MPU Sensor_Module

Module Responsibility :

- Read accelerometer data
- Read gyroscope data
- Convert raw sensor data into meaningful physical values

Output :

- Calculated vibration derived from accelerometer and gyroscope data
- Vibration level (No_Vibration,low vibration,medium or high)

Module Design

```
I2C
```

I2c_Write
I2c_Read

<<block>>
MPU_Sensor

<<Parameters>>

```
- typedef enum
{
    VIB_NONE,
    VIB_LOW,
    VIB_MEDIUM,
    VIB_HIGH
} Vib_Level_t;

- typedef struct {
  uint8_t adc_channel;
  uint8_t i2c_address;
  } MpuVibration_Config_t;
```

<<Function>>

~MpuVibration_Init(MpuVibration_Config_t *config) : void

~MpuVibration_Main(float * vibration_val) : void

~MpuVibration_GetLevel(Vib_Level_t* level) : void