# **Embedded system (IoT) Developer Task**

**Task Description:**

Your objective is to create a display driver software. The display has a few icons (WiFi, Bluetooth and battery etc) and 7 segments.

The driver software should have:

1. **A function to Initialize display. ✔**

displayInit();

1. **A function to clear whole screen. ✔**

displayClear();

1. **A function to enable or disable specified Icon. ✔**

icon(BLE\_ICON, true); // enable: show icon on the display.

icon(BLE\_ICON, false); // disable: Bluetooth icon disappear from the display.

1. **A function to print values on the display. ✔**

print(3.5); // print 3.5 on the display.

Note: we will provide you the display driver data sheet, schematic diagram and pin out. (All the information you need to design the driver software).

**Driver Features:**

1. **Display Initialization:** Function to setup the display. i.e. Display driver mode, internal voltage adjustment, blink frequency etc. **✔**
2. **Enable / Disable Icons:** A function that allow you to display specified icons on the display and remove the icons if user wants. **✔**
3. **Print numbers:** A function that prints values on the display **✔**
4. **Clear Display:** A function that clear the whole screen. **✔**

**Requirements:**

* You can use any micro controller of your choice to design the driver software. (Good if you use ESP32). **✔**
* The API function should have minimal input arguments (as possible). **✔**
* Make sure that the driver software complies without any errors. And have all the features mentioned above. **✔**

**Submission:**

Please provide the .cpp and .h files of your display driver software. Also an example application that uses this driver. **✔**

**Evaluation**:

Your submission will be evaluated based on the following criteria:

1. **Functionality**: Does the driver software meet the specified requirements and features?
2. **User Interface**: Are the driver software functions are easily usable by other developers in their application?
3. **Code Quality**: Is the code well-structured, documented, and maintainable?
4. **Testing**: Have you implemented basic testing to ensure core functionality?

**Note**: This task is designed to evaluate your technical skills in Device driver designing and Implementation. It show your ability about reading the data sheet and extracting useful information from it.

Good luck with the task, and we look forward to reviewing your submission!