

## Hardware Section

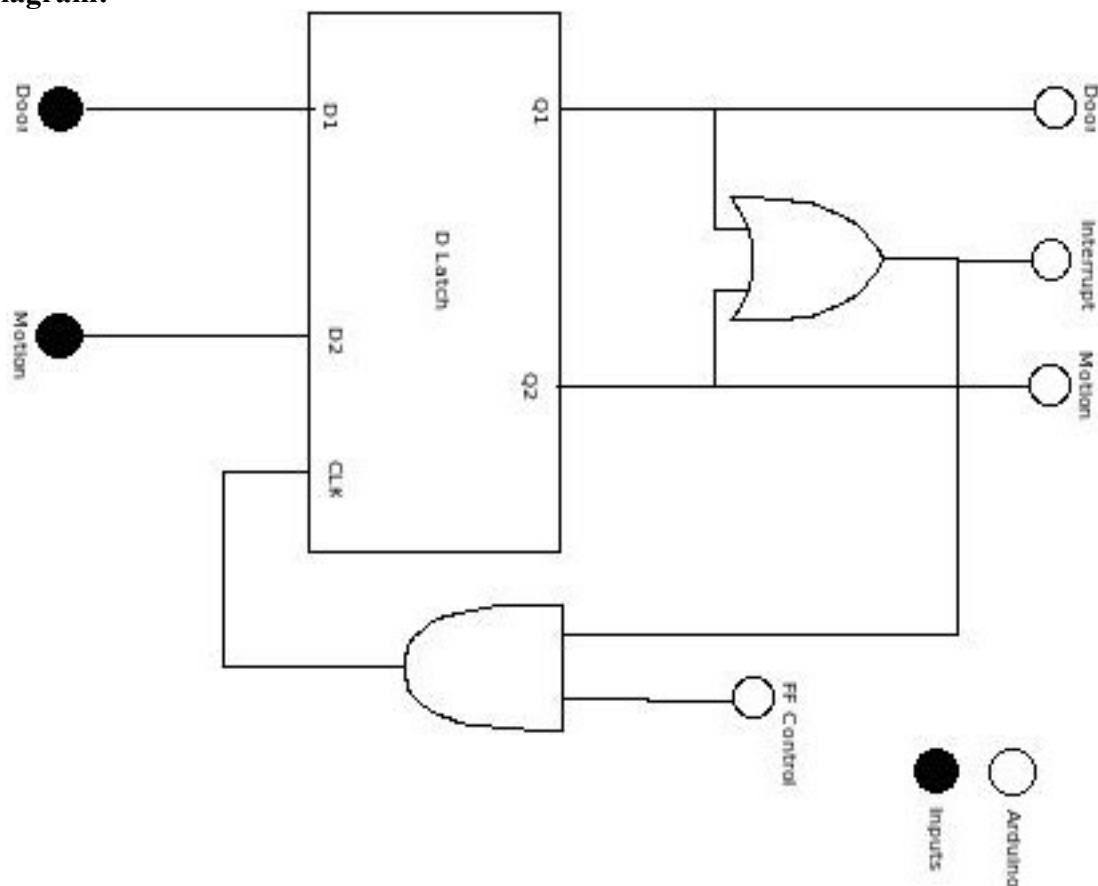
### Abstract:

This circuit is design to store the input. This is to guarantee enough time for the controller to wake up and store the incoming input. This was necessary because there are only two interrupts available to wake up the micro-controller when powered down. Also it was necessary to keep the interrupt active long enough so the controller does not dead lock.

### Needed parts:

2-Input And  
2-Input OR  
D-latch  
Motion sensor  
Door Sensor  
100ohm Resistor (2)  
Proto-board (pshield)  
wire

### Block Diagram:



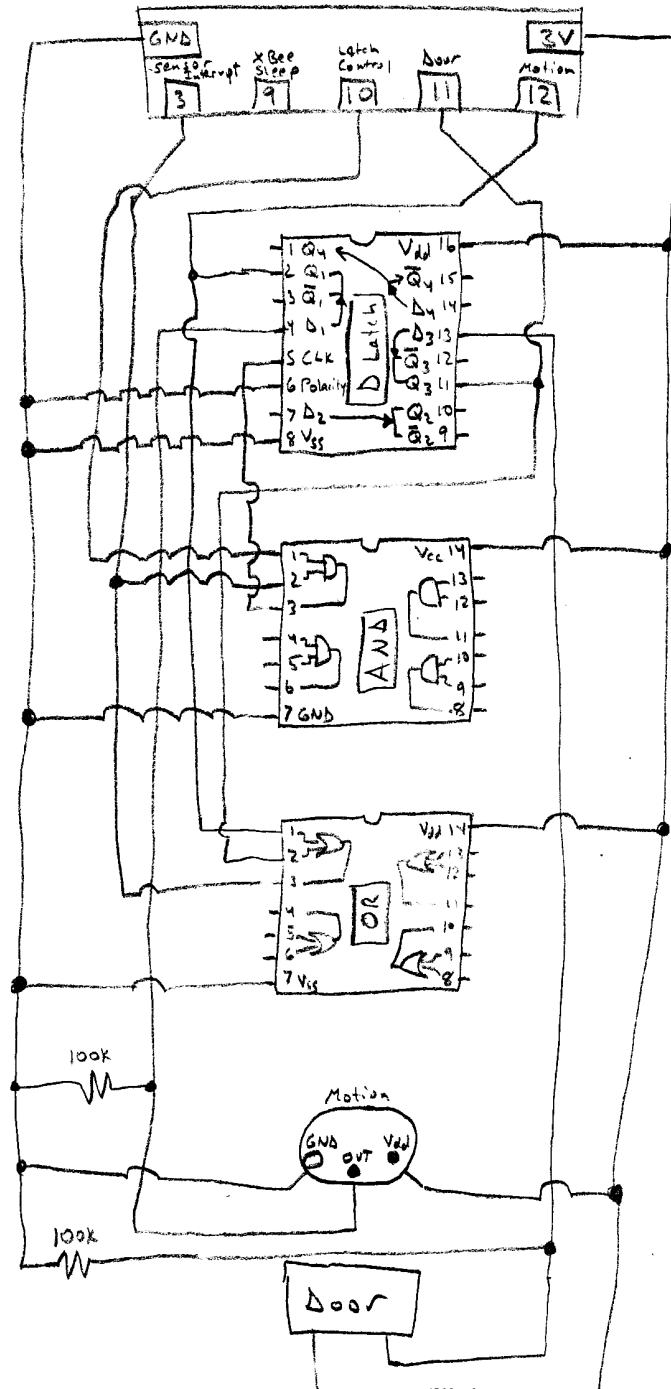
### Layout Diagram:

