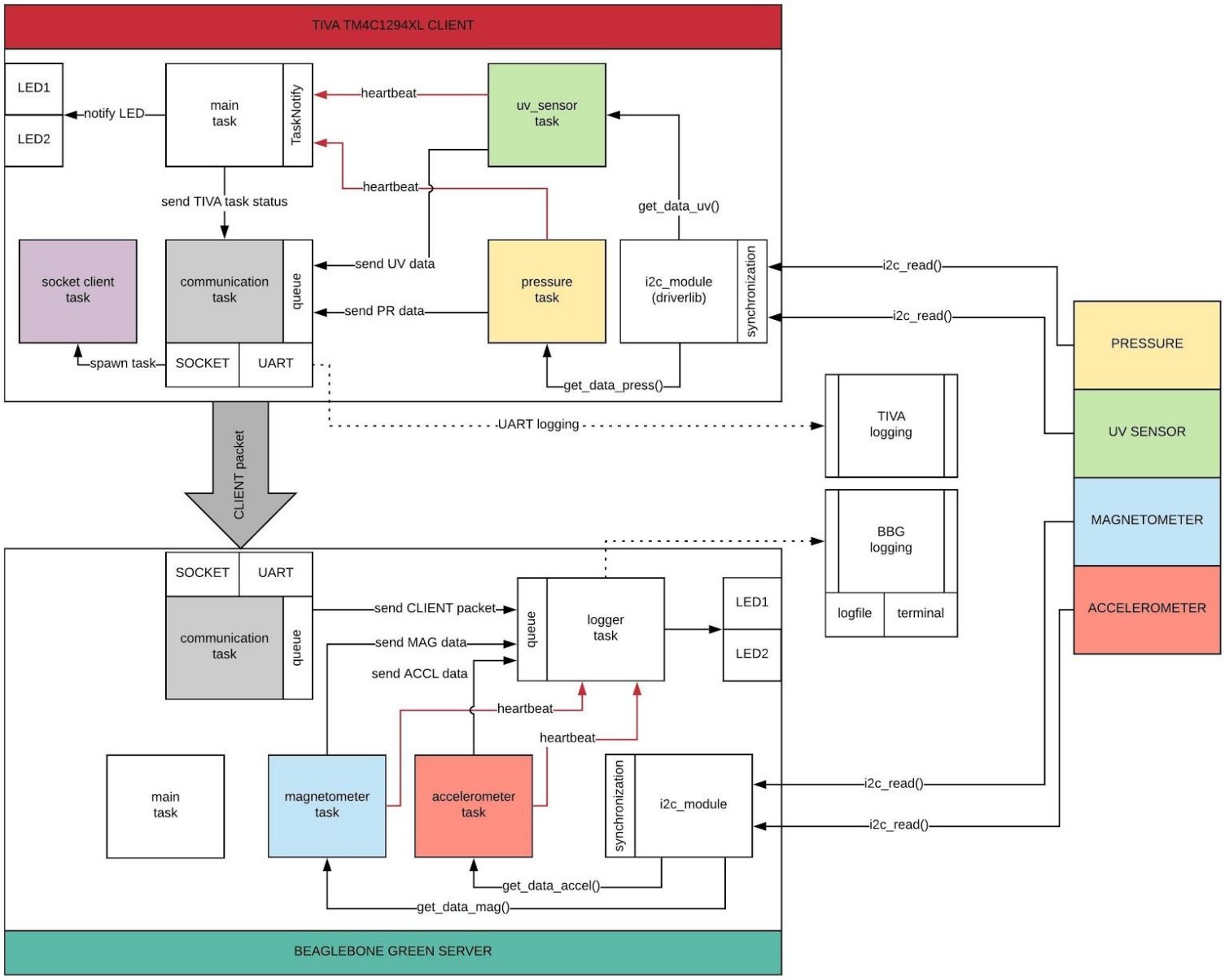
Project 2 - Report
Remote Survival Module
Advanced Practical Embedded Software Development

