

# CSLAB – Component List

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## Components used in the project:

Component	What we would like to use	What we will be using
Temperature Sensor	DHT11	DHT11
Luminosity Sensor	TSL2561	LDR5539
Blinds Mechanism	SG90	SG90
	LED 2x	LED 2x
Heater Mechanism	Heating Plate	LED
Smart Lights	LED	LED

As mentioned above, there are alternative components we would prefer to use instead of the ones currently chosen. We will now explain the reasons for selecting these components and explain why we would choose some others over the ones initially planned.

## Temperature Sensor:

We have decided to keep the DHT11 sensor for temperature measurement. Despite its limitations in terms of accuracy compared to other sensors, such as the DHT22, the DHT11 is sufficient for our project's requirements. It is cost-effective, easy to interface with, and provides reasonably accurate temperature readings within a suitable range

## Luminosity Sensor:

The TSL2561 is a digital sensor that offers higher precision and a wider dynamic range than the LDR5539. However, due to budget and simplicity concerns, we have opted for the LDR5539, which provides adequate performance for our needs while being cost-effective and easy to integrate.

### Blinds Sensor:

We have chosen to use the SG90 motor for the blind's mechanism, as it is a low-cost, widely available, and reliable option for small projects. It offers sufficient torque and precision for controlling small blinds, and it is easy to integrate with microcontrollers like Arduino.

### Heater Mechanism:

We initially planned to use a heating plate to control temperature more directly. However, due to power constraints and the nature of the project, we decided to substitute the heating plate with an LED, which will allow us to simulate the heating process more efficiently without requiring additional power resources.

### Smart Lights:

We have chosen LEDs because they fit the functional requirements of the smart lights in our project, and their colour can be controlled using RGB LEDs, making them versatile for various lighting effects.