

**A**

**Project Report On**

**Wireless Spy Car With Camera**

**By**

Mr. Shiva Shinde

Mr.Sandesh Gajare

Mr.Sarvesh Pathak

Mr.Kiran Athare

Mr.Akash Kokil

**Guided By**

Mrs.Manisha Birnale



**Computer Technology Department**

**GOVERNMENT POLYTECHNIC, AHMEDNAGAR,**

**2017-2018**

**MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION**

**MUMBAI (M.S)**



**Maharashtra State Board  
Of Technical Education**

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**GOVERNMENT POLYTECHNIC, AHMEDNAGAR,**

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# **CERTIFICATE**

This is to certify that the project entitled “**Wireless Spy Car With Camera**” has been carried out by

1. Shiva Shinde
2. Sandesh Gajare
3. Sarvesh Pathak
4. Kiran Athare
5. Akash Kokil

under my guidance in partial fulfillment of the diploma of Computer Technology of Government Polytechnic Ahmednagar during academic year 2017-2018. To the best of my knowledge and belief this work has not been submitted elsewhere for the award of any other Diploma.

**H.O.D**

**(Mr.S.D.Muley)**

**Principal**

**(Mr. M.S.Satarkar)**

**Project Guide**

**(Mrs.Manisha Birnale)**

**Examiner**

# Acknowledgement

*We take this opportunity to thanks our guide **Mrs.Manisha Birnale** for placing this idea in our mind and giving marvelous suggestions from the platform of this project.*

*The project title “Wireless Spy Car With Camera” would not have been completed without the valuable guidance and encouragement of Mr.M. F. Solunke, Mrs.S. B. Chavan, Mr.R.D.Kokare, Mrs.P.R. Rangdal, Mr.Nilesh Patil, Mr.V.B.Patil, Mr.N.B.Nake, Miss.V.B. Savdekar, Mrs.S.S. Age, Mr. Ansari , Mrs. N.S.Tadvi and others.*

*We express my gratitude to Mr. S. D. Muley, Head of Computer Technology Department, for his constant encouragement, cooperation and support.*

*We would also like to thank our principal Mr. M. S. Satarkar for his warm support and providing all necessary facilities to us.*

*Finally, we would also like to thank our classmates for continuously inspiring us to complete this project.*

*Name of students*

Shiva Shinde  
Sandesh Gajare  
Sarvesh Pathak  
Kiran Athare  
Akash Kokil

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# Abstract

*The Project “Wireless Spy Car with Camera ” is an idea of good defence,as well as Spying ability . This project consist an ability of spying in remote areas,as well as in man less survillience , in war areas etc . This project can be used in Defence as well as Private Spying.*

*It consist of Arduino Board, Camera, Car, Transmission line ,which helps in connection with other mediums securely and established a healthy connection ,easy connection. Live images can be captured according to frame per second.Images will be captured in B/W i.e Black & White format with resolution of 640 X 480.*



# Chapter-1

## INTRODUCTION

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### 1.1 Existing System:

---

- ✦ Bluetooth module in it.
- ✦ Data transfer speed is slow.
- ✦ Not efficient synchronization.
- ✦ Poor data security.
- ✦ Invitation to other viruses.

---

### 1.2 Problem of Existing System:

---

- ✦ Data transfer speed is slow.
- ✦ Data security is poor.
- ✦ Efficient synchronization is not there.

---

### 1.3 Objective of New System:

---

- ✦ Efficient synchronization.
- ✦ Data Security is good.
- ✦ High Accuracy.
- ✦ Highly Synchronized.
- ✦ High Transmission speed.

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### 1.4 Constraints of New System:

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- ✦ Images can be captured with wire connecting to the Car and Arduino UNO board.
  - ✦ Car has limited frequency.
  - ✦ Images that are in the B/W(Black & White).
  - ✦ Images are captured in bitmap format .bmp.
-

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### **1.5 Feasibility Study:**

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- ✚ This system is useful in warfield, terrisom areas, sensitive areas.
  - ✚ It can be used in the area of manless surveillance.
  - ✚ It can used at petrochemical plants.
  - ✚ It can be used for spy operation at the boundaries of country.
- 

### **1.6 Future scope:**

- ✚ Ultra fast wifi.
  - ✚ Highly advanced security.
  - ✚ 360<sup>o</sup> rotational high definition camera with highest compactible resolution.
  - ✚ Large range of connectivity.
  - ✚ This project can also be used in Air with help of helicopters, choppers, fighter planes, Aircarfts, etc.
-

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# Chapter-2

## ANALYSIS

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### 2.1 Method used for Requirements analysis:

- ✚ In addition to the above mentioned basic functional requirements for the project, we plan for the following supplementary requirements as well.
- ✚ We will create a “System which will be having spying ability” so that the customers can perform good surveillance.
- ✚ In addition to the above mentioned basic functional requirements for the project, we plan for the following supplementary requirements as well.
- ✚ We will create a “System which will be having spying ability” so that the customers can perform good surveillance.

---

### 2.2 User Requirements:

- ✚ Quick save facility.
- ✚ High quality of images with low picture size.
- ✚ Fast data transmission.
- ✚ Easy updating.
- ✚ User friendly.
- ✚ Can be made wirelessly.

