# Getting the video stream into Android Mobile

Get the live camera stream (from Edimax IC-3030Wn (referes as IPCam)) onto mobile (Sony Ericson MT11i OS- Android 2.3.4 (refered as Mobile)).

After 2 days to tweaking with a lot of softwares, we could finally get the live videostream onto mobile.

Steps Involved:

(IP settings tested in ERTS Lab)

- Reset the IPCam, by press the Reset button on its bottom for 5 seconds.

will reset the IP Address of Camera to 192.168.2.3

- Install the IPCam Admin Utility on your PC from accompanied CD.

- Connect the IPCam to your PC via LAN wire.

- Change your network connection details as

IPv4 Address 192.168.2.1

IPv4 Subnet Mask 255.255.255.0

IPv4 Default Gateway blank

IPv4 DNS Server blank

- Start the Admin Utility.

- You should find the Camera listed.

- Select your camera and Click on Configure Camera.

It will ask for username password. (By default they are "admin" , "1234")

You may use this interface to change the IP address of IPCam and its authentication details.

Remember to set it so that both your PC and IPCam belong to same network (i.e., first 16/24 bits of IP Address)

- Click Browse Camera via web.

You should see IE popping up showing live stream from your camera.

(It will again ask for authentication, use the same as above(unless previously changed))

- Open a command prompt in your PC (as Administrator).

Enable WiFi on your PC and type the following commands in it.

> netsh wlan set hostednetwork mode=allow ssid="<someuname>" key="<somepass>"

(you only need to do this once)

> netsh wlan start hostednetwork

(everytime you start your WLAN network adapter)

- Now click on `Network` > `WLAN` Tab of IE.

- Click `Refresh` button.

- You should see a network called <someuname> listed in it - select it

- Type <someuname> in SSID.

- Select authentication as WPA2-PSK

- Encryption Type AES.

- WPA Pre-shared key as <somepass>

- Scroll down and click on `Apply`.

- Now Disconnect the LAN Wire and refresh the browser.

You should still be able see the video.

Congrats your are half-way through your settings

- (The next few steps are optional but are recommended)

- Open `Network`>`Lan` tab in browser.

- Set the following (only for ERTS Lab, haven't checked outside)

Network Type : Staic IP Address

IP Address : 192.168.137.16

(You need to connect some other Laptop to your <someuname> network and obtain there details. Change the last 8-bits)

Subnet Mask : 255.255.255.0

Gateway : 192.168.137.1

Primary DNS : 192.168.137.1

Secondary DNS :

Web Port : 80

- Click `Apply`.

- Connect your PC to Local Network via Ethernet cable.

- Set the IP address.

(For ERTS Lab)

IPv4 Address 10.129.154.194

IPv4 Address 10.129.154.143

IPv4 Subnet Mask 255.255.128.0

IPv4 Default Gateway10.129.250.1

IPv4 DNS Server 10.129.1.1

- Set your WLAN Wireless Network Connection 2 's IPv4 Address as

IP Address : 192.168.137.1

Subnet Mask : 255.255.255.0

Gateway : blank

Primary DNS : blank

- Restart your IPCam and WiFi Adapter.

- Refresh your browser and see whether you can still get the video stream.

- Connecting yout mobile to <someuname> network.

( Wondering how can an Adhoc connection be used to connect Mobile?

<someuname> network which was setup previously is not an Adhoc but an Interface mode WiFi network.

Hence effectively your PC behaves as a router and you can even connect your Android mobile to it. Works like a charm. :))

- Open Opera Mobile browser. (other browsers might not support the mjpg format)

- Use following links to get live stream.

http://192.168.137.16/snapshot.jpg?dummy=<somerandomnumber> - to get the current snapshot from the IPCam

http://192.168.137.16/mjpg/video.mjpg - to get Live Video Streaming

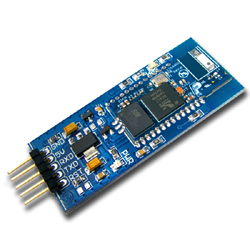
http://192.168.137.16/ipcam.

- Trouble Shooting with IPCam - reset it(no other way :P) and begin from the start.

# Bluetooth Module

Fix it int UART 3

Same as Zigbee installation



# Gripper Arm Construction

SETUP AND EXTENSIONS ON THE ROBOT

The gripper is a small attachment made of plastic, thermocol and servo motors for

gripping the ball. The image of the gripper is shown in the figure below.

Materials required for making gripper are:

• Two toothed gear wheels.

• Plastic strips.

• Thermocol.

• Metal strips for holding the two wheels together.

• Three servo motors.

Two arms of the gripper are attached together using a gear arrangement. A servo

motor is connected to one of the gear wheel. When this servo motor rotates, both the arms

move due to the presence of gear wheels. A thermocol attachment is provided on the gripper

for better catch. Actual photo of the gripper is shown below.

Then a thermocol attachment is fixed on the front of the firebird for holding the

camera and the Sharp IR sensors. Two Sharp IR sensors are used for better accuracy (the two

wheels may not move by equal distance on forward movement. So these two sensors take

care of the sideward movement up to certain extend).

Placing the camera at this height gives better view of the arena. The camera is placed

just above the IR sensors. The diagram of the robot with all the attachment is shown below.

