MAJOR PROJECT

ON

MIND CONTROLLED ENVIRONMENT MANIPULATION

FOR

AMITY UNIVERSITY

Submitted to

In partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Information Technology

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<u>PROGRESS REPORT</u>

MIND CONTROLLED ENVIRONMENT MANIPULATION

AIM:

The motive of this project is to make a wast scope idea that have its implementation in day to day life by providing and easy mind controlled appliance that allow user to control the power of appliance just by thinking by using EEG, computer vision and IoT.

Second motive of this project is to allow speech controlled environment for have, provide security and real time surveillance to each and every home and provisioning a secure way of data access i.e a self hosted cloud in a cheap yet affective way

OBJECTIVE:

The main objective of this project is to make an EEG and computer vision based environment manipulation device

METHODOLOGY:

he technology used here is Bluetooth to transfer brainwaves over bluetooth to the Arduino micro-controller from EEG. Then the raw brainwaves are converted to numerical format and if concentration is more than the specified than it sends a trigger to the raspberry pi over GPIOs which then triggers a python script.

BRIEF SUMMARY OF PROJECT:

The script analyse if the concentration to a specific object is more than 5 seconds than the raspberry pi runs a script to take picture of the object which then is analysed by the OCR running with the help of openCV in python environment.

If the text says LED then it triggers and supply the power to the LED, hence result in turning the LED on. If the text is not LED then the scripts run again and stay in a constant loop.

Code Picture:


```
minor_project | Arduino 1.8.9

minor_project

char incomingByte = ' ';   // for incoming serial data
int RoomPinBit = 0;

#define LED 13
#define BAUDRATE 57600
#define DEBUGOUTPUT 0

// checksum variables
byte payloadChecksum = 0;
byte CalculatedChecksum;
byte checksum = 0;              //data type byte stores an 8-bit unsigned number, from 0 to 255
int payloadLength = 0;
byte payloadData[64] = {0};
byte poorQuality = 0;
byte attention = 0;
byte meditation = 0;
#define LED 13
#define BAUDRATE 57600
#define DEBUGOUTPUT 0
#define powercontrol 10
int Raspipin = 6;
int Roompin = 8;


long lastReceivedPacket = 0;
boolean bigPacket = false;
boolean brainwave = false;
byte generatedChecksum = 0;

void setup() {
  pinMode(Raspipin, OUTPUT);
  pinMode(LED, OUTPUT);
  Serial.begin(BAUDRATE);
  Serial.print("PoorQuality");
  Serial.print("\t");
  Serial.print("Time since last packet");
  Serial.print("\t");
  Serial.print("Attention");
```

Arduino/Genuino Uno on /dev/cu.usbmodem14201

Arduino code

Output :