

VISUAL TICKET MACHINE

Product design Personal project 9 weeks

Visual ticket machine system is a new system of ticket buying and movie commenting. It's different from existing movie review platforms and ticket buying systems, because through inputting objective physiological data and presenting abstract images, it can reduce subjective distracting information to provide users with unique sharing modes of movie reviews.

DESIGN BRIEF

Background Statement

Given that the Internet has become the main channel for people to access information in recent years, movie information is not only transmitted from mouth to mouth, but also relies on Internet more. In China alone, the amount of movie information for the whole year of 2018 reached 612 million. Nowadays, movie ratings and reviews have become important references for major audience for choosing movies, and movie popularity is becoming more and more important in judging whether a movie is successful or not, and its significance, to some extent, has even exceeded movie itself.



BOOK



VIDEO



SOCIAL MEDIA



ADVERTISING



MAGAZINE



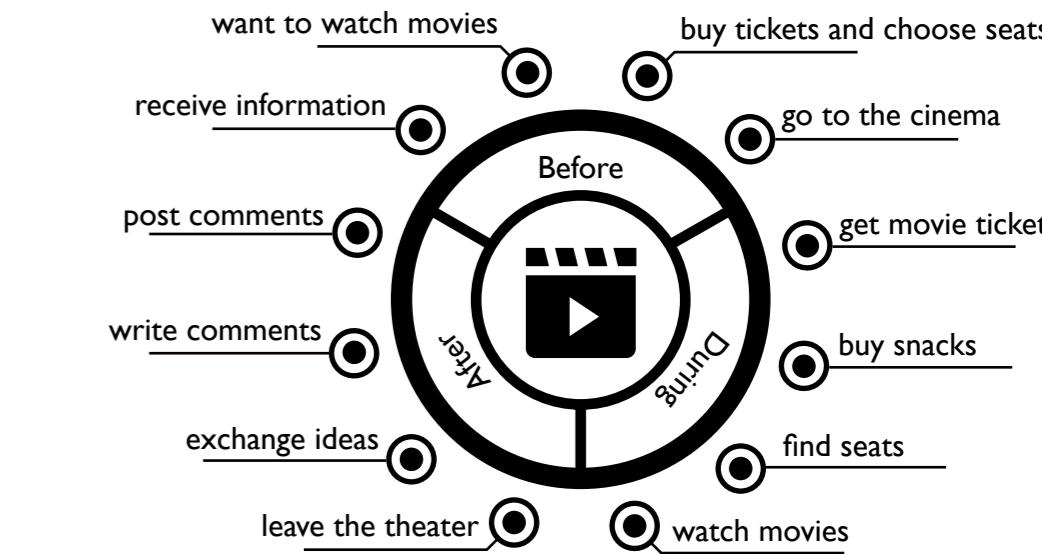
NEWSPAPER

Opportunity Statement

Some factors in current movie operation and movie-watching process, such as marketing & hype, opinions leading, spoiler, false review, etc., are influencing current movie culture and bringing widespread and long-lasting influence to box office and movie-watching mode.

Design Objective

To establish a new acceptable movie review mechanism based on research of existing ones, so as to simplify steps in the process of movie commenting, reduce interference factors, and convey objective watching feelings.

