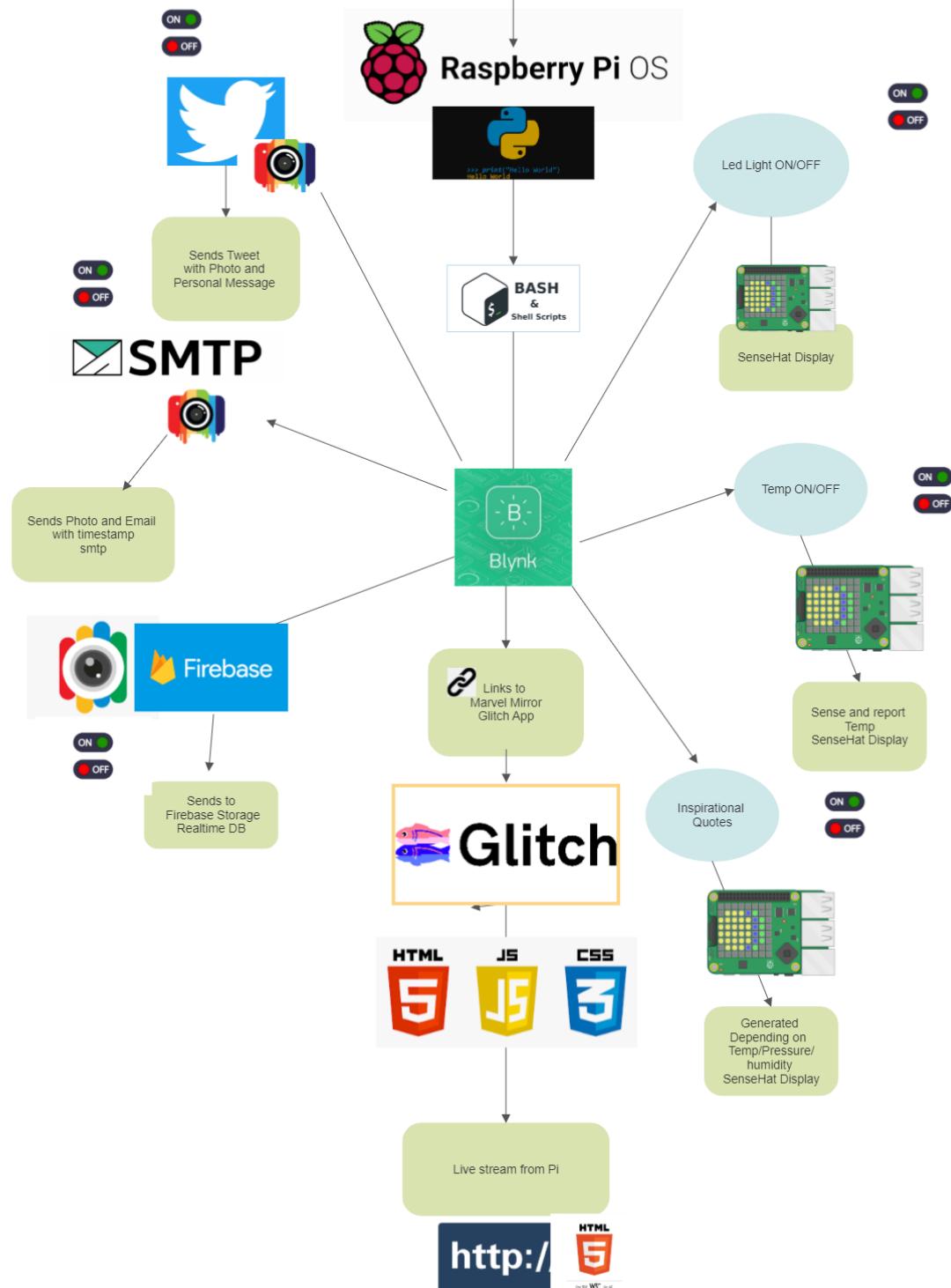


Marvel Mirror Project Graphics Layout

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Marvel Mirror

Initial Proposal Tweaked due not being able to use certain elements.

Student Name :Sophia McGee

Student No:20040472

MARVEL MIRROR

Proposal

Projection Description



Image I created to demonstrate what might be behind mirror and seen from front

Equipment Required

- Rasp pi3
- SenseHat
- Rasp pi Cam
- Two way roll out mirror
- Stanley Knife
- Big Picture Frame
- Smart Phone
- Black Marker + cardboard
- Blynk
- Glitch

Tools, Technologies and Equipment

1. Languages+technologies
2. Languages: Python, Javascript, Shell scripting, Html, Css.
3. Technologies: Blynk, Thingspeak, glitch, Mqtt, rasp pi, sense_hat, smart android ,twilio,tweepy, wifi .
4. Roll out mirror, box, raspPi, raspPi camera, senseHat,,Phone and laptop,

Functionality

- Create a mirror that can take your picture with no Camera in the picture.
- Create a Blynk App with multiple Buttons with different functionality.
- Buttons to take pictures and store in a database
- Buttons to take pictures and send to eg Twitter, and email.
- Buttons that read in temperature
- Button that takes photo sends to printer
- Button linking to a glitch Website with additional features like livestream function.
- Create a BashScript to run the programme.

