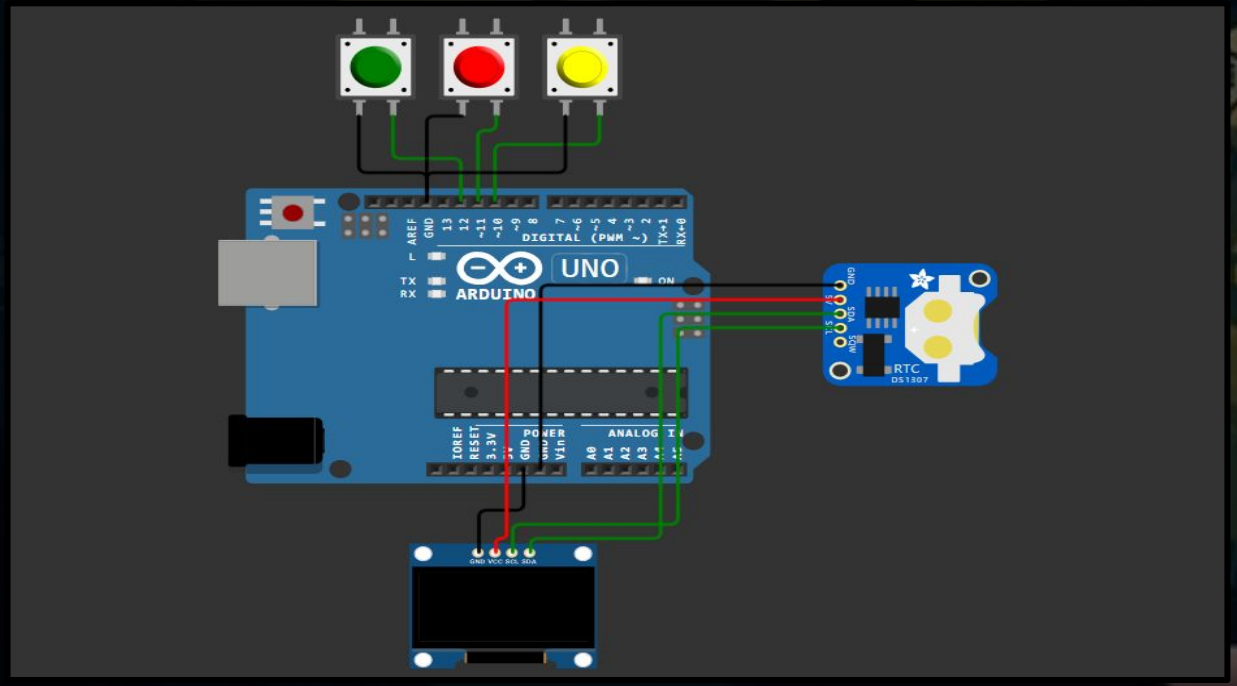
Final PCB Fabricated



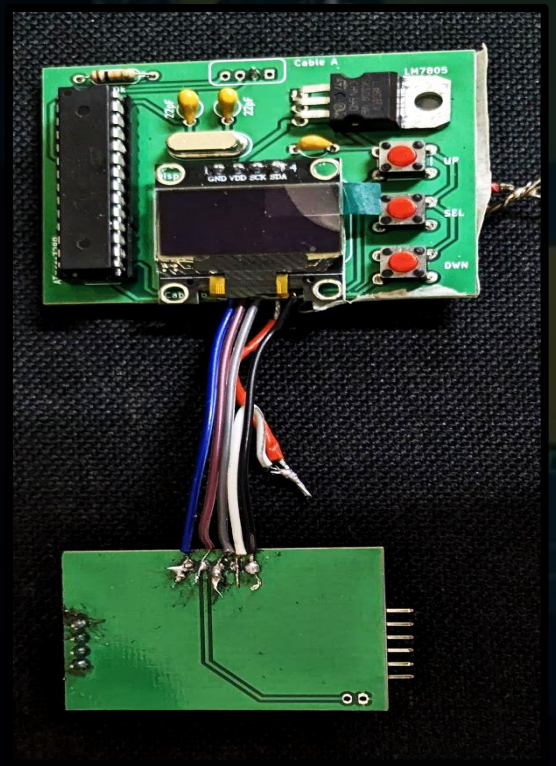




