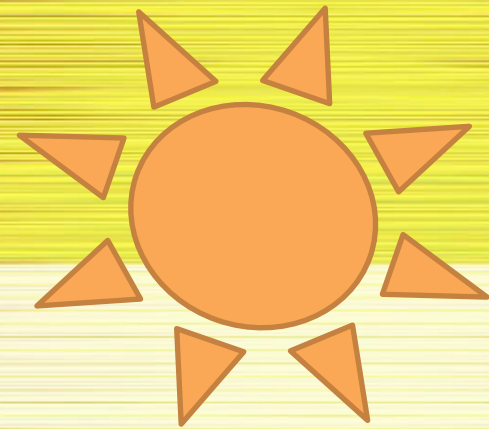




Sun Tracker

Emily Barnes, Sara Berg-Love, Kaela Byrne, Julie Chong, Lindsay Kelly, Marina May, Angelica Saavedra



Background of Solar Cells

- Creates negligible pollution
- Unlimited supply of potential energy
- Currently not very efficient



Our Project

- 2 photo sensors
- Motor turns panel towards the sun
- Equal amounts of light on sensors
- 30% more efficient

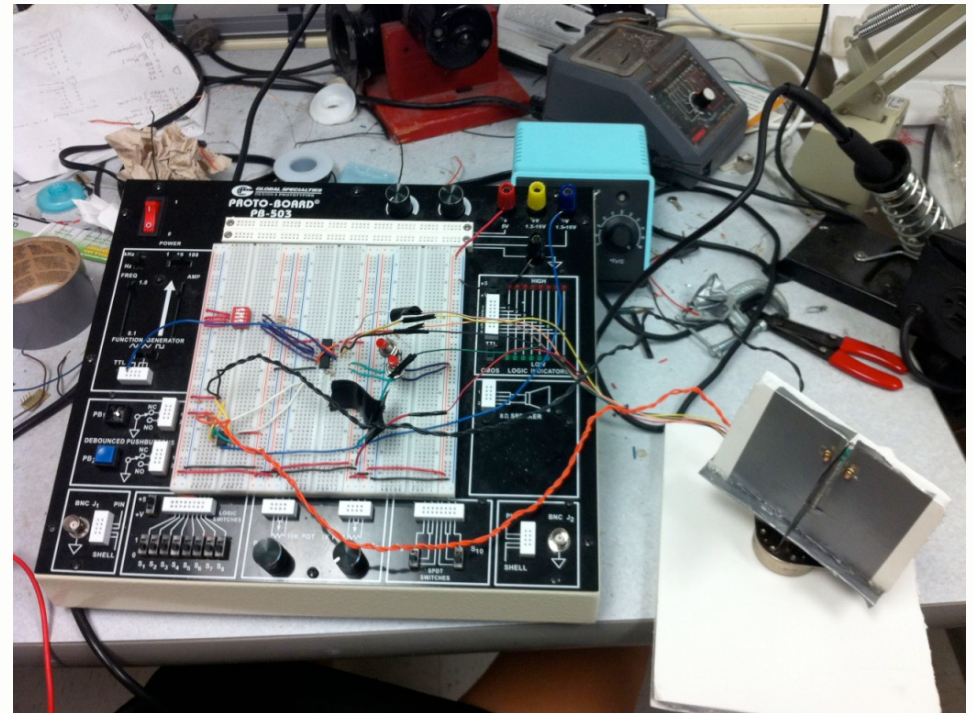


Photo Resistors

- More sunlight equals more resistance.
- Panel turns in direction of light.
- Data is put into comparator.

