

## **Exercise Nr. 8 (Project)**

### **Wireless data communication between two dev boards**

### **Micro-Controller Techniques – 2017 winter semester**

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#### **Hardware Requirements:**

1. Two development boards (MSP430g2553)
2. Two bluetooth modules.

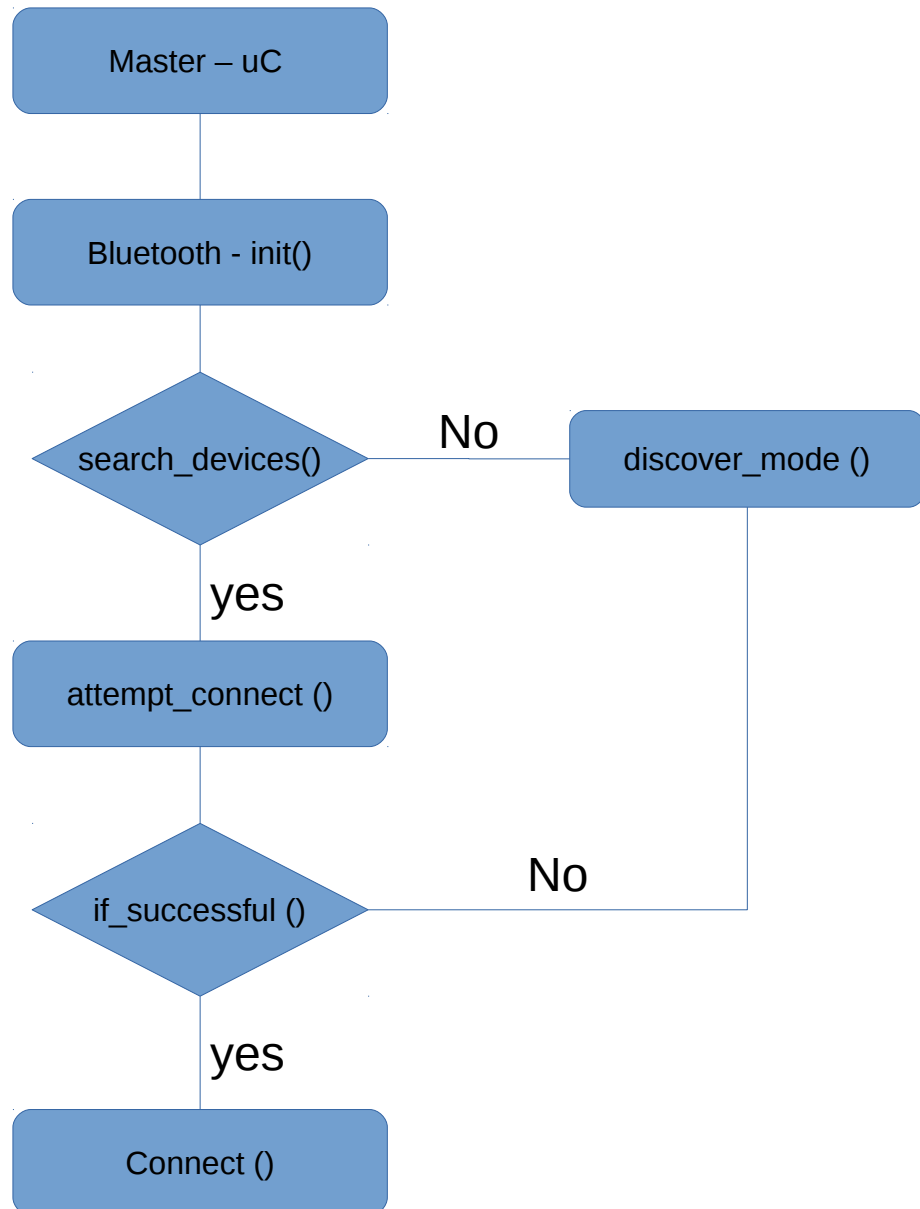
#### **Implementation Requirements:**

1. Realization of a radio wireless data communication between two dev boards (MSP430g2553) using bluetooths. Using the serial interface, the communication should be realized by sending the messages explicitly and full-duplex.
2. Communication topology will most likely to be P2P (Peer to Peer).
3. Implementation of the error detection either using parity bit or CRC.
4. Implementation of the flow control to manage and monitor the serial interface buffer so it should not overflow indicating by alarming (using LED).

