Attendance Monitoring System Using ARM9 And QR Code

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ABSTRACT:

The main focused of Watermarking is developing and introducing new techniques for watermark embedding and detection. Experimental results show that the embedded watermark is transparent and quite robust in face of various watermark images at high compression ratios and provides good results in terms of imperceptibility.In this project, one class of 60 students is taken as a sample to conduct the experiment. the faculty has 60 QR images of the students with him.

The images corresponding to each student who is present in the class will be scanned by the faculty by mobile which has QR reader software installed in it, which confirms the attendance of the students. This data will be sent to the ARM memory through GSM, using which the data is collected and maintained. The students who has less than 75% attendence ,their data will be sent to the PC through the Ethernet as well as to their respective parents through the GSM (or) free SMS services like way2sms.com at every two weeks , which saves time and manpower which is the scope of my project.

Keywords: QR Code, GSM.

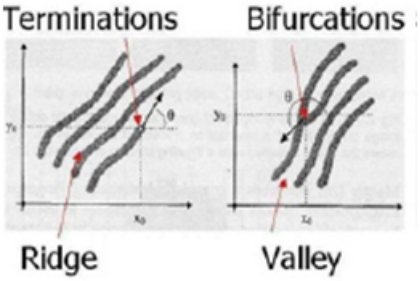
INTRODUCTION:

The main aim of this project is to design an "Attendance monitoring system using ARM9 and QR code"[1].In the existing system we are using the finger scan technology, which takes a sufficient amount of time for the process of recognizing the fingerprints to be completed.

For example in a class of 18 students, the whole process takes around 10 to 15 minutes, which if think in terms of the new technology we could incorporate, would stand out to be an ample waste of time.

EXISTING SYSTEM:

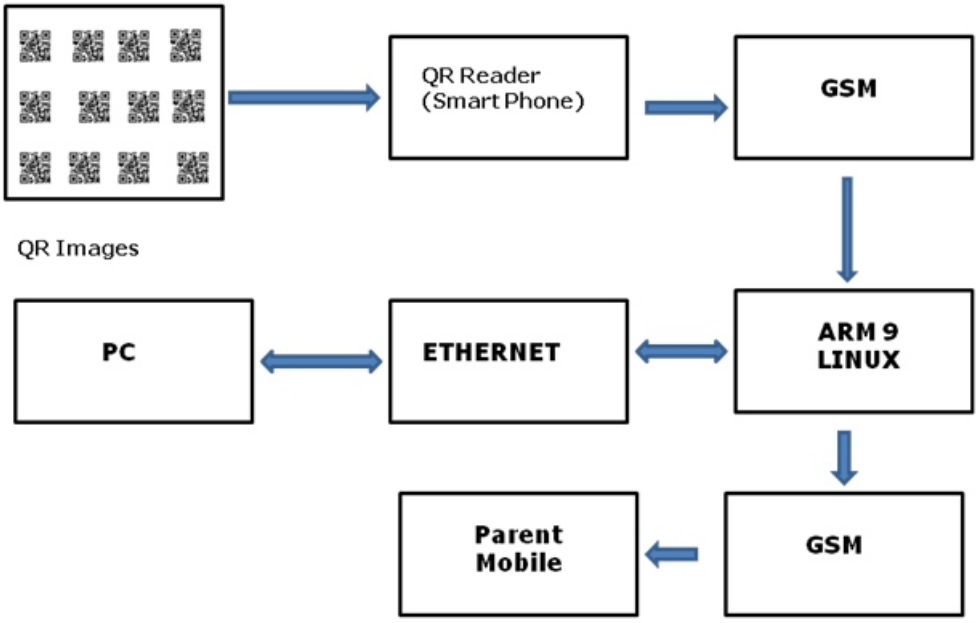
In many institutions and organization the attendance is a very important factor for various purposes and its one of the important criteria that is to follow for students and organization employees[2]. The previous approach in which manually taking and maintains the attendance records was very inconvenient task. After having these issues in mind we develop an automatic attendance system which automates the whole process of taking attendance and maintaining it.



