Surveillance By Vehicle With Wifi And Bluetooth Control

First Review

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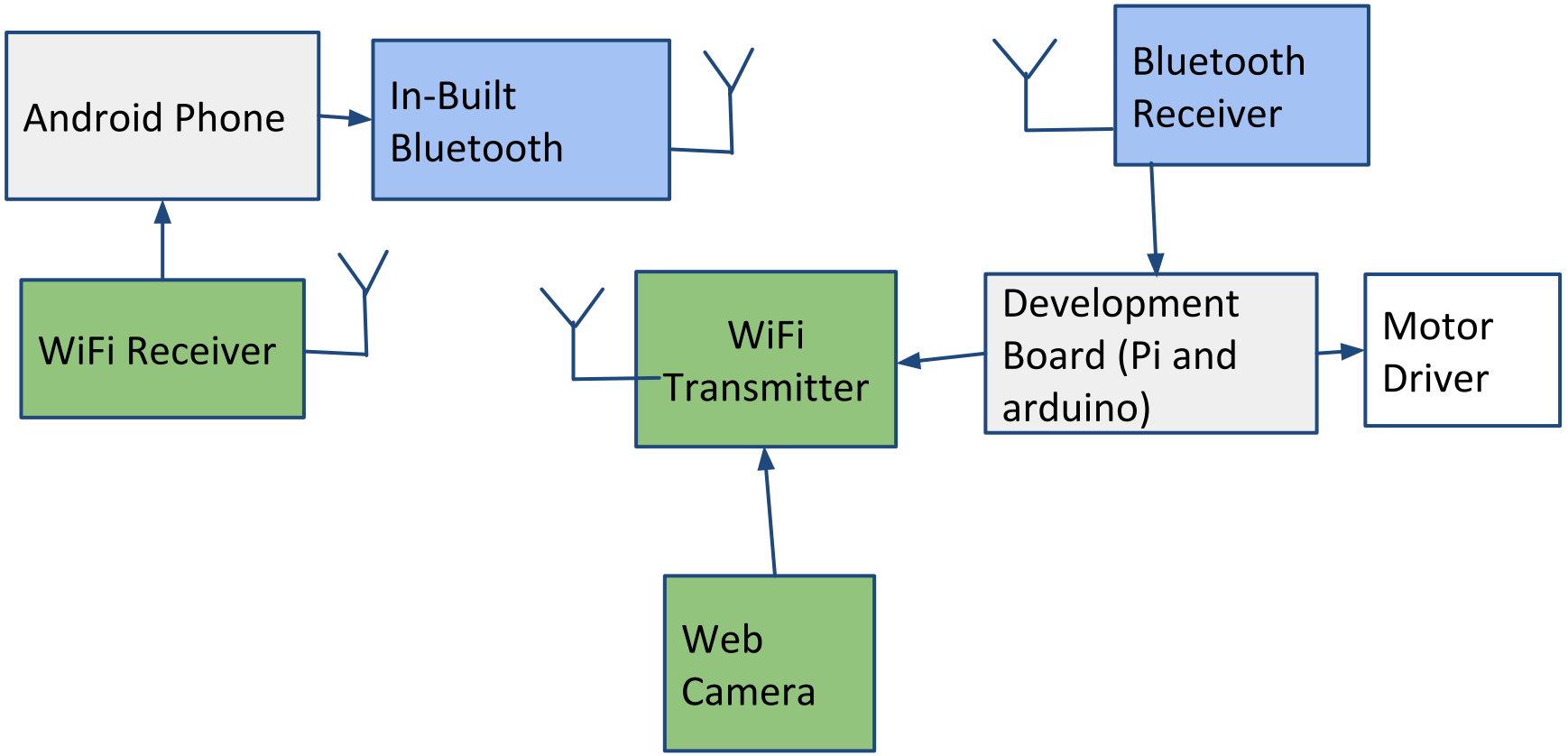
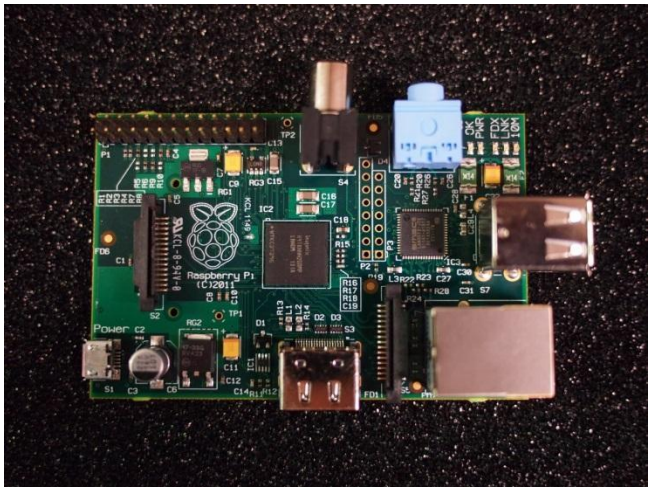
Block Diagram



