HOW TO OPERATE THE ROBOTIC ARM(README.TXT FILE)

**COMPONENTS WE NEED:**

* **Arduino Uno (or compatible board)**
* **A computer with latest version of the Arduino IDE installed**
* **An Android smartphone with Bluetooth capability**
* **Bluetooth Module. It is a cheap Bluetooth module that can be purchased from many retailers online.**
* **THE MIT APP INVENTOR  has to be installed, so we have a simple way of sending commands to the Arduino from our phone.**

**CONNECTION:**

**Step 1: The Arduino Sketch**

**We need a simple sketch that will do the following:**

* **Establish a serial connection between the Arduino and the Bluetooth module**
* **Listen for input on the serial port and process it**

**Step 2: hooking up the Bluetooth module to the Arduino Uno**

**The BLUETOOTH module communicates with the Arduino via a serial connection. It has four pins that we will be using:**

* **VCC is used to power the module.  It needs to be connected to the Arduino 5v pin.**
* **GND is the ground pin. It needs to be connected to the Arduino Ground pin**
* **TXD is used to send data from the module to the Arduino. It needs to be connected to the serial receive pin (RX) of the Arduino, which is pin 0 in case of the Uno. If you are using a different Arduino board, check its schematics to make sure you have the right pin.**
* **RXD is used to receive data from the Arduino. It needs to be connected to the the Arduino serial transmit pin (TX) , which is pin 1 in the case of Arduino Uno.**
* **We will not be using the “STATE” and the “KEY” pins of the Bluetooth module, so they will not be connected.**

**Step 3: Preparing the Android phone**

* **Install the MIT APP INVENTOR to your phone.**
* **Make sure that Bluetooth is active and enabled on your phone. Follow the settings menus on your phone, the Bluetooth settings should be under “Wireless and Networks” category.**

**Step 4: The testing part**

**Finally it is time to test our set-up!**

1. **Power up the Arduino Uno (and the Bluetooth module).**
2. **Pair the module with your phone. The defaults for the Bluetooth module are:  
   Default Name: botarm  
   Default Pairing code: 1234**
3. **Once you have successfully paired your phone and the BlueTooth module, open Blueterm.**
4. **Connect to the Bluetooth module (default name botarm) from the Blueterm menu. You should see a message that the connection was successfully established.**