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Recognition of License Plate with Gsm & Zigbee

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ABSTRACT

Automatic license plate recognition (ALPR) is the extraction of vehicle license plate information from an image or a sequence of images. 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. It is fulfilled by the combination of a lot of techniques, such as object detection, image processing and pattern recognition. ALPR is also known as automatic vehicle detection, car plate recognition, automatic number plate recognition, and optical character recognition (OCR) for cars.

Keywords :
ALPR; Sequence of images; Fee payment ;Automatic vehicles licence plate detection; OCR.

INTRODUCTION

Automatic registration code recognition system (ALPR) has become a high-priority research in recent years. as a result of the registration code could be a distinctive ID for a vehicle, its automatic recognition has several uses. as an example, the registration code recognition (LPR) system will be utilized in sensible parking areas or sensible toll stations to open gates for vehicles bearing approved registration codes or to calculate the common speed of a vehicle between 2 stations by recognizing its license plate at each stations. additionally, by putting in LPR systems on roads, notably in traffic zones and at junctions that require police patrolling, prohibited vehicles will be recognized and their movement monitored. The photos are taken by speed management cameras in high resolution, that consume lots of disk space; so, once a short time, most of the stations encounter a low-disk-space drawback. Images are processed by some image processing techniques[1]. This drawback will be solved by the ALPR system, that converts immense information of pictures into a series of bits. The ALPR system put in at speed management stations uses high resolution pictures to acknowledge license plates. once recognition, {the pictures the photographs} are compressed into tiny and low-resolution images so transferred through traditional and low-band association devices like short electronic messaging electronic communication} or multimedia system messaging by a GSM board.

RELATED WORK

In paper1 we tend to propose a registration code recognition (LPR) algorithms in pictures or videos are typically composed of the subsequent 3 process steps: 1) extraction of a registration code region; 2) segmentation of the plate characters; and 3) recognition of every character. In paper2 we tend to thought of Associate in Nursing approach to spot vehicle through recognizing of it registration code victimization scan photo fusion, neural networks and logical techniques in addition as some experimental results to acknowledge the registration code with success. In paper3 registration code location is a very important innovate vehicle registration code recognition for intelligent transport systems. This paper presents a sturdy and real time technique of registration code location. In paper4 The planned character extraction technique during this paper is principally in line with plate's geometrical characteristic and supplementary with the scan of projection image. In paper5 Vehicle registration code Recognition (VLPR) system may be a core module in Intelligent Transportation Systems (ITS). during this paper, a VLPR system is planned.[2,3]

PROPOSED SYSTEM

In the planned system victimization MATLAB the vehicle's car place is known. victimization internet Camera mounted over the detection system image of the car place is captured and also the image is processed to extract the license no. Here we\'ve designed the system with the aim to see traffic violation. The system checks for red signal. If in a very red signal a vehicle try and cross its license no is extracted and knowledge concerning the offense together with the car place no is distributed to the control Section for additional legal actions to be taken. additionally the Apr voice with Vehicle variety is raised to intimate the on field police officer regarding the offense. The fine quantity aregoing to be send to the vehicle owner variety and management section. The management section registers

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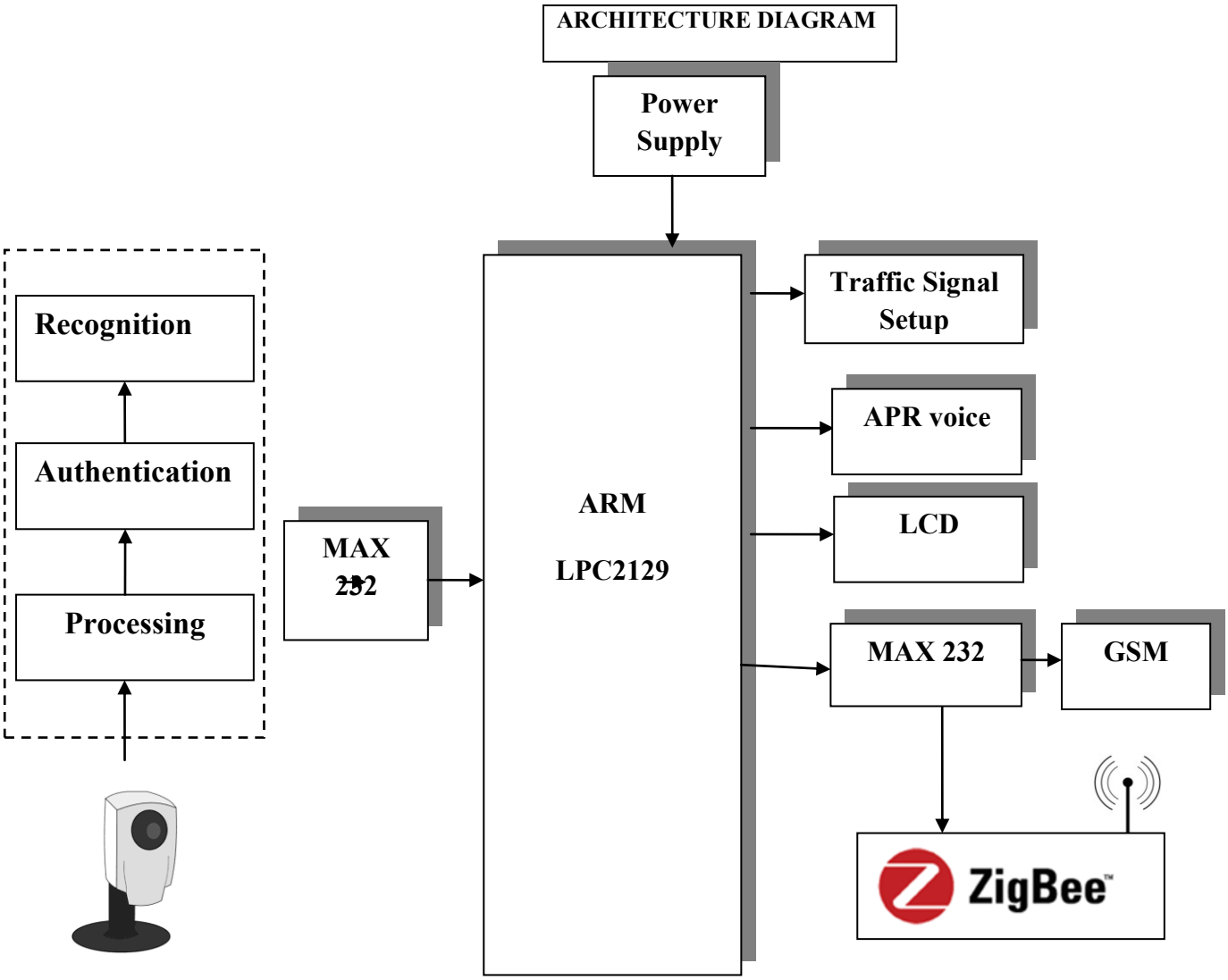
fine on explicit vehicle variety within the information and updates the main points in net. The GSM required |is required} for interaction of the ARM microcontroller with the Legal Authority mobile whereas Zigbee module is utilized for the
transfer of detector outputs just like the traffic conditions over needed distance. [4],[5]



