SMART DIGITAL NOTICE BOARD

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Abstract

Notice boards are a common occurrence in variety of institutions which we come across on daily basis. In the current scenario the notice or advertisement boards are being managed manually.

It is primary thing in any institution or public utility places like bus stations, railway station, colleges, malls, etc. But sticking various notices day to day is a difficult process. There is long process involved in order to put up notices on the notice board. This wastes a lot of resources like paper, printer ink, man power and also brings about loss of time. In this project we have proposed a system which will enable people to wired or wirelessly transmit notices on notice board using Wi-Fi or Ethernet connection. In this project we have proposed a system by which only authorized people can access the notice board. The project is built around ARM controller raspberry-pi which is heart of the system. Display is obtained on Monitor or LCD. A Wi-Fi or Ethernet connection is using for Data transmission. At any time we can add or re- move or alter the text according to our requirement. At transmitter authorized PC is used for sending notices. At receiving end Wi-Fi or Ethernet is connected to raspberry pi. An authorized user sends a notice from his system, to arm 11 that is raspberry pi and it displayed on notice board.

AN AUTOMATIC PERSON AUTHENTICATION USING IMAGE PROCESSING

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Abstract

Automated person authentication system is a system which will record the status of the people; whether he/she is present in the particular area. This system, which is based on face detection and recognition algorithms, automatically detects the person using web cam when he enters the area and marks the attendance by recognizing him. The system first stores the faces in the database, then the faces are detected in the images. The detected faces are compared with the faces stored in the database during face recognition. If the system recognizes faces, the authentication gets marked immediately of recognized faces. The system architecture and algorithms used in each stage are described in this report. Different real time scenarios are considered to evaluate the performance of various face recognition systems. This topic also proposes the techniques to be used in order to handle the threats like spoofing. When compared to traditional authentication marking this system saves the time and also helps to monitor the people.

SMART PARKING SYSTEM

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Abstract

Most people faces parking problem in all metropolitan cities, especially during peak hours. The difficulty roots from not knowing where the parking spaces are available at the given time and even if this is known many vehicles may pursue a small number of parking spaces which in turn leads to serious traffic congestion.

This project focuses on smart parking technique developed to overcome said problem using wireless sensor network and providing real time data analysis from sensors. It is observed that most of the current systems are based on resource allocation and reservation of parking lot which has various problems.

The aim of this project is to develop and implement an automatic parking system that will increase convenience and security of public parking. Also, we propose to collect parking fees in intuitive manner using smart card. Minimalistic human interaction is the key advantage of our smart parking system.

ADVANCED PATIENT MONITORING SYSTEM

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Abstract

Wireless patient monitoring system became vital in day to day life because of fast growing diseases in human life and this reflects in rapidly increasing demands in hospitals. This whole system measures the physical parameter of the patient's body and this real-time data transmit to the central PC, which is kept at doctor's cabin. This project includes physical parameter monitoring sensor circuits with Node MCU module as transmitter and as receiver at central PC. To ensure the successful transmission of all health parameters, there is visual basic software used on central PC.

Patient monitoring systems are gaining their importance as the fast-growing global elderly population increases demands for caretaking. These systems use wireless technologies to transmit vital signs for medical evaluation. It is mainly used for collecting and transferring the various monitoring information about the patients in hospitals or in their homes. This application consists of Node MCU based network, different types of sensors combination. The device gives few assistant capacities that satisfy the living request of patients. What's more it uses different sort of sensors to obtain ceaseless key signs of patients counting heart rate and body temperature. Transmission of these patients' records over web is done by Wi-Fi module to web server.

Keywords: Node MCU, LCD (Liquid Crystal Display), I2C Model, Web Page.

VISIBLE LIGHT COMMUNICATION

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Abstract

Whether you're using wireless internet in a coffee shop, stealing it from the guy next door, or competing for bandwidth at a conference, you've probably gotten frustrated at the slow speeds you face when more than one device is tapped into the network. As more and more people and their many devices access wireless internet, clogged airwaves are going to make it increasingly difficult to latch onto a reliable signal. But radio waves are just one part of the spectrum that can carry our data. What if we could use other waves to surf the internet?

One German physicist,DR. Harald Haas, has come up with a solution he calls "Data Through Illumination"—taking the fiber out of fiber optics by sending data through an LED light bulb that varies in intensity faster than the human eye can follow. It's the same idea behind infrared remote controls, but far more powerful. Haas says his invention, which he calls D-Light, can produce data rates faster than 10 megabits per second, which is speedier than your average broadband connection.

 He envisions a future where data for laptops, smartphones, and tablets is transmitted through the light in a room. And security would be a snap—if you can't see the light, you can't access the data.