**Application Design 0:** Basic Fuel Efficiency Log

At gas fillups record and display the following from the data logs:

**Current Miles Driven** = Current Odometer Reading - Last Odometer Reading (from fillup)  
(miles | km)  
  
**Current Fuel Used** = Current Fuel Consumed Reading - Last Fuel Consumed Reading (Since last fillup)  
(gal | L)

**Fuel Efficiency** = Current Miles Driven/Current Fuel Used

(mpg | km/L)

**Time-History Fuel Efficiency Plot:**

Fuel Efficiency (y-axis):|\_/\*\/\*\\_

                                 Past Fillups (and Date x-axis)

Design version 0 can be made using the following data given we make a simple filter to determine when the car is refueled:

**odometer**

0 to 16777214.000 km, with about .2m resolution**Ford frequency:** 10Hz

**fuel\_level**

0 - 100% **Ford frequency:** 48Hz

**fuel\_consumed\_since\_restart**

0 - 4294967295.0 L (this goes to 0 every time the vehicle restarts, like a trip meter) **Ford frequency:** 10Hz