3D Hybrids
Assessment 2: Final Report
Title of Artwork: Reflections of a Mind in a 3D Space and a Disco Duck Piano Band

By Ajit Dutta, Sn:10370483

Brief

To explore imagery within a virtual 3D space observing the effect of infinity in mirrors which are on a 2D plane.

In this artwork the aim is to provoke the viewer and create a contrasting experience whilst allowing users to explore and create images. This would be achieved by integrating aspects of artifice using imagery from the "infinity effect" using mirrors with counterpoint imagery with a darker mood and use a sound object to activate it.

Concept

I wanted to explore the qualities of the mirror to extend a space and its ability to repeat a form also looking at the exploration of depth and perspective. I am interested in the idea where 3D objects on a screen from a computer are essentially 2D because they are formed on a 2D space. 3D is in my project I intend to capture illusions or instances of 3D on a computer which makes it 2D.

Letting users create an image was made to look at how abstract imagery could be reflective of the user's personality

The second main part to my concept is to use sharp sounds to distort utopian imagery of repetitions, the infinity effect made with mirrors that symbolise celebrations of light, distraction or artifice. Darker serious imagery would be of edited photographs, the images shown would likely be subjective form viewer to viewer.

This work could be put under the categories of conceptual art but as some people quote all art after Duchamp is conceptual in nature.

Target Audience

For the final artwork I predict there would be two types of audiences those who interact quietly with the light sensors and those who like to explore the supposed violence of the piece by playing the piano. This artwork has the potential to be playful depending on how much the user give into the work.

People who play with the light sensors would experience the images of my artwork the mirror box. This symbolises for me a ubiquitous world for quiet escapism that allows for exploration of what could be empty images, perhaps. The images do have expressive qualities by means of it's colour which users could read and communicate with.

The piano makes quite loud sounds and in my opinion would take a strong willed person to fully explore this facet of the artefact. These people would gain a different experience of this artwork the longer they use the piano. This would be representative of the harshness reality as the sounds are created and pictures flicker.

I believe the more the audience interact with two aspects of the piece they would create different questions. Those who manipulate the sensors may think about the process by which the images were made, read the images as abstract expressionist paintings and users who play the piano would examine the sound and images what think about what it is I feel.

<u>PROJECT DEVELOPMENT</u>

<u>Physical Development Documentation</u>

The project is split into 2 main parts the discreet and the public. Here are the components of those parts:

The Discreet components:

- 2x USB lava lamps
- 2x mirrors 67.4cm x 56.2cm
- 2x mirrors cm x 11cm
- 2x tinted glass 75.5cm x 62 cm
- 1x rope light (red, blue and yellow lights with 8 preset settings)
- 1x Electro luminescence light
- 1x lamp
- 2x MDF 1224cm x 61cm (frame for mirror box)
- 8x Brackets (frame for mirror box)
- Camera
- Camcorder

The Public components:

- Child's piano
- Processing
- Microphone
- BX-24 microcontroller
- 3x photo sensitive resistors
- 3x resistors

<u>The Discreet Part's Documentation</u>

The first part of this project was to make a mirror box like the one from my etudes except the one would be larger so that viewing plane would be larger. The infinity effect could be made in a number of ways, simply it is making 2 mirrors face each other. The mirror box was made be putting mirrors that faced opposite each other, also the there is onside that is a one or two way mirror. In the mirror box I explored the illusion of 3D space using lights to examine with perspective. I used various lights to make the exploration. The idea is to capture the beautiful.

For the project I wasn't sure what to capture video or stills so I capture both and tested what worked well on Processing. I tried to keep the video size down but the quality suffered therefore I decided to stay with stills.

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Mirror box

## The Public Part's Documentation

I used BasicX and Processing predominantly for programming the public components. The first thing that was made was a program to merge stills from the mirrors. BasicX programming was used to make the sensors interface with Processing; using the serial library in Processing. Within Processing I imported images from the infinity effect and programmed it to merge images from two arrays using the light sensors.

Previously I wanted to make a whip but was unable to make one so I decide to work on getting the aspects of a whip I wanted so that it grabs attention. The characteristics I was interested were the violent nature of a whip so I decided to use violent sounds that would trigger stark images. I found this child piano that made a horrendous metal sound when extra voltage was put in and decided to use it.

