

Lab4_Wireless Lab

Group Member: Lucia Shen, Yutong Luo

GitHub Repo

<https://github.com/TongSUE/TECHIN-514/tree/main>

1. Number of Bluetooth devices detected: 81

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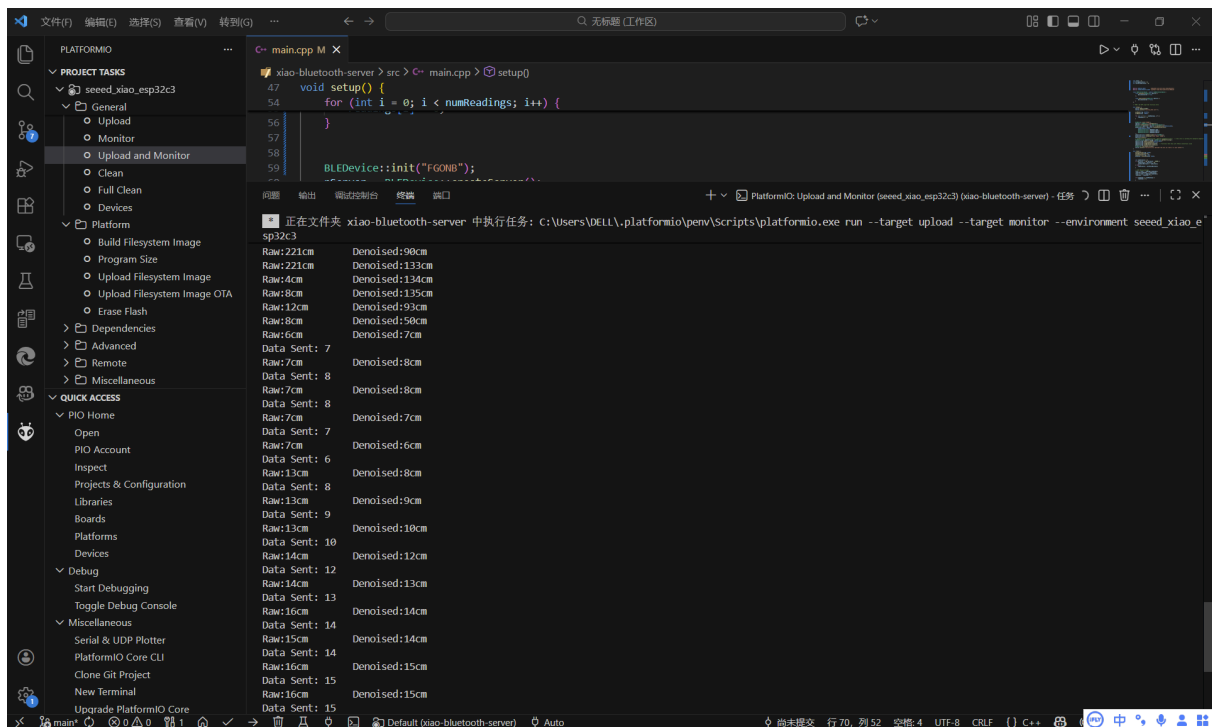
Hard resetting via RTS pin...
