ANNOUNCEMENT OF VEHICLE TRESPASSERS TO THE AMBULANCE SYSTEM

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Abstract: Purpose of the project is to announce the trespassers to the police control unit using IOT. The Ambulance driver can press the button which sends the notification to the control unit, whenever he has the trouble of vehicle trespassers which may be tracked by the police officers. Capturing, Analysing and Sending the data using IOT help to eradicate these problems.This work deals with the Announcement of Vehicle trespassers to the Ambulance system using Raspberry Pi 3 to regulate the ambulance to the hospital at the right time without any loss of lives. The main thing is that the image of the number plate of the trespasser is captured by the camera and immediately sent to the RTO Office for further actions to be taken. The traffic congestion can be minimized and the loss of lives can be reduced.

Index Terms - **Raspberry Pi 3, Web camera, Push Button, Internet Of Things**

I. INTRODUCTION

Traffic congestion and tidal flow management were recognized as major problems. In India as the population has been increasing day by day the traffic is also increasing with proportionality. So the traffic signals need good coordination for the smooth flow of traffic during the peak hours. Moreover road accidents in the city have been incessant and loss of life due to the accidents is even more crucial. In this fast moving world people are in a compulsion to rush themselves which makes the traffic congestion and accidents an inevitable one. In foreign countries, they successfully save human life, because whenever an ambulance comes they move aside to clear out the route till the ambulance passes through. On the other hand in India, whenever an ambulance comes it is controlled manually at the traffic junction by a traffic officer. Nowadays all systems are working automatically. So, A system is proposed to control traffic using IOT and also to monitor the overtaking vehicle which is intimated to the RTO office using emergency push button present in the ambulance so that the image of the address plate of the trespassing vehicle is captured by the web camera and stored using Raspberry Pi 3 to create IoTA server and the ambulance is very easy to reach the hospital at the instant.

1.1 Proposed System

The proposed system is to provide the way of control of heavy traffic and to prevent loss of lives. In case of emergency, the ambulance could not cross the heavy traffic and reach the hospital at the right time. So we proposed the system which announces the vehicle trespassers to the specific officers through the Raspberry Pi 3. By pressing the emergency button provided in the ambulance, the web camera captures the image of the trespassers vehicle number. The concerned image is sent to the RTO office through the IOT for further actions. By this way, we can prevent the loss of lives and can depart the ambulance to the hospital at the right time. The main objective of our project is that the vehicle which overtakes the ambulance is monitored by the web camera present in the ambulance. The driver presses the emergency button and the image of the number plate is captured and stored in Raspberry pi. The image is automatically taken by web camera and is sent to the RTO office server through IOT. So the higher officials in the RTO office can take actions according to their rules over the vehicle trespassers.
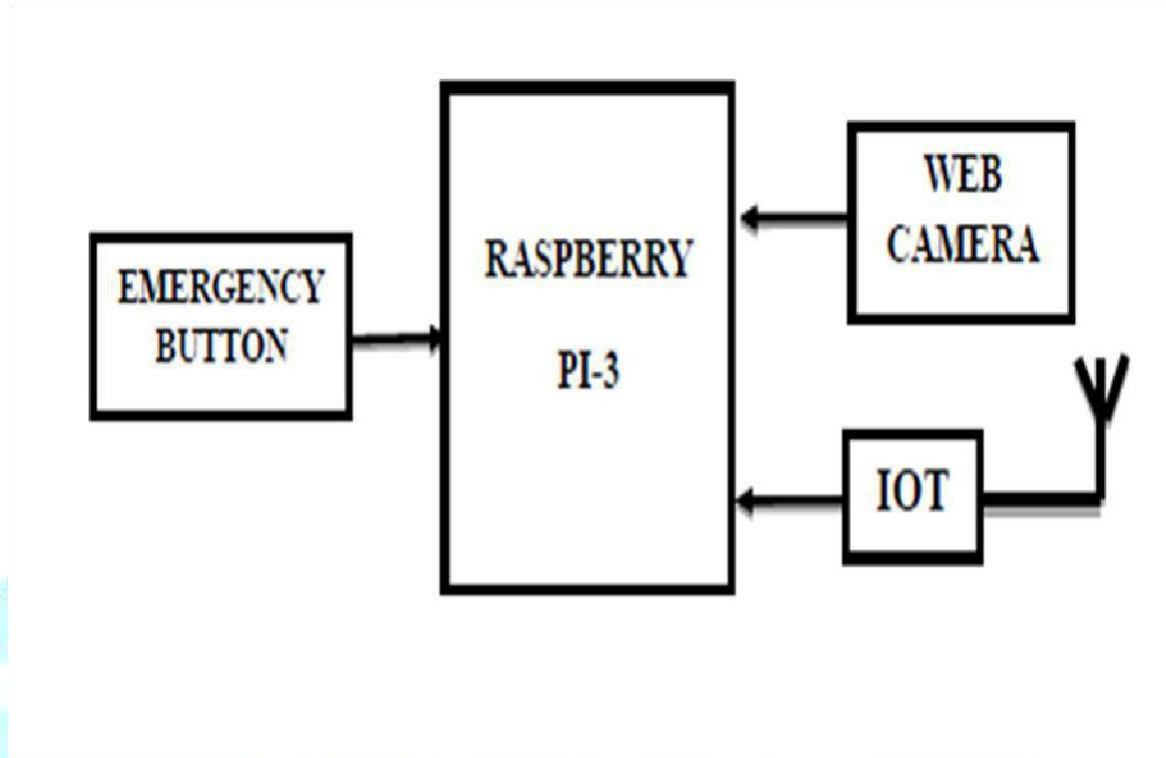
Fig 1 - Proposed Block Diagram