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MODULE DESCRIPTION

1. Power provide Unit: The provision of 5V DC given to the proposed system, that is rebornfrom 230V AC provide. The step down electrical device is used here for changing the 230V AC into 12V AC

2. ARM processor: ARM may be a general purpose for chip of 32-bit. The parameters to be monitored are perceived using individual detector and knowledge is feed to ARM. historically, embedded devices embrace 2 varieties of processors: a Microcontroller and a DSP to method signals. However, with the event of ARM processors, last 2 are often replaced by one single processor. It will monitor & management all the peripheral devices or elements connected within the system. In short, we can say that the whole intelligence of the project resides within the software system code embedded within the ARM seven. The code is written in Embedded UNIX and is burned or programmed into the code memory employing a technologist.[5]

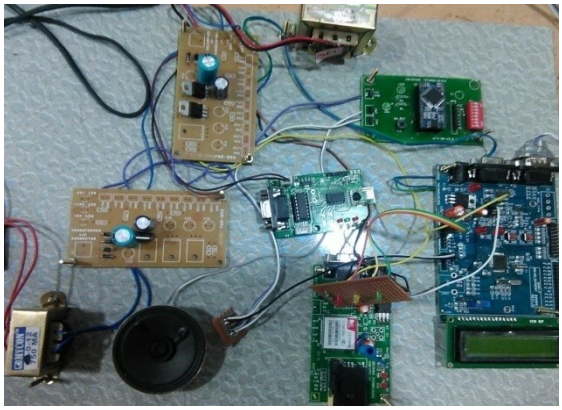
3. Camera Unit: CCTV stands for loop TV. Wireless CCTV cameras used at this frequency can easily transmit through most walls and obstacles; however each individual location will have its own operating limits.

4. Communication Unit(GSM): A GSM electronic equipment could be a wireless electronic equipment that works with a GSM wireless network. A wireless electronic equipment behaves sort of a dial-up electronic equipment.

5. Package Unit: Package is employed to compile the cryptography of the required application for the corresponding embedded system.

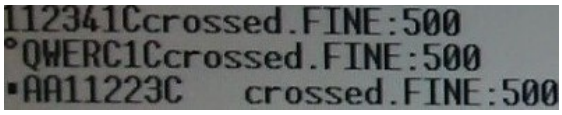
EXPERIMENTAL SET UP

In this experiment a number of the hardware and code square measure required. The hardware like AT89C51 Microcontroller with Power provide, laptop With MATLAB, Web Camera, GSM Modem, light found out, Alarm, MAX232 & liquid crystal display square measure needed. The code like Embedded C, KEIL C compiler & MATLAB square measure needed. The advantage of this is Timely Actions are often taken. It can be applied in all vehicles



RESULTS

The result of ALPR system will consider multi vogue plate recognition, video-based ALPR mistreatment temporal data, multi plates process, high definition plate image process, ambiguous-character recognition, and so on.



CONCLUSION

This paper given a comprehensive survey on existing ALPR techniques by categorizing them in keeping with the options utilized in every stage. Comparisons of them in terms of execs, cons, recognition results, and process speed were addressed . A future forecast for ALPR was conjointly given at the top. the longer term analysis of ALPR ought to target multi vogue plate recognition, video-based ALPR victimisation temporal data, multi plates process, high definition plate image

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