---

### 2.3 Functional & Performances Requirements:

- ✚ The system should capture the images with given time period.
  - ✚ In the given frequency the system should be able to operate.
  - ✚ According the remote control the car should operate.
-

---

## **2.4 Security Requirements:**

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- ✚ The system on which software run should have password.
  - ✚ In the future the system software can have login page.
- 

## **2.5 Specifications:**

### **2.5.1 Hardware Specifications:**

- ✚ Processor : Intel Pentium or More.
  - ✚ RAM :1 GB RAM.
- 

### **2.5.2 Software Specification:**

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- ✚ Operating System: Windows 7/8.
- 

### **2.5.3 Programming Language:**

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- ✚ Basic C & Java.
-

## 2.6 Overall Project Plan:

Sr .no	Planned Task	Date
1	Search for the Project Topic	17/7/2017
2	Search of Research Paper	27/7/2017
3	Analysis of Research Paper	31/7/2017
4	Design of Project	9/8/2017
5	Designing of Project using Data Design	18/8/2017
6	First Presentation	30/8/2017
7	Finalizing the Design of Project	4/9/2017
8	Study of sub module of the project	31/9/2017
9	Study of sub module of the project	19/10/2017
10	Study of sub module of the project	31/10/2017
11	Trying for Implementation of the sub modules	20/12/2017
12	Trying for Implementation of the sub modules	31/12/2017
13	Trying for Implementation of the sub modules	18/1/2018
14	Integration of Modules	6/2/2018
15	Integrate all Modules for the Project	17/2/2018
16	Implementation of all modules of Project at time	17/2/2018
17	Finalizing of the Project	3/3/2018
18	Testing	3/3/2017
19	Corrections, Documentation	3/3/2018

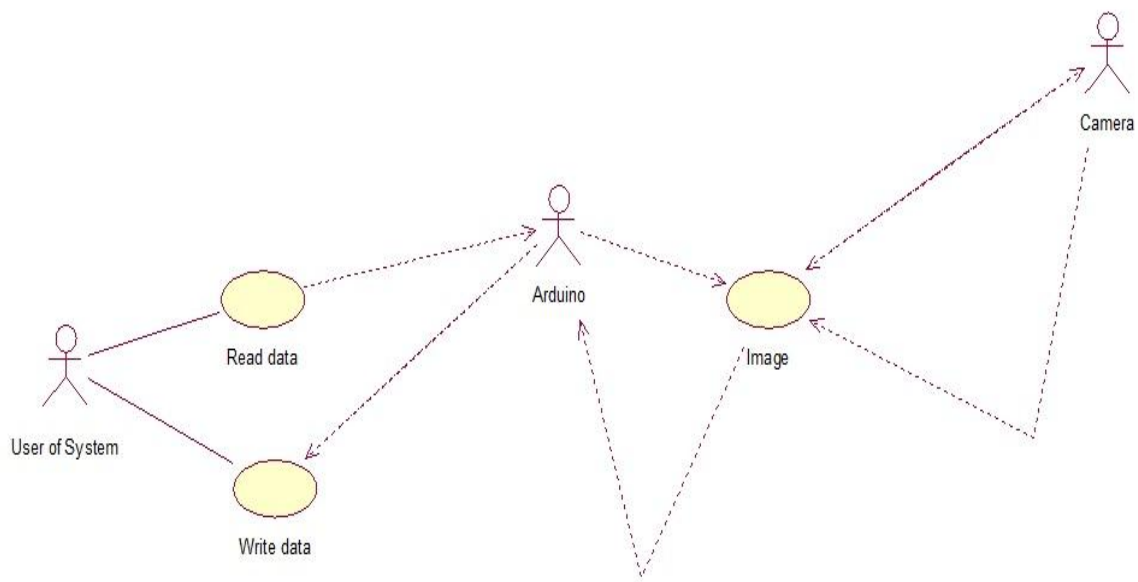
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## Chapter-3