1.2 Working Principle

The Ambulance Steering has an emergency button in it which is manually pressed by the driver in case of emergency. A camera is fixed in the rear of the vehicle to capture the image of the number plate of the trespassing vehicle. A Software named 'PuTTY' is provided which contains the programs in it for sending the captured images to the RTO office. Whenever the ambulance driver faces the disturbance from the vehicle trespassers in case of emergency for the patient's life, the emergency button is pressed. Now, the image of the number plate of the trespassing vehicle is captured by the camera fixed in the rear side of the ambulance which is sent to the RTO office through IOTA server. The captured image is stored in the Raspberry pi 3 for further analysis.

II.MATERIALS AND METHODS

Materials used in this project are Raspberry Pi 3, Web Camera, Push Button, Software namely 'PuTTY' which is programmed using Python language for sensing the information.

2.1 Raspberry Pi 3

The Raspberry **pi** is a credit card-sized computer developed in the UK by the Raspberry Pi Foundation with the intention of promoting the teaching of basic computer science in schools. The Raspberry Pi is manufactured in three board configurations through licensed manufacturing deals with Newark element14, RS Components and Ego man. These companies sell the Raspberry Pi online. The hardware is the same across all manufacturers.The Raspberry Pi does not come with a real-time clock, so an OS must use a network time server, or ask the user for time information at boot time to get access to time and date for file time and date stamping. However, a real-time clock (such as the DS1307) with battery backup can be added via the I²C interface.

Fig-2: Raspberry Pi - 3

2.2 Web Camera

A webcam is a video camera that feeds its images in real time to a computer or computer network, often via USB, Ethernet, or Wi-Fi. Their most popular use is the establishment of video links, permitting computers to act as videophones or videoconference stations. The common use as a video camera for the World Wide Web gave the webcam its name. Other popular uses include security surveillance, computer vision, video broadcasting, and for recording social videos. Webcams are known for their low manufacturing cost and flexibility, making them the lowest cost form of video telephony. They have also become a source of security and privacy issues, as some built-in

webcams can be remotely activated via spyware.

Fig-3: Web Camera

2.3 Push Button

A numeric keypad, or num pad for short, is the small, palm-sized, seventeen key section of a computer keyboard, usually on the very far right. The numeric keypad features digits 0 to 9, addition (+), subtraction (-), multiplication (*) and division (/) symbols, a decimal point (.) and Num Lock and Enter keys. Laptop keyboards often do not have a num pad, but may provide num pad input by holding a modifier key (typically lapelled "Fn") and operating keys on the standard keyboard. Particularly large laptops (typically those with a 17 inch screen or larger) may have space for a real num pad, and many companies sell separate number pads which connect to the host laptop by a USB connection.

