

Micro:bit Project Sheet 15

Success Criteria

- Send a data signal between 2 Micro:bit
- BE able to configure a Micro:bit to send and receive over wireless BT

C++ SENDING Micro:bit

```
send.cpp x
1 #include "MicroBit.h"
2
3 MicroBit uBit;
4
5 int main()
6 {
7     uBit.init();
8     uBit.radio.enable();
9
10    while(1)
11    {
12        if (uBit.buttonA.isPressed())
13            uBit.radio.datagram.send("A");
14
15        else if (uBit.buttonB.isPressed())
16            uBit.radio.datagram.send("B");
17
18        uBit.sleep(100);
19    }
20 }
```

C++ Receiving Micro:bit

```
recieve.cpp x
1 #include "MicroBit.h"
2
3 MicroBit uBit;
4
5 void onData(MicroBitEvent e)
6 {
7     ManagedString s = uBit.radio.datagram.recv();
8
9     if (s == "A")
10    {
11
12        uBit.display.print("A");
13    }
14
15    if (s == "B")
16    {
17
18        uBit.display.print("B");
19    }
20 }
21
22 int main()
23 {
24     uBit.init();
25     uBit.messageBus.listen(MICROBIT_ID_RADIO, MICROBIT_RADIO_EVT_DATAGRAM, onData);
26     uBit.radio.enable();
27
28     while(1)
29         uBit.sleep(1000);
30 }
```

Testing

- Press Button A on Sender A appears on receiver
- Press Button B on Sender B appears on receiver

Notes

#1 This code is taken directly from the sample from <http://lancaster-university.github.io/microbit-docs/ubit/radio/>

#2 You will need to import the Microbit.h file in Mbed—see Project 13

#3 You will need to disable the BLE stack to enable the BT radio (change `#define MICROBIT_BLE_ENABLED 0` in your `inc/MicroBitConfig.h` file.) See the hints and tips page for detail