

Multi-Robot Localization Update

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Outline

- ▶ Goals from Last Meeting
- ▶ Goals Achieved
- ▶ Issues
- ▶ Goals for Next Week
- ▶ Priority List
- ▶ Questions

Goals from Last Meeting

- ▶ Get the PC to read the Zigbee boards
- ▶ Get the Beagle Bone connected to the USB interface and reading information
- ▶ Get three Zigbee boards connected in a network and communicating properly

Goals Achieved

- ▶ Get the (Microsoft)PC to connect and send messages to the Zigbee boards
- ▶ Get three Zigbee boards connected in a network and communicating properly
- ▶ Ran into issue for getting the BBB to connect to the Zigbee board

PC Communication

```
Windows PowerShell
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PS C:\Users\Caleb Lu> $port= new-Object System.IO.Ports.SerialPort COM8,9600,None,8,one
PS C:\Users\Caleb Lu> [System.IO.Ports.SerialPort]::getportnames()
COM8
PS C:\Users\Caleb Lu> $port.Open()
PS C:\Users\Caleb Lu> [Byte[]]$request= 0x7E, 0X00,0X0F,0X17,0X01,0X00,0X00,0X00,0X00,0X00,0XFF,0XFF,0XFF,0XFE,0X02,0X64,0X62,0X24
PS C:\Users\Caleb Lu> $port.Write($request,0,$request.Count)
PS C:\Users\Caleb Lu> $port.ReadByte()
126
PS C:\Users\Caleb Lu> $port.ReadByte()
0
PS C:\Users\Caleb Lu> $port.ReadByte()
16
PS C:\Users\Caleb Lu> $port.ReadByte()
151
PS C:\Users\Caleb Lu> $port.ReadByte()
1
PS C:\Users\Caleb Lu> $port.ReadByte()
0
PS C:\Users\Caleb Lu> $port.ReadByte()
19
PS C:\Users\Caleb Lu> $port.ReadByte()
162
PS C:\Users\Caleb Lu> $port.ReadByte()
0
PS C:\Users\Caleb Lu> $port.ReadByte()
65
PS C:\Users\Caleb Lu> $port.ReadByte()
99
PS C:\Users\Caleb Lu> $port.ReadByte()
14
PS C:\Users\Caleb Lu> $port.ReadByte()
67
PS C:\Users\Caleb Lu> $port.ReadByte()
0
PS C:\Users\Caleb Lu> $port.ReadByte()
1
PS C:\Users\Caleb Lu> $port.ReadByte()
100
PS C:\Users\Caleb Lu> $port.ReadByte()
98
PS C:\Users\Caleb Lu> $port.ReadByte()
0
```

Issues/Pictures

- ▶ BBB was used in the mechatronic class and the student changed the root password
 - Need to reset the board
 - Tried passwords of:
 - root
 - temppwd
 - debian
 - (Nothing)

```
login as: root
root@192.168.7.2's password:
Access denied
root@192.168.7.2's password:
Access denied
root@192.168.7.2's password:
Access denied
root@192.168.7.2's password:
Access denied
root@192.168.7.2's password:
Access denied
root@192.168.7.2's password:
```

Issues / Pictures

- ▶ Another slight issue is that I need another interface board to do some testing.
- ▶ One board is connected to my PC, so I can not read the values sent to the other board. Can manage without, but would make things easier.
- ▶ Also need to figure out how to parse incoming data. Have been using XCTU frame interpreter.

Goals for Next Week

- ▶ Get Communication between BBB and the USB interface board
- ▶ Write C code to send and receive messages
 - Properly parse messages to interpret message
 - Send and receive specific message to a beacon

Specific Actions

- ▶ Need to figure out how to reset the root password to apply some settings/set internet access
- ▶ Write C code for 2 features
 - Receiving and sending data
 - Parsing incoming data and interpret that data into usable information

Priority List

1. BBB communication to interface board
2. C code for communication
3. C code for parsing and interpreting information

Questions?