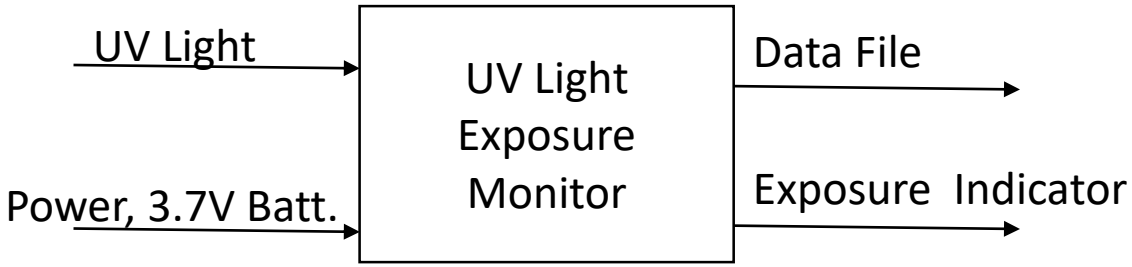
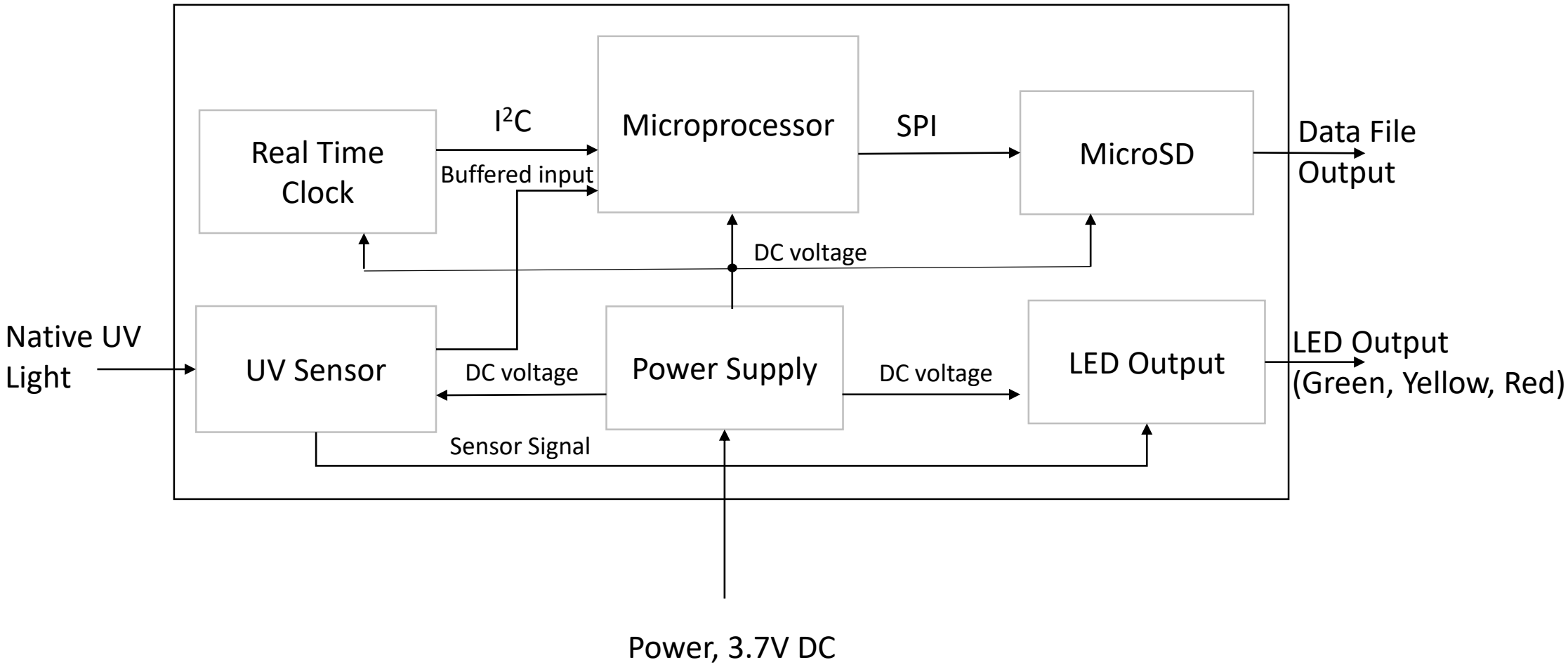
UV Light Exposure Monitor: Level 0

