



# Dance Pad

Lucia and Adam

# Understanding

## Requirements:

- One 6V Battery
- Four Light Bulbs
- Wires
- Cardboard
- Aesthetically Pleasing
- Each individual light must have a button that can turn it on its own (button 1 turns on light 1, etc.)
- 5th button must turn on two lights
- 6th button must turn on all four lights

# Explore/Define

Dance Dance Revolution- A mechanism where pressing down a pad lights up 1 or more lights at a time.



# Ideate

We used a Java program to tinker with switches, batteries, wires, lights, etc. to get used to how electrons move in different situations.

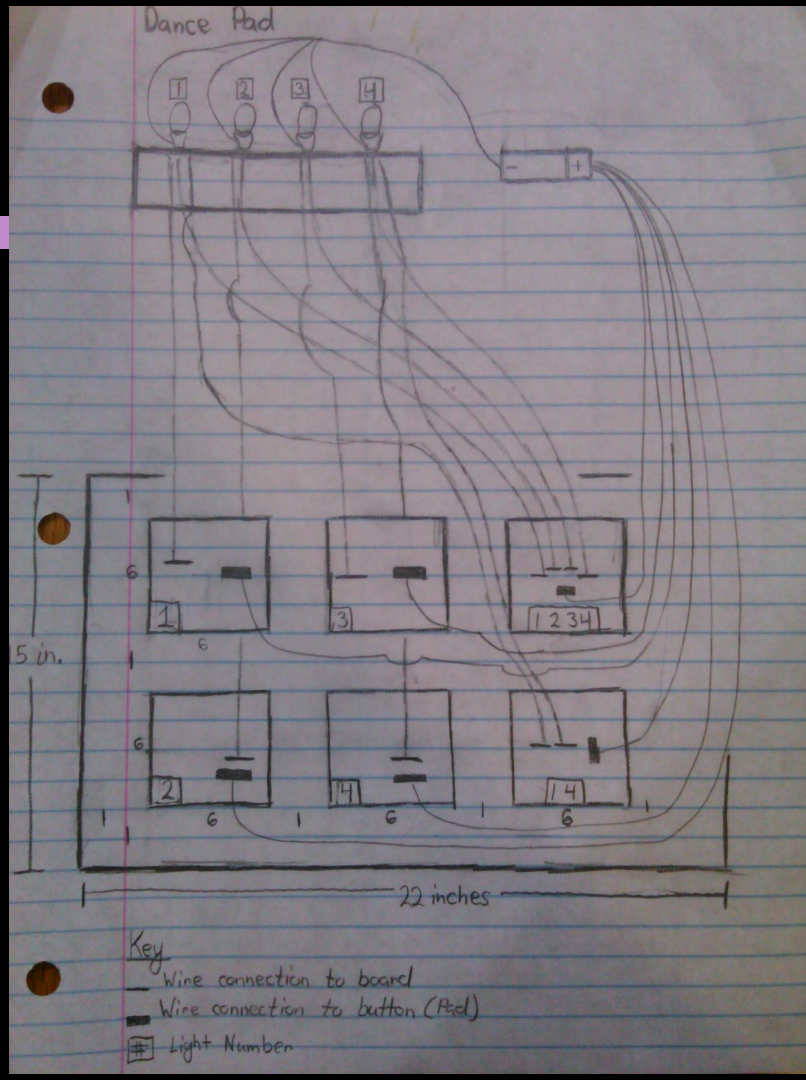
This helped us figure out how to build our Dance Pad.



