**AUTOMATIC LICENSE PLATE RECOGNITION A STATE OF THE ART REVIEW**

**SYNOPSIS:**

Automatic vehicle license plate recognition is an important component of modern intelligent transportation systems (ITS). Generally vehicle license plate recognition is divided into several steps including license plate extraction, image region which contains a license plate, character segmentation, and character recognition. Automatic license plate recognition system using Camera mounted over the exposure system image of the license plate is captured and the image is processed to extract the license number. The extracted information can be used with or without a database in many applications, such as electronic payment systems toll payment, parking fee payment, and freeway and arterial monitoring systems for traffic surveillance. If a vehicle tries to cross traffic rules, its license number is extracted and information regarding the offense along with the license plate no is sent to the Traffic Control Section for further legal actions to be taken. An alarm is raised to inform the on field policeman about the offense. It should also be generalized to process license plates from different nations, provinces, or states.

This project work uses Raspberry Pi processor as an implementation platform. The Raspberry Pi is a credit card sized single computer or SoC uses ARM1176JZF-S core. SoC, or System on a Chip, is a method of placing all necessary electronics for running a computer on a single chip. Raspberry Pi needs an Operating system to start up. In the aim of cost reduction, the Raspberry Pi omits any on-board non-volatile memory used to store the boot loaders, Linux Kernels and file systems as seen in more traditional embedded systems. Rather, a SD/MMC card slot is provided for this purpose. After boot load , as per the application program Raspberry Pi will get execute.

**EXISTING SYSTEM:**

In the existing system video monitoring only possible in a particular area through camera. Here we can’t extract particular information.

**DISADVANTAGES:**

* Loss of time
* Not accurate one
* We cannot adsorb every time

**PROPOSED SYSTEM:**

Automatic license plate recognition system using Camera image of the license plate is captured and the image is processed to extract the license number with Raspberry pi.

**ADVANTAGES:**

* High Efficient
* High accuracy
* Automatic process

**BLOCK DIAGRAM:**

**CAMERA MODULE**

**RASPBERRY PI**

**ARM1176JZF-S ARM Core**

**I/O**

**UART**

**USB**

**LAN**

**GPIO**

**OPEN GL–ES1.1/2.0**

**VIDEO CORE GPU**

**H264 , MPEG2 , JPEG Encoder/Decoder**

**GRAPHICS ACCELERATOR**

**CAM**

**MIPI/CSI**

**SDIO**

**1080p**

**HDMI**

**IP NETWORK**

**SD CARD**

**MONITOR**

**BLOCK DIAGRAM EXPLANATION:**

In this block diagram the whole system is controlled by Arm11 processor and this processor is implemented on Raspberry Pi Board. so this board is connected with monitor, camera, SD card and IP connected through LAN. Those all components are connected by USB adaptors.Raspberry pi is the key element in processing module which keeps on monitors vehicles by interfacing camera in that applicable area. Using that camera Raspberry pi extract the number. The extracted information can be used for further verfication.

**HARDWARE TOOLS:**

* + Raspberry pi
  + Camera
  + Monitor
  + USB adaptors
  + SD card

**SOFTWARE TOOLS:**

* Wheezy Raspian
* opencv

**APPLICATIONS:**

* Tollpayment applications
* Parking fee applications
* Traffic sureillance applications

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