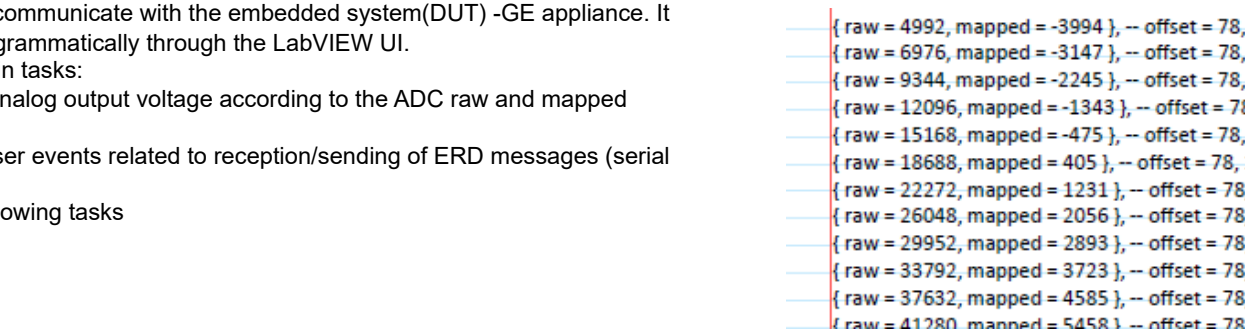
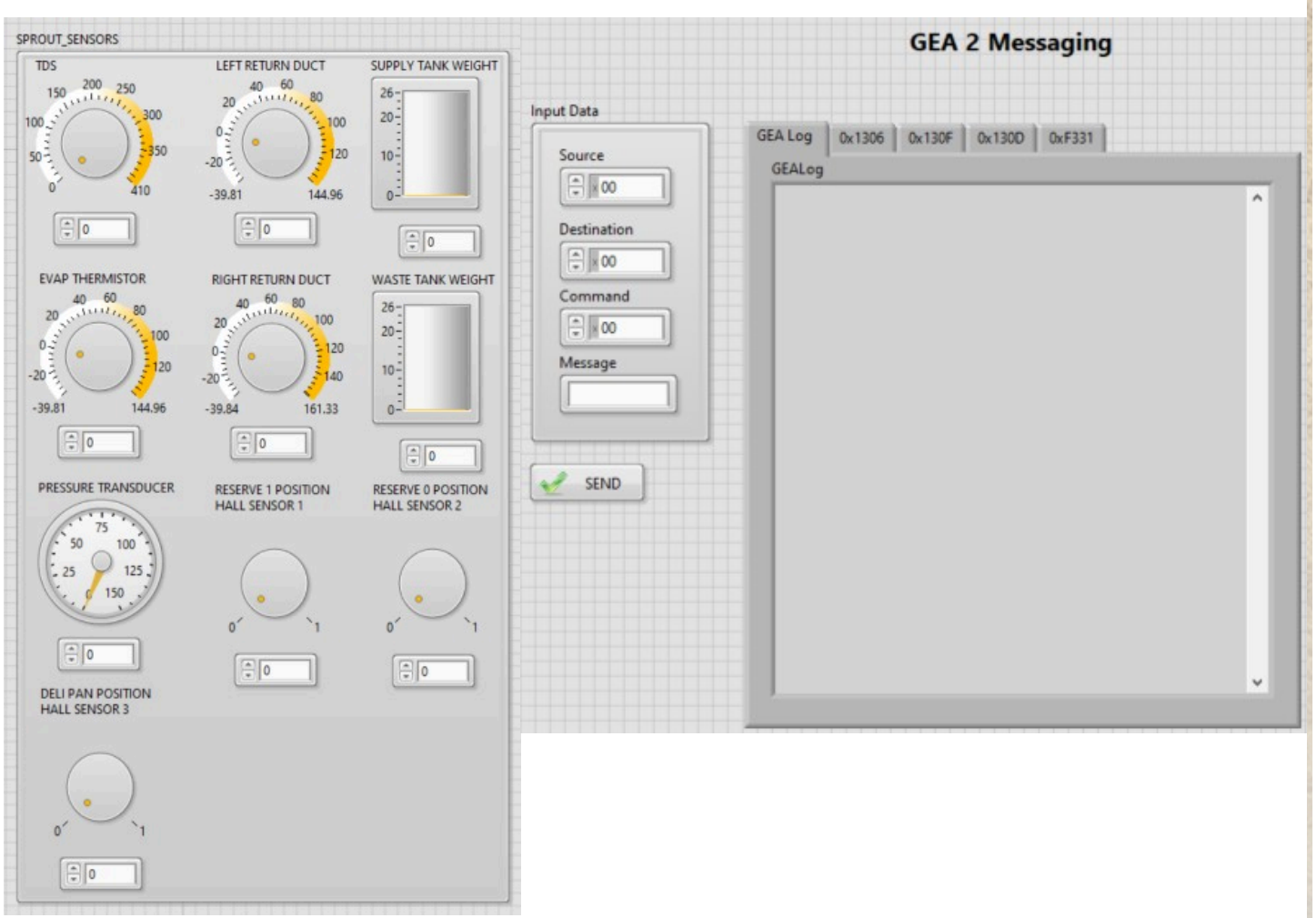
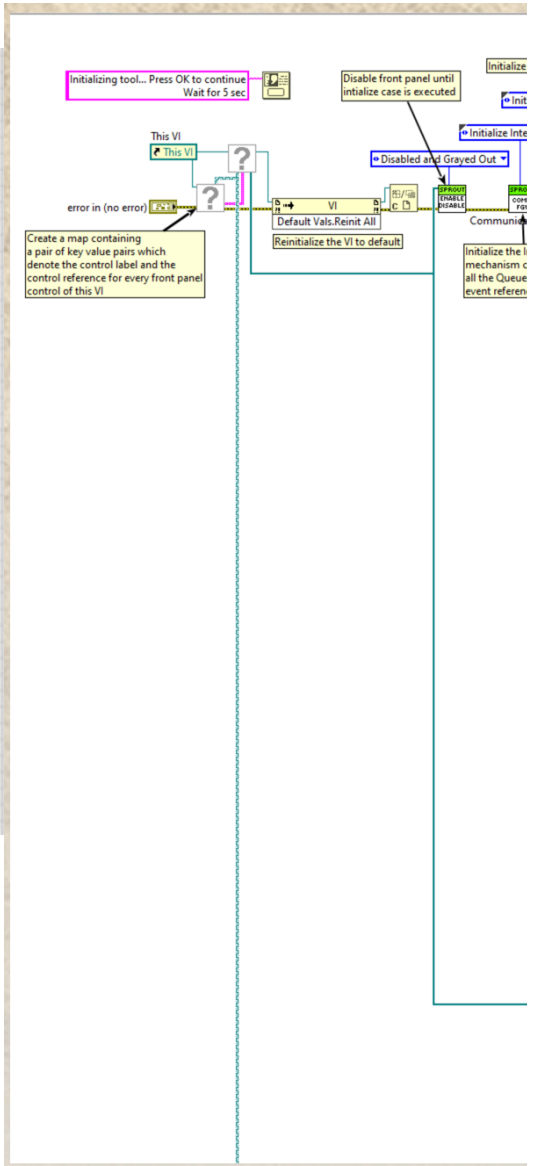
This is a testbench application developed in G-code (LabVIEW) to communicate with the embedded system(DUT) -GE appliance. It mainly simulates most of the major sensors used in the system programmatically through the LabVIEW UI.
The source code developed in LabVIEW performs the following main tasks:
1. For every Sensor value from a range of values, it generates an Analog output voltage according to the ADC raw and mapped value table for every sensor
2. Continuously detects user events on UI(sensors) and dynamic user events related to reception/sending of ERD messages (serial comm)
3. Parses the serial communication messages and performs the following tasks
Read req
Read response
Write req
Write response







THIS IS NOT THE ACTUAL DEVELOPED APPLICATION, IT'S JUST AN INITIAL DEVELOPED SAMPLE OF A SW ARCHITECTURE AND FRAMEWORK FOR SIMULATION OF SOME OF THE SENSORS

, 10 bit raw = 0
, 10 bit raw = 31
, 10 bit raw = 68
8, 10 bit raw = 111
, 10 bit raw = 159
10 bit raw = 214
, 10 bit raw = 270
, 10 bit raw = 329
, 10 bit raw = 390
, 10 bit raw = 450
, 10 bit raw = 510
10 bit raw = 567

- Sample Thermistor lookup table

-Used concept of Interpolation in source code
to determine the closest possible value of Analog output voltage between two temperature points, in relation to the sensor value set by the user from UI