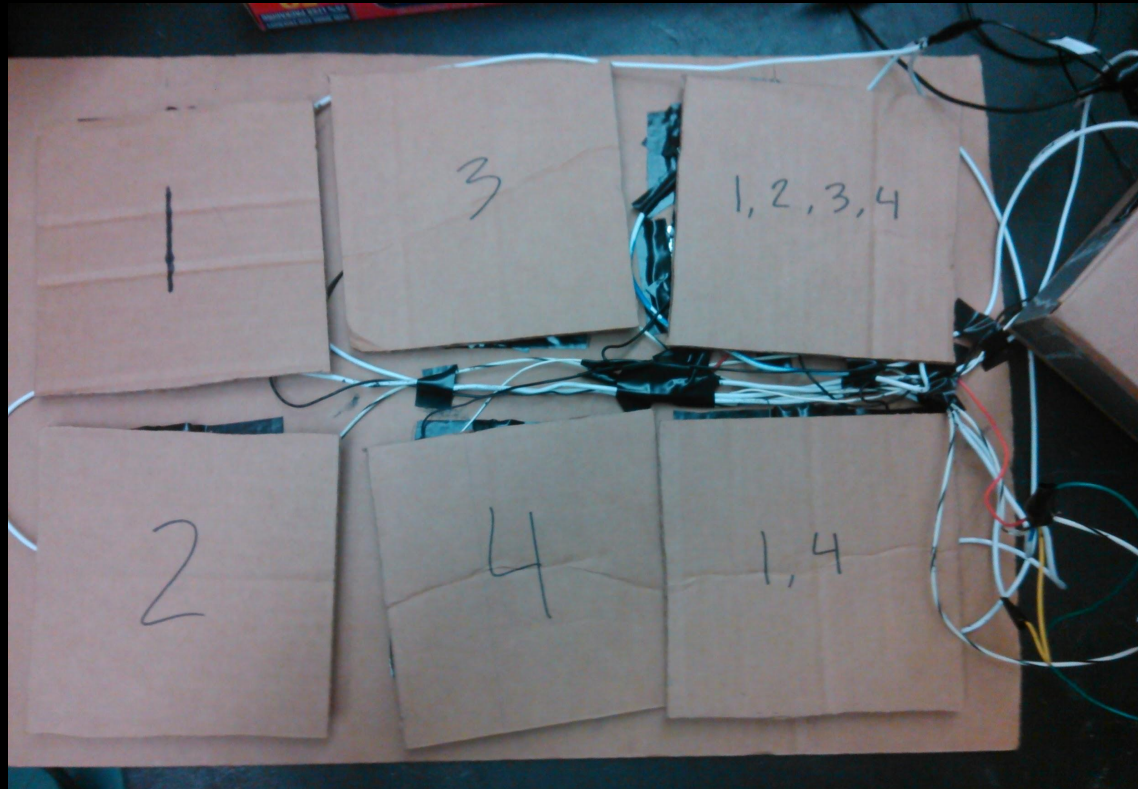
# Prototype

At first we decided just to get the general measurements for the pad size and actual base size and cut out cardboard and aluminum foil to create a rough, physical prototype of our drawing.