--- Terminal on COM3 | 115200 8-N-1
--- Available filters and text transformations: colorize, debug, default, direct, esp32_exception_decoder, hexlify, log2file, nocontrol, printable, send_on_enter, time
--- More details at https://bit.ly/pio-monitor-filters
--- Quit: Ctrl+C | Menu: Ctrl+M | Help: Ctrl+H followed by Ctrl+H
Advertised Device: Name: , Address: 7f:03:9d:4a:e0:82, manufacturer data: 4c000c0e0092ddc648dd82a5621efc99b1a81006431d61567618, rssi: -95
Advertised Device: Name: , Address: 6b:10:63:21:af:c0, manufacturer data: 4c000c0e008ad22b05fdb558edc6893f2a4091006401dea4b3328, rssi: -99
Advertised Device: Name: , Address: 70:d5:63:db:5c:90, manufacturer data: 4c000c0e008ad22b05fdb558edc6893f2a4091006401dea4b3328, rssi: -97
Advertised Device: Name: , Address: 7c:3f:02:0f:81:0d, manufacturer data: 4c000100000000000000000000000000, txPower: 0, rssi: -97
Advertised Device: Name: , Address: 25:f8:e1:27:39:3d, manufacturer data: 00000109200284fbc89b1b5583400dc29bfc6a943d7513fe63f322d421, rssi: -89
Advertised Device: Name: , Address: 45:fc:dc:00:7f:3f, manufacturer data: 4c000c0e000e01cd68ab1f8eaa79b54cdd6e100641d6a3f9318, rssi: -81
Advertised Device: Name: , Address: 61:f9:34:9c:71:48, manufacturer data: 4c00090813030a1340fe1b581608005a3391f6234269, rssi: -91
Advertised Device: Name: , Address: 69:5e:d1:5e:c1:5a, manufacturer data: 4c000c0e00c636f19a767e06b541bf3d3cba10064a1d59c7b378, rssi: -97
Advertised Device: Name: , Address: 6c:65:bc:58:83:f7, manufacturer data: 4c000c0e0092ddc648dd82a5621efc99b1a81006431d61567618, rssi: -95
Advertised Device: Name: , Address: 6e:d6:78:ec:a6:f9, manufacturer data: 4c000908130a0a12f8631b5816080050a7c5e37c304, rssi: -95
Advertised Device: Name: , Address: c1:e3:61:85:b0:a1, manufacturer data: 4c0012026a0007110695da636d2f3a2e3e18b91f0c557f40f, rssi: -10
Advertised Device: Name: , Address: 6e:fb:7a:77:4a:a6, manufacturer data: 4c00090813090a13eb51b5816080060c2345858243, rssi: -97
Advertised Device: Name: , Address: 5b:49:14:5d:d3:0a, manufacturer data: 4c000c0e0835d0b6fe2e5ce8ff049f80d41006491dfc01018, rssi: -97
Advertised Device: Name: , Address: 67:be:16:0e:dc:8b, manufacturer data: 4c0010064a1db45d828, txPower: 12, rssi: -98
Advertised Device: Name: , Address: 57:82:e2:d3:f8:75, manufacturer data: 4c00090813b00a1273a71b581608001c0265d8831b7a, rssi: -95
Advertised Device: Name: , Address: 4b:d2:9e:9a:07:4a, manufacturer data: 4c000c0e0068a12939dc221b8439d04a95351006481d471eec58, rssi: -97
Advertised Device: Name: , Address: 54:c6:49:d2:11:5a, manufacturer data: 4c000c0e000c89c89e62fb42ac52a2f24e6910064a1d4a7aaf68, rssi: -10
Advertised Device: Name: , Address: 70:44:62:51:12:2f, manufacturer data: 4c00071901242002f68f1100083a2608d7062b26646cf98365a561bad9, rssi: -93
Advertised Device: Name: , Address: 77:7a:c4:3f:86:f5, manufacturer data: 4c000c0e00c636f19a767e06b541bf3d3cba10064a1d59c7b378, rssi: -95
Advertised Device: Name: , Address: 68:2a:c5:0f:88:61, manufacturer data: 4c00090813e00a12c9591b58160800fe25e436e9036, rssi: -98
Advertised Device: Name: , Address: 2b:91:b0:b0:46:61, manufacturer data: 0000010f20223b1a8e14cd4003b04eb71ce5a25905f35b3eeaa02b1597, rssi: -97
Advertised Device: Name: , Address: 75:44:62:51:12:2f, manufacturer data: 4c000908138b0a0808b61b581608009c8e4268c99f08, rssi: -80
Advertised Device: Name: , Address: 52:66:ee:4d:dc:7a, manufacturer data: 4c000c0e00ca6730b053ad253834932afcef100641dbdffa918, rssi: -91
