SOLAR-POWERED, AUTO-ADJUSTING BLINDS

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ECE 428

Spring 2022

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COMPONENTS AND SUPPLIES

Item	Quantity
Elegoo Mega 2560 Microcontroller	1
LCD1602 Display Module	1
Treedix MG995 Servo Motor	1
HiLetgo 18650 Battery Holder	1
18650 Rechargeable Lithium-ion Battery, 3.7V	2
ALLPOWERS 2.5W 5V/500mAh Solar Panel	1
HiLetgo 3-01-0205 Lithium Battery Charging Module	1
Songhe DC-DC Step-Up Boost Converter, 0.9-5V to 5V	1
AX-1838HS Infrared Receiver Module	1
Arduino 38KHz Remote Control	1
Piher PT-15 Carbon Potentiometer	1
FocuSens MF52 NTC Thermistor	1
KLS Electronic KLS6-3537 3mm Photosensitive Resistor	1
10 kOhm Metal-Oxide Resistor	1
2.2 kOhm Metal-Oxide Resistor	2
1 kOhm Metal-Oxide Resistor	3
10 Ohm Metal-Oxide Resistor	1
100 uF Electrolytic Capacitor	1
Double-Sided Prototyping PCB	1
5mm LED: Red, White, Green	1 ea
Assorted Hook-Up Wire	1
Lead-Free Solder	1

NECESSARY TOOLS AND EQUIPMENT

Soldering Iron

Wire Clippers

Wire Strippers

Needle-Point Pliers

Multimeter

Desoldering Vacuum Pump

Breadboard (for prototyping prior to soldering)

USB-A to USB-B cord for PC-to-Arduino Programming

APPS AND ONLINE SERVICES

Arduino IDE

Circuit-Diagram.org

CODE

Code and associated libraries can be found online at:

https://github.com/DaShMa518/Solar-Powered_Auto-Adjusting_Blinds

SCHEMATICS

Schematics can be found online at:

https://github.com/DaShMa518/Solar-Powered_Auto-Adjusting_Blinds

REFERENCES

Froz3nArcher (2016), Smart Blinds, https://create.arduino.cc/projecthub/Froz3nArcher/smart-blinds-573548