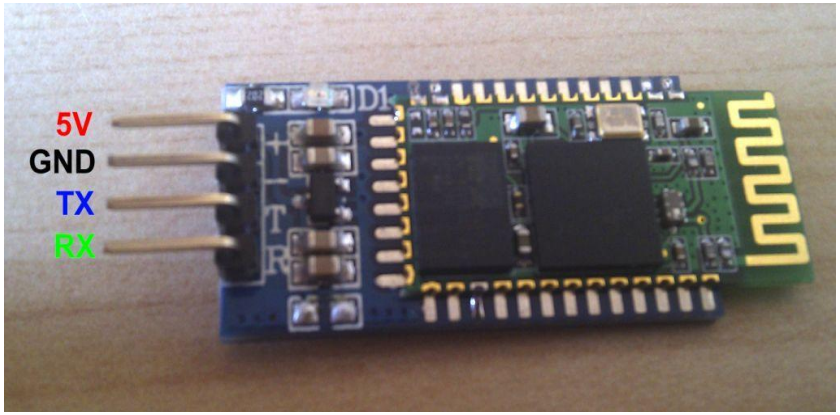
Boards Used

Rasberry Pi-B(Wi-Fi)

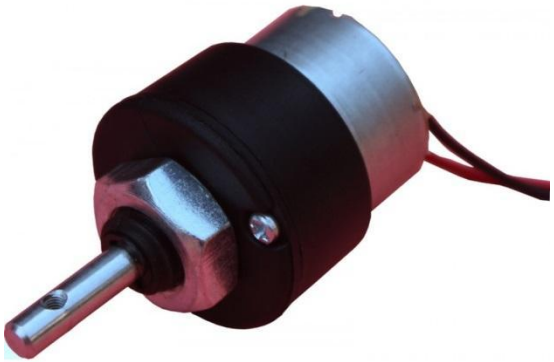


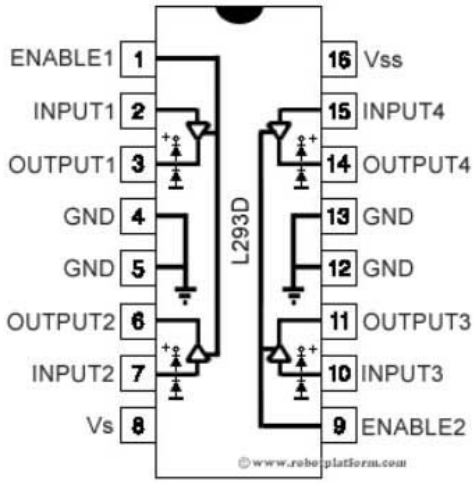
Arduino Development board (Bluetooth Interface)

Bluetooth Module (BT02)



DC Motor (150rpm)





L293D Motor Driver IC

FOR VIDEO STREAMING

```
sudo apt-get upgrade
sudo apt-get update
sudo apt-get install gstreamer-tools gstreamer0.10-plugins-bad gstreamer0.10-plugins-good v4l-u
sudo apt-get install tcsh
```

script *gst-server.sh*

```
#!/bin/tcsh
set myip=192.168.0.103
set port=5000
set width=320
set height=240
gst-launch\
  v4l2src !\
  ffmpegcolorspace !\
  video/x-raw-yuv,width=${width},height=${height},framerate=\(fraction\)30/1 !\
  jpegenc !\
  tcpserversink host=${myip} port=${port} sync=false
 chmod u+x gst-server.sh
```

For WLAN configuration

sudo apt-get install bridge-utils hostapd

Sudo mv /usr/sbin/hostapd /usr/sbin/hostapd.original

sudo mv hostapd /usr/sbin/hostapd.edimax

sudo ln -sf /usr/sbin/hostapd.edimax /usr/sbin/hostapd

sudo chown root.root /usr/sbin/hostapd

sudo chmod 755 /usr/sbin/hostapd

sudo nano /etc/network/interfaces

auto br0

iface br0 inet dhcp

bridge_ports eth0 wlan0

sudo nano /etc/hostapd/hostapd.conf

interface=wlan0

driver=rtl871xdrv

bridge=br0

ssid=[NETWORK NAME]

channel=6

wmm_enabled=0

wpa=1

wpa_passphrase=[PASSWORD]

wpa_key_mgmt=WPA-PSK

wpa_pairwise=TKIP

rsn_pairwise=CCMP

auth_algs=1

macaddr_acl=0

sudo shutdown -r now

dnsmasq settings

hostapd is to make it RPi as access point.

sudo apt-get install dnsmasq

sudo service dnsmasq stop

new configuration file.

sudo mv /etc/dnsmasq.conf /etc/dnsmasq.conf.original

sudo touch /etc/dnsmasq.conf

interface=wlan0

expand-hosts

- domain=local
- dhcp-range=10.0.0.10,10.0.0.20,24h
- dhcp-option=3,10.0.0.1
- sudo nano /etc/network/interfaces

#auto br0

#iface br0 inet dhcp

#bridge_ports eth0 wlan0

iface wlan0 inet static

address 10.0.0.1

network 10.0.0.0

netmask 255.255.255.0

broadcast 10.0.0.255

sudo shutdown -r now

Work Yet To Be Done

- To complete Programming of the android application.
- Creating the chassis for the Vehicle.
- Interfacing Bluetooth Module to Development board.

Work Completed

- Setting up and running Raspberry pi.
- Configuring Wireless adapter to raspberry pi.
- Setting up the Wireless adapter as local access point.
- Configuring the web camera to the Raspberry pi.
- Connecting it to the Mobile phone as an access point by setting up SSID and WPA password.

Thank You