Advertised Device: Name: , Address: 45:08:84:f8:ed:f8, manufacturer data: 4c000c0e00ca6730b053ad253834932afcef100641dbdffa918, rssi: -91
Advertised Device: Name: , Address: 77:4a:94:d7:56:56, manufacturer data: 4c000c0e000e01cd68ab1f8eaa79b54cdd6e100641d6a3f9318, rssi: -77
Advertised Device: Name: , Address: 79:4c:cf:00:92:a5, manufacturer data: 4c00090813270a13fd91fb581608001f0dbcf0ab37a2, rssi: -88
Advertised Device: Name: , Address: 42:71:d6:96:b6:e6, manufacturer data: 4c00090813630a13b3d21b581608009e5fd0a8c2bb4, rssi: -91
Advertised Device: Name: , Address: 47:8e:7b:a0:85:78, manufacturer data: 4c0010064a1de7495d18, txPower: 6, rssi: -87
Advertised Device: Name: , Address: 54:c1:4c:d1:61:71, manufacturer data: 4c0010072c1f02eb0add08, txPower: 8, rssi: -91
Advertised Device: Name: , Address: 51:df:0a:7e:4f:f1, manufacturer data: 4c00100731fb8cfce0a48, txPower: 8, rssi: -73
Advertised Device: Name: , Address: c3:09:01:83:22:a1, manufacturer data: 4c0012020003, rssi: -86
Advertised Device: Name: , Address: 7c:ee:6d:65:0a:41, manufacturer data: 4c0010064215a7aed758, txPower: 12, rssi: -89
Advertised Device: Name: , Address: 55:3a:56:aa:7c:2a, manufacturer data: 4c000c0e000879b8126c52c5e152a0d413cb10064f1de0bf1358, rssi: -93
Advertised Device: Name: , Address: 78:3e:7f:12:67:8f, manufacturer data: 4c00090813180a13b0a41b58160800aaf7cfec946f, rssi: -93
Advertised Device: Name: , Address: 61:b2:c2:e9:8f:38, manufacturer data: 4c0010064a1db45d828, txPower: 12, rssi: -10
Advertised Device: Name: , Address: 51:c5:01:da:e6:7a, manufacturer data: 4c00090813de0a13e92a1b581608007eb832a8380fa3, rssi: -95
Advertised Device: Name: , Address: e1:fa:26:4b:73:2e, manufacturer data: 4c0012020003, rssi: -76
Advertised Device: Name: , Address: 56:a0:1a:ae:52:22, manufacturer data: 4c0010064a1de7495d18, txPower: 6, rssi: -94
Advertised Device: Name: , Address: 17:78:cb:fi:81:c4, manufacturer data: 0000010f2022006d701c02f38840779ac746b63630f7fc3ed6c99769e, rssi: -89
Advertised Device: Name: , Address: 41:f5:01:b0:c2:69, manufacturer data: 4c00090813030a12953c1b581608003ff46653dbbfb, rssi: -99
Advertised Device: Name: , Address: 67:93:ea:be:39:73, manufacturer data: 4c000c0e00942c086ad72bdefe1f09fba8b10064b1d2d58a458, rssi: -98
Advertised Device: Name: , Address: 49:35:38:88:ea:bc, manufacturer data: 4c0010064215a7aed758, txPower: 12, rssi: -10
Advertised Device: Name: , Address: ce:6a:9c:b6:a0:99, manufacturer data: 4c0012020003, rssi: -10
Advertised Device: Name: , Address: 60:45:74:f6:49:59, manufacturer data: 4c00100771ffff11e67d48, txPower: 15, rssi: -99
Advertised Device: Name: , Address: 6f:e9:80:ae:fb:f5, manufacturer data: 4c00100731cf69567c6258, txPower: 8, rssi: -10
Advertised Device: Name: , Address: 60:f1:b5:b4:2c:04, manufacturer data: 4c00090813640a1243711b58160800472e5412cf3192, rssi: -10
Advertised Device: Name: , Address: e6:21:db:a3:24:a1, manufacturer data: 4c0012022e01071106613576e526904ab55be90135b5dc6ca, rssi: -95
Advertised Device: Name: , Address: 3b:63:96:a8:85:eb, manufacturer data: 000001092022067dc56ce8429eb86e0b2d2982a44b3e3d0b9e9f84b8a, rssi: -10
Advertised Device: Name: , Address: c9:a4:06:d1:cd:70, manufacturer data: 4c0012020003, rssi: -87
Advertised Device: Name: , Address: 78:00:25:8e:b9:26, manufacturer data: 4c00100731f1f593860c08, txPower: 8, rssi: -92
Advertised Device: Name: , Address: 6c:76:98:30:de:6f, manufacturer data: 4c00071901272021718f1000047be21a6a558b0d992ef186aebbab0635, rssi: -90