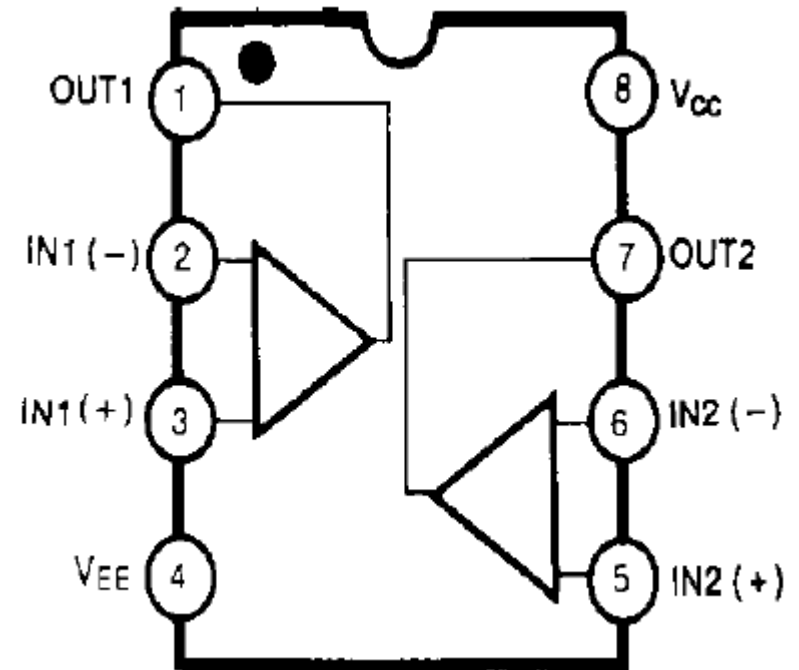
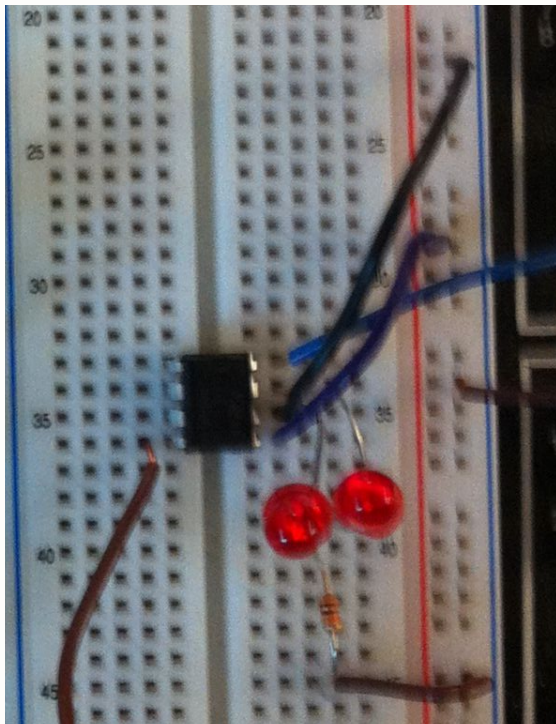


[Video](#)