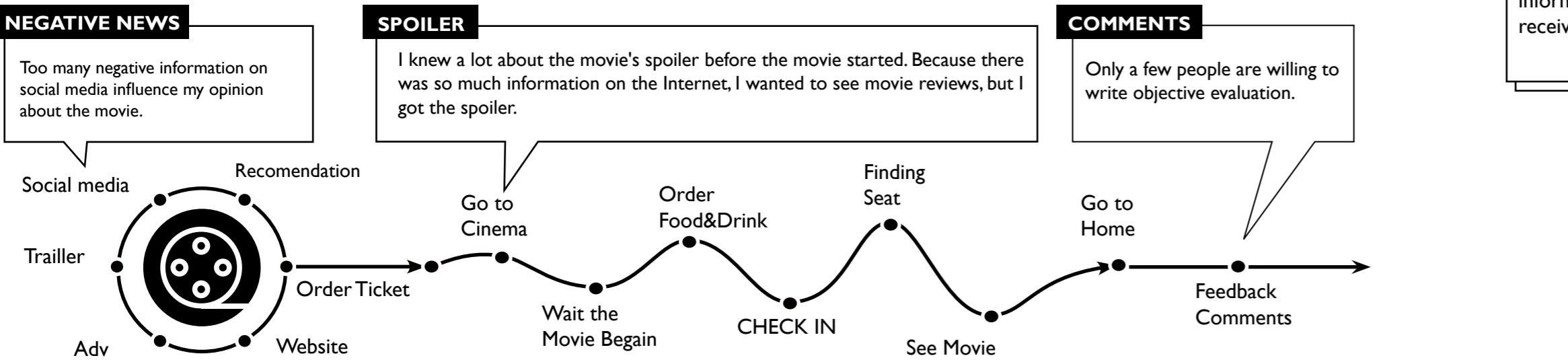


How to create a simple process of movie commenting and a new communication mode among users through changes of physical media and information source as well as output mode?

DESIGN RESEARCH

Primary Research

In order to understand existing problems in movie-watching process and users' feelings more clearly, I conducted preliminary investigation in many cinemas in Beijing. Moreover, I created a user journey map and Persona to facilitate problem analysis and clear thinking.



Persona



Anna
23 years old
Editor

GAINS

Hope that spoiler elements can be reduced in comments and movie feedback can be more reliable and real.

PAINS

Online comments show different feelings from mine, resulting in that I usually go to watch a movie with high expectation and then have great psychological and emotional letdown.

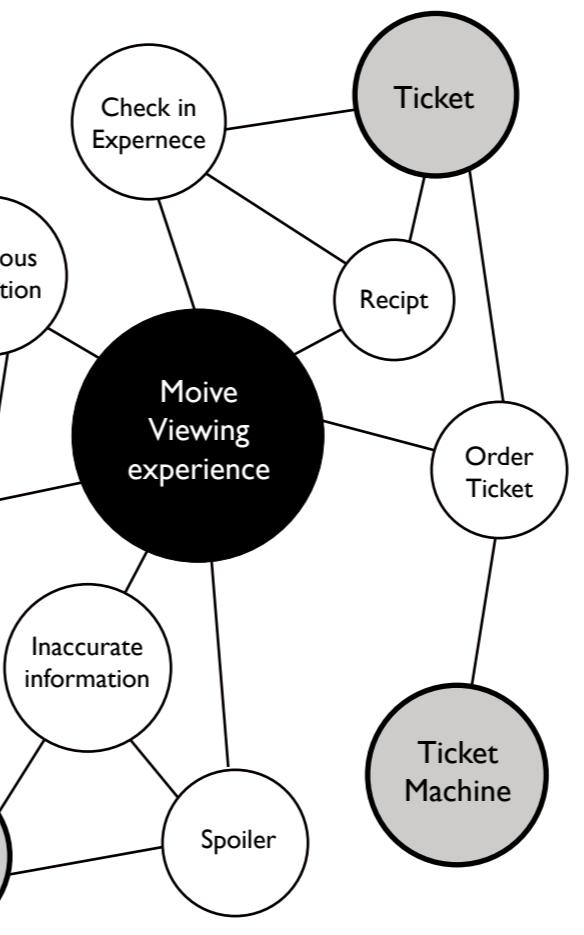
Insight

- **How to eliminate falseness in comments?**
- **How to reduce information interference for users?**
- **How to intuitively present movie feedback for users?**
- **How to realize information transfer among users?**