Advertised Device: Name: , Address: c7:e2:95:b4:1a:53, manufacturer data: 4c0012020000, rssi: -82
Advertised Device: Name: , Address: 7b:00:19:a8:70:b1, manufacturer data: 4c000c0e00942c086ad72bdefe1f09fba8b10064b1d2d58a458, rssi: -96
Advertised Device: Name: , Address: 55:e2:46:e5:47:e5, manufacturer data: 4c000908136b0a1258521b58160800865ae2613f2fec, rssi: -10
Advertised Device: Name: , Address: e1:4b:34:5f:41:70, manufacturer data: 4c0012020001, rssi: -79
Advertised Device: Name: , Address: c0:19:33:27:c9:19, manufacturer data: 4c0012020003, rssi: -98
Advertised Device: Name: , Address: c6:9a:4f:26:b6:d8, manufacturer data: 4c0012020001, rssi: -98
Advertised Device: Name: , Address: d2:26:c7:c5:75:34, manufacturer data: 4c0012020000, rssi: -89
Advertised Device: Name: , Address: 55:5c:6e:60:01:5f, manufacturer data: 4c001007311f419d32f548, txPower: 12, rssi: -94
Advertised Device: Name: , Address: 59:d1:9e:8f:57:86, manufacturer data: 4c0010060c1dc5e81738, txPower: 11, rssi: -96
Advertised Device: Name: , Address: e8:a8:6a:ec:41:82, manufacturer data: 4c0012020002, rssi: -10
Advertised Device: Name: , Address: c4:dd:06:a2:dc:d1, manufacturer data: 4c0012020001, rssi: -90
Advertised Device: Name: , Address: 4b:b1:7e:88:d1:bc, manufacturer data: 4c0010073a1fd0c1636618, txPower: 8, rssi: -92
Advertised Device: Name: , Address: 59:f5:46:d0:9f:e9, manufacturer data: 4c000c0e0886766fb205b992e931244ec5de1006491da94fe08, rssi: -10
Advertised Device: Name: , Address: 72:2f:2d:32:17:e9, manufacturer data: 4c00100641d5dd1f418, txPower: 12, rssi: -10
Advertised Device: Name: , Address: 60:ea:23:a6:a3:55, manufacturer data: 4c000c0e000879b8126c52c5e152a0d413cb10064f1de0bf1358, rssi: -99
Advertised Device: Name: , Address: 60:b9:2e:a3:41:46, manufacturer data: 4c0010060719c3105548, txPower: 12, rssi: -99
Advertised Device: Name: , Address: 52:16:a3:df:d1:71, manufacturer data: 4c000c0e08fc849d73bf673861e6833f931710064d1d15c3a678, rssi: -10
Advertised Device: Name: , Address: e1:dd:47:b5:1f:c3, manufacturer data: 4c0012020001, rssi: -10
Advertised Device: Name: , Address: 4b:75:75:bf:09:ce, manufacturer data: 4c00160800d94cf527ee7107, rssi: -10
Advertised Device: Name: , Address: f8:30:54:a9:f2:77, manufacturer data: 4c0012020001, rssi: -10
Advertised Device: Name: , Address: d8:52:db:1c:98:d4, manufacturer data: 4c0012020002, rssi: -94
Advertised Device: Name: , Address: dd:c0:d7:58:1b:e4, manufacturer data: 4c0012020001, rssi: -10
Advertised Device: Name: , Address: c7:39:02:09:f4:4e, manufacturer data: 4c0012026601071106a267a6b0a2e7236e517bdc5489f2547, rssi: -89
Advertised Device: Name: , Address: 61:8d:95:b7:81:3a, manufacturer data: 4c0010060719c3105548, txPower: 12, rssi: -98
Advertised Device: Name: , Address: 59:d1:34:67:3d:02, manufacturer data: 4c000f09a0331ba75504419d3210024b08, txPower: 12, rssi: -10
Advertised Device: Name: , Address: e4:a6:4c:d8:1b:d4, manufacturer data: 4c0012026e02071106ceec3cd1bcd3af781762998f758115fd, rssi: -91
Advertised Device: Name: , Address: d3:47:e5:b0:96:81, manufacturer data: 4c0012026a020711068237cee6f7e6ce3cfc34ab6b3951fea, rssi: -91
Advertised Device: Name: , Address: f8:c3:aa:a4:e6:31, manufacturer data: 4c0012020001, rssi: -10
Advertised Device: Name: , Address: 77:e7:24:b0:62:a3, manufacturer data: 4c0010073a1fae954a2d28, txPower: 8, rssi: -91
Advertised Device: Name: , Address: e2:ad:c5:84:2d:c4, manufacturer data: 4c0012020002, rssi: -93
Devices found: 81
Scan done!