To Do:

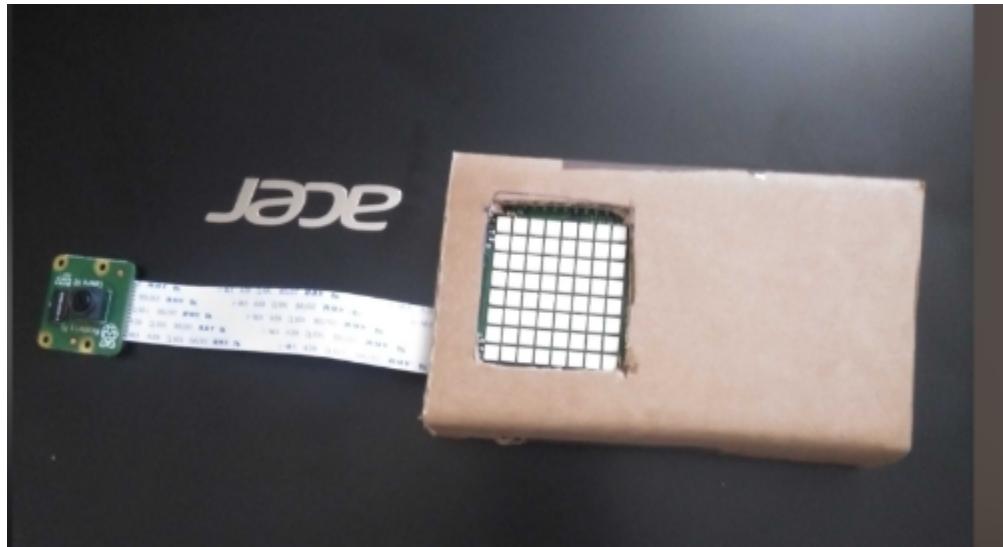
Mirror Construction section.

What you will need:



You will also need Rasp pi and Sense Hat.

Step one is to protect the Raspberry Pi. I made this out of strong cardboard and cut holes out for the power supply and Sense_Hat display. You only need to do this if you don't have a case which I don't. This is so I don't short circuit the pi.



Step 2: Take board from the back of frame and cut holes the right size for the Sense_Hat and camera.



Step 3: Cover board with Two way roll out Mirror



Step 4: Cut into Roll out mirror where the holes were previously cut into board.



Step 5 : Put frame back on



Step 6: Tap the Raspberry Pi and camera into place. If I was doing it again I would have gotten a clear tap to make it more aesthetically pleasing. But the functionality is all there.



Finish Product Looks like this



General Instructions for set up and use:

Firstly Download Vs code or any other coding application that allows remote access.

When this is completed. We will need to locate the ip address of your raspberry pi, you can do this by using sudo nmap -sn <enteryourIPaddress> in a terminal. I chose to use the virtualbox terminal to do this.

Once the IP address is found you can ssh in Vs Code you will firstly have to install two ssh extensions. Then in the bottom left corner you will see a small box with symbols similar to >< if you click on this a small text entry box will appear top of the middle of the page. You will then need to write ssh pi@[raspberrypi_ip_address]

It will then ask you to enter your Raspberrypi password.

This was the hard part. Hopefully this will be the easier part.

Once you have completed these steps open the pi folder and click on terminal new. Once this is open I want you to enter cd MarvelMirror Press Enter and then ./Menu.sh and Press Enter.

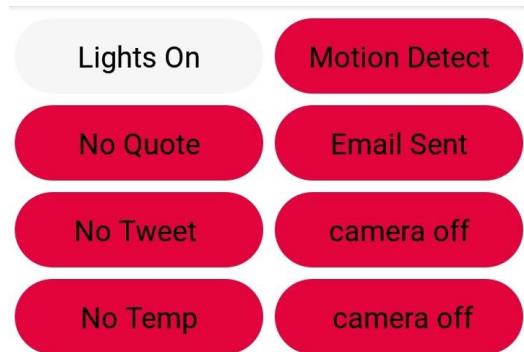
This will show you a bash script menu in your terminal you can choose 1 to run the blynk app or two to quit.

