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binary

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BINARY

by

Jared Tubbs

A thesis submitted to the Graduate College
in partial fulfillment of the requirements
for the degree of Master of Music
School of Music
Western Michigan University
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Thesis Committee:

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**BINARY**

Jared Tubbs, M.M.

Western Michigan University, 2020

*binary* is an interactive sound installation featuring seven stations that represent common aspects of modern life in the digital age. Most stations center around modern technology, and its central role in many aspects of society. Users engage with each station to do various tasks, including inputting personal data, manipulating touch screens, typing out social media posts, taking selfies, and recording greetings. The combined stations, done consecutively, take on a ritualistic nature, taking habitual aspects of everyday life and exposing them to stand alone. *binary* takes data from interactions with the stations to create a sonic representation of those who interact with it, revealing the disconnect between personal identity and the use of data representation as self. This installation will be implemented on campus during the spring 2020 semester.
ACKNOWLEDGEMENTS

I would first like to acknowledge the professors who have been instrumental in pushing me to pursue artistic and personal development true to myself: Dr. Amir Zaheri, Dr. Lisa Coons, and Dr. Christopher Biggs. Their guidance over the course of my career so far continues to inspire me to contribute my personal voice to the art world, and to guide others in doing so myself.

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Jared Tubbs
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INSTALLATION SETUP AND FUNCTIONS

Figure 1. Installation setup
Materials:
- Monitor
- Keypad

Users input personal information (weight, height, birth date, location on gender spectrum, birthplace,) which is then sonified into a drone that plays from a speaker located near the station.
Materials:
- Physical Interface (4 buttons, 4 sliders)

Users input information related to their health habits. The four buttons represent diet, on which the user can indicate if they eat any combination of the following: meat, dairy, gluten, or GMOs. The sliders represent rate of involvement in exercise as well as usage of caffeine, alcohol, and cannabis. One side of the slider indicates never partaking of these activities or supplements, and the other indicates partaking multiple times a week. This data is then sonified to create a drone that plays at this station’s speaker.
Materials:
- ROLI block

Users interact with the ROLI touchpad block, affecting a ringtone playing from the station’s speaker. Through swiping on the block, the user can slow down, speed up, transpose down, or transpose up the ringtone. Through lit buttons on the block, the user may also add effects of various intensities and change the ringtone.
Materials:
- SM58 Microphone

Users speak a greeting into the microphone, which is then recorded and played back in addition to up to four other greetings.
Figure 6. Typing station setup

Materials:
- Keyboard

Users type into a user interface similar to a tweet or facebook post. These letters are then sonified, and recorded once “posted,” playing back with up to four other posts.
Figure 7. Consumption station setup

Materials:
- Infrared receiver and housing
- Remote controller

Users use the remote control to switch between multiple channels ranging from news shows to cartoons. Through the remote, they are also given the option to play the show backwards or forwards, as well as spectrally freeze it.
Materials:
- Laptop

Users take a selfie using the laptop. The average red, green, and blue pixel data is then sonified into a drone.
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Figure 74. Selfie poly low-pass sub-patch
CODE USED

DAYS.JS

```javascript
autowatch = 1;
inlets = 1;
outlets = 3;

var birthmonth = 1;
var birthday = 9;
var birthyear = 1996;
var tomonth = 1;
var today = 10;
var toyear = 1996;

var dt1 = new Date(toyear, tomonth, today), // today's date
    dt2 = new Date(birthyear, birthmonth, birthday); // your date from API
var t1 = dt1.getTime(), // get milliseconds
    t2 = dt2.getTime();
var diffInDays = Math.floor((t1-t2)/(24*3600*1000));

function Tag2(input){
    birthday = input-1;
    dt2 = new Date(birthyear, birthmonth, birthday);
    t2 = dt2.getTime();
    diffInDays = Math.floor((t1-t2)/(24*3600*1000));
    outlet(0,diffInDays);
}
function Monat2(input){
    birthmonth = input-1;
    dt2 = new Date(birthyear, birthmonth, birthday);
    t2 = dt2.getTime();
    diffInDays = Math.floor((t1-t2)/(24*3600*1000));
    outlet(0,diffInDays);
}
function Jahr2(input){
    birthyear = input;
    dt2 = new Date(birthyear, birthmonth, birthday);
    t2 = dt2.getTime();
```

---

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diffInDays = Math.floor((t1-t2)/(24*3600*1000));
outlet(0,diffInDays);
}

function Tag1(input){
  today = input-1;
  dt1 = new Date(toyear, tomonth, today);
  t1 = dt1.getTime();
  diffInDays = Math.floor((t1-t2)/(24*3600*1000));
  outlet(0,diffInDays);
}

function Monat1(input){
  tomonth = input-1;
  dt1 = new Date(toyear, tomonth, today);
  t1 = dt1.getTime();
  diffInDays = Math.floor((t1-t2)/(24*3600*1000));
  outlet(0,diffInDays);
}

function Jahr1(input){
  toyear = input;
  dt1 = new Date(toyear, tomonth, today);
  t1 = dt1.getTime();
  diffInDays = Math.floor((t1-t2)/(24*3600*1000));
  outlet(0,diffInDays);
}
autowatch = 1;
inlets = 1;
outlets = 3;

var letterCount = 0;
var stringTotal = new Array(140);
var p = this.patcher;
var f = []; //array for feed
var feedno = 0;
var currentString = new Array(letterCount);
var numberString = [];
var letterString = "set didn't work";

function msg_int(input) {
  if(input == 13) {
    // addFeed();
    for (letterCount > 0; letterCount--;) { //deletes the array and the fpics out
      currentString.pop(currentString[letterCount]);
      currentString.shift();
    }
    outlet(1, "clear");
  } else if(input == 127 && letterCount > 0) {
    letterCount--;
    postIt();
  } else {
    if(letterCount < 141) {
      stringTotal[letterCount] = input;
      letterCount++;
      postIt();
    }
  }
  if(letterCount > 140) {
    outlet(1, "textcolor 1. 0. 0.");
  } else {
    outlet(1, "textcolor 0. 0. 0.")
  }
}
function postIt() {
    for (var i = 0; i < letterCount; i++) {
        currentString[i] = stringTotal[i];
    }
    outlet(0, currentString);
}

// function addFeed()
// for (var i = 0; i < letterCount; i++) {
//     numberString[i] = stringTotal[i];
// }
// f[feedno] = p.newdefault(60,60,"comment","@presentation",1,"@bubble",1,"@bubbleside",3,"@bubbleusescolors",1,"@textcolor", 1., 1., 1.,
1.,"@varname", "f" + feedno);
// letterString = (numberString.toString());
// post(letterString);
// outlet(2, letterString);
// f[feedno].message("set " + letterString);
// feedno++;
// }

}