# Drawing Plan



# Building Process (Pad)



# Building Process (Inside Light Box)

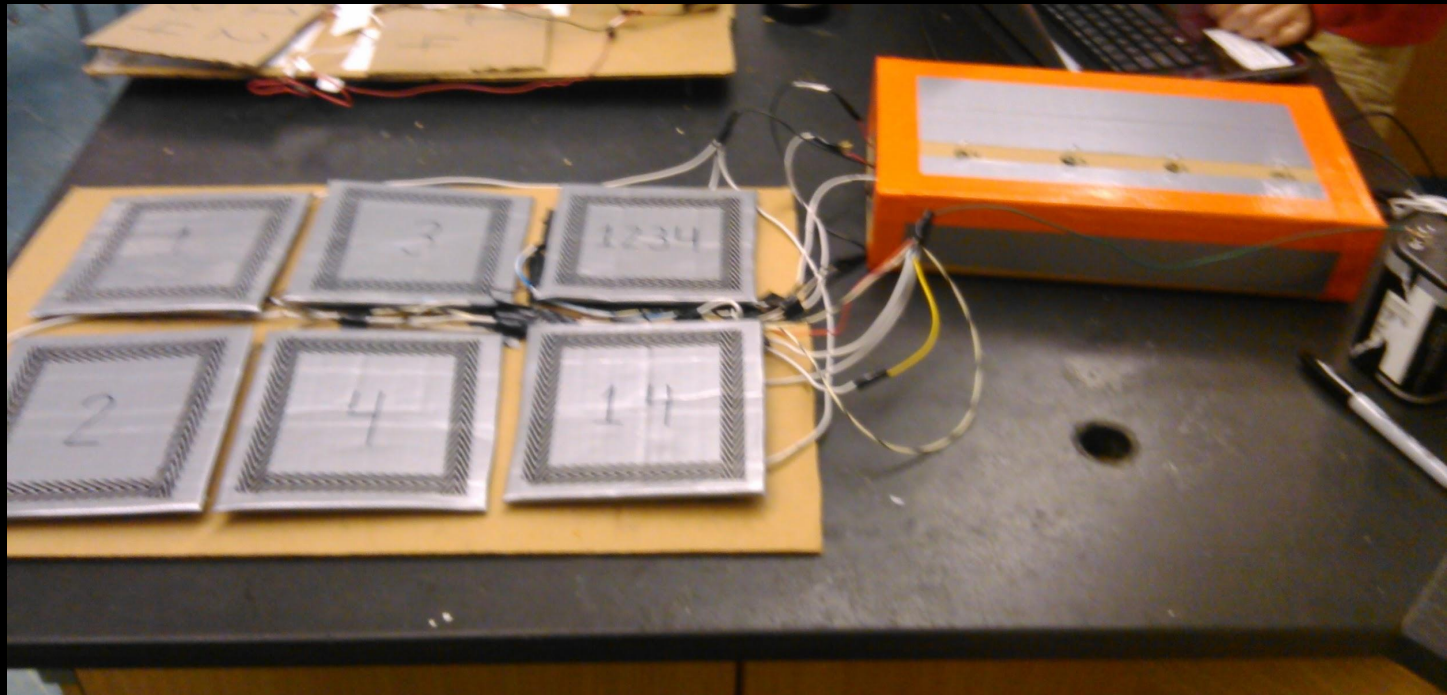




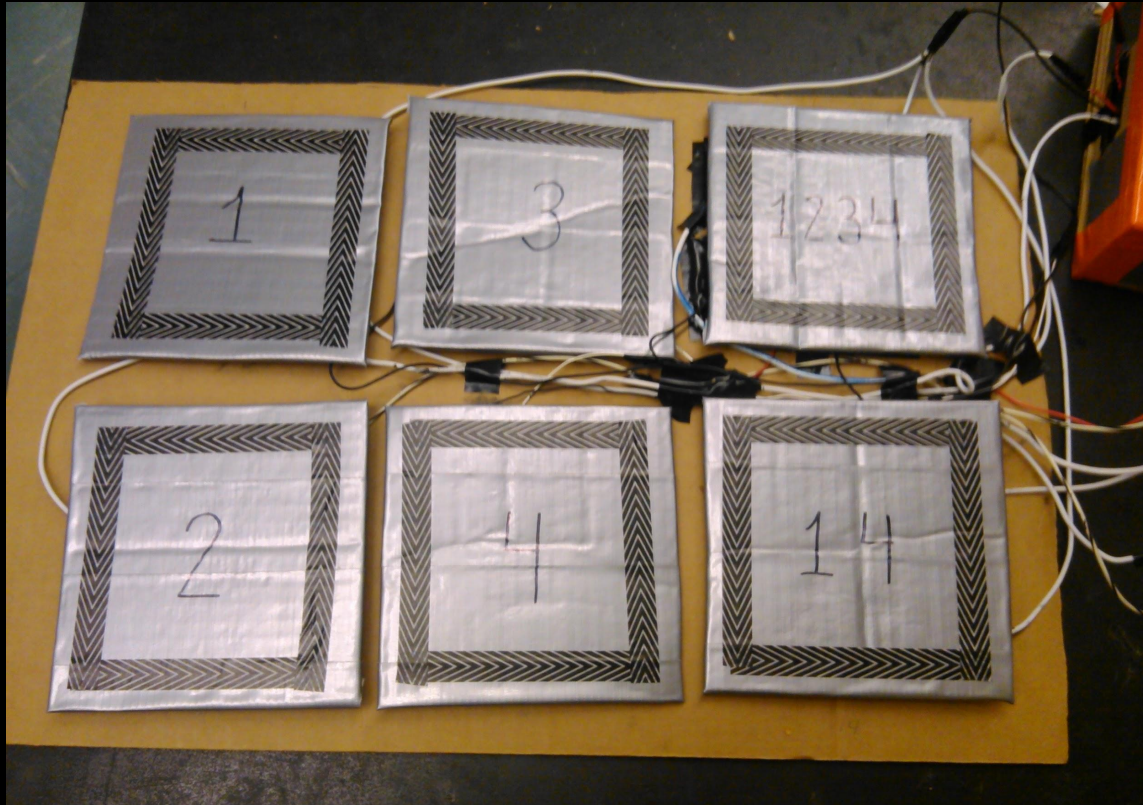
# Refine

At first one problem was that a pad was turning on lights it shouldn't be turning on. Our solution was to reverse the wiring from the lights to the pad, to make the lights go to the base, and the pads' wires go to the battery instead. That didn't solve the problem