**Preface**

Dear applicant,

Thank you for your interest in working with us. We are developing the next generation of Truck infotainment systems.

The new generation of the HMI Software requires graphical representation for the current fuel level, while not distracting the driver.

Fuel level is displayed by the following elements:  
  
1. Fuel Icon

* Color red (fuel level low)
* Color orange (fuel level medium)
* Color green (fuel level high)

2. Fuel bargraph

* Bargraph filled according to the percentage of maximum fuel level
* Cursor on the bargraph for the current fuel level
* Text representation of the current fuel level below the cursor (in percent)

Please consider the following premises:

* The fuel level will be received as an integer between (-255 and 255), 0 will be considered as fuel empty, 255 as full
* The fuel sensor will have a refresh/update rate of 5 Hz
* The values received by the sensor will have an inaccurate measurement rate of 5%
* The road gradient will influence the measurement at a max of 10% at a 100% slope (45°).

**Task:**  
Create some example code in C++, that can prepare the data according to the requirements described above.  
In a first meeting, we would like to discuss your solution and proposals. We would like to understand the reasoning behind your decisions and have an open discussion about your code.  
  
Please provide your solution in advance to Mr. Kehrein via Email  
[christoph.kehrein@daimler.com](mailto:christoph.kehrein@daimler.com)  
Phone: +4917630997327

In case of any questions about the task, do not hesitate to contact Mr. Kehrein.