IDEATION

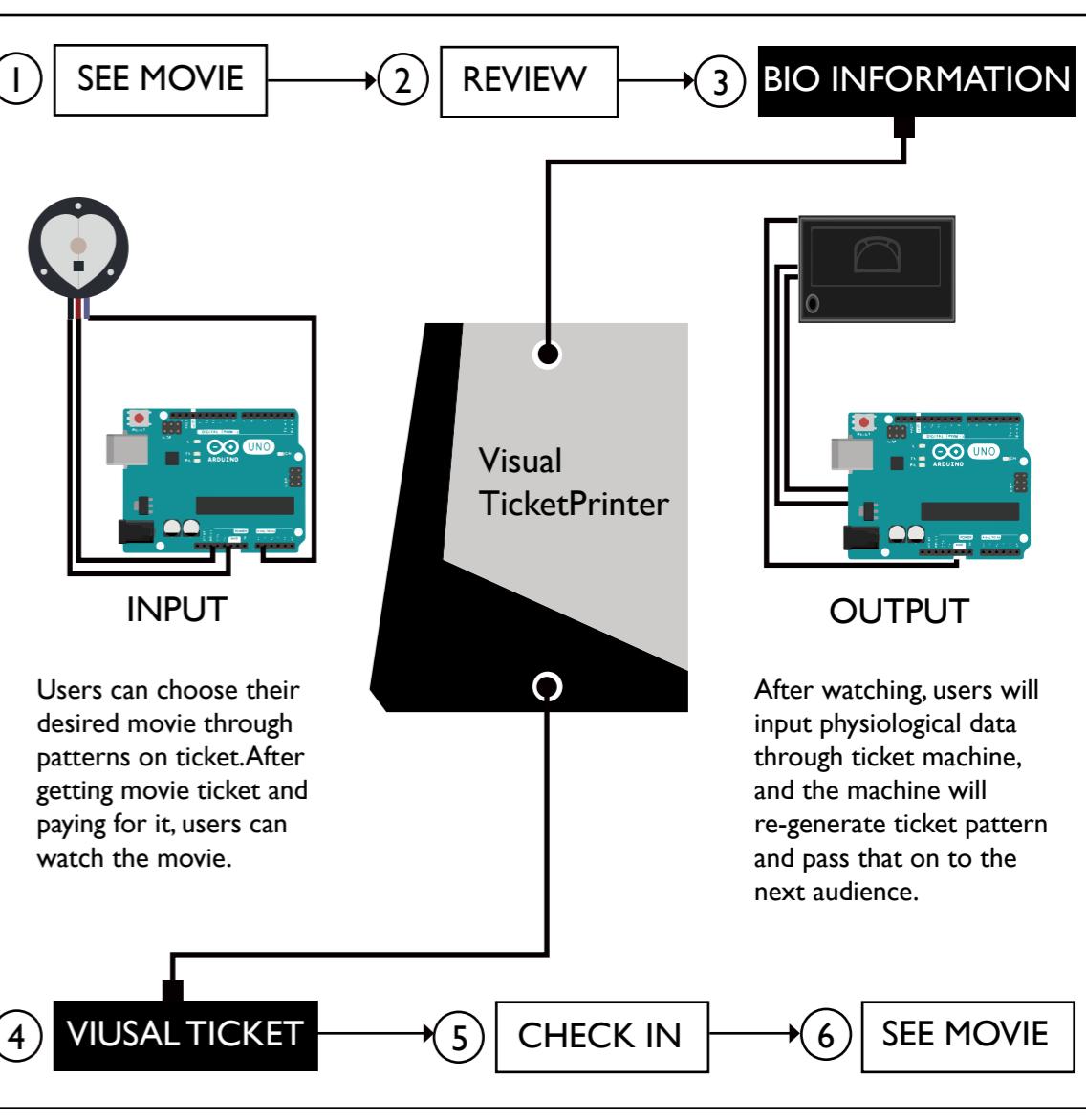
Brainstorm

After analyzing movie watching process and relevant items, I chose ticket machine as the medium to finish information communication among audience through receiving physiological data and showing patterns.