A fingerprint is captured by user interface, which are likely to be an optical, solid state or an ultrasound sensor. Generally, there are two approaches are used for fingerprint verification system among them first one is Minutiae based technique, in which minutiae is represented by ending or termination and bifurcations[7]. Other one is Image based method or matching pattern, which take account of global feature of any fingerprint image. This method is more useful then the first one as it solve some intractable problem of method one, but this paper talk about the minutiae based representation of fingerprint[3].

The fingerprint verification can be defined as the system that confirm the authenticity of one person by comparing his captured fingerprint templates against the stored templates in database. One to one comparisons are conducted to identify the person authenticity . After this if the authenticity of person is verified then system signal true else false.

PROPOSED SYSTEM:



A QR [4]code is a 2-dimensional bar code. This means that pieces of information are encoded horizontally and vertically instead of being only horizontally encoded like a standard bar code.

Figure 5.1.1 QR Code

Working Principle:

Take a mobile phone such as the iPhone; nearly ever mobile phone has a digital camera in todays world. The camera[6], along with decoding software can be used to capture a picture of the QR-Code, of which the QR-Code software decoder can then transform the data held with the QR-Code to a meaningful action for the mobile phone:

1.Connect to a web address.

2.Download a MP3.

3.Dial a telephone number.

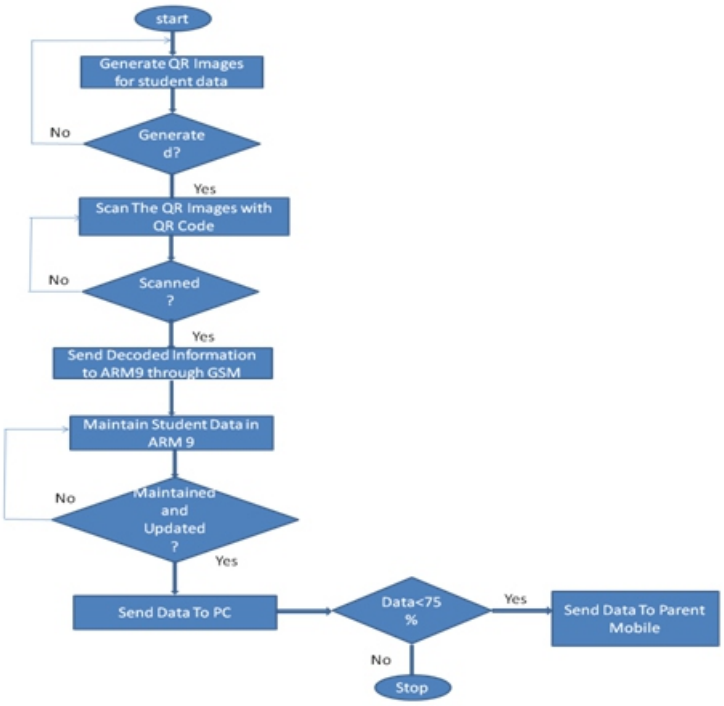
4.Prompt your email client with a sender address.

This can all be done within a matter of milliseconds making the transformation from a users mobile phone to the mobile web instantaneous[5].

ARM9
S3c2440a Microcontroller:

SAMSUNG's S3C2440A 16/32-bit RISC microprocessor. SAMSUNG's S3C2440A is designed to provide hand-held devices and general applications with low-power, and high-performance microcontroller solution in small die size[9].

To reduce total system cost, the S3C2440A includes the following components.



CONCLUSION:

The development process of "AUTOMATIC EMBEDDED FACE RECOGNITION SYSTEM BASED ON ARM9" has been successfully designed and tested. In my project, one class of 18 students is taken as a sample to conduct the experiment.

the faculty has 18 QR images of the students with him. The images corresponding to each student who is present in the class will be scanned by the faculty by mobile which has QR reader software installed in it, which confirms the attendance of the students.

This data will be sent to the ARM memory through GSM, using which the data is collected and maintained. The students who has less than 75% attendence ,their data will be sent to the PC through the Ethernet as well as to their respective parents through the GSM .

FUTURE SCOPE:

Our future work will focus on improving the efficiency of the algorithm. Finally, we conclude saying that if we embedded with face recognition system with this attendance monitoring system a general infrastructure for research into embedded vision, further benefiting society.

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