# SYSTEM DESIGN

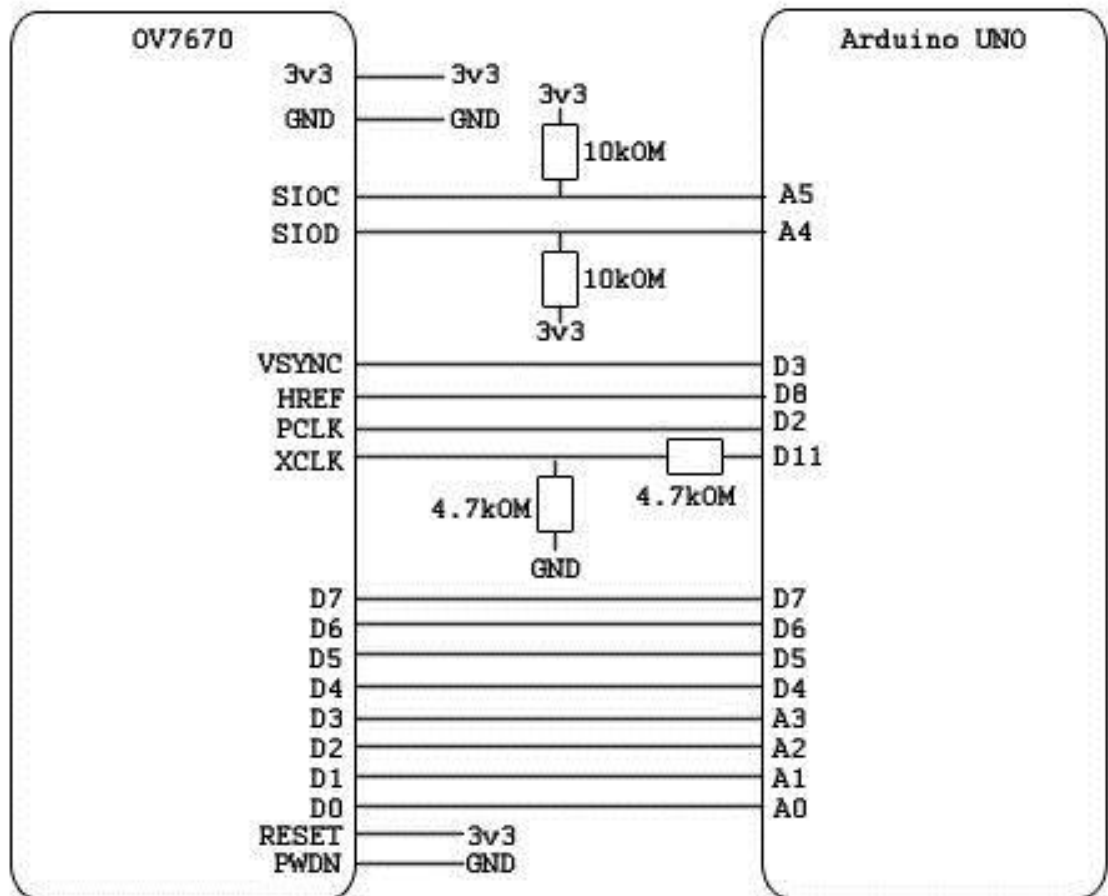
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### 3.1 UML Diagram:



**Fig No 3.1**

### 3.2 Circuit Diagrams:



**Fig no 3.2**

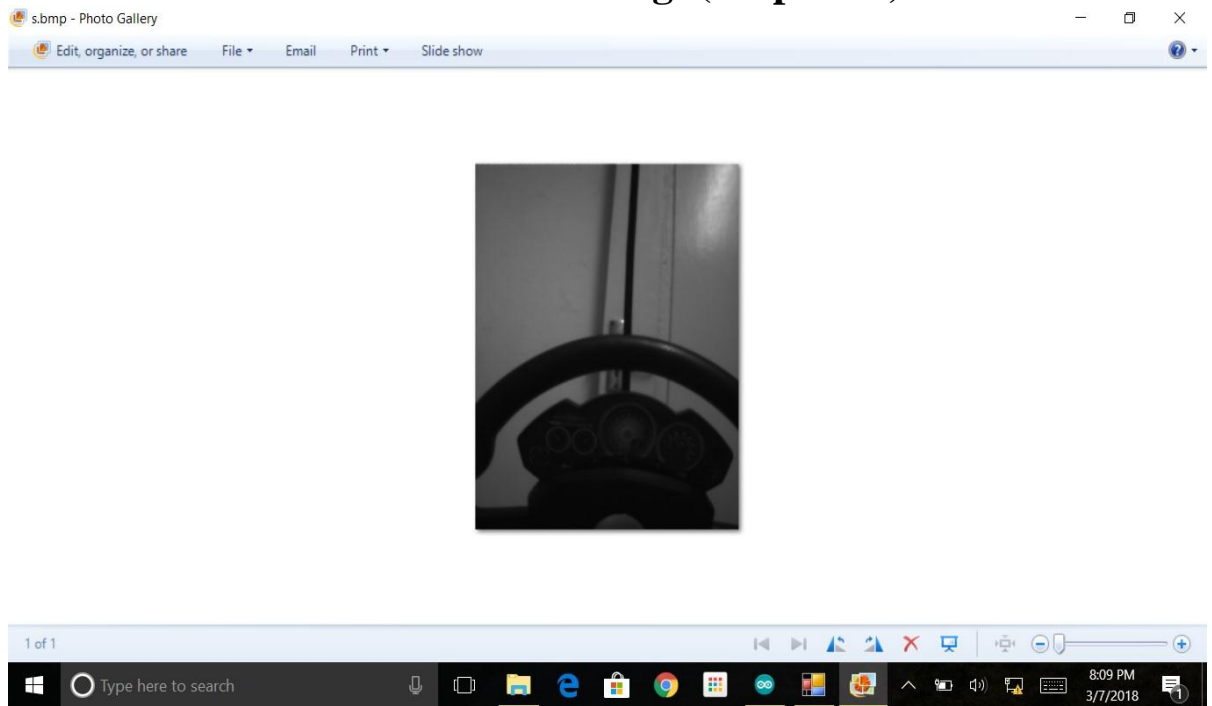
### 3.2.1 Pin Description:

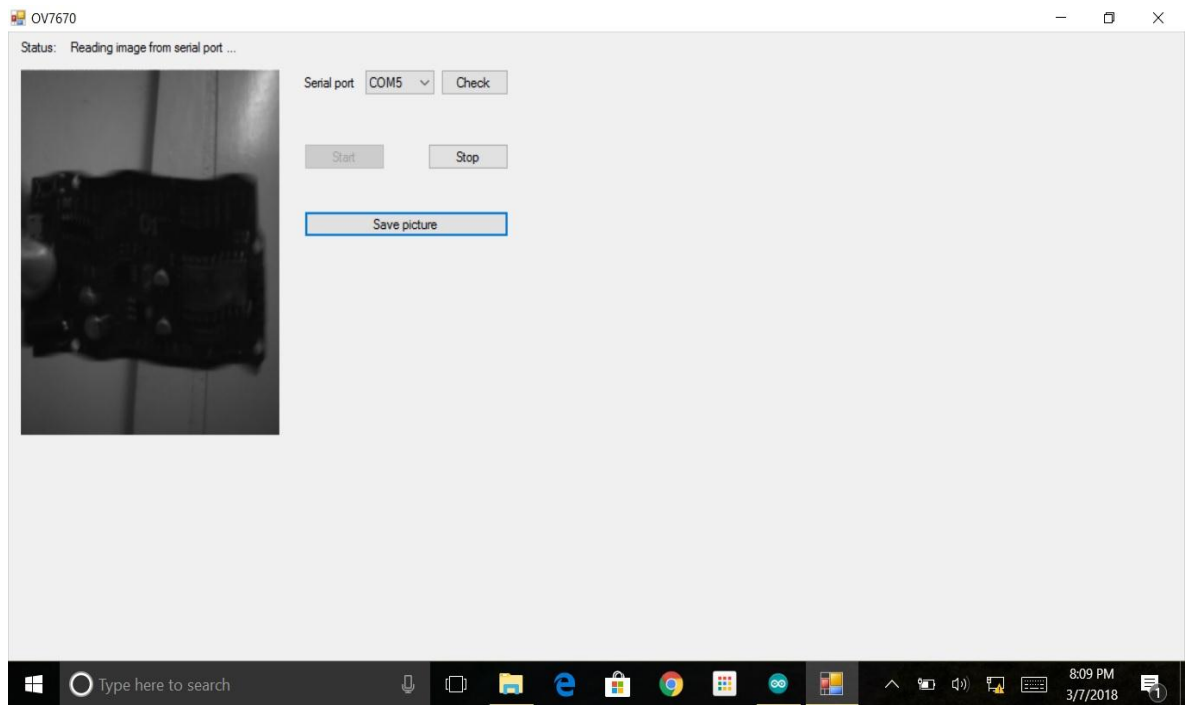
Pin No.	PIN NAME	TYPE	DESCRIPTION
1	VCC	POWER	3.3v Power supply
2	GND	Ground	Power ground
3	SCL	Input	Two-Wire Serial Interface Clock
4	SDATA	Bi-directional	Two-Wire Serial Interface Data I/O
5	VSYNC	Output	Active High: Frame Valid; indicates active frame
6	HREF	Output	Active High: Line/Data Valid; indicates active pixels
7	PCLK	Output	Pixel Clock output from sensor
8	XCLK	Input	Master Clock into Sensor
9	DOUT9	Output	Pixel Data Output 9 (MSB)
10	DOUT8	Output	Pixel Data Output 8
11	DOUT7	Output	Pixel Data Output 7
12	DOUT6	Output	Pixel Data Output 6
13	DOUT5	Output	Pixel Data Output 5
14	DOUT4	Output	Pixel Data Output 4
15	DOUT3	Output	Pixel Data Output 3
16	DOUT2	Output	Pixel Data Output 2 (LSB)

**Fig no 3.3**



### 3.3 User Interface Design(snapshots):





# **Chapter-4**

## **IMPLEMENTATIONS**

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### **4.1 Algorithm:**

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- 1. Start.**
  - 2. Connect the Arduino board to laptop.**
  - 3. Check that the light blinks.**
  - 4. Open the Arduino IDE.**
  - 5. Open the ReadSerialPortwin.exe.**
  - 6. Select the COM port.**
  - 7. Click on check button.**
  - 8. To capture images click on start button.**
  - 9. The camera will start capturing images.**
  - 10. To save the images click on save picture option.**
  - 11. To save then click on destination folder to save.**
  - 12. To exit click on stop button.**
  - 13. Stop.**
- 

### **4.2 Module Details:**

#### **Module No 1: Camera Module.**

---

A camera module OV 7670 is used for capturing images. The module captures images from camera and according to the coding that is inserting in the arduino UNO. With help of the Arduino UNO cable the images are able to be viewed on the screen on windows.

## **Module No 2: Arduino Module:**

The Arduino UNO module is used to control every activity in the system. The code of the Arduino is done in the Arduino IDE editor.

## **Module No 3: Interfacing Module:**

The interfacing module is used to capture the images and we can check the COM port and then we can start capturing images if we want to save the picture click on the save picture options.

# Chapter-5

## TESTING

### 5.1 Test cases and results:

Sr.no	Test Cases	Results
1.	Is CKT is Connected Properly?	PASS
2.	All Connections are Implemented properly.	PASS
3.	Is LED on Circuit Board is Glowing (Ensures Successful Connections)?	PASS
4.	Is Arduino Board properly connection with Laptop,PC,Any Compactible Device?	PASS
5.	Is COM port Assure by User given by system?	PASS
6.	Is Application Software starting and working properly?	PASS
7.	Is COM port detected automatically in Application Software?	PASS

Sr.no	Test Cases	Results
8.	Is Application software reading data properly through camera serially?	PASS
9.	Is B/W image is displayed in picture box?	PASS
10.	Is Image is saved at proper location (User Defined) with specified name?	PASS

## **Chapter-6**

### **CONCLUSION**

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The “Wireless spy car with camera” is developed using Java fully meets the objectives of the system for which it has been developed. The system has reached a steady state where all bugs have been eliminated. The system is operated at a high level of efficiency and all the teachers and user associated with the system understands its advantage. The system solves the problem. It was intended to solve as requirement specification.

