Smart Blinds

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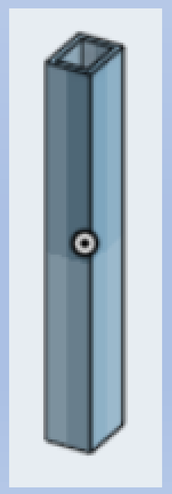
Inspiration/Goal

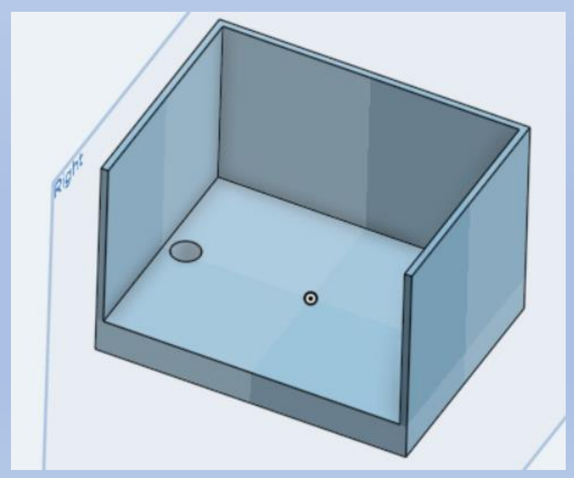
Manually adjusting all blinds in your house is tedious. Sunlight can affect the temperature in a home and is not consistent. A set of blinds that is able to automatically adjust the tilting angles of the slates based on real time luminosity and temperature addresses these problems.

Solutions & Design

Mechanics

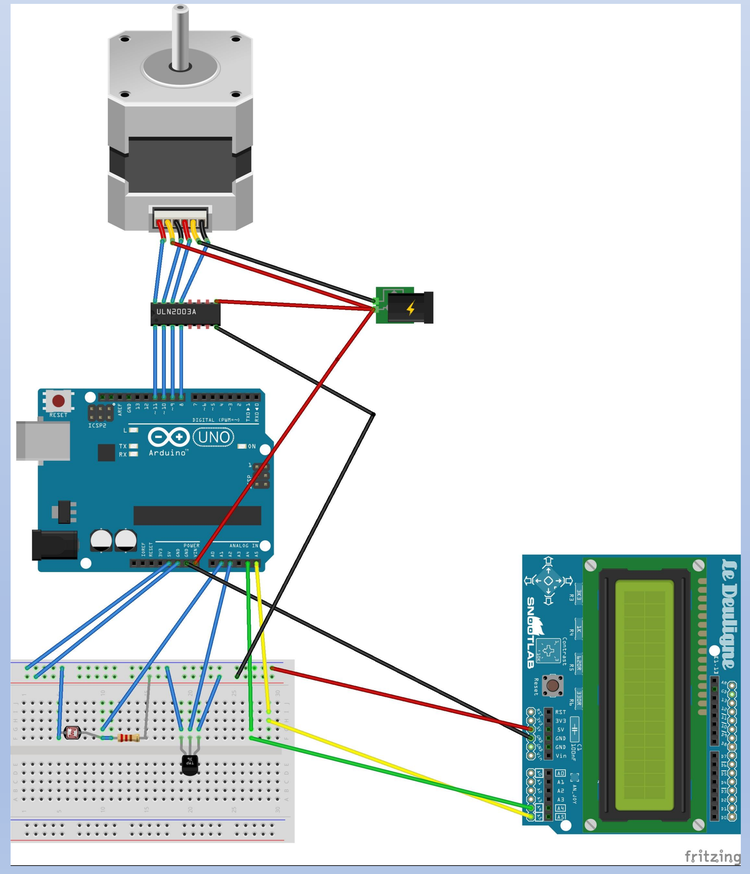
The adapter and casing for the motor were designed in Onshape and 3d printed.





Electronics

Our project consists of a temperature sensor, a photo-resistor, an Arduino Uno Processor, a stepper motor, and an LCD Display. The final circuit is shown below.



Programming

The device is controlled by an Arduino Uno Board. The programming of the device consists of three parts: reading from sensors, control of the motor, and control of the display.

Next Steps

- Create an adjustable adapter which can fit most blinds in the market.
- Improve the power supply and the overall circuit efficiency
- Control circuit with a chip instead of Arduino
- Combine all parts in a case which can be mounted on any regular window frame

Budget: Motor and Driver $8.59 Sensors $5.99 Display: $23.95
Total: $38.6

https://classes.engineering.wustl.edu/ese205/core/index.php?title=Smart_Blinds