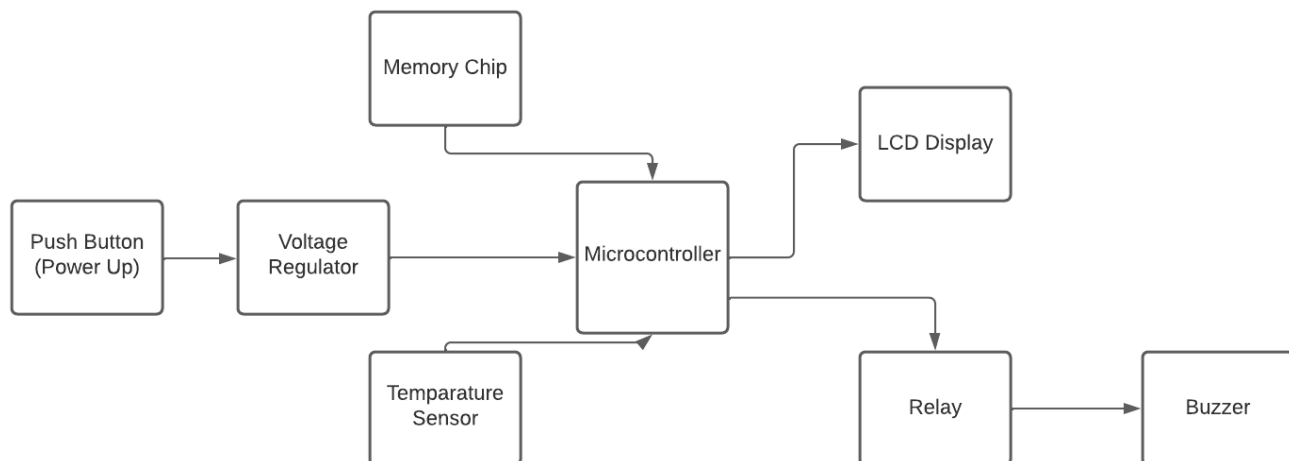


Case Study

Simple embedded system: Digital Watch with built-in Temperature Display.

Block Diagram:



Components:

- **Push Button(Power UP):** It is a type of switch work on simple mechanism push to start.
- **Voltage Regulator:** A voltage regulator is a system designed to automatically maintain a constant voltage.
- **Temperature Sensor:** Temperature sensors is the voltage across the diode terminals. If the voltage increases, the temperature also rises, followed by a voltage drop between the transistor terminals of base and emitter in a diode.
- **Microcontroller:** 8051 Microcontroller
- **LCD Display:** For display purpose
- **Relay:** A electrically operated switch.
- **Buzzer:** An audio signaling device.
- **Memory Chip:** A memory chip is an integrated circuit made out of millions of capacitors and transistors that can store data or can be used to process code.

High Level Requirements:

ID	Description
HLR01	LCD for displaying time, temperature
HLR02	Setting time
HLR3	Power Source

Low Level Requirements:

ID	Description
LLR1	Battery Backup
LLR2	Time Format Adjustment
LLR3	Temperature Adjustment