## Chapter-7

## REFERENCES

- 
1. [www.google.com](http://www.google.com).
  2. [www.youtube.com](http://www.youtube.com).
  3. [www.arduino.cc](http://www.arduino.cc).
  4. [www.instructables.com](http://www.instructables.com).
-

# CHAPTER-8

PPT



Government Polytechnic Ahmednagar

**WELCOME**

Presented By:-

1. Shiva Shinde
2. Sandesh Gajare
3. Sarvesh Pathak
4. Kiran Athare
5. Akash Kokil



# **“Wireless SPY Car with Camera”**



Guided By:-

Mrs.Manisha Birnale(Computer Technology)  
Mr.Raviraj Pawar(E&TC )



## Introduction:-

- Our Project is Combination of Software and Hardware .
- It Comprises of Arduino and A Java Backend.
- It will give us live Streaming with help of the Camera .
- It can be used for manless surveillance .
- It is very useful for the Defence system .

## Existing System:-

1. Existing System are available. But it has Bluetooth Module in use.
2. Data speed is slow.
3. Not efficient Synchronization.
4. Drawbacks of Bluetooth:
  1. Poor data security.
  2. Shorten battery life.
  3. Invitation to others VIRUSES.

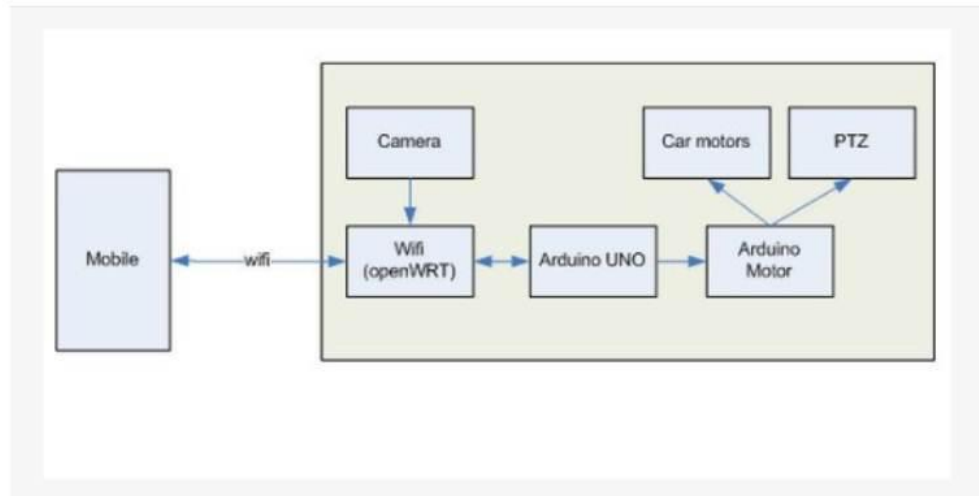
## New System:-

1. Wired module used.
2. ARDUINO UNO board is used.
3. Highly Synchronisation.
4. WiredTransmission.
5. High Security.
6. User Friendly.

## Overview:-

- In this project I've used a 433Mhz Tx and Rx pair to allow the Arduino to communicate with wired with each other.
- These modules are probably the easiest way to set up wired simplex communication between two arduous and are much cheaper .
- I have shown two alternatives for controlling the robot :-
  - 1). Using your computer's keyboard to control the bot .
  - 2). Using a separate controller made on a breadboard.
- The robot uses differential drive in order to turn.

# Block Diagram:-



# Hardware Requirement:-

1. ARDUINO UNO Circuit Board.
2. Batteries.
3. OV 7670 serial camera.
4. Wired module.
5. Remote control vehicle.

# Software Requirements:-

1. ARDUINO IDE.
2. JAVA .
3. Net Beans IDE.



## The Controller Board:-

1. Any model/clone Arduino board.
2. The 433MHz OR the 315MHz module Tx and Rx pair.
3. Connecting wires.
4. 9V battery to power the Arduino on the Tx end.
5. Tx and Rx.

# Connections:-

These are the connection between the Arduino and the Tx module.