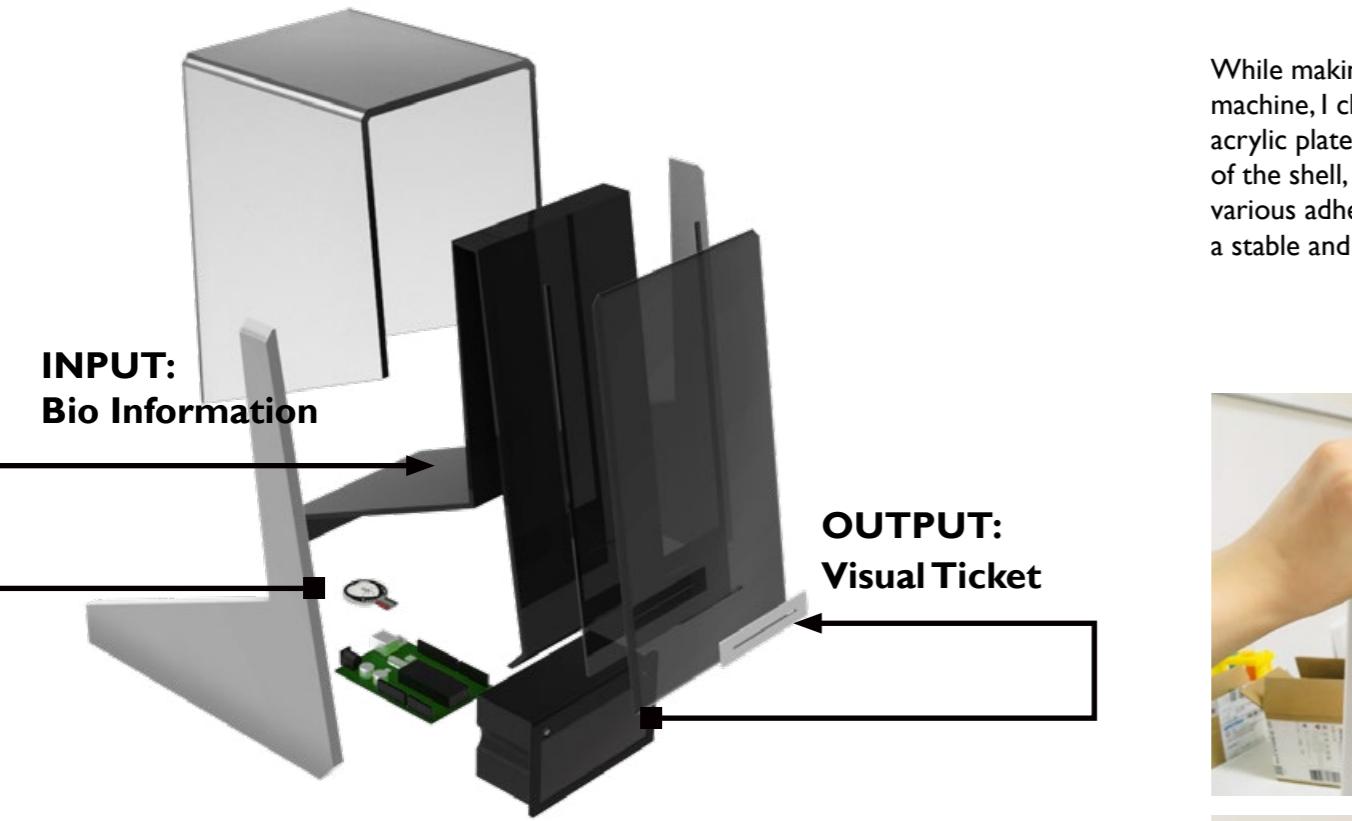
Concept Development

To realize the design objective, I conducted installation design and corresponding design of use process.



PRODUCT DESIGN

3D Model



Heart rate sensor

Heart rate can visually show the emotional changes of the audience, so I chose to use heart rate sensor to collect the real-time physiological data of the audience after they watch the movie.



Thermal printer

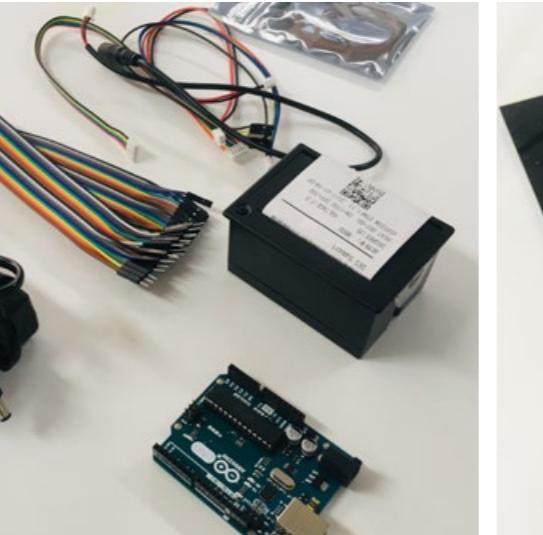
The receipt printed by the thermal printer can be kept longer than the general one. The print speed of the thermal printer is faster and it is more convenient to use it.

