GESTURE RECOGNIZATION USING IMU AND MACHINE LEARNING

ABSTRACT:

1) *OVERVIEW:*

   The device will act as an interface between real & virtual world.

2) FEATURES:

1) Flip through e-books , power point presentations and scroll wirelessly
2) Play music , movie and etc. via gesture control
3) Play video games and add new game play mechanism to it.
4) Pick up phone calls without actually touching your phone while driving
5) Replacement for a mouse

3**) Implementation**:

We will put IMU sensor on hand band and then using this sensor we will calculate the trajectory of the hand and then plot the graph of position of hand with respect to time. This data tells the application what the user is doing with their hand. With the help of machine learning we will pre-set the poses to perform specific task in the computer when the certain task is being performed. The IMU sensor will give us a data of certain pose and then the machine will predict which task is to be executed.

4} Timeline:

- First 5 days on Research and design
- 3 Weeks on IMU & Machine Learning
- Then few days on debugging
- Implementation of device

5) Hardware Required:

- connecting wires

- Arduino-UNO

-MPU 6050 sensor

-breadboard

-IMU sensorboard

6)Team:

Shubham Sharma:Programming (8960808801)

Piyush Tayal:Programming and electronics(7755058022)

Shubham Jain:Electronics (9044717387)