Tx

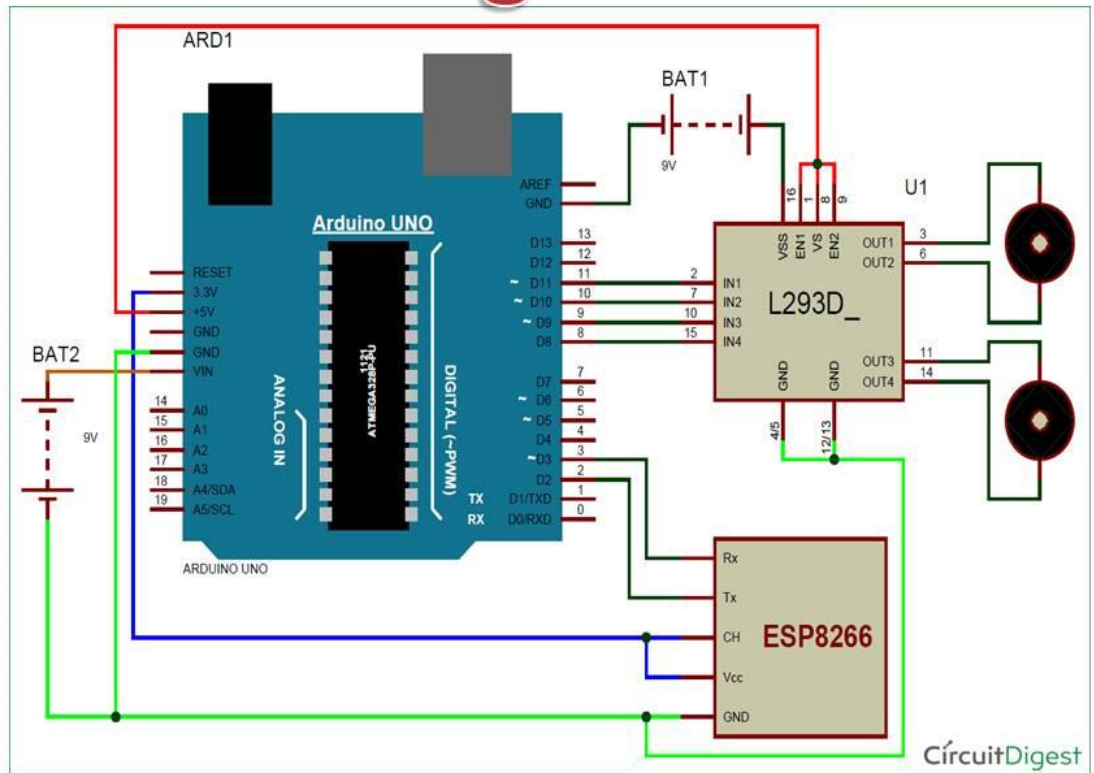
Arduino

Vcc-----> 5v pin  
Gnd-----> Gnd pin  
Data-----> Digital Pin 3

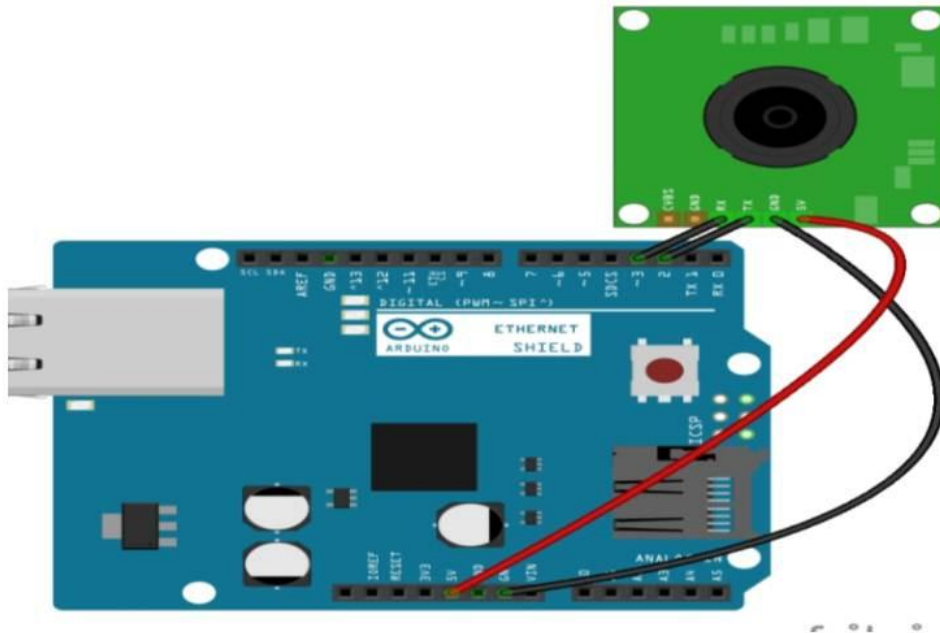
## The Receiver Board:-

1. Any Arduino model/clone board.
2. The Rx part of the Tx/Rx pair .
3. Breadboard and connecting wires.
4. 12V battery pack to power Motors.
5. A 9V battery for powering the Arduino on the Rx end.

# Circuit Diagram:-



# Camera Connections:-



## Scope:-

- Spy Operations .
- Army Area Surveillance.
- Search Operation.
- Also can be used as wirelessly.

## Limitations:-

- Wire Range .
- Uneven Geographic Areas.