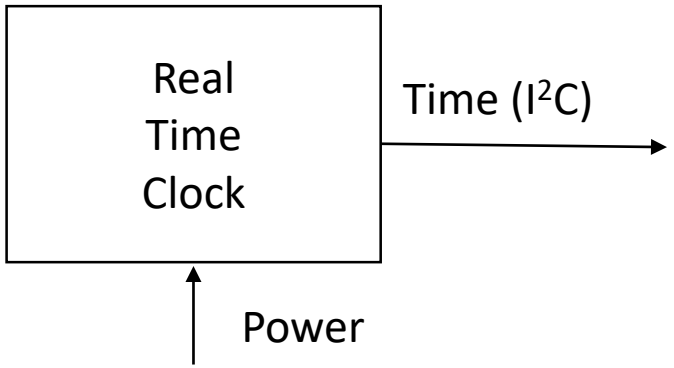


Module	UV Light Exposure Monitor
Inputs	UV Light: From the users environment Power: 3.7V DC AA Battery
Outputs	Data File: Contains the total data collected by the monitor Exposure Indicator: LED that indicates current UV Level (R, Y, G)
Functionality	Monitor and records UV light exposure. Recorded UV readings should be time stamped. A running total of the exposure should be kept.

UV Light Exposure Monitor: Level 1

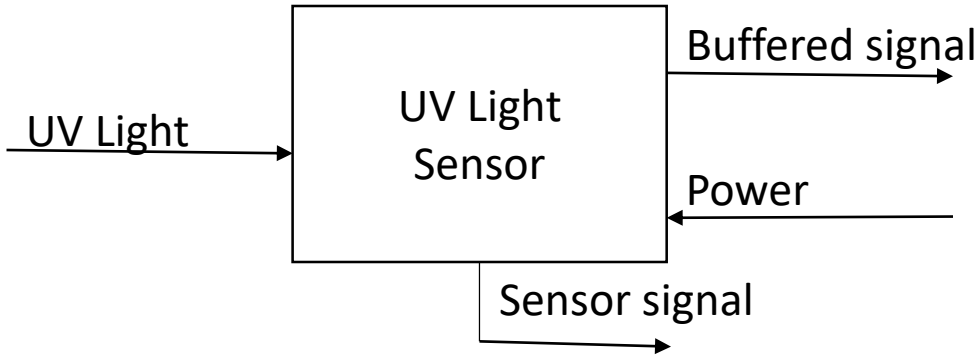


Real Time Clock: Level 0



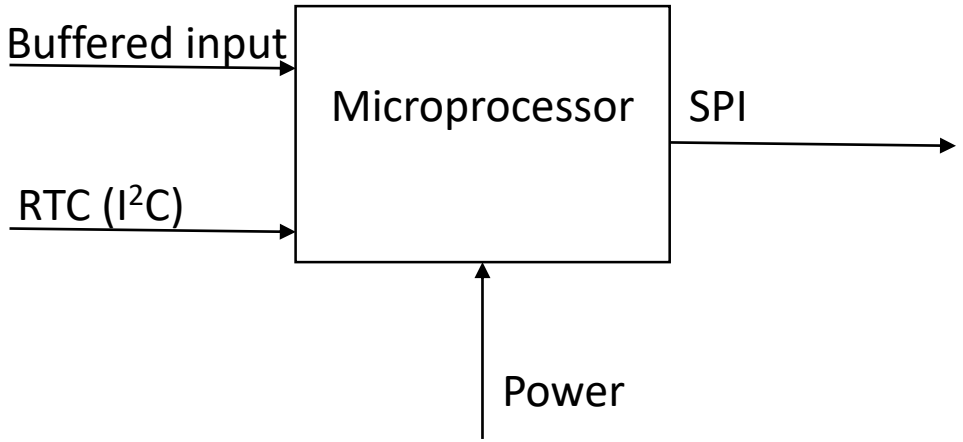
Module	Real Time Clock
Inputs	Power: 3.3V
Outputs	Time: The RTC supplies the microprocessor with the current time in I^2C format.
Functionality	Keeps the actual time and date. Battery back up.

