

Race Car Data Logger



Introduction

Professional drivers utilise data loggers to record their driver and vehicle performance. This data is used in their driver and vehicle development. These systems work by recording vehicle-related information as well as location and orientation data. This project aims to create a data logger which can offer similar accuracy and data rate, to the professional equivalents with greater compatibility and interchangeability between vehicles.



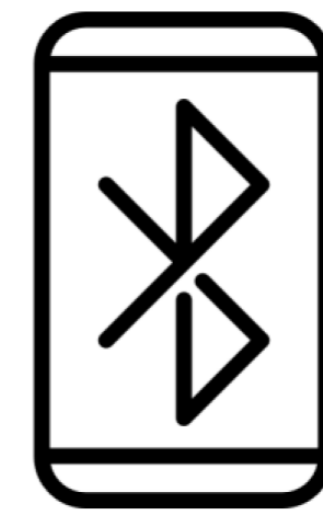
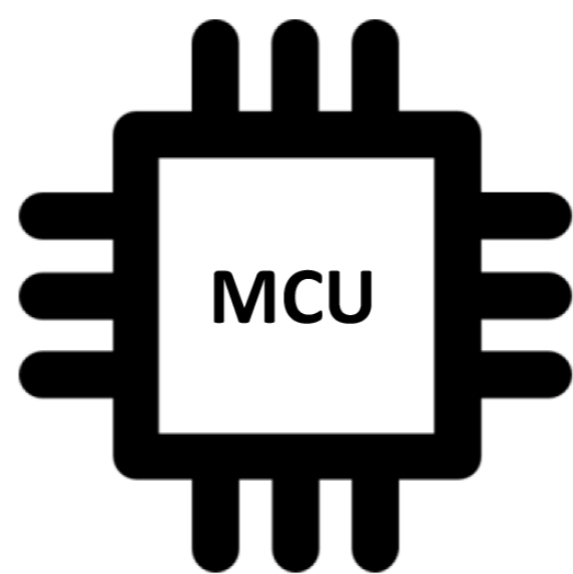
Location and Orientation information

Vehicle Information



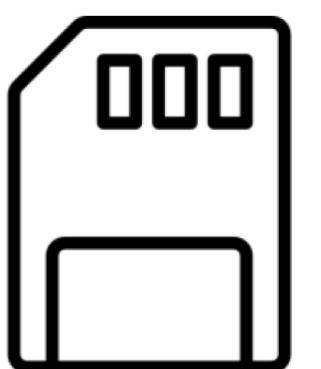
Functionality

GPS (Position, Velocity), Inertial (Orientation and Acceleration) and OBD (Engine and Vehicle) data are received by a microprocessor which timestamps the data. The data is then stored in a SD card for post analysis with PC based race analytics software. The data logger also has inbuilt Bluetooth Low Energy (BLE) providing access to the data in real time and setup of the parameters to be logged.



Bluetooth connection to Application

Data Storage



Technical Details

- ✓ Access to hundreds of engine and vehicle parameters in real time
- ✓ Fast 10Hz GNSS position and velocity updates via UBlox receiver.
- ✓ Hardware sensor fusion for accurate attitude and g-Force estimation
- ✓ Data logged at up to 10Hz to an SD card
- ✓ Stream real time data to an Android Application
- ✓ Accurate lap timing
- ✓ Integration with Video Overlay Software such as DashWare

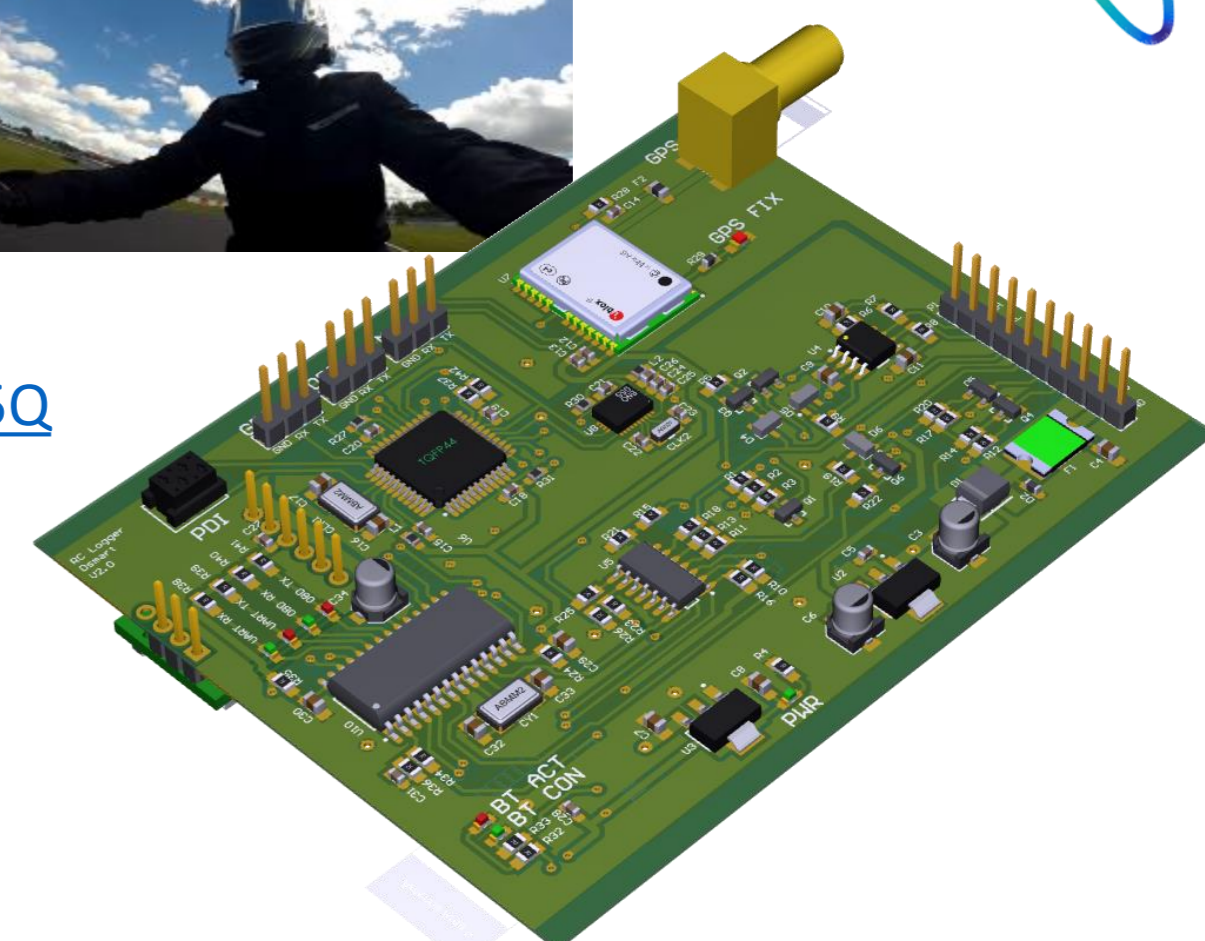
Availability

The unit is currently undergoing track testing and should be available for initial testing shortly.



Demo Video:

<https://www.youtube.com/watch?v=fBFn76loy5Q>



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