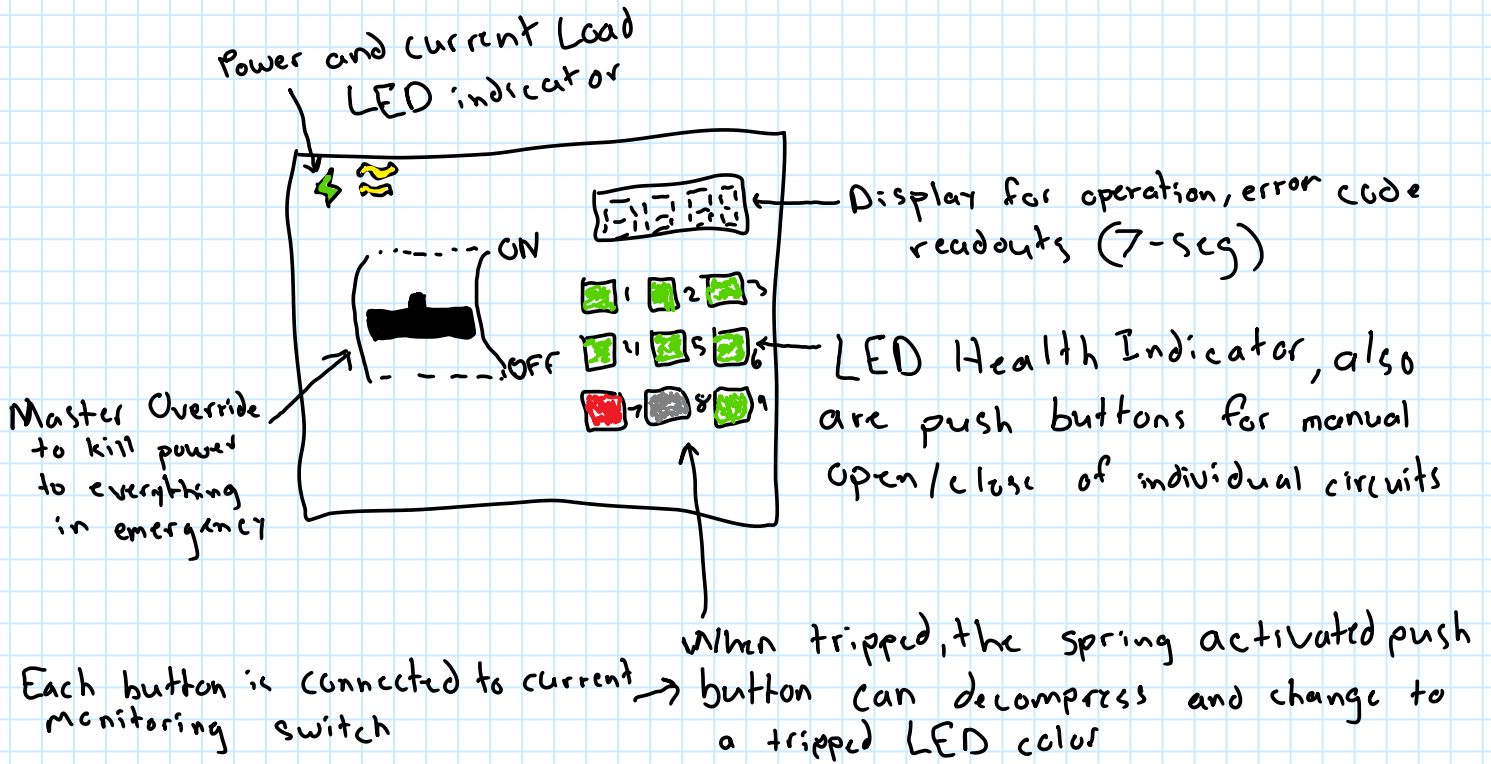


Kyle Rettig

Design of a Circuit Breaker Controller



- Everything would be analog, apart from the display features that use LED and 7-seg outputs

Valid Conditions on controller

- Analog voltage checking loop
- GPIO button monitoring/shut off control
- Startup check on controller
- Run loop voltage monitoring
- Interrupt service to shut off or turn on circuit

Invalid Conditions on Controller

- When circuit is held high and tripping
- When an invalid voltage is running through breaker or sent into controller

Operator Use

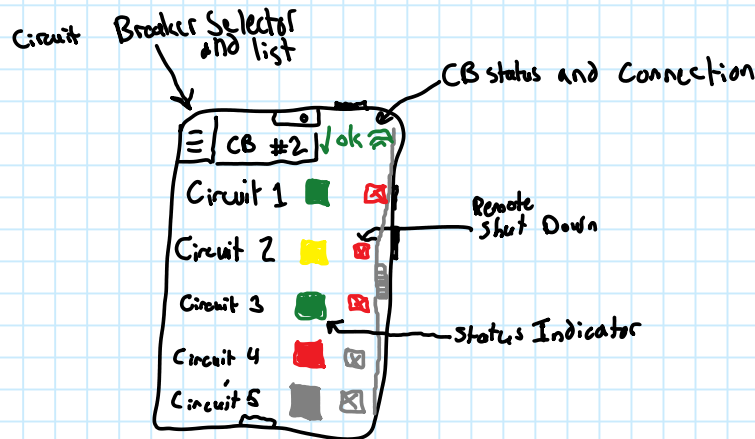
- Manual operation on interface
- Could use secure remote connection to remote shutdown, but startup of circuit should be manually set in physical presence
- When running correctly, all operator does is turn on and off circuit breaker, they can turn on and off individual circuits at will.
- When there is unhealthy operation, the operator must fix the faulty circuit, then they'll be able to manually reset the circuit
- If user does not fix faulty circuit, the breaker button will not latch when pressed

Interfaces:

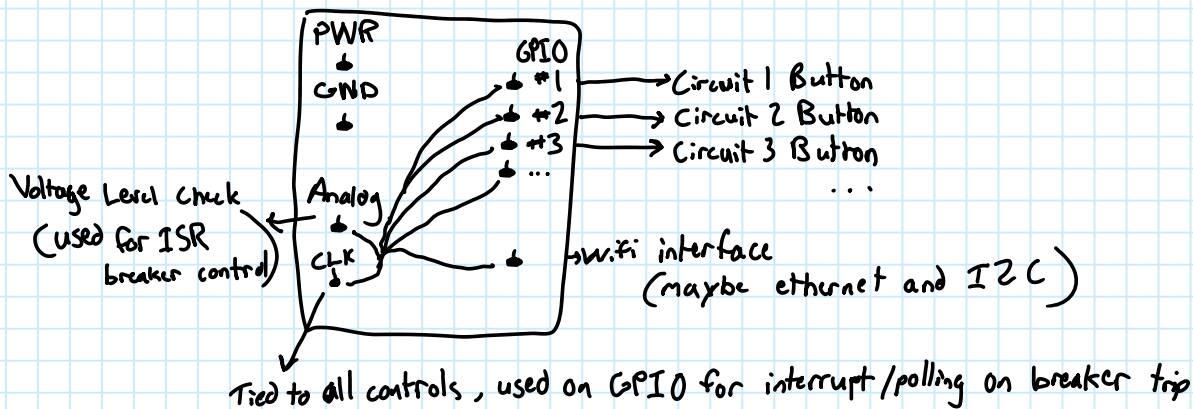
Physical Interface



Digital Interface



Microcontroller



UML