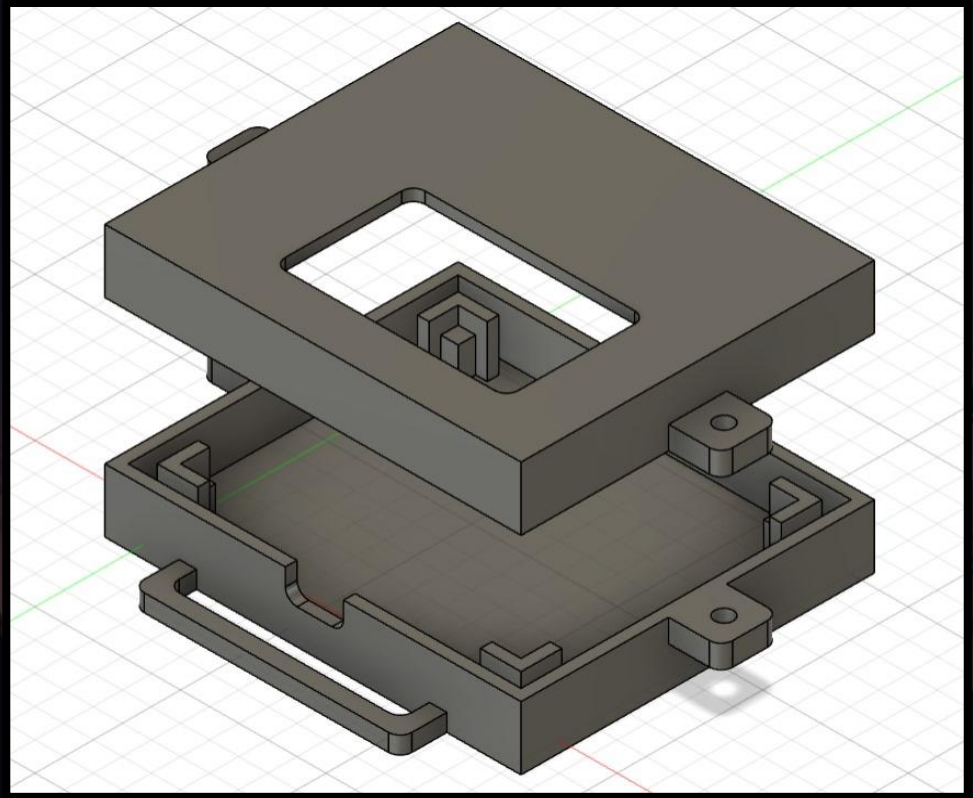
Circuit Diagram (Wokwi)

