The Oxymoronicity of Desire
You don't actually want what you think you want.

by Sarah Chekfa
DEA 5210: Interaction Design Studio
Professor Keith Evan Green
12 March 2019

Abstract

The Oxymoronicity of Desire is an interactive art installation inspired by the critical theories of desire as espoused by philosopher Slavoj Žižek and psychoanalyst Jacques Lacan. *The Oxymoronicity of Desire* was created as a physical manifestation of this critical theory of desire, intended to visualize the abstract nature of this foundational concept within the playful design constraints of the Arduino Uno microcontroller and Grove modules. The art installation toys with the user, taking them on a journey that compels them to tightrope through the liminal state that exists between the realms of invitation and repulsion. The multidimensional cyber-physicality of the installation implores interaction, ultimately resulting in an ambiguous, disconcerting experience that challenges the user's preconceived notions of love and lust. The installation suggests an understanding of desire as precarious and ephemeral: as one approaches the object of their desire, it reveals itself to be ordinary and mundane—what it really is, stripped of the otherworldly, transcendental nature that only existed inside their head. They lose interest in it because they required distance from it to maintain their desire to it. Only at a distance does it maintain its elusive nature. One is only attracted to what it represents to them, and not what it truly is.

Scenario

Taylor, a junior in college, is heartbroken after being ghosted by Dylan, a boy she'd been seeing for two weeks. She is anxious, sadly pondering where it all went wrong and how this could have happened to her after they were just starting to become emotionally intimate when she notices a matte black box of considerable size in front of her. She approaches it, following the directions on the LCD RGB backlight and peering into the circular holes in the box, observing the turntable rotate and the reflective mirror-like walls distort the images of the collage. Suddenly, the inherently contradictory, paradoxical nature of desire becomes clear to her. She takes a step back and smiles as she mulls over this newfound wisdom. She is no longer unhappy, worrying about Dylan and what happened between them. Instead, she has matured intellectually and emotionally, ready to apply this knowledge to her future romantic relationships.

Operation

The box plays the role of the desirer, desiring the user. The user plays the role of the desired object. Upon approaching the box, the user reads the message displayed, telling them to come closer and touch its heart. They oblige, pressing their finger against the touch sensor within the heart cutout in the front face of the box. They read the new message on the LCD backlight, telling them to go away, then telling them to come back and look inside the box for an explanation regarding how the box feels about them. Upon peering into the different holes within the different sides of the box, the user is able to see different angles and

perspectives of the rotating collage within, and read the poem displayed on the LCD RGB backlight within the box.

List of Components

a. *Electronics*
   - 2 x Arduino Uno
   - 2 x Grove Arduino shield
   - 3 x Grove LCD RGB Backlight
   - 1 x Grove Touch Sensor
   - 1 x Grove 28BYJ-48-5V Stepper Motor
   - 1 x Grove Cable Extender
   - 2 x 9V battery

b. *Hardware & Miscellaneous*
   - 7 x MDF 12 in. square wooden faces
   - Mylar silver reflective sheeting
   - Duct tape
   - Hot glue gun
   - Super glue
   - New Yorker magazines
   - Clear thin acrylic sheet
   - 10 x 10 in. corrugated plastic sheet
   - 2 x 2 in. square mirrors
   - Sandpaper
   - Rust-Oleum matte black spray paint
   - Spray adhesive
   - Velcro stickers

Construction & Assembly

The box is assembled from six square MDF wooden faces which are painted matte black to give it a sinister, provocative yet minimalistic aesthetic. A heart-shaped hole and rectangular slot are laser-cut into the front face of the box in order to prepare a point of entry for the touch sensor and LCD RGB backlight. On the opposing sides of the box, two holes are laser cut from Illustrator .ai files. Holes are arbitrarily drilled into the wooden face opposing the front face of the box. To give the inside of the box a reflective look, Mylar reflective sheeting is measured and attached to the insides of the faces of the box using hot glue and spray adhesive. The seventh wooden face remaining is trimmed to 11.5 x 11.5 inches to fit squarely within the box in order to create a shelf to hide and house the Arduinos and batteries. The face is propped up by four wooden rectangular prisms in each corner of the box, each two inches high. Appropriately sized holes are measured and drilled into this

seventh wooden face to poke the Grove connectors through the shelf. To create the rotating turntable within the box, a 7 in. diameter circle is laser cut out of a corrugated plastic sheet light and airy enough to be supported and rotated by the stepper motor. A 2.5 x 1 in. rectangular shape is laser cut from the clear acrylic sheet to stabilize the base of the stepper motor and prevent the turntable atop it from tipping over. Four images representing desire are cut from the New Yorker magazines and glued in pairs opposite each other onto equally sized rectangular panels cut from the corrugated plastic sheet used to create the turntable. Using superglue and a hot glue gun, the panels are taped together, while the 2 in. square mirrors taped to each other and then attached to the New Yorker collage and glued to the base of the turntable. A small hole is drilled into the turntable. The stepper motor is poked through this hole to support the turntable, and glued to the shelf at the bottom of the box. Electric components are attached to the box using Velcro stickers and duct tape. A cento poem I created in a creative writing class I took previously is found and reformatted into code for the two RGB LCD Backlights within the box, augmenting the sense of ambiguity and nostalgic melancholy forming its environment.