Piano for Sound,Disco Duck Piano Band

Diagram of Project
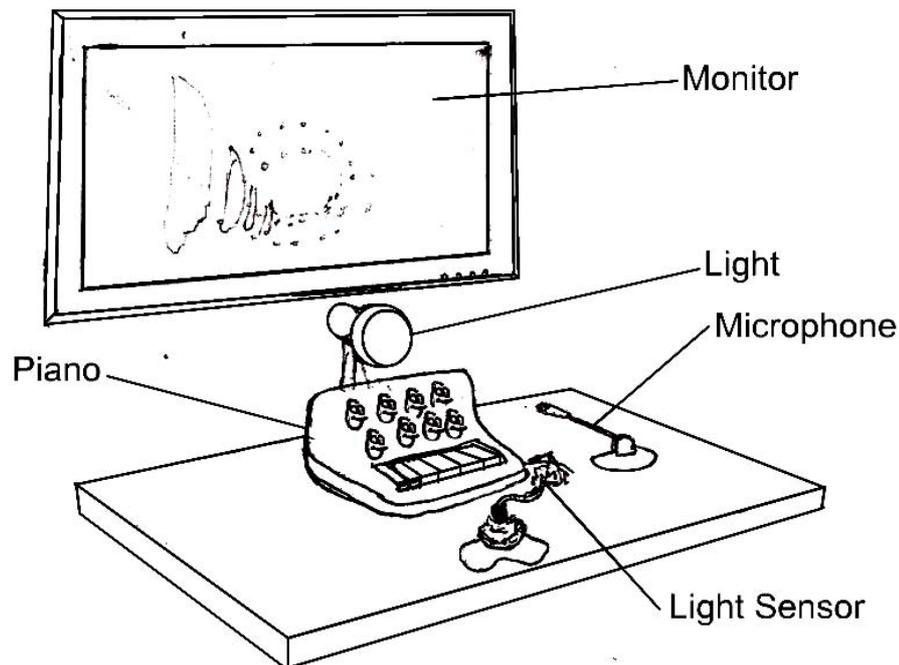
Code

In this project I used Processing for the visuals and sound recognition and BasicX to program the microcontroller to get data from sensors. The ideas for using sound were inspired from experiments with using Quartz Composer. To use sound input a special library had to be installed called Sonia developed by Amit Pitaru which allowed me to get sound levels as well as a spectrum from a microphone.

The code used is in the appendix.

Creative Development

The use of the piano was developed because I had wanted to make a whip but the qualities of attracting attention or representing a violent behaviour that I could control proved difficult when trying to make a whip. So I decided instead of making a violent visualisation that would catch people's eye I would use sound. The sound created by the "Disco Duck Piano Band" piano has a particularly brutal metallic chainsaw sound which may disrupt people flow of thoughts. This abrupt and provocative noise contrasted the imagery well in my opinion.

<u>Research</u>

<u>Moholy Nagy</u>

The style of work of Moholy Nagy's artwork is similar to mine; where he makes a sculpture, a space, then takes visually aesthetic images or video of it and displaying them as the primary artefact not the sculpture. He takes a 3D space and siphons the more interesting parts of it to a 2D platform making a hybrid. In his work light, shadow and form in his work to produce abstract compositions .Through the images one can see what shapes and pictures possibly read what interested him telling you about the artist. I like that aspect of reading in to people through the images they produce.
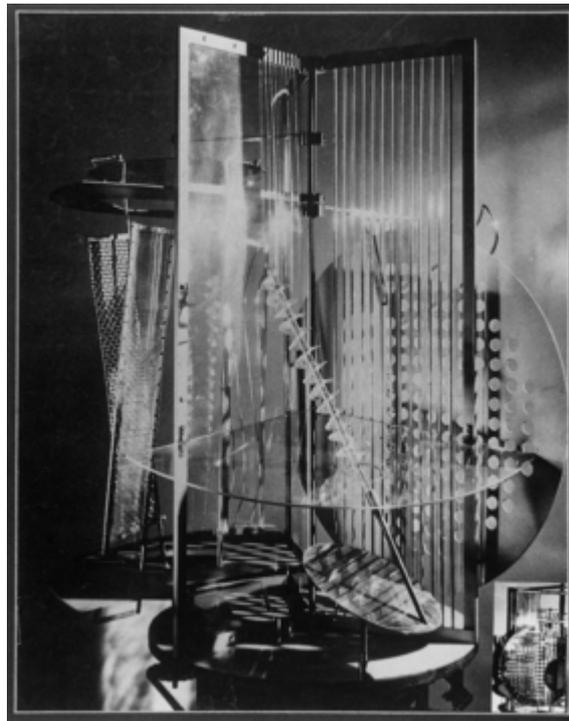
Moholy Nagy, *Light Display: Black-White-Grey*
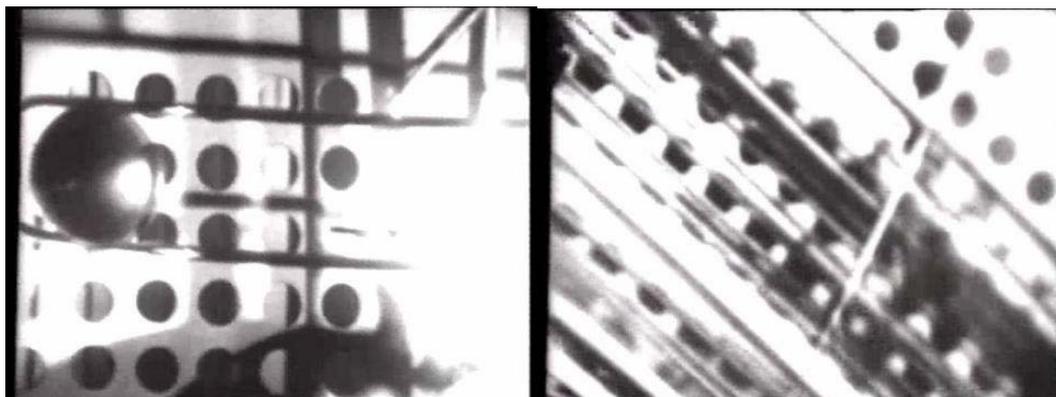
Moholy Nagy, *Light Display: Black-White-Grey*

