

## Design of a Low Cost Motion Data Acquisition Setup for Mechatronic Systems

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**Abstract :** Motion sensors have been commonly used as a valuable component in mechatronic systems, however, many mechatronic designs and applications that need motion sensors cost enormous amount of money, especially high-tech systems. Design of a software for communication protocol between data acquisition card and motion sensor is another issue that has to be solved. This study presents how to design a low cost motion data acquisition setup consisting of MPU 6050 motion sensor (gyro and accelerometer in 3 axes) and Arduino Mega2560 microcontroller. Design parameters are calibration of the sensor, identification and communication between sensor and data acquisition card, interpretation of data collected by the sensor.

**Keywords :** design, mechatronics, motion sensor, data acquisition

**Conference Title :** ICAMME 2014 : International Conference on Applied Mechanics and Mechanical Engineering

**Conference Location :** Stockholm, Sweden

**Conference Dates :** July 14-15, 2014