so we eventually found out that the aluminum foil was connecting multiple wires and actually electricity was just going back on itself to whatever light it wanted to go to. So after splitting up the aluminum foil solved the problem and worked.

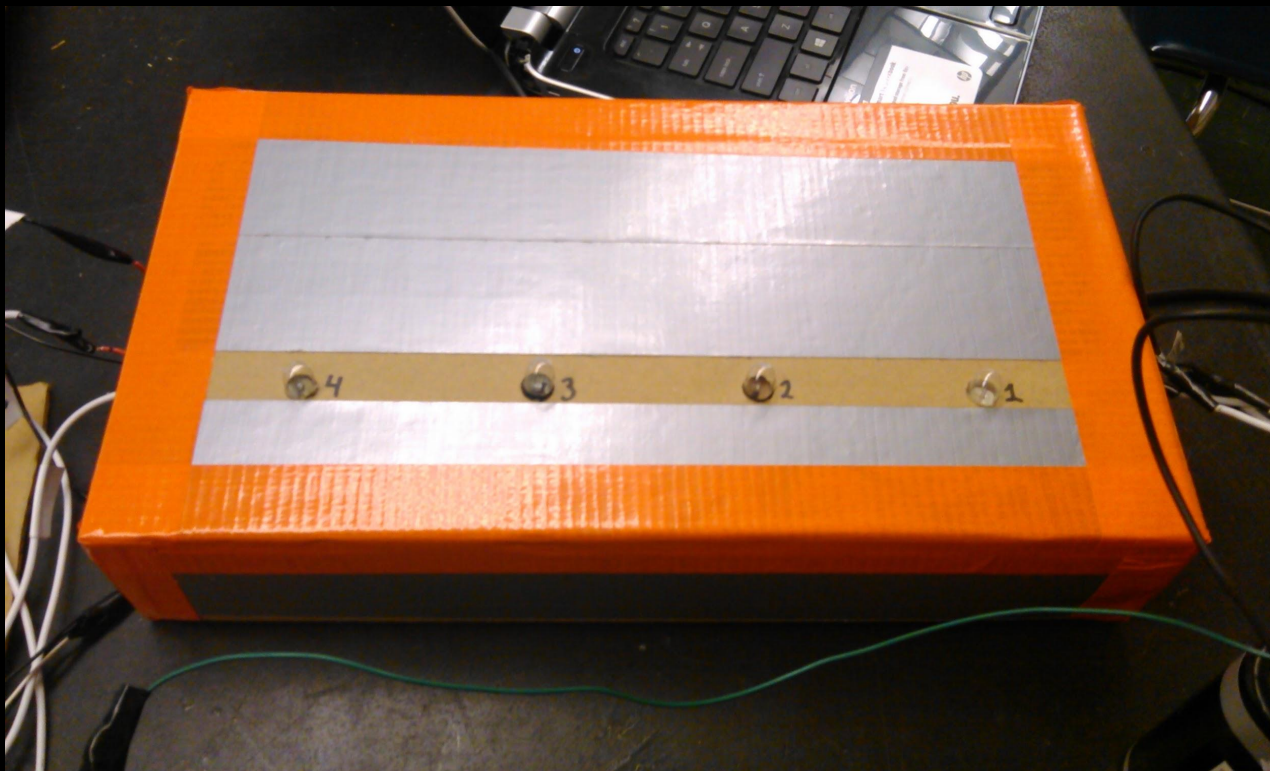
# Final Design



# Pad



# Light Box



# Dance Pad in Action

Video

Click the link below to see our Dance Pad in action.

<http://youtu.be/l4pX-m9KyR4>