## Advantages:-

- Secure Data Transmission.
- Spying Ability.
- Compactible



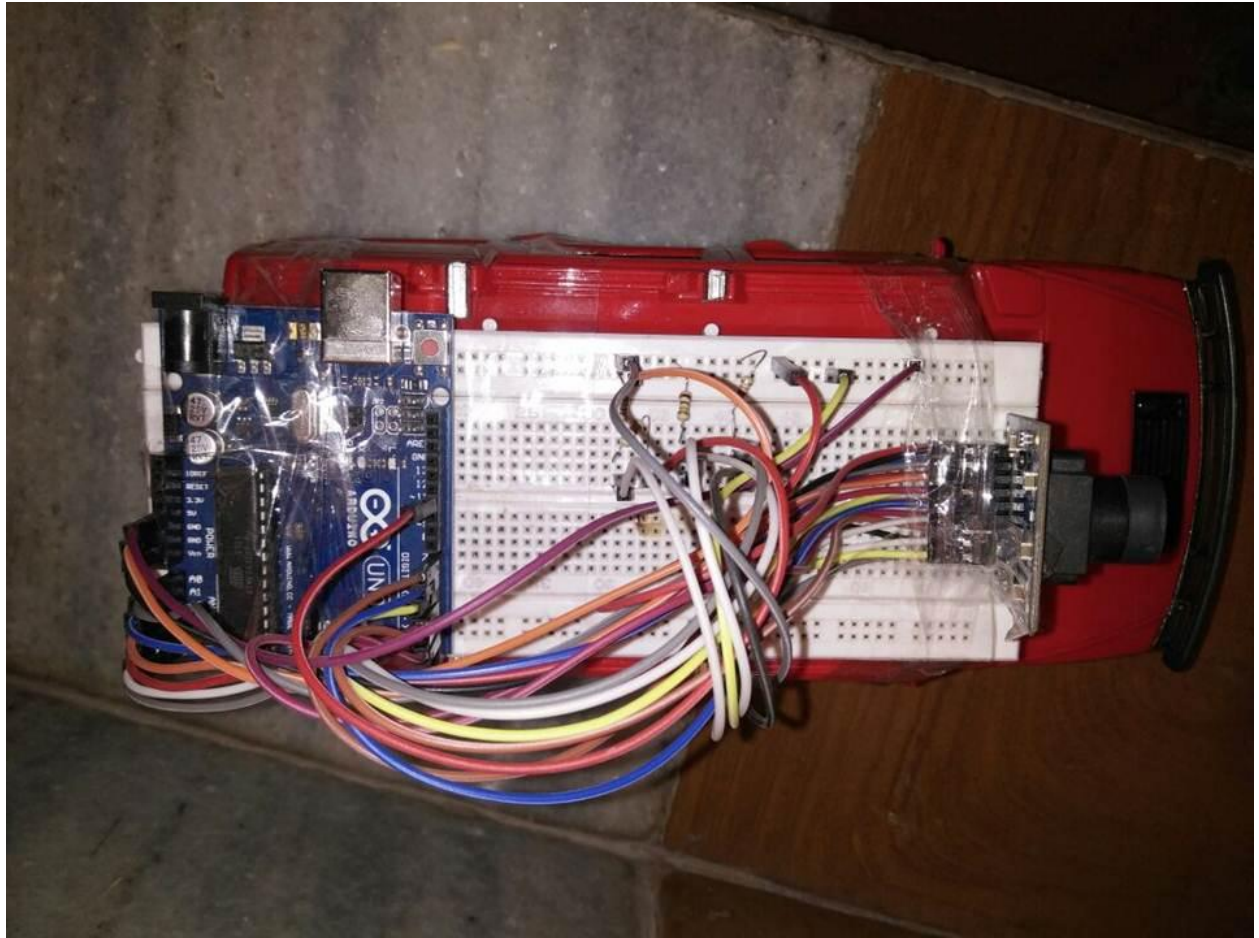
## Disadvantages:-

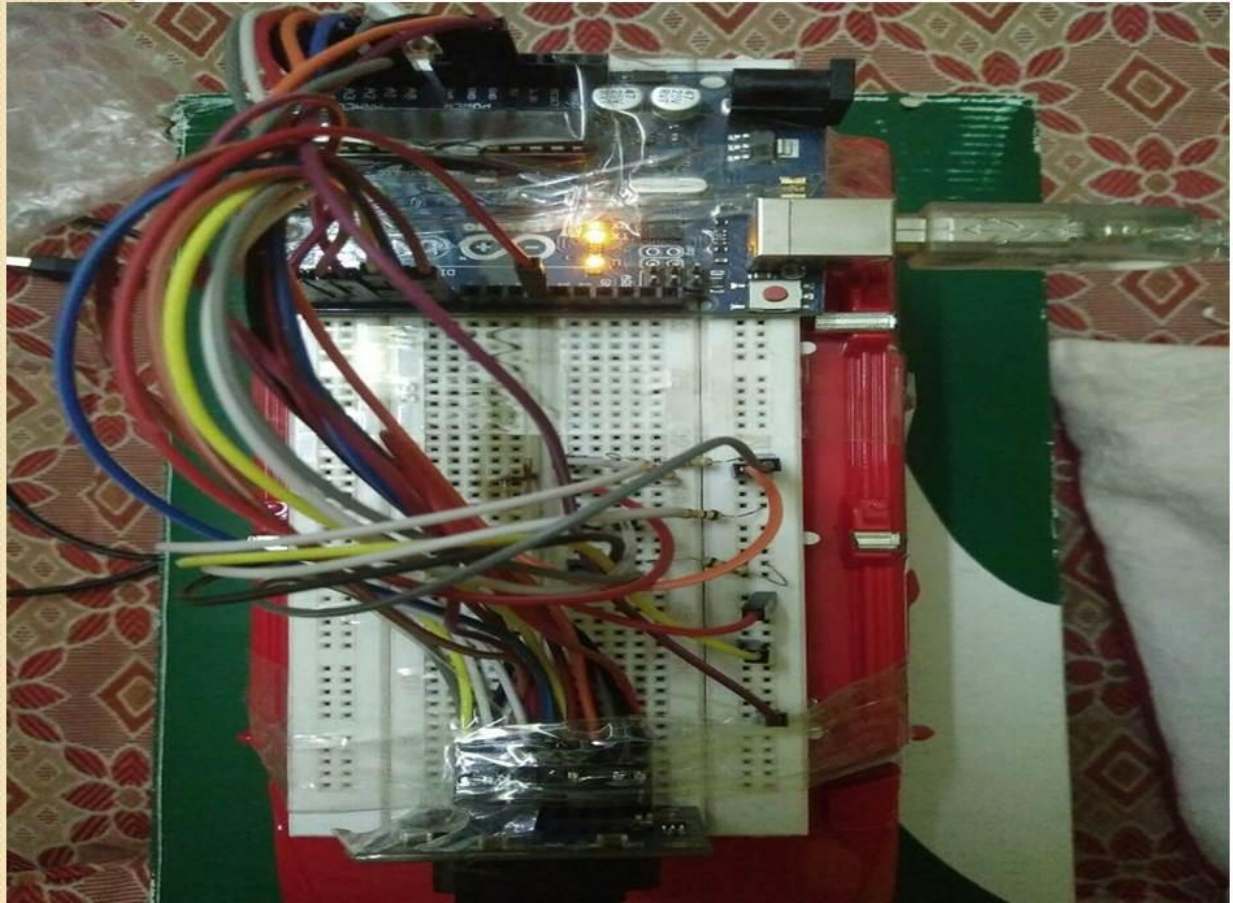
- If Connections fails Transmission fails.
- Power Supply is Limited.

