oT with MIT App Inventor

Fundamental

\$ hciconfig | grep "BD Address"

MAC address: A media access control address (MAC address) is a unique identifier assigned to a network interface controller (NIC) for use as a network address in communications within a network segment. This use is common in most IEEE 802 networking technologies, including Ethernet, Wi-Fi, and Bluetooth.

```
Decode MAC to ASCII (utf-8 in python 3)
                          #
                   decode Pi signal/data
              #-----
                         try:
                       while True:
     data = client.recv(1024)
                                  # Recieve data bytes
         if data.decode('utf-8') == '1':
                                      #1 received
            GPIO.output(LED, 1) # LED ON
        elif data.decode('utf-8') == '0':
                                      # 0 received
            GPIO.output(LED, 0)
                                      # LED OFF
                                   # Keyboard interrupt
except KeyboardInterrupt:
                      client.close()
                        s.close()
```

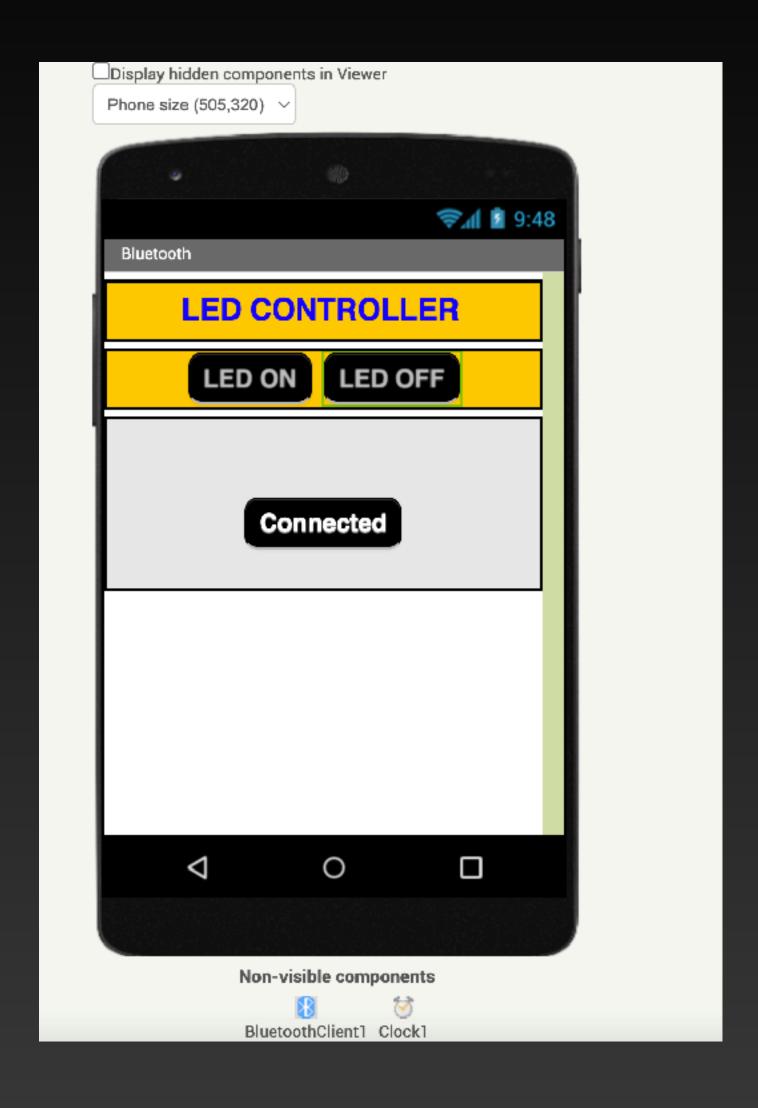
```
#
                                                         # start of the main program loop, read commands from
    decode Pi signal/data
                                                         # the android mobile phone, decode them and control LED
try:
                                                         Port = 1
 while True:
   data = client.recv(1024)
                              # Recieve data bytes
                                                         MAC = 'DC:A6:32:8E:OF:3E'
   if data.decode('utf-8') == '1':
                              #1 received
                                                         S =
     GPIO.output(LED, 1)
                              # LED ON
                                                         socket.socket(socket.AF_BLUETOOTH,socket.SOCK_STREA
    elif data.decode('utf-8') == '0':
                               # 0 received
                                                         M, socket.BTPROTO_RFCOMM)
     GPIO.output(LED, 0)
                              # LED OFF
                                                         s.bind((MAC, Port))
                                 # Keyboard interrupt
except KeyboardInterrupt:
                                                         s.listen(1)
  client.close()
                                                         client, addr = s.accept()
 s.close()
```

```
try:
  while True:
    data = client.recv(1024)
                                     # Recieve data bytes
    if data.decode('utf-8') == '1':
                                    #1 received
       GPIO.output(LED, 1)
                                    # LED ON
    elif data.decode('utf-8') == '0':
                                      # O received
       GPIO.output(LED, 0)
                                    # LED OFF
except KeyboardInterrupt:
                                        # Keyboard interrupt
  client.close()
  s.close()
```

LED Control App - Bluetooth

Pair the RaspberryPi on your Android phone

LED control through bluetooth



```
when ListPicker1 .BeforePicking
  set ListPicker1 - . Elements - to | BluetoothClient1 - . AddressesAndNames -
when ListPicker1 ▼ .AfterPicking
address (ListPicker1 - Selection -
    then set ListPicker1 ▼ . Selection ▼ to BluetoothClient1 ▼ . AddressesAndNames ▼
when Clock1 - .Timer
do 📋 if 📗 BluetoothClient1 🔻 . IsConnected 🕶
    then set LabelStatus . Text to Connected
          set LabelStatus - . TextColor - to
    else set LabelStatus . Text to . Disconnected ...
          set LabelStatus . TextColor to
 when ButtonOn . Click
            BluetoothClient1 ▼ . IsConnected ▼
    then set ButtonOn ▼ . TextColor ▼ to
          set ButtonOff . TextColor to
          call EluctoothClient1 - Send1ByteNumber
                                      number (49)
 when ButtonOff .Click
            BluetoothClient1 - IsConnected -
    then set ButtonOff . TextColor to
          set ButtonOn . TextColor to
          call BluetoothClient1 ▼ .Send1ByteNumber
                                             Send a 1-byte number to the conne
```

Home project - Develop app to control your LED ON/OFF through Voice