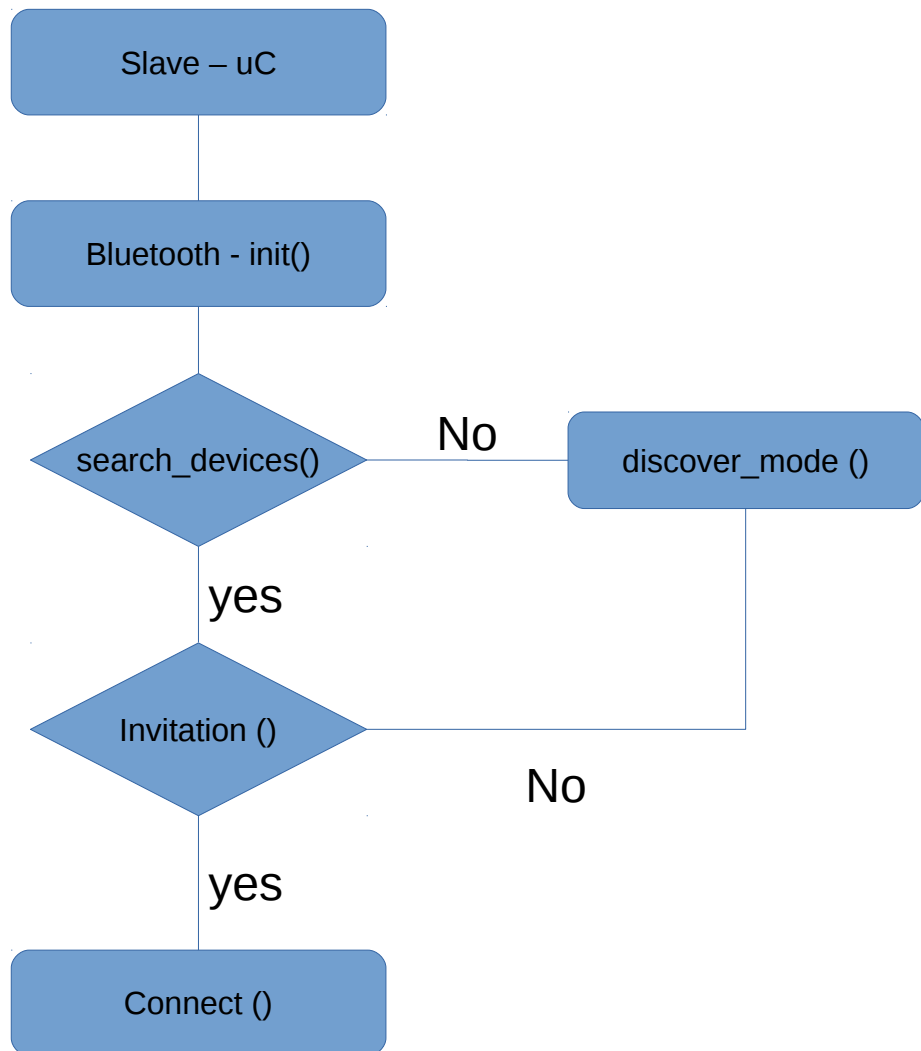
#### **Software Implementation:**

We will be using each bluetooth module with each development board (MSP430g2553). According to the bidirectional communication both sides of the communication has to be full-duplex. One development board with a bluetooth module has to be Master and initiate the communication. Other side being a slave receive the signal from the Master and acknowledges it and links the communication channel up. There could be developed sort of an algorithm (e.g Parity check or CRC) to detect the error in communication and repeat the sending data until it is received correctly. The followings are the flowcharts of Master and Slave sides.

**Master initiates signaling and start searching for devices to pair up.**



**Slave searches for devices as well, but waits for the signal initiation from Master and connects.**



**Communication between Master and Slave using either Parity bit or CRC.**

