

# Digital Accelerometer & SD Card Reader

Warwick University - School of Engineering - Arduino Tutorials

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## Introduction

The ability to collect data is an incredibly valuable tool to an Engineer, whether it's measuring the vibrations of traffic across a bridge to check for oscillations or to calculate the acceleration of rocket, it's essential to be able to effectively test and monitor a system.

Engineers in the field often need to verify that a systems is functioning correctly.

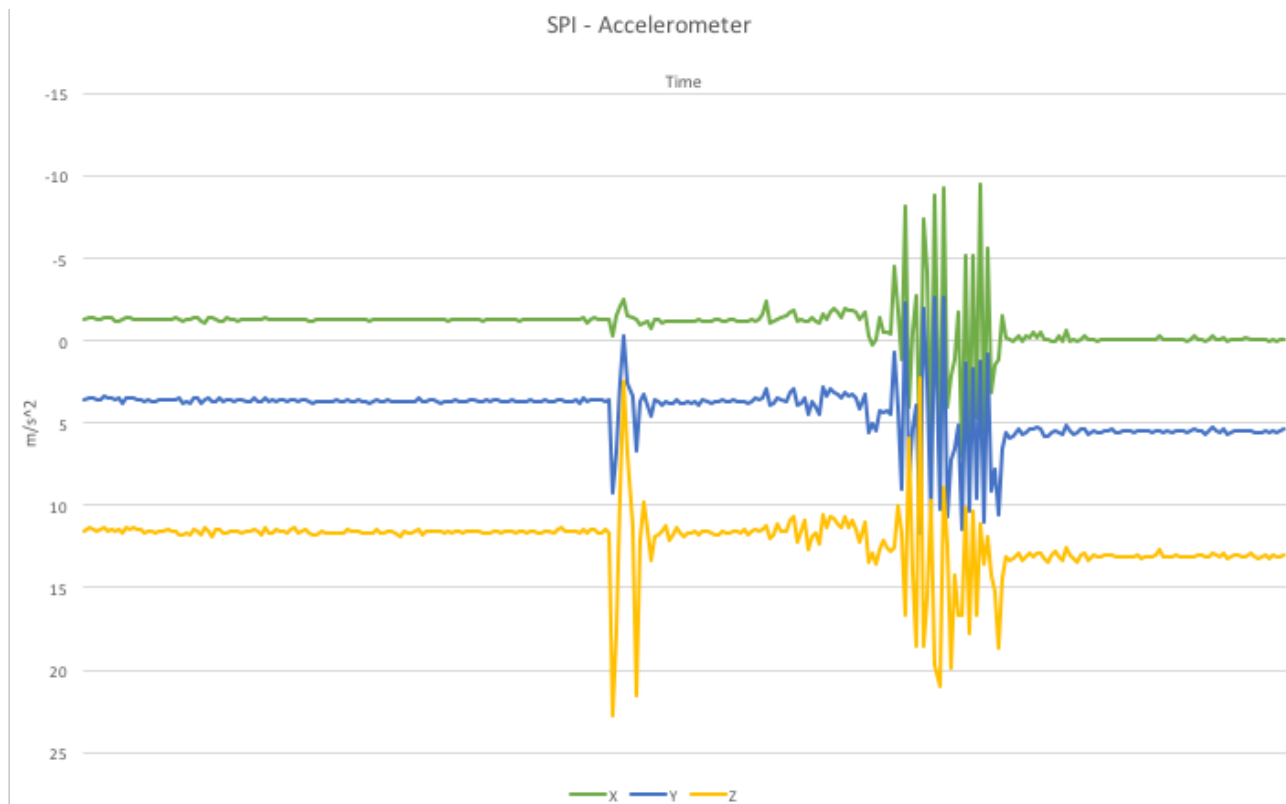
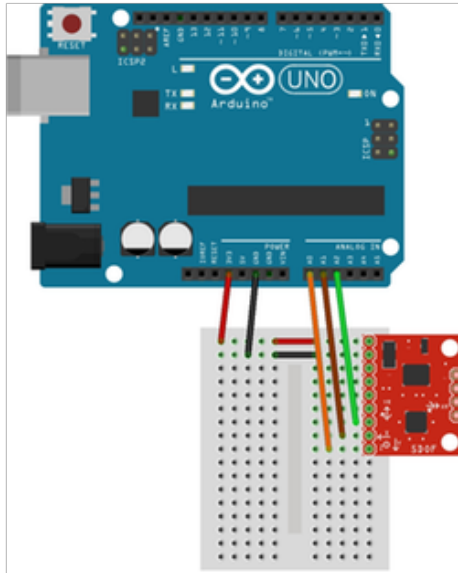
This can often be a difficult task as conditions can be remote, harsh and sometimes even hostile! Fortunately tools such as a micro controller, such as an Arduino, can be employed to perform this monitoring for a far.

This tutorial will teach you how to interface with and collect data from a range of devices using a protocol known as SPI (Serial Peripheral Interface). This is an interface that will allow you to talk to sensors, storage and other devices. It is a general purpose protocol and can be used for a whole range of devices, beyond the Accelerometer and SD card examples used in this tutorial.

## Aims

By completing this tutorial, you should be able to confidently -

- Connect a sensor to an Arduino using the SPI bus
- View the live data being collected by the Arduino, on a Computer, using the built-in Serial Monitor
- Store this data using an SD card, allowing you to view the data at a later date



```
class Voila {  
public:  
    // Voila  
    static const string VOILA = "Voila";  
  
    // will not interfere with embedded tags.  
}
```