D Latch • CD 4042 BE

OR • NTE 4071 B

AND • NTE 74LS08

Implementation from 11/17/2011  
with D-Latch



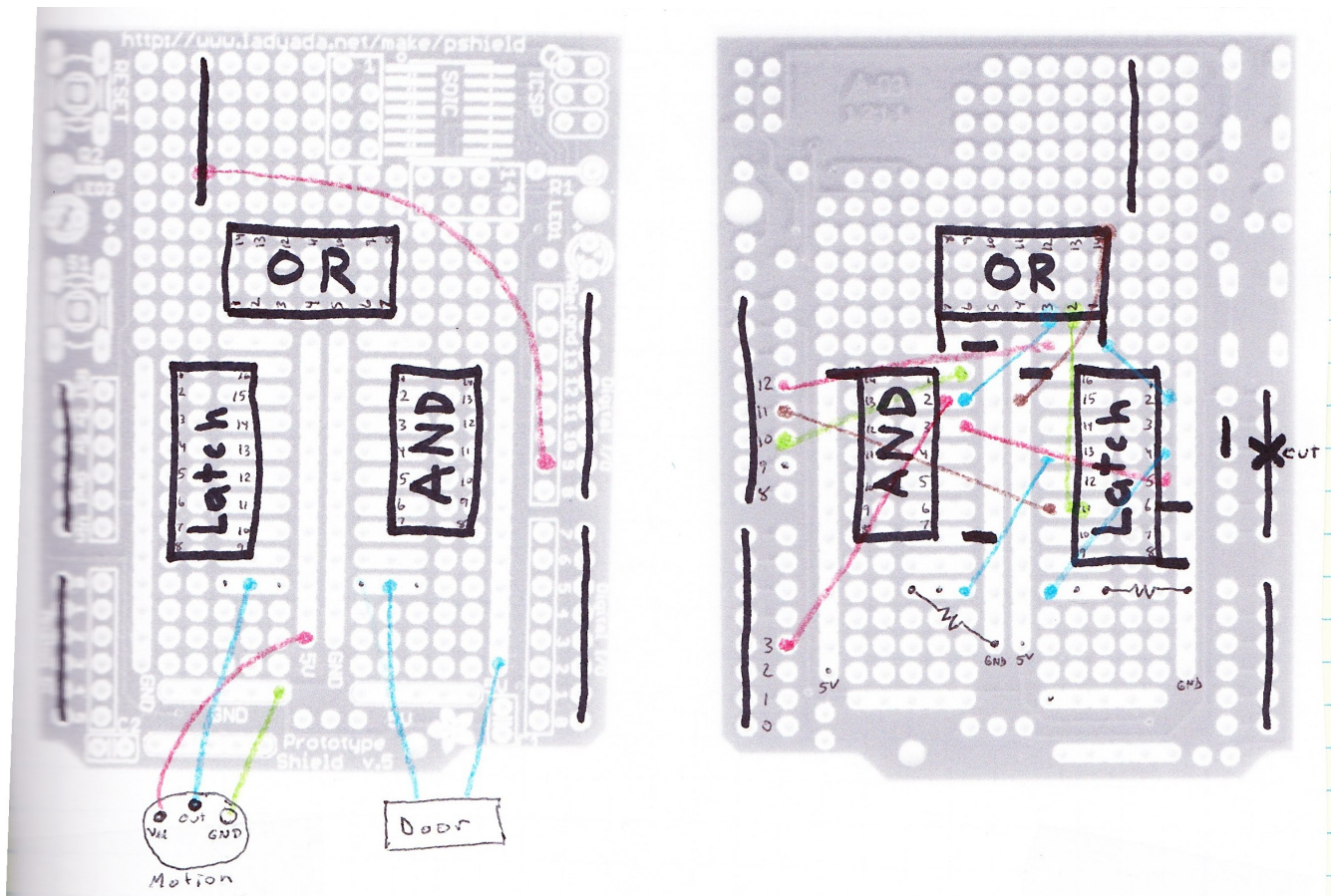
Latch Control

0 = Read sensors

1 = Wait for first sensor

## Example Layout:

This is not the most efficient way to lay out the board but works.



### Build Tips:

- Lay out the parts before soldering.
- Cut 5 volt plug.
- Put AND gate and OR gate on the same side, this reduces the wire length and overlapping wires.
- I suggest adding a plug instead of hard wiring the door sensor to the board. This makes it easier to take the nodes down and put them up.
- Cut case, when installing to help length.

### DC Characteristics:

DC Power	Resistance 92k-98k $\Omega$	Voltage 3V	Average power 382 $\mu$ W
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### Installation tips:

- Measure the length of needed wire for door sensor.
- Keep line of sight for nodes for best signal.