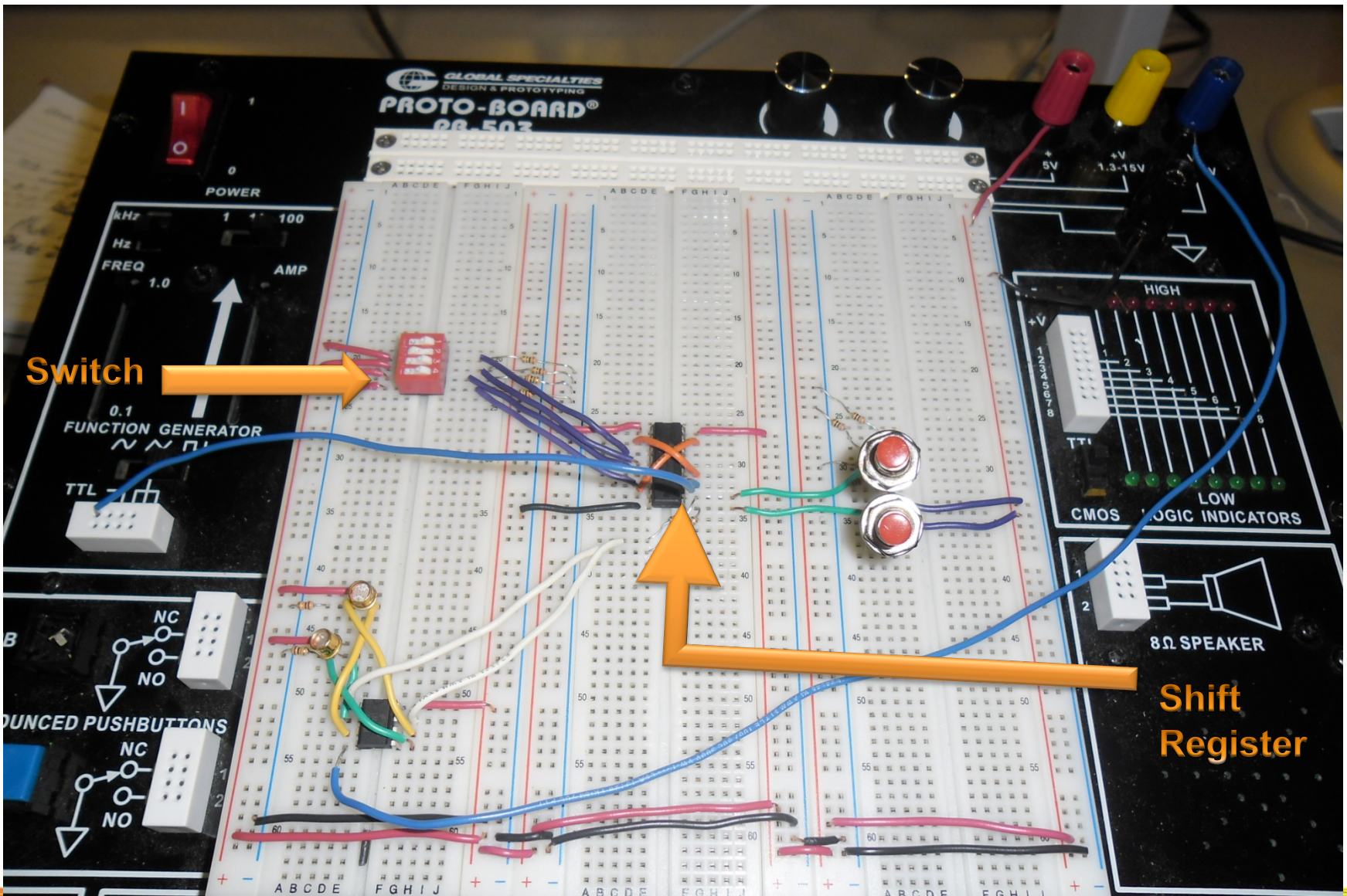
Comparator

- 2 inputs determine output
- Output can be 1 or 0



In our project...