Praveen Gnanasekaran
Vijoy Sunil Kumar

Date: 04.29.2018

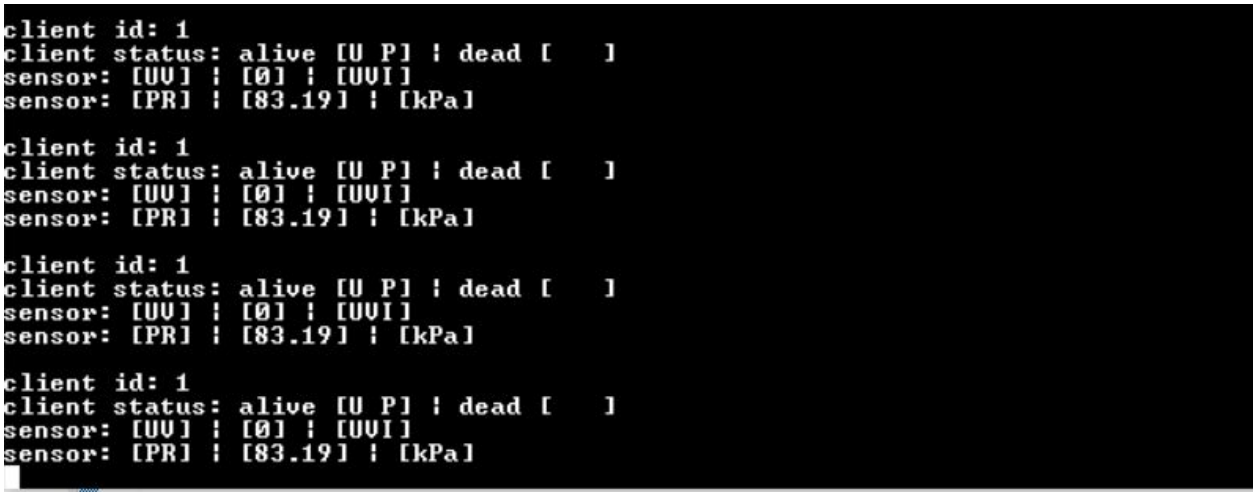
Github link:
TIVA: https://github.com/vijoy-sunil/ECEN5013_APES/tree/master/P2
BBG:
https://github.com/praveengnan94/Advanced-Practical-Embedded-Software-/tree/master/Projects/Project2/BBG

Software architecture diagram (updated)



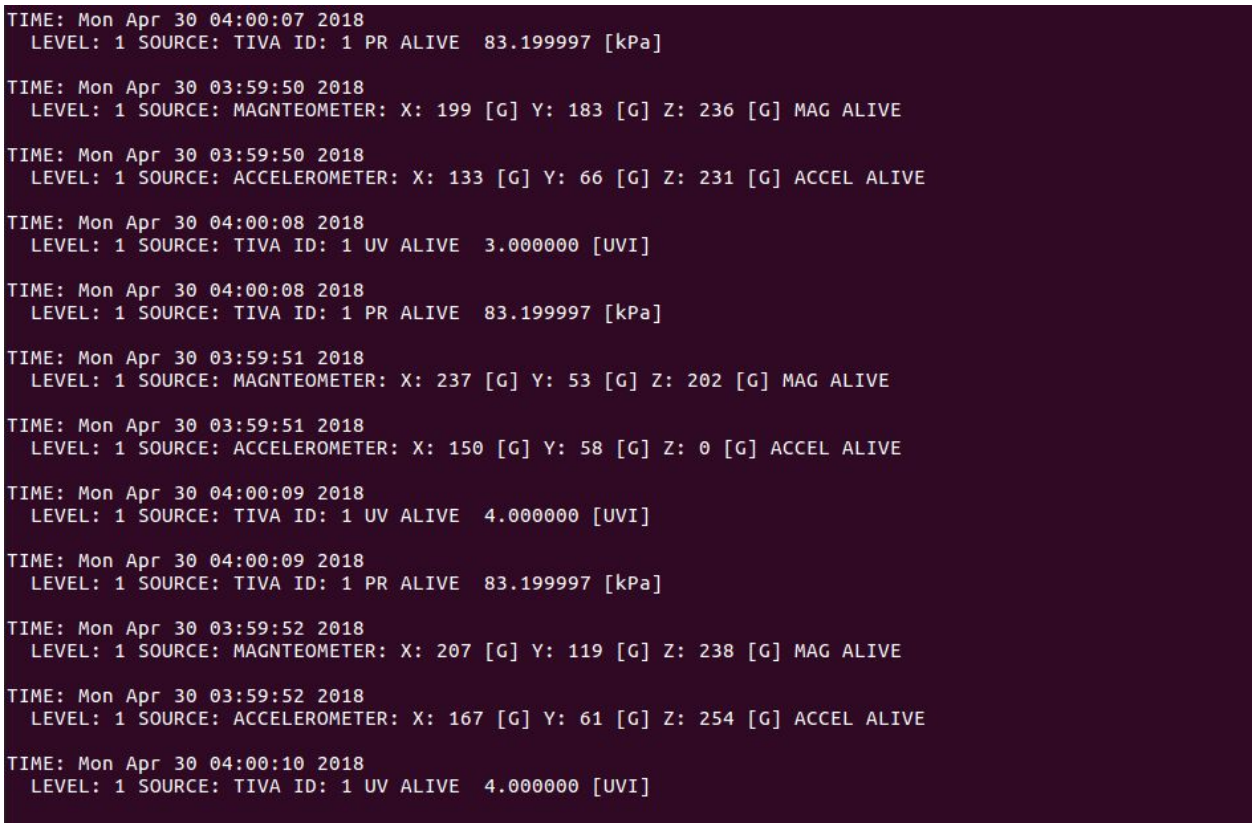
TIVA client side logging

The picture below shows the client ID, TIVAs task status (alive or not), Ultra violetdata UV and pressure sensor PR data.