Electrical Connections

The first Arduino controls the electrical components that face the exterior of the box, along with the rotating turntable within it—i.e. the touch sensor (connected to the D2 port), an LCD RGB Backlight (connected to an I2C port), and the stepper motor (connected to digital pins 8, 9, 10, and 11). The second Arduino controls the remaining electrical components facing the interior of the box, i.e. the two remaining LCD RGB Backlights (each are connected to an I2C port).

Discussion

The box realizes all the functionalities I had intended to include at the outset after I had finalized my design concept after rounds of ideation. However, parts of it do not work as well as I had hoped. For instance, when plugged into the 9V batteries instead of the computer using the A-Male to B-Male cable, the experience does not loop correctly to restart after running to completion. In order to re-experience and restart the installation, the batteries must be disconnected and reconnected to the Arduinos. Also, the inside of the box— intended to be uber-reflective and bounce off light and distort the images rotating on the turntable collage—is not as reflective as I had intended it to be because I resigned myself to using Mylar reflective sheeting rather than acrylic mirror due to expense constraints. Furthermore, while I had wanted to place more images on the turntable to create a more intricate collage experience, the turntable would not support such weight and tipped over when I attempted to do so, limiting me to the four images displayed currently in the final design. In addition, unless the user is paying attention to the LCD RGB Backlight before and after they place their finger on the touch sensor, there is no immediate feedback mechanism to let them know that the message on the Backlight has changed. This is slightly concerning

because the user must read the message asking them to look inside the box in order to know to proceed to the rest of the experience.

Future Work

In future iterations of the box, I would fix the issues I observed and explained in the previous section. I would work to debug the code to figure out why the experience does not automatically restart when the Arduinos are plugged into the 9V batteries. I would also buy acrylic mirror to glue to the insides of the box in place of the reflective Mylar sheeting to increase the looking glass aesthetic of the interior of the box. I would also test out different materials from which to laser cut the turntable, in order to strike the perfect balance between it being light enough to be supported by the stepper motor and sturdy enough to hold multiple collages without falling. I would also experiment with the buzzer and background color of the LCD RGB Backlight on the exterior of the box, perhaps re-programming the experience so that when the user touches the Touch Sensor, a sound is emitted from the buzzer and the background color of the RGB Backlight can change in order to draw attention to the fact that the text it displays has changed. I would also experiment with the aesthetics of the box, perhaps engraving the outside of the box, connecting the laser-cut circles with a fun, playful dotted line to give the user a sense of direction as they explore the functionalities of the box.

