**Low-cost movable robot arm playing chess**

**A close up of a device

Description automatically generated**

**1.** Follow the below fritzing representation to connect all the hardware components. A circuit board

Description automatically generated

**2.** Once the connection is made,

* Open Arduino IDE
* Open the source code servo\_bluetooth.ino
* Upload the code to the Arduino UNO

3. Once the code is uploaded,

* Open android phone and turn on the Bluetooth
* Open the android application
* Connect to HC-05 from the list of available Bluetooth devices

4. Once the connection is established,

* Use the sliders to control the movement of the robot arm.

**A picture containing indoor, table

Description automatically generated**

**5.** Open Arduino IDE,

* Open pantilt\_pixy2.ino and upload the code to the Arduino
* Open PixyMon and set the signatures for the desired object
* Once the objects are set, they are tracked and detected by the camera.
* Open serial monitors in the Arduino IDE for results, the detected objects are tracked in the baud rate of 115200 bps.

**A screen shot of a computer

Description automatically generated**

**Note:**

* All the UML diagrams are drawn in an online site called <https://www.draw.io/>
* Android application is created using the online app inventor called MIT App Inventor [http://appinventor.mit.edu/explore/#](http://appinventor.mit.edu/explore/)
* To open the file online, open the android app.aia file to view the file in the MIP App Inventor.