Tangible Input | Tangible Output
Abstract

The term “interaction” has seem to become one of the most overused, abused word and yet it has seem to permeate all related fields of design. More and more people are becoming interested in the artistic/pragmatic use of this keyword “interaction.” Exploration of GUI is the cutting edge field where many innovative possibilites of interaction are emerging. In relation with the study of GUI, I was also interested into wooden toys, as a reference of pristine experience, one’s first encounter to physical interaction with an target object.

For this final project, I want to incorporate the “fun” aspect of interaction, commonly found in toys together with the digital technology. I will, hopefully, make a 6 x 6 grid, which the interactor is able to place a physical plexiglass pixel on to the grid to draw a dot drawing. Also, the interactor will be able to “record” series of those dot drawing and “play back” the recorded frame as an animation.

an example of drawing with physical pixel.
“Pixel Pointillism”
Beginning & Basic Interface: There is nothing placed on the pannel.
The interactor makes a dot-pattern by using a plexiglass pixel that fits in the spot. Wherever the plexiglass pixel pattern is placed, it triggers a switch to turn on the LED light which is right under plexiglass pixel. After series of planning and trying of where to place the pixels, the interactor can devise a pattern which he or she desires.
Once the interactor is satisfied with the designed pattern, the interactor will press the “record button” to record that particular designed pattern as a “frame.”
Second design as another frame. The user once hits the record button again.
The third frame.
After recording several frames, the interactor can play back these recorded frames as an animation.
Supplies

Various types of switches.

Resistors:
450 Ohm
1/2 Amp
Supplies

Bread board, and a regular board. Need to run test on the bread board first.

LED
Supplies

Power Supply: DC6V, 800mA Adapter, With lines to connect.
Structure

The basic on and off structure. Having the plexiglass pixel on the grid will trigger the switch to turn on the LED. I need to figure out how to store the on and off information in order to play the recorded frames.
I/O

Need help with how exactly I’m going to build this part.

What exactly do I need?
How does it work?

Record/Play Button

Serial Cable

Processing (Storing of on/off data)
Timeline

5/16, 17, 18
Figure out how to interface with processing, make a list of what I will need to complete the project (Talk with Casey and Sean).

5/19
Go buy additional necessary supplies.

5/20, 21, 23
Test the basic I/O with processing. Use the bread board and make sure the whole system works (recording and animation)

5/24, 25, 26, 27, 28, 29, 30, 31, 6/1, 6/2, 6/3, 6/4
Build the pixel modules. Cut the plexi-glass into shape. Assemble all of the modules into one group.

6/5, 6, 7
final testing, little tweaking here and there

6/8
Final Presentation!