- Photo resistors = inputs
- Output spins the motor

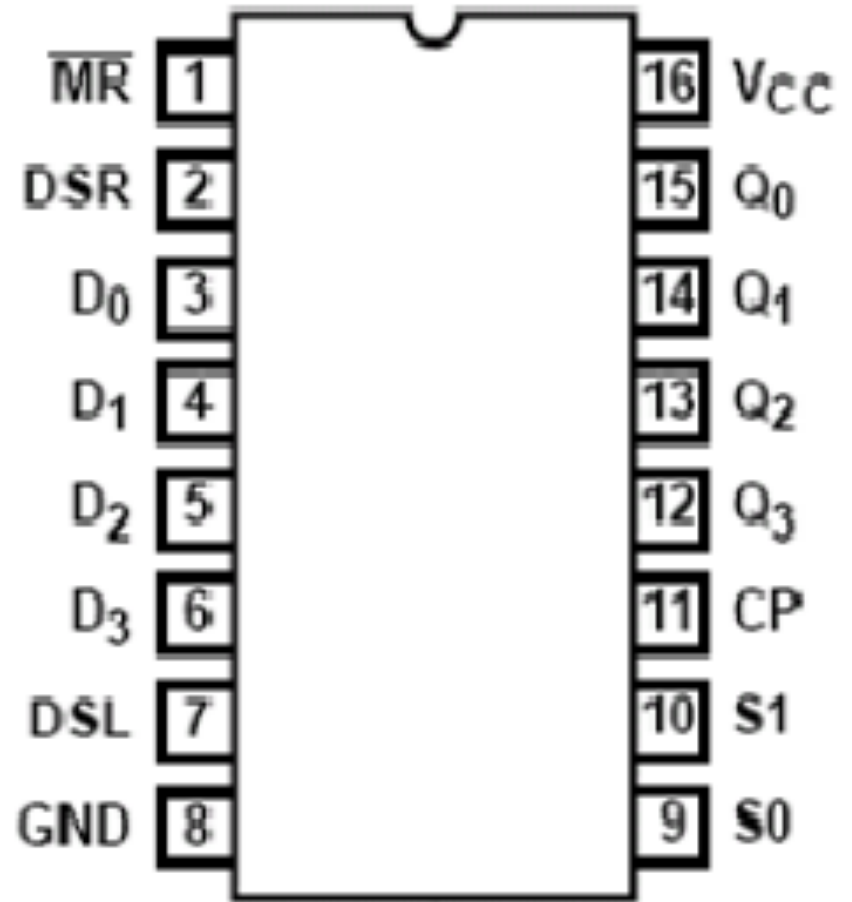


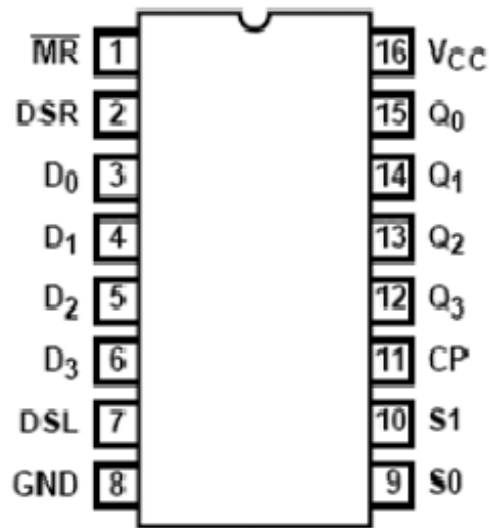
Switch

Shift
Register

Shift Register & Switches

- Switch sends 4 signals to the Shift Register
- The shift register controls the sequence of the “1”

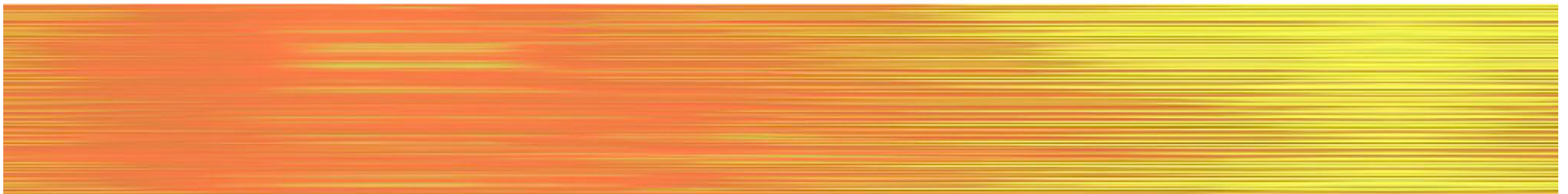




Shift Register cont.

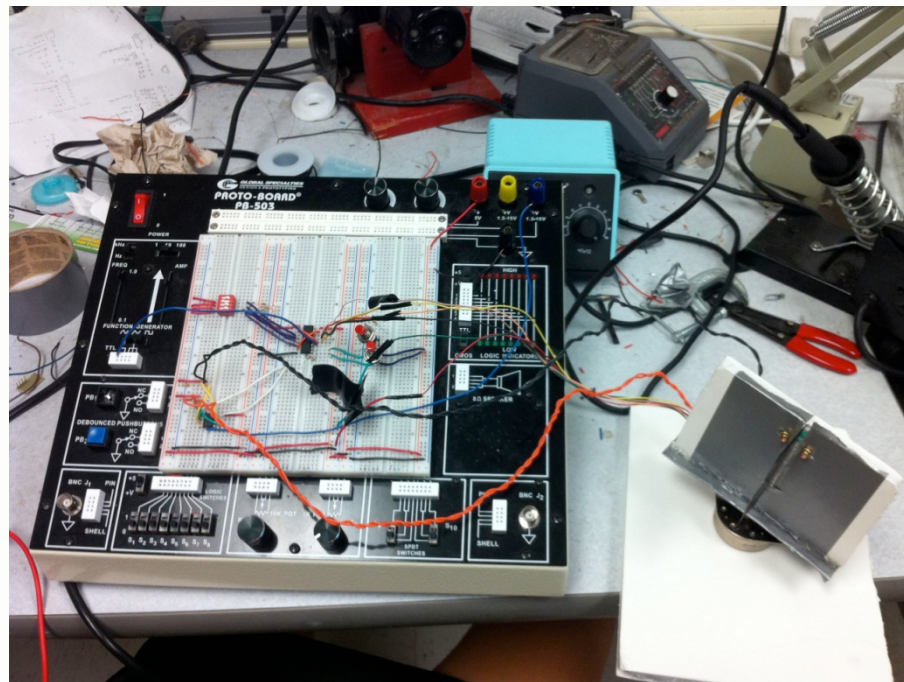
<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>

- Values of S_0 and S_1 control sequencing
- The values of S_0 and S_1 determined by Photo Resistor data
- This system can shift to the right or left
 - LED lights



Stepper Motor

- Motor composed of four coils of wire.
- The motor turns to the direction of the output shift





Conclusion and Call to Action

- Electrical Engineering
- Implementation in airports



Special Thanks

- The Curie Academy
- Advisors: Jonya, Professor Land, Nick, our PA's and Professor Shen
- Our parents



Questions?