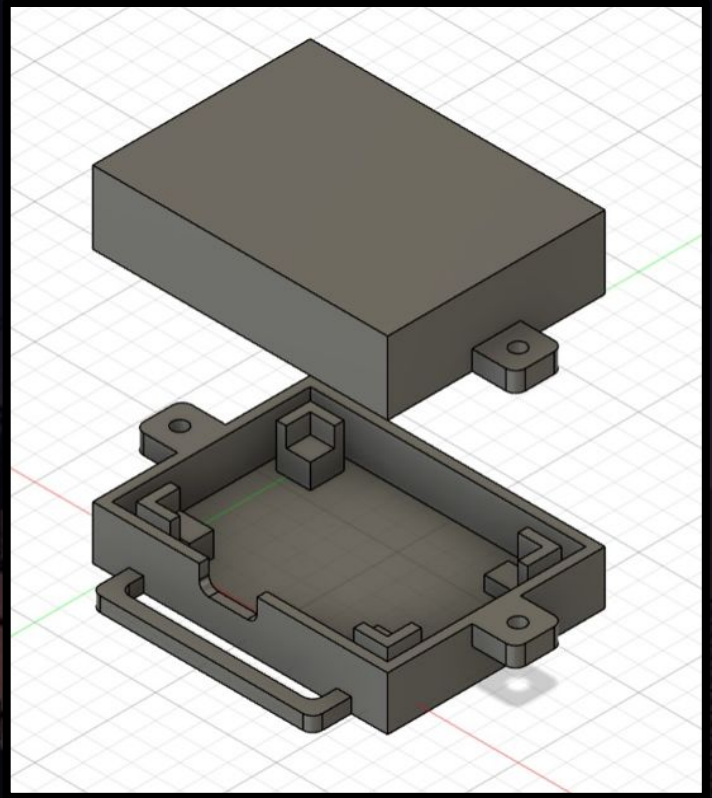


Final Complete Circuit

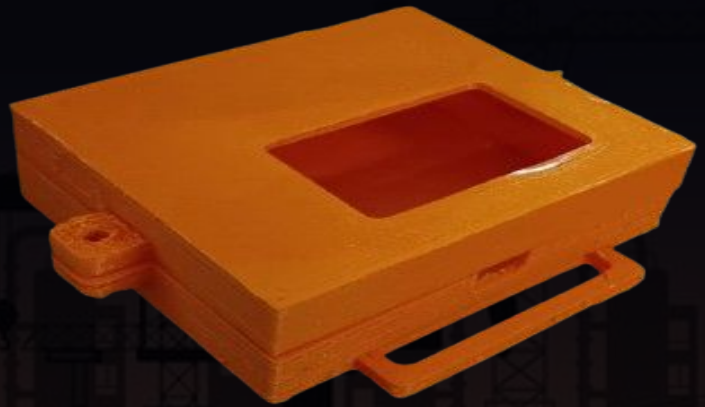


Case 3D Model

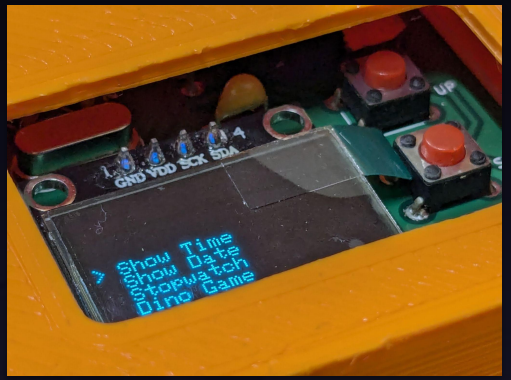


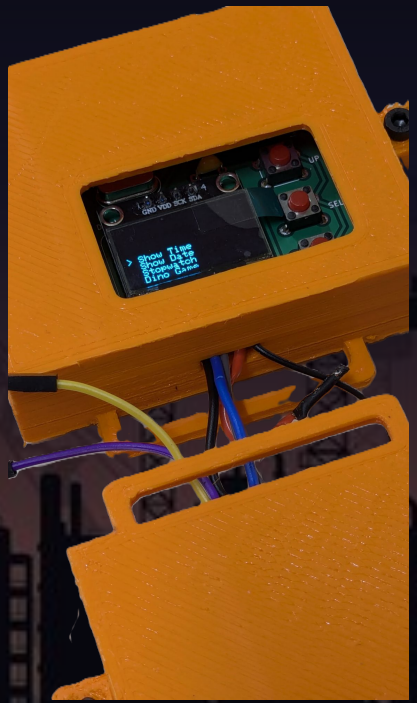


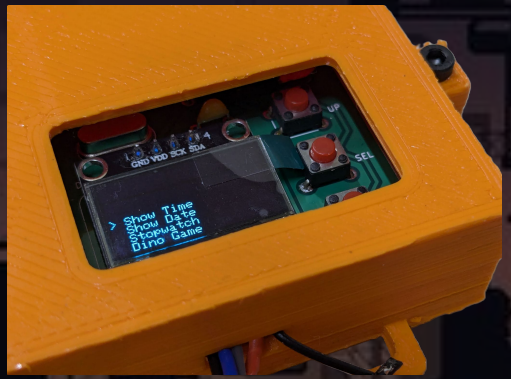
Case 3D Printed



Final Product







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