Lucas Samaras

Lucas Samaras has done interesting work with mirroring and collaged images. What first attracted me to his work was his work called Mirrored Room which is a room where mirrors cover all faces of a space. Bodies of his artworks involves collaged images of mirrored work one such work is "PhotoFlicks (iMovies) and PhotoFictions (A to Z)" he allows users to make their images; this aspect of this work like my work where users can manipulate the light sensors to collage images for others to see, also the images I use are of mirrored images.

Lucas Samaras, *PhotoFlicks (iMovies) and PhotoFictions (A to Z)*

Ken Feingold
Interior

The artwork called Interior by Ken Feingold interested me because of how it may put viewers in an awkward situation as the sensors that drive the work are on the spine of a female mannequin. The use of interface maybe out of the ordinary because it is not a transparent aspect of the artwork it demands some form of attention and forms part of the artistic experience. Here a screen reacts with 3D sculpture making it a hybrid.

Ken Feingold, *Interior*

Nam June Paik
TV Buddha

The concept of how the statue looks at itself in the scene, fixated on itself is interesting, Buddha contemplating himself maybe? I like the use of technology to look at reflective aspect of the mind. This artwork could mean a lot of things that is subjective from one person to another. The simplicity and the multitudes of ideas that this piece creates appeals to me. How the monitor and sculpture and their symbolisms interact with each other interests me. This is relevant to my project because I plan to ideas using sculpture, forms of artifice and the monitor as a portal my own thoughts.

Nam June Paik: TV Buddha

Conclusion

The final artwork I created I enjoy making it because of the simplicity and the outcome of the work. Sound created were not as violent as it first seem and would more effective if I practiced with the instrument. Also, the sound activated imagery worked well as it flashed as it changed effective capturing some of the essence of the whip I had wanted. The light sensitive imagery and the imagery of the infinity effect looked good I am content with the images I had taken and how they faded in and out making collages. The idea of making contrasting experiences could be more effective if I had more practice with the artefact but were achieved. This artwork make was made by making 3D to 2D and using sound to make change imagery sound was made with a 3D form making this piece a 3D hybrid.

Appendix

BX24 microcontroller code

The BX24 outputs a list of numbers from sensors in an order and outputs it to a serial port. Here is the code for the BX24 microcomputer:

```
Option Explicit


Sub main()
  call delay(0.5)  ' start with half-second delay
  do
    debug.print cstr(4000+(getADC(15)))      '<<< this gets the value of the sensor, then
    call delay(0.01)                         'adds a certain amount to differentiate
    debug.print cstr(2000+(getADC(14)))      'between numbers in a list coming out.
    call delay(0.01)
    debug.print cstr((getADC(13)))
    call delay(0.01)  ' one-tenth second delay
  loop
end sub
```

Processing Code

The code in Processing draws images from an array then swap the images depending on the serial values.Here is sample code for Processing for light sensors and which was also adapted for use with the microphone input:

```
//////////////////////////////////////////////////////////////////////
//sensor 2 setup
  if(val >= 0 && val < 2000){                          //val is the light sensor
      input2 = val ;                                   //values
      finalpercent2 =((input2-rangea2)/(maxpercent2)*100);
//////////////////////////////////////////////////////////////////////
//sensor 2 setup end
//ranges of results sensor 2
      //
      if((finalpercent2 >= 0) && (finalpercent2 < 20))
      {
      btint =((finalpercent2)/(20)*255);               //fading in and out is done
      frame2 = 1;                                       // here. It works based on
      }                                                 // percentages.
      if((finalpercent2 >= 20) && (finalpercent2 < 40))
      {
      btint =((finalpercent2-20)/(20)*255);
      frame2 = 2;
      }
      if((finalpercent2 >= 40) && (finalpercent2 < 60))
      {
      btint =((finalpercent2-40)/(20)*255);
      frame2 = 0;
      }
      if((finalpercent2 >= 60) && (finalpercent2 < 80))
      {
      btint =((finalpercent2-60)/(20)*255);
      frame2 = 2;
      }
      if((finalpercent2 > 80)&& (finalpercent2 < 100))
      {
```

```
frame2 = 1;
btint =((finalpercent2-80)/(20)*255);
}

}
//////////////////////////////////////////////////////////////////////
```

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