III.SYSTEM IMPLEMENTATION

First, the Raspberry Pi 3 must be connected to the desktop. Then, connect the Wi-Fi on the Pi 3 or connect the ethernet. After that, open the terminal of the Operating System using the code. Open the Python IDE 2.7 or above 3.2, create a new file and save it as camera.py. Save with Ctrl + S and run with F5. These are programmed using the python language in the software namely 'PuTTY'. The camera preview should be shown for 05 seconds, and then close. Run the program.
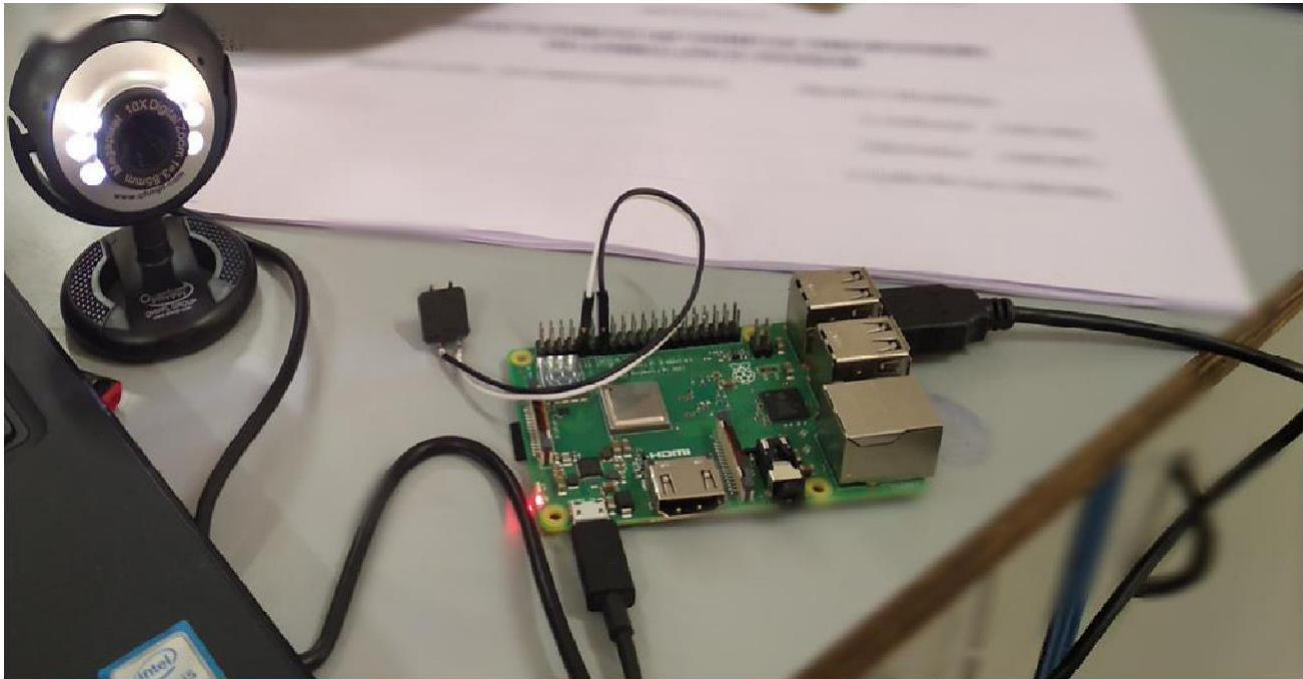
Fig.4 - Announcement of Vehicle Trespassers to the Ambulance System

The camera preview only works when a monitor is connected to the Pi, so remote access (such as SSH and VNC) will not allow to see the camera preview.To allow access to Gmail's SMTP server from the app, follow these steps, Login to your Gmail account using your username and password. From the top right corner go to "My Account". Under that "Sign-in & security" section, locate "Connected apps and sites" and click on it. Locate "Allow less secure apps" setting and turn it "On". After this, change the code for file attachment format. Save with Ctrl + S and run with F5. When the concerned mail is checked, you will find that the image has been received.

IV.CONCLUSION

Moreover road accidents in the city have been incessant and loss of life due to these accidents is even more crucial. In this fast moving world we are in a compulsion to rush ourselves which makes the traffic congestion and accidents an inevitable one. In foreign countries, they successfully save human life, because whenever an ambulance comes they move aside to clear out the route till the ambulance passes through. On the other hand in INDIA, whenever an ambulance comes it is controlled manually at the traffic junction by a traffic officer. Even though there are many manual controllers, there is a need for some automation systems to control these types of accidents. So, this automation system is introduced to announce the control officers about the vehicle trespassers. The image captured by the web camera in the ambulance stored in the Raspberry Pi 3 which is sent to the control room or the RTO office. So, they can be able to trace the trespassers through the image of the number plate. The respective trespassers can be put into the penalty payments or treated as per the rules.

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Bibliography

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