BeagleBone Green Server side Logging

The picture below shows the magnetometer and accelerometer data from the Beaglebone and the status of the tasks (alive or not) and sensor data and task status from TIVA along with time stamps.



CMOCKA test results

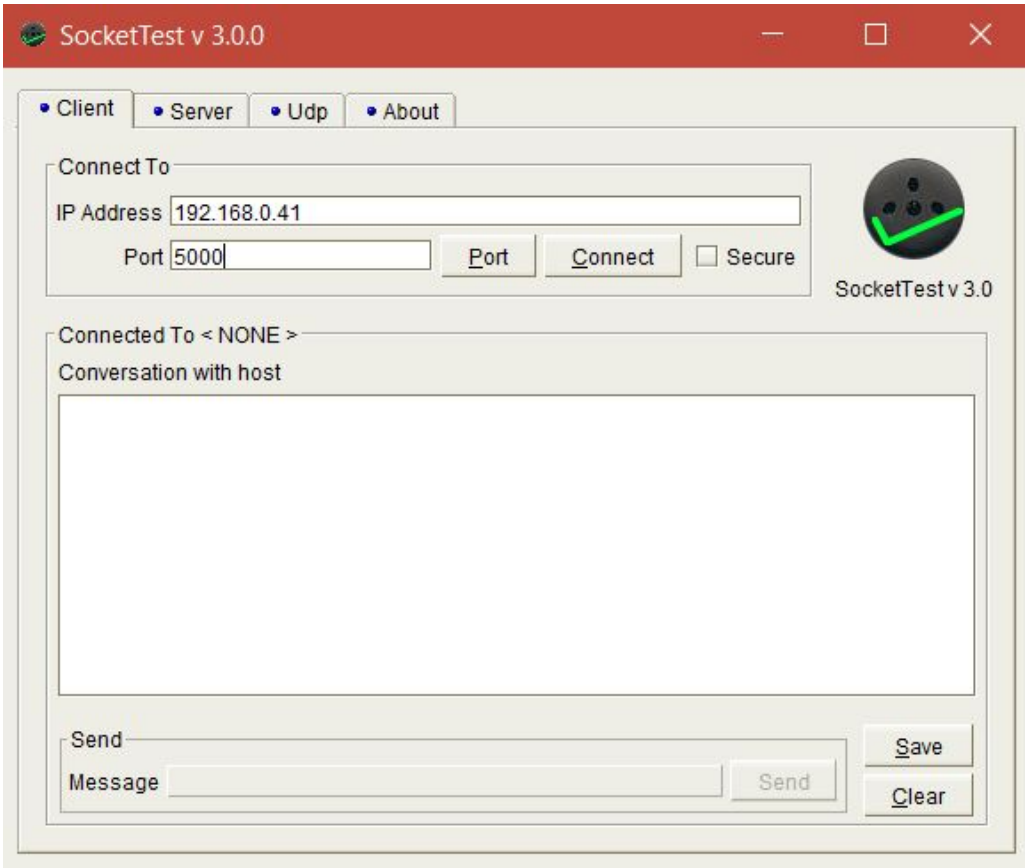
```
root@praveen-Latitude-E5430-non-vPro:~/Desktop/APES/GITHUB/Advanced-Practical-Embedded-
[==========] Running 4 test(s).
[ RUN      ] testsocketcreate
[       OK ] testsocketcreate
[ RUN      ] testsocketaccept
[       OK ] testsocketaccept
[ RUN      ] testsocketread
[       OK ] testsocketread
[ RUN      ] testsocketcompare
[       OK ] testsocketcompare
[==========] 4 test(s) run.
[  PASSED  ] 4 test(s).

 0 FAILED TEST(S)
```

Tests conducted on cmocka

1. Socket creation
2. Socket accept
3. Socket read
4. Socket read string

Client is simulated through “SocketTest” software



Sensors used

All 4 sensors are on MATRIX Creator board
https://www.matrix.one/products/creator

Server side:

1. Magnetometer
2. Accelerometer

Client side:

1. Pressure
2. Ultra violet

Server - client communication interface provided

1. UART
2. Socket

Logging

Server side:

1. UART logging on terminal
2. Log file written into disk

Client side:

1. UART logging on terminal.