Video Link

https://youtu.be/fLobAO0RVXk

Code

// first Arduino, controlling exterior of box and rotating turntable within

```
#include <Wire.h>
#include "rgb_lcd.h"
#include <Stepper.h>
#define STEPS 2038

rgb_lcd lcd;
Stepper stepper(STEPS, 8, 10, 9, 11);

const int colorR = 255;
const int colorG = 8;
const int colorB = 127;
const int TouchPin=2;
```

```cpp
void setup()
{
    pinMode(TouchPin, INPUT);

    // set up the LCD's number of columns and rows:
    lcd.begin(16, 2);

    N


//    lcd.setCursor(0, 1); // bottom left

//    // Print a message to the LCD.
//    lcd.print("hello world hello world hello world");


}

void loop()
{
    int sensorValue = digitalRead(TouchPin);
    if(sensorValue==1) {
     lcd.setRGB(255, 0, 0);
     lcd.print("go away!");
     delay(2000);
     lcd.clear();
     lcd.print("leave me alone.");
     delay(2000);
     lcd.clear();
     lcd.print("wait! come back.");
     delay(2000);
     lcd.clear();
     lcd.setCursor(0, 0);
     lcd.print("i changed");
     lcd.setCursor(0, 1);
     lcd.print("my mind (again).");
     delay(2000);
     lcd.clear();
     lcd.setCursor(0, 0);
     lcd.print("my feelings");
     lcd.setCursor(0, 1);
     lcd.print("4 u");
     delay(2000);
     lcd.clear();
```

```
lcd.setCursor(0, 0);
lcd.print("are so");
lcd.setCursor(0, 1);
lcd.print("confusing.");
delay(2000);
lcd.clear();
lcd.setCursor(0, 0);
lcd.print("are so");
lcd.setCursor(0, 1);
lcd.print("confusing.");
delay(2000);
lcd.clear();
lcd.setCursor(0, 0);
lcd.print("i want u");
lcd.setCursor(0, 1);
lcd.print("to understand.");
    delay(2000);

lcd.clear();
lcd.setCursor(0, 0);
lcd.print("i want to ");
lcd.setCursor(0, 1);
lcd.print("show u");
delay(2000);
lcd.clear();
lcd.setCursor(0, 0);
lcd.print("how i feel");
lcd.setCursor(0, 1);
lcd.print("about us.");
delay(2000);
lcd.clear();
lcd.setCursor(0, 0);
lcd.print("look inside");
lcd.setCursor(0, 1);
lcd.print("me.");
delay(2000);
stepper.setSpeed(8); // 1 rpm
stepper.step(10000); // do 2038 steps -- corresponds to one revolution in one minute
//  delay(1000); // wait for one secondhhhh
stepper.setSpeed(8); // 6 rpm
stepper.step(10000);
```

```arduino
    }
    else
    {
      lcd.print("come closer");
      delay(1000);
      lcd.clear();
      lcd.print("feel my heart");
      delay(1000);
      lcd.clear();
      lcd.print("don't be scared");
      delay(1000);
      lcd.clear();
      lcd.print("you can touch it");
      delay(1000);

  }
  lcd.clear();

}
```

```arduino
// second Arduino, controlling the inside two LCD RGB Backlights within the box

#include <Wire.h>
#include "rgb_lcd.h"

rgb_lcd lcd;


const int colorR = 255;
const int colorG = 8;
const int colorB = 127;


void setup()
{
    // set up the LCD's number of columns and rows:
    lcd.begin(16, 2);

    lcd.setRGB(colorR, colorG, colorB);

    // Print a message to the LCD.
```

```
}

void loop()
{
//    // set the cursor to column 0, line 1
//    // (note: line 1 is the second row, since counting begins with 0):
//    lcd.setCursor(0, 1);
//    // print the number of seconds since reset:
//    lcd.print(millis()/1000);
//
//    delay(100);

    lcd.setCursor(0, 0);
    lcd.print("i dont know");
    lcd.setCursor(0, 1);
    lcd.print("what is in me");
    delay(3000);
    lcd.clear();

    lcd.print("i cant contain.");
    delay(3000);
    lcd.clear();

    lcd.setCursor(0, 0);
    lcd.print("come, the poem");
    lcd.setCursor(0, 1);
    lcd.print("falls from the ");
    delay(3000);
    lcd.clear();

    lcd.print("faucet.");
    delay(3000);
    lcd.clear();

    lcd.setCursor(0, 0);
    lcd.print("we: a ");
    lcd.setCursor(0, 1);
    lcd.print("chinese newyear,");
```

```
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("red, gold, red,");
lcd.setCursor(0, 1);
lcd.print("gold, red, gold.");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("from the");
lcd.setCursor(0, 1);
lcd.print("primeval waters");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("we arose: you");
lcd.setCursor(0, 1);
lcd.print("and I, from the");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("boundless");
lcd.setCursor(0, 1);
lcd.print("caverns.");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("our kisses are");
lcd.setCursor(0, 1);
lcd.print("the writhing");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("pain, sliding");
lcd.setCursor(0, 1);
lcd.print("from the throat.");
```

```
delay(3000);
lcd.clear();

lcd.print("abhorrent force,");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("a hyperborean");
lcd.setCursor(0, 1);
lcd.print("rebuke to");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("the tropic heat");
lcd.setCursor(0, 1);
lcd.print("of being, envy");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("of the others");
lcd.setCursor(0, 1);
lcd.print("capacity for");
delay(3000);
lcd.clear();

lcd.print("release.");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("a monumental");
lcd.setCursor(0, 1);
lcd.print("iconography of");
delay(3000);
lcd.clear();

lcd.setCursor(0, 0);
lcd.print("joy,");
lcd.setCursor(0, 1);
```

```
    lcd.print("certain only");
    delay(3000);
    lcd.clear();

    lcd.setCursor(0, 0);
    lcd.print("that we'd know");
    lcd.setCursor(0, 1);
    lcd.print("it if it ever");
    delay(3000);
    lcd.clear();

    lcd.setCursor(0, 0);
    lcd.print("could be");
    lcd.setCursor(0, 1);
    lcd.print("found.");
    delay(3000);
    lcd.clear();

    lcd.setCursor(0, 0);
    lcd.print("we all should");
    lcd.setCursor(0, 1);
    lcd.print("have been");
    delay(3000);
    lcd.clear();

    lcd.print("other people.");
    delay(3000);
    lcd.clear();

}
```

More Images