**AQUA GOLD**

**ABOUT**

This is a simple application for switching electrical appliances ON or OFF. This application uses very basics of IOT (Internet Of Things), using Mobile’s Bluetooth to connect to Arduino ( A Computer Which Interacts With Physical Environment ).

It has already a saved default device to communicate whose address is saved within application.

Use of this system is mainly at two places:

1. Where physical switch board or switches cannot be applied due to high risk of water interference like outdoors, in garden or areas exposed to weathering effect,
2. For switches which are not often used.

**MACHINES**

Total Machines currently installed:

1. Water Pump
2. RGB Lights
3. Temperature Sensor

**CODING**

**Data sending format :**

1. Data would be sent in packets.
2. Each packet would be consisting of numbers.
3. Code would be written in reverse (for easy decrypt process ).
4. Packet for **MACHINE** would be starting from # and ending in ,
5. Example: #10,
6. OFF state : 0
7. ON state : 1
8. Packet for **LIGHTS (RGB)** would be starting from C and ending in ,
9. Example:CR50, // R is for color Red
10. Three colors (Red,Green,Blue) intensity can be varied

**Bluetooth AT Commands :**

**To go to AT command Mode make all the connections (of HC-05) then before plugging in your arduino to your computer press hold onto the ‘COMMAND MODE’ button and then power in your arduino.**

**Led will start blinking at every 2 second interval, if so you have successfully entered AT Command Mode.**

1. Default Settings : AT+ORGL
2. Get Version : AT+VERSION
3. Change Name (say MYBLUE): AT+NAME=MYBLUE
4. Change Password (say 2387): AT+PSWD=2387
5. Change Baud Rate (say 115200): AT+UART=115200,1,0

Where 1 is stop bit and **0 is parity.**

**Also the maximum baud rate of blue-tooth module HC05 is 13,82,400.**

**CURRENT PASSWORD : GOLDINWATER**

**BUBBLES (ARDUINO)**

**PINS AND CONNECTIONS:**

1. 3 : Red Color Intensity Transistor (OUTPUT)
2. 5 : Green Color Intensity Transistor (OUTPUT)
3. 6 : Blue Color Intensity Transistor (OUTPUT)
4. 8: Flow Machine (OUTPUT)
5. 7: LED Module Machine (OUTPUT)
6. 9: Temperature Sensor Wire (INPUT)
7. 10: Bluetooth RX (COMM. IN)
8. 11:Bluetooth TX (COMM. OUT)
9. 2,12:Power Pin (OUTPUT)
10. 4:Ground Pin (INPUT)

**COST ESTIMATION**

1. 12 Foot Wire Concealer, 10 Feet Dual Core Wire(1) + 6m Dual core wire(2) (150 + 140)
2. AC to DC converter adapter (130)
3. PVC Box (760)
4. LED Strip (500)

**TOTAL : 1,680**