Bash Script (1) will run livestream and all the buttons on the Blynk app

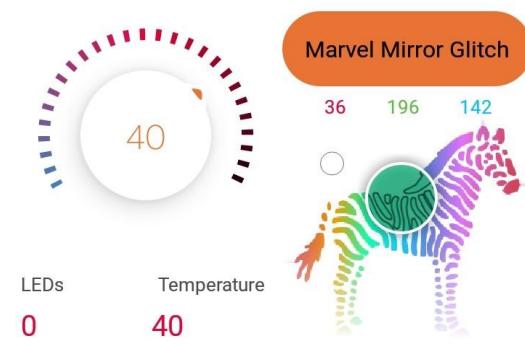
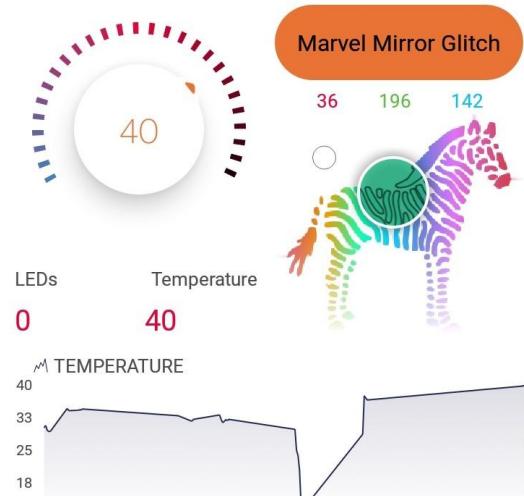
To Turn off Marvel Mirror safely go to file close remote Connection.

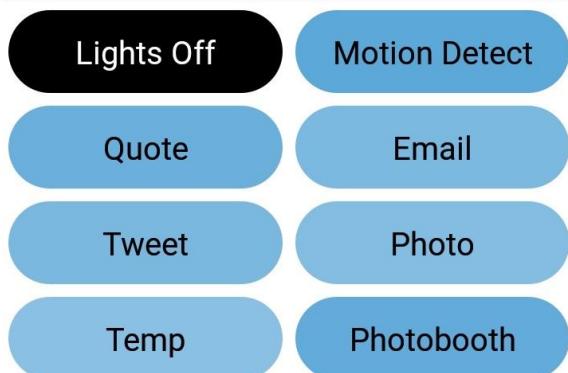
When Blynk is chosen you can open your app and choose from multiple buttons:

- Button 1: Lights on/off a Love Heart has been created as display.
- Button 2: Email, this will take a photo with raspPi Cam and email it to your email address using SMPT.
- Button 3: Temp Button, This will tell you the temperature just once unless you Press button again.
- Button 4 : Tweet , This will tweet camera images and whatever you want to write to twitter this has used the tweepy library.
- Button 5 :Camera, This button will take a photo and send it to the firebase database to be stored.
- Button 6:Quote button, these quotes depending on what the current Temperature, Humidity and Pressure sensed by the SenseHat.
- Button 7 : This Button links to a Glitch App created. This App was written using some Javascript, html , and css. Imagery has been taken from firebase and displayed on my index page. Livestream is also an option on this glitch website.
- Button 8 : Not present in the diagram but button 8 detects motion and then sends a text message using the twilio library.
- Button 9: Is a photobooth button that takes a photo and sends it to my printer to be printed.

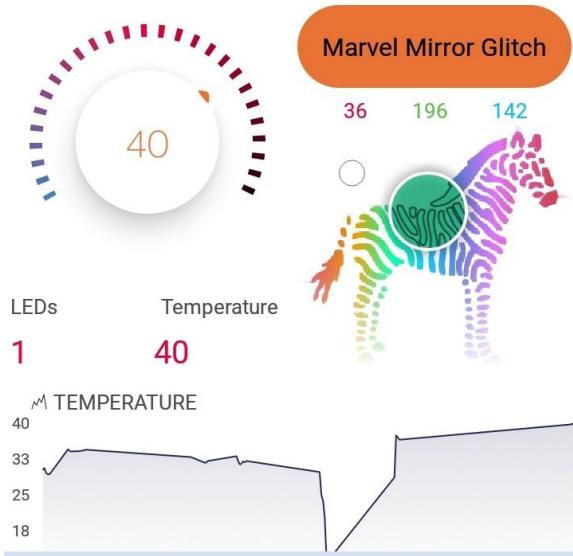


Welcome to Marvel Mirror



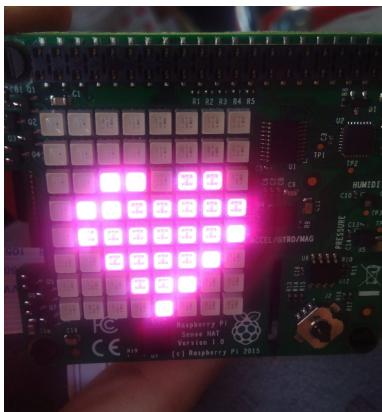


Welcome to Marvel Mirror



Three Visual representation of what my app and their buttons are made up of.

I have also included a temperature graph, and a map that I tried to program coordinates on my virtual pins but it keeps resetting the wrong values and is very glitchy and ends up in the Netherlands mainly.



i have realised it's incredibly difficult to capture pictures of lights but this is what my heart light looks like from an early photo it has a blue background behind the pink now.