1/22/2019

Brian Nannayakkara

Raspberry pi

P2 project 1

Email: dimalbrian@gmail.com

Tel: 60212189

Table of Contents

[Raspberry pi 1](#_Toc536086792)

[Requirements 1](#_Toc536086793)

[Set up 1](#_Toc536086794)

[Programing 1](#_Toc536086795)

[Marble Maze 2](#_Toc536086796)

[GitHub Snake project 3](#_Toc536086797)

[Cloning the project 3](#_Toc536086798)

[Time schedule 4](#_Toc536086799)

## Requirements

Keyboard, Mouse, SD card, charging cable for the Pi, HDMI cable and a Monitor

## Set up

I started by assembling the Raspberry Pi device (attaching the Sense HAT)

And then I connect my keyboard and the mouse to the Pi and start it up.

I had to reinstall Linux. It took approximately 30 min to install Linux.

After installing Linux I was ready to start programing.

## Programing

When programing in Pi I needed to use Python and it was already installed with Linux so I did not have to reinstall it.

I started by making a small program that print out my name on LEDs. So I will have an idea about how the LEDs are working together.

And then I play around with the X and Y positions on the LED screen.

### Marble Maze

After playing with the LEDs for a while I had a better knowledge about the Pi Sense HAT.

So I started programing the game called Marble Maze.

This game can be played using the Pi and no other devices are required (of course you have to turn the game on first using a keyboard or a mouse and a monitor)

I used python to make this game.

I started by importing the Sense HAT data

And then I found nice color values to use (there are (255, 255, 255) colors I used red color as the walls and the blue color as the ground and then light green color as the Marble and finally white color as the goal.

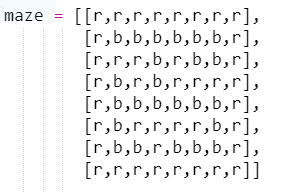
And then I created 2 functions to give logic to the program.

One of the functions will take care of marbles movements (I made it move according to the gravity)

\*The Pi sense HAT has a build in gravity sense\*

And the other function is used for not hit the walls which is red

And then I made the game interface, I create a variable and then just print out the interface I want.



R = red color

B = blue color

\*I also made a G for the goal and then a M for the marble\*

After making the game inter face and the function I had to make the game work.

I used a while loop to keep the game running.

I made a bool variable and give it a value “false” and the bool name I created is Game\_over

When the player is playing the game the game\_over bool is “False” and it will become “true” when the player hit the goal.

And when it happens the LED lights will print out “WIN!!!”

## GitHub Snake project

I did not make the snake game but I cloned it from git hub.

### Cloning the project

When I was cloning the project I got an error saying that I don’t have access to the project because I need to gain access

To gain access I created a SSH access key using specific commands on the terminal

\*\* ssh-keygen\*\*

\*\*cat ~/.ssh/id\_rsa.pub\*\*

#### Adding key

After using those commands I could see the key and I copied the key and pasted it on my git account under **settings 🡪 SSH and GPG keys 🡪 New SSH key**

#### Cloning the project

\*\* git clone \*\* “clone address “

After it is cloned I could access the python fine using \*\* sudo python astropisnake.py\*\* command

## Time schedule

22-01-2019: I started the project and I set up the Pi and then learnt about how the sense HAT work.

22-01-2019: I started the Marble Maze project and then finished it on the same day.

23-01-2019: After making the marble project I wanted to make the snake game so I cloned the game from git HUB

Sources: <https://www.raspberrypi.org/blog> // marble maze

<https://github.com/raseribanez/Small-Projects> // snake and other small projects