Mockups

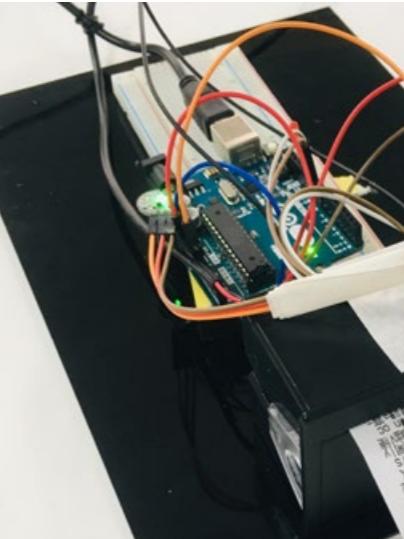
While making the ticket machine, I chose to use acrylic plate as the material of the shell, and tried to use various adhesives to achieve a stable and beautiful effect.



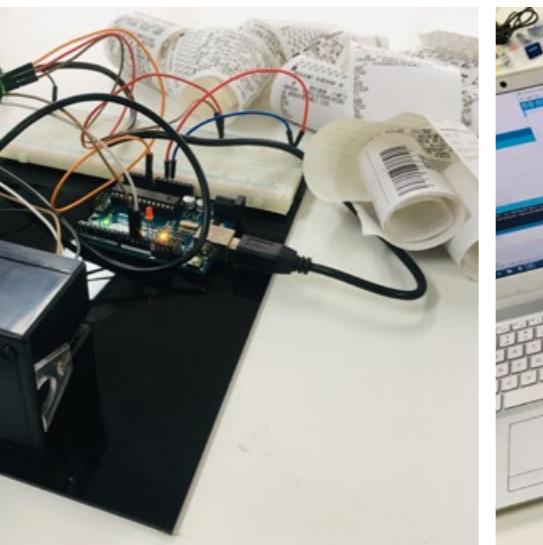
Process



#Arduino device



#Arduino location



#Arduino connection



#Arduino test

```
PulseSensorAmped_Arduino_1.5.0 AllSerialHandling Interrupt

pinMode(blinkPin, OUTPUT); // pin that will blink to you
pinMode(fadePin, OUTPUT); // pin that will fade to you
Serial.begin(9600); // we agree to talk fast!
interruptSetup();
// IF YOU ARE POWERING THE Pulse Sensor AT VOLTAGE LESS THAN
// UN-COMMENT THE
// analogReference 1;
```

```
#include <SoftwareSerial.h>
#include "D:\image.h"
SoftwareSerial mySerial(10, 11); // RX, TX

//-----打印带图形指令，其中包含信息为“DFR0503”-----