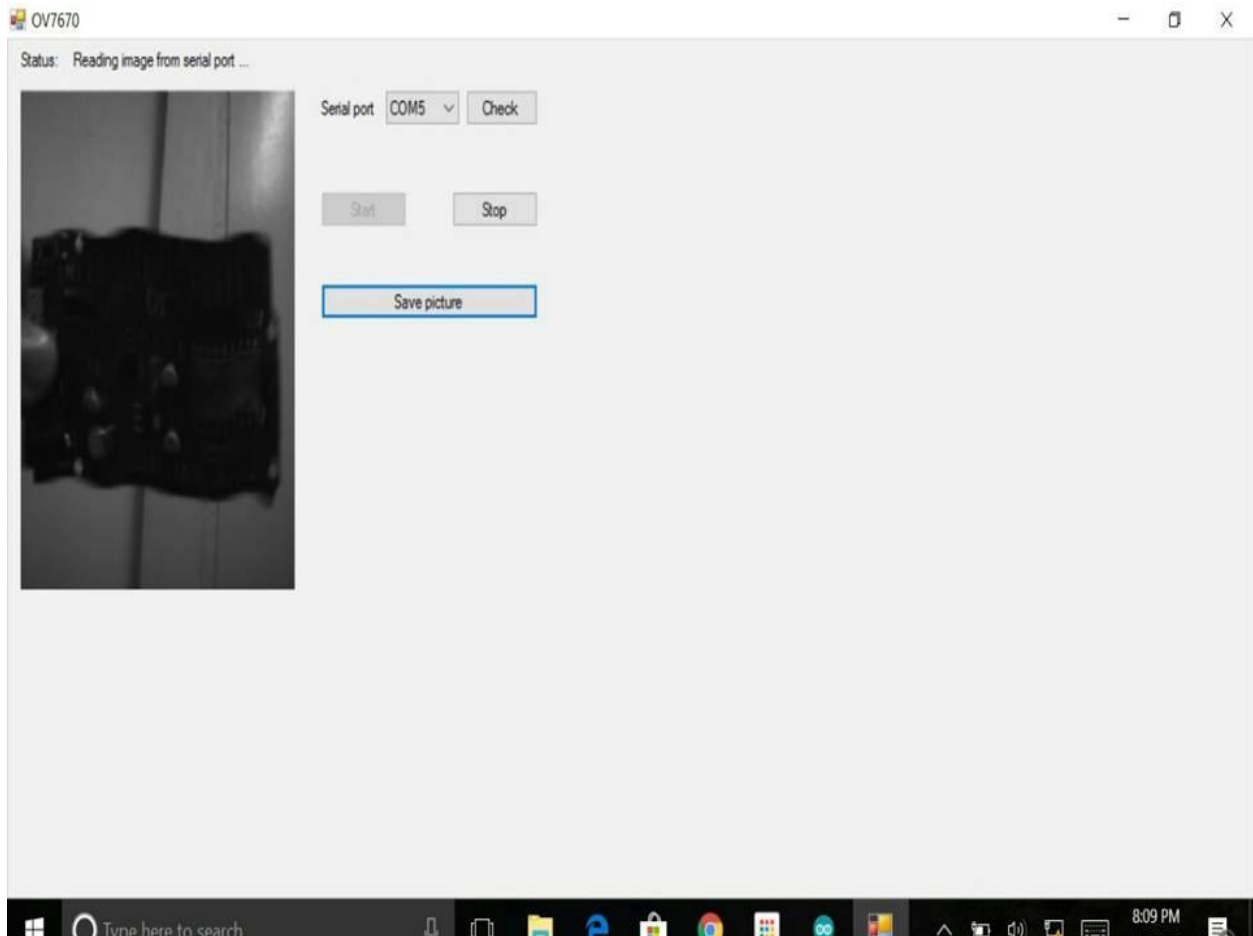


## References:-

- [www.instructables.com](http://www.instructables.com)
- [www.dorama.com](http://www.dorama.com)











# THANK YOU

