

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 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

Goals Achieved

- ▶ Started Writing c code to send and receive commands/bytes

```
#include <stdio.h>
#include <unistd.h>
#include <fcntl.h>
int main() {
    int tx_byte[8] = {0x7E, 0x00, 0x04, 0x08, 0x01, 0x64, 0x62, 0x30};
    int rx_byte[100]={0};
    int *buff,*rx;
    int fd = open("/dev/pts/0", O_RDWR);
    int i;
    rx = rx_byte;
    buff = tx_byte;
    write(fd, &buff, 8);

    ssize_t size = read(fd, &rx, 7);
    for(i = 1; i<sizeof(rx);i++)
        printf("Read byte %X\n", rx[i]);
    return 0;
}
```

Issues/Pictures

```
debian@beaglebone:~/localization$ ./a.out
t%  
Read byte 1B6FD  
Read byte 0  
Read byte A3FB0000  
Read byte 3341B6FB  
debian@beaglebone:~/localization$ nano app_com.c  
debian@beaglebone:~/localization$ gcc app_com.c  
debian@beaglebone:~/localization$ ./a.out  
tu  
Read byte 1B6FE  
Read byte 0  
Read byte C3FB0000  
Read byte 3343B6FC  
debian@beaglebone:~/localization$ nano app_com.c  
debian@beaglebone:~/localization$ gcc app_com.c  
debian@beaglebone:~/localization$ ./a.out  
tPuTTY  
Read byte 54547550  
Read byte 54547554  
Read byte 54547558  
Read byte 5454755C  
debian@beaglebone:~/localization$ ./a.out  
t%  
Read byte BED2240A  
Read byte BED2240E  
Read byte BED22412  
Read byte BED22416  
debian@beaglebone:~/localization$ ./a.out  
t  
Read byte BE93D40A  
Read byte BE93D40E  
Read byte BE93D412  
Read byte BE93D416  
debian@beaglebone:~/localization$ ./a.out
```

```
debian@beaglebone:~/localization$ ./a.out  
t对t对t对t对  
Read byte BEAF  
Read byte 1F180000  
Read byte B6F5  
Read byte 4B180000  
debian@beaglebone:~/localization$ tty  
/dev/pts/0  
debian@beaglebone:~/localization$ nano app_com.c  
debian@beaglebone:~/localization$ ./a.out  
tutututututu  
Read byte BEF8  
Read byte 5F180000  
Read byte B6F3  
Read byte 8B180000  
debian@beaglebone:~/localization$ gcc app_com.c  
debian@beaglebone:~/localization$ ./a.out  
tsttsttst  
Read byte BED8  
Read byte 6F180000  
Read byte B6FC  
Read byte 9B180000  
debian@beaglebone:~/localization$ nano app_com.c  
debian@beaglebone:~/localization$ gcc app_com.c  
debian@beaglebone:~/localization$ ./a.out  
t  
Read byte BF180000  
Read byte B6FD  
Read byte EB180000  
debian@beaglebone:~/localization$ nano app_com.c  
debian@beaglebone:~/localization$ gcc app_com.c  
debian@beaglebone:~/localization$ ./a.out  
tE  
Read byte CF180000  
Read byte B6F9  
Read byte FB180000
```

Issues / Pictures

Connected to
interface board



Disconnected to
interface board



Connected to
interface board



```
debian@beaglebone:~/localization$ tty
/dev/pts/0
debian@beaglebone:~/localization$ tty
/dev/pts/0
debian@beaglebone:~/localization$ tty
/dev/pts/0
debian@beaglebone:~/localization$ tty
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debian@beaglebone:~/localization$ tty
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/dev/pts/0
debian@beaglebone:~/localization$ tty
/dev/pts/0
debian@beaglebone:~/localization$ tty
/dev/pts/0
debian@beaglebone:~/localization$ tty
```

Goals for Next Week

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

Questions?