char picture_S[6] = {
    0xb, 0x40,
    0xd, 0x2a, 0x14, 0xa
};

#define PROCESSING_VISUALIZER 1
#define SERIAL_PLOTTER 2

// Variables
int pulsePin = 0;
int blinkPin = 13;
int fadePin = 5;
int fadeRate = 0;

// Volatile Variables, used in the interrupt service routine!
volatile int BFM; // int that holds raw Analog I
volatile int Signal; // holds the incoming raw data
volatile int IBI = 600;
volatile boolean Pulse = false;
volatile boolean QS = false;

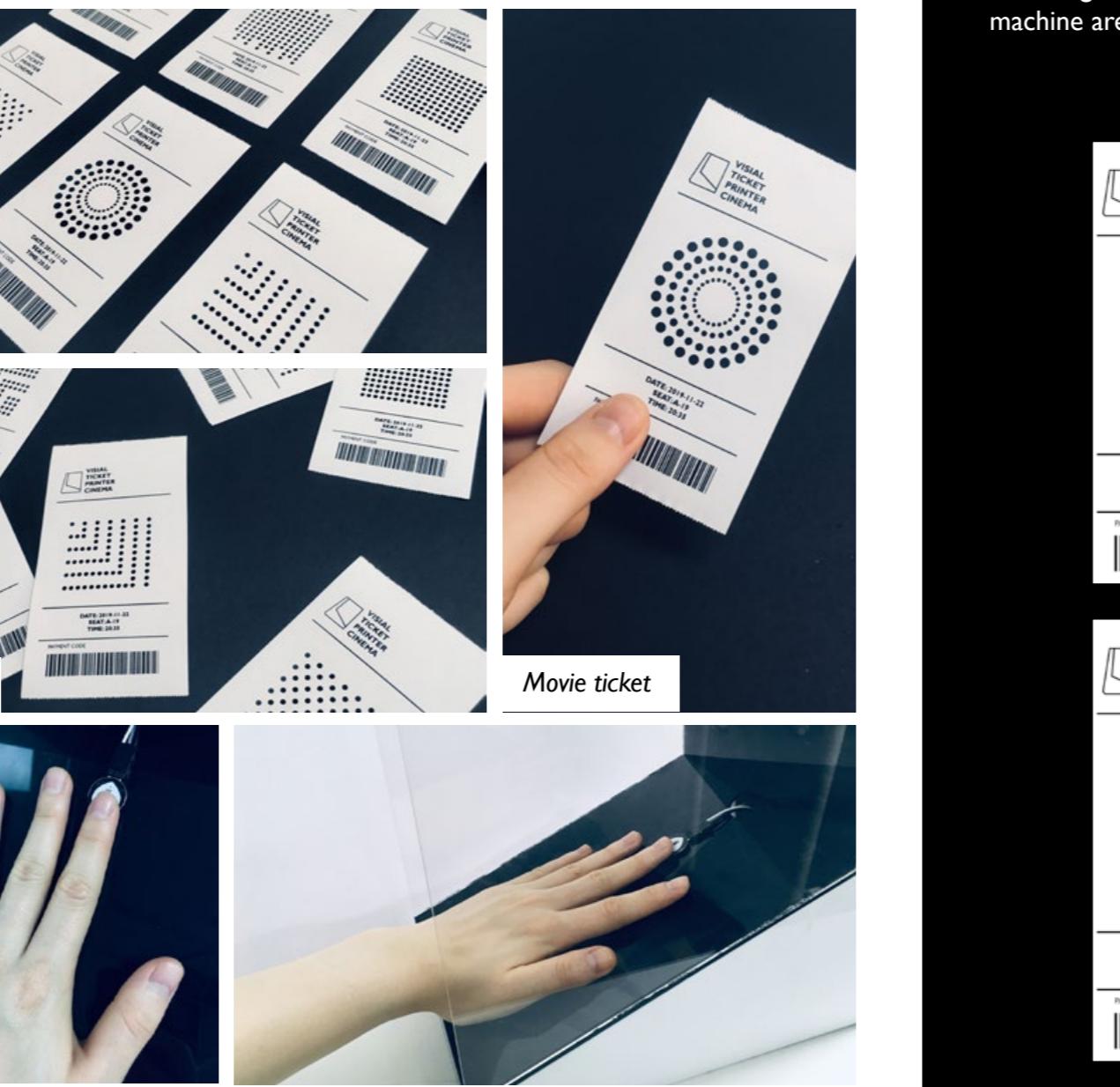
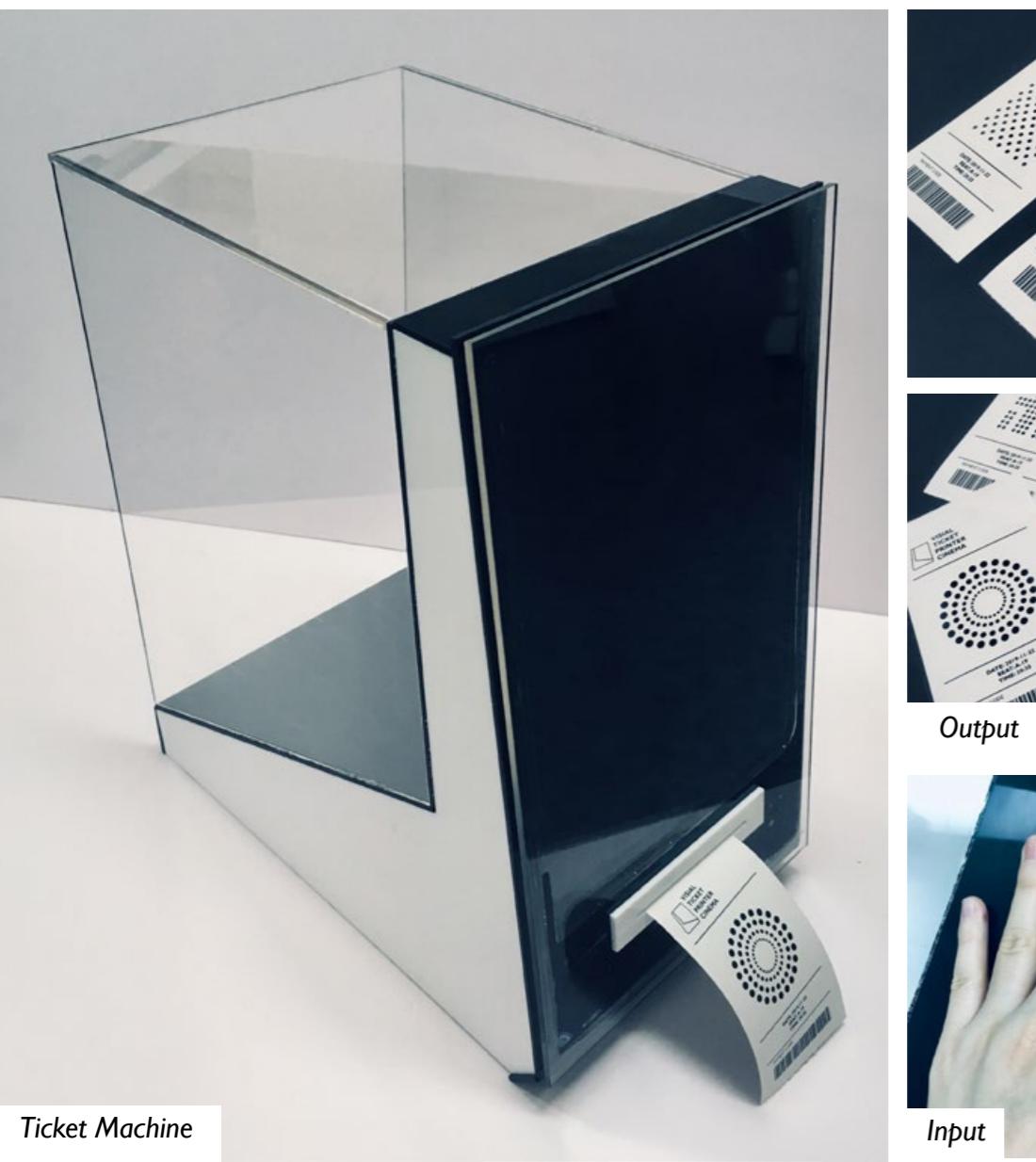
// SET THE SERIAL OUTPUT TYPE TO YOUR PREFERENCE
// PROCESSING_VISUALIZER works with
// https://github.com/WorfHub
// SERIAL_PLOTTER outputs sensor data
// run the Serial Plotter at 115200
static int outputType = PROCESSING_VISUALIZER;
```

```
mySerial.println("-----");
mySerial.print("-----");
mySerial.println("-----");
mySerial.write(show, 2237);

mySerial.println("-----");
mySerial.print("-----");
mySerial.println("-----");
void setup() {
    mySerial.begin(9600);
    while(Serial.read() >= 0) {}

    // A Heartbeat Was Found
    // BFM and IBF have been Determined
    // Quantified Self 'QS' true when arduino finds a beat
    fadeRate = 255; // Makes the LED Fade Effect Happen
    serialOutputWhenBeatHappens(); // A Beat Happened, Output QS = true;
    // reset the Quantified Self flag for next time
}
```

■ Display



■ Ticket Design

I've designed a series of receipts for the visual ticket machine, but the possible patterns produced by the ticket machine are not limited to this. It can produce different patterns of receipt with different heart rate.

