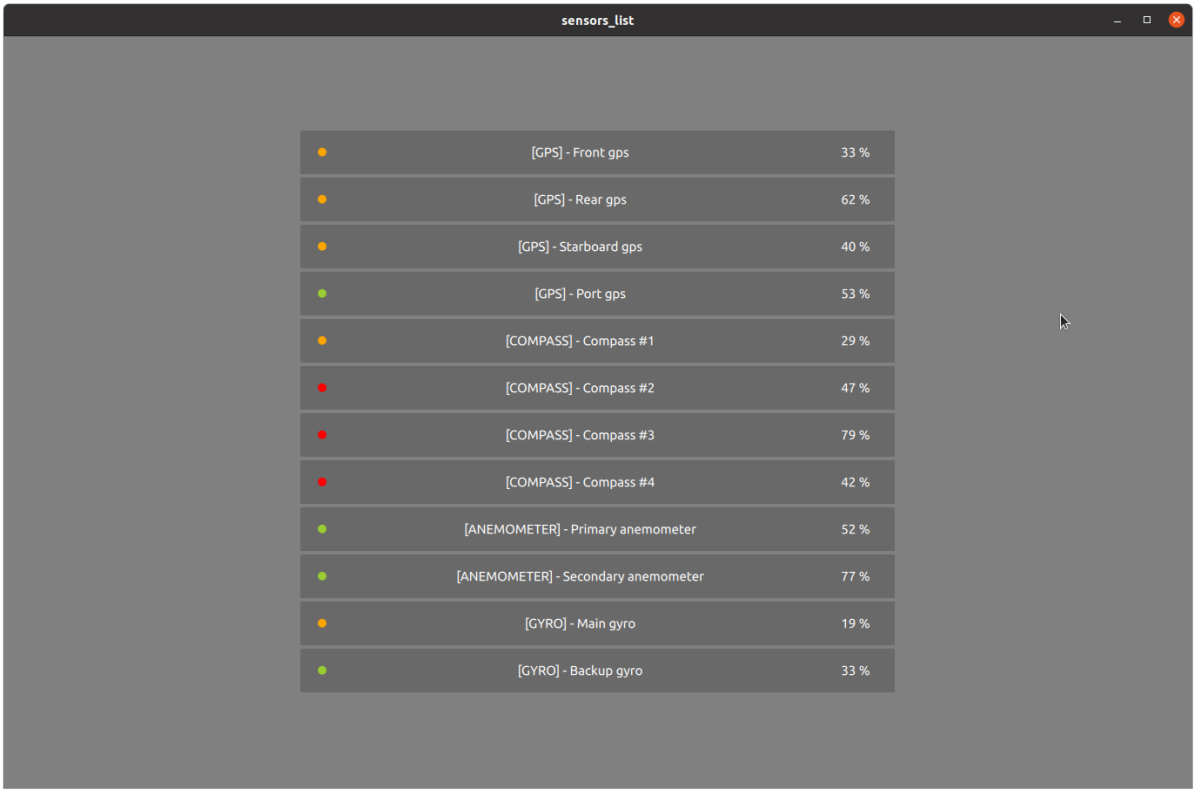
C++/QML Candidate Exercise

Objective: Create a Human-Machine Interface presenting a list of sensors with variable information.



Description:
A sensor is defined by a **name**, a **type** (Anemometer, Compass, GPS or Gyro), a **state** (Nominal, Warning, Error) and a **signal's strength** (between 0 and 100%).

The number of sensors in the list, their names and their types do not change over time, you can hardcode the population of the list at the beginning of your program (with 4 GPS, 4 Compasses, 2 Anemometers and 2 Gyros for instance). **What evolves over time are the states and the strengths of the signals**.

The list should present sensors in the following way:

- a circle on the left, colored in green (for NOMINAL), orange (for WARNING) or red (for ERROR) depending on sensor's state.
- a text in the middle, with the sensor's type and the sensor's name.
- a text on the right, presenting the signal's strength of the sensor (in percent).

Recommendations:

1. All the "logical/business" code must be written in C++. The use of QML must be restricted to the graphics part only.

2. You can implement the variation of states and signals strengths as you wish as long as it is done in C++. Things do not have to be very complex.
3. If you have done something tricky, do not hesitate to leave comments in your code to explain.
4. Feel free to create as many classes as you need.
5. Project can be generated either with QMake or with CMake.
6. Do not spend too much time making the most beautiful HMI of the world, we are more interested in your C++ and QML coding style and the way you make the logical part and the graphics part communicate.

Once you are done:
Send us an archive with all the files we need to compile your code (.cpp, .h, .qml, .qrc, .pro or CMakeLists.txt, ...). Please be careful not to compress your build directory in your archive.

If something is not clear or if you have any questions, do not hesitate to ask.
Good luck!