On-Board Diagnostics Monitoring System

Project Requirements

MUST HAVE

1. OBDII is connected physically to the Raspberry Pi through an appropriate cable
2. OBDII input is filtered before being stored
   2.1. Data to be stored: vehicle speed (RPM) information
3. OBDII data is stored on the RPi on an SD card
4. OBDII data is transferred to the backend server through the RPi's Wi-Fi adapter
5. OBDII data is stored on a database on the backend server
6. RPi is powered through an adapter that connects to the vehicle electric system
7. System SD card is removable and replaceable
8. System compatible with a Ford F150 vehicle

SHOULD HAVE

1. OBDII data is transferred automatically when the RPi is within range of the server's Wi-Fi connection
2. OBDII data is transferred to the server by manually uploading the data from the SD card
3. OBDII data is transferred to the RPi at 10 second samples
4. System has a screen/warning lights for basic usage
5. System is able to run for 12 concurrent hours
6. OBDII data is not modified or deleted before it is transferred to the server
7. System starts automatically (autorun)

COULD HAVE

1. OBDII data is transferred to the server through the RPi's Ethernet connection
2. Data to be stored includes vehicle braking, seatbelt disconnect, idling, revving, and acceleration information
3. RPi has a portable battery power source
4. System functions at +/- 35 degrees Celsius
5. System is compatible with other vehicles that have the same OBDII configuration
6. OBDII data is transferred automatically when the RPi is within range of the any preconfigured Wi-Fi connection

WON'T HAVE

1. OBDII data analysis
2. OBDII is connected to the RPi through a Bluetooth connection
3. OBDII data is transferred from the RPi to the server in real-time

4. Creation of a separate backend server from the one supplied by sponsor
5. System is compatible with other vehicle makes and models
6. Two-way communication between the server and the RPi