Advertised Device: Name: , Address: 70:44:62:51:12:2f, manufacturer data: 4c00071901242002f68f1100083a2608d7062b26646cf98365a561bad9, rssi: -98
Advertised Device: Name: , Address: 55:e2:46:e5:47:e5, manufacturer data: 4c000908136b0a1258521b58160800865ae2613f2fec, rssi: -10
Advertised Device: Name: , Address: 7c:3f:02:0f:81:0d, manufacturer data: 4c000100000000000000000000000000, txPower: 0, rssi: -97

```

2. Successful Connection with Server



3. Server Device: Raw and Denoised sensor data



4. Client device: Current, Maximum, and Minimum Data

```

--- Quit: Ctrl+C | Menu: Ctrl+T | Help: Ctrl+T followed by Ctrl+H
- Found our service
- Found our characteristic
The characteristic value was: 3
We are now connected to the BLE Server.
===== New distance data received =====
Current distance: 3.00
Min distance since connection: 3.00
Max distance since connection: 3.00
=====
===== New distance data received =====
Current distance: 3.00
Min distance since connection: 3.00
Max distance since connection: 3.00
=====
===== New distance data received =====
Current distance: 2.00
Min distance since connection: 2.00
Max distance since connection: 3.00
=====
===== New distance data received =====
Current distance: 8.00
Min distance since connection: 2.00
Max distance since connection: 8.00
=====
===== New distance data received =====
Current distance: 8.00
Min distance since connection: 2.00
Max distance since connection: 8.00
=====
===== New distance data received =====
Current distance: 9.00
Min distance since connection: 2.00
Max distance since connection: 9.00
=====
===== New distance data received =====
Current distance: 10.00
Min distance since connection: 2.00
Max distance since connection: 10.00
=====
===== New distance data received =====
Current distance: 10.00
Min distance since connection: 2.00
Max distance since connection: 10.00
=====
===== New distance data received =====
Current distance: 10.00
Min distance since connection: 2.00
Max distance since connection: 10.00
=====
===== New distance data received =====
Current distance: 11.00
Min distance since connection: 2.00
Max distance since connection: 11.00
=====
===== New distance data received =====
Current distance: 12.00
Min distance since connection: 2.00
Max distance since connection: 12.00
=====
===== New distance data received =====
Current distance: 14.00
Min distance since connection: 2.00
Max distance since connection: 17.00
=====
===== New distance data received =====
Current distance: 16.00
Min distance since connection: 2.00
Max distance since connection: 17.00
=====
===== New distance data received =====
Current distance: 19.00
Min distance since connection: 2.00
Max distance since connection: 19.00
=====
===== New distance data received =====
Current distance: 20.00
Min distance since connection: 2.00
Max distance since connection: 20.00
=====
===== New distance data received =====
Current distance: 23.00
Min distance since connection: 2.00
Max distance since connection: 23.00
=====
===== New distance data received =====
Current distance: 26.00
Min distance since connection: 2.00
Max distance since connection: 26.00
=====
===== New distance data received =====
Current distance: 28.00
Min distance since connection: 2.00
Max distance since connection: 28.00
=====

```