UV Sensor: Level 0



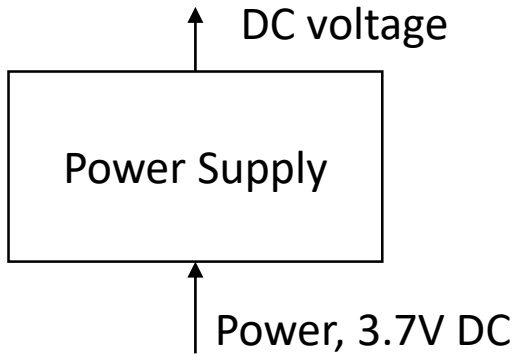
Module	UV Sensor
Inputs	UV Light: From users environment Power: 3.3V
Outputs	Buffered signal: 0-1V signal of current UV level Sensor signal: 0-1V signal of current UV level
Functionality	Outputs 0-1V dependent on the intensity of the UV light exposure

Microprocessor: Level 0



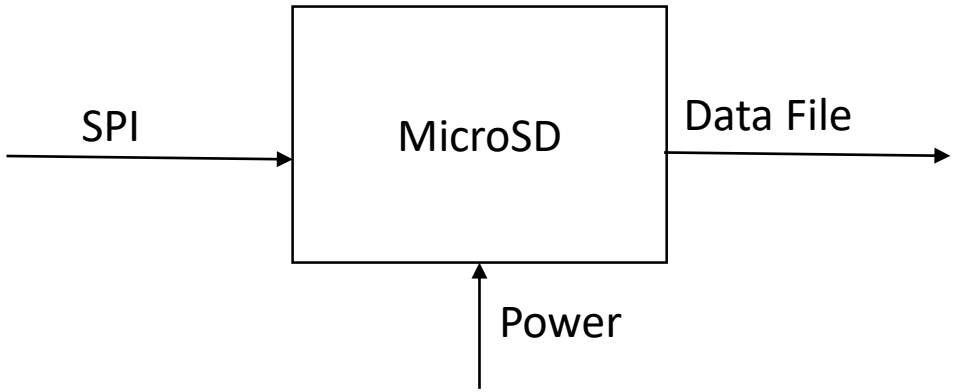
Module	Microprocessor
Inputs	Buffered input: 0-1V input from the UV sensor RTC (I^2C): The time from the real time clock in I^2C Power: 3.3V
Outputs	SPI: Data is output using SPI protocols to a microSD card
Functionality	Takes the data from the UV sensor and the time from the RTC and records them as well as a running exposure total.

Power Supply: Level 0



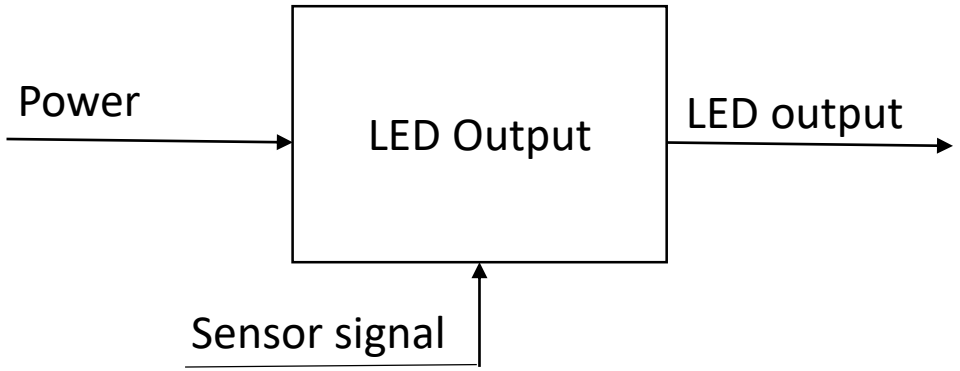
Module	Power Supply
Inputs	Power: 3.7V DC AA Battery
Outputs	DC voltage: 3.3V
Functionality	Provides a constant 3.3V at up to 500mA.

MicroSD: Level 0



Module	MicroSD
Inputs	SPI: Collected data from microprocessor using SPI protocols Power: 3.3V DC
Outputs	Data File: All the collected data stored on a microSD card
Functionality	Takes the collected information from the microprocessor and saves it onto a microSD card

LED Output: Level 0



Module	LED Output
Inputs	Sensor signal: 0-1V from the UV sensor indicating current UV level Power: 3.3V DC
Outputs	LED Output: Green, Yellow, or Red LED lit depending on UV level
Functionality	Lights the correct LED to indicate current UV level. Green for lowest, yellow for medium, and red for high.