

Attendance Monitoring System Using ARM9 with QR Code

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Abstract- Abstract should be times new roman with 9 fount single spacing. 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.

Keywords – QR Code, GSM.

I. INTRODUCTION

In my 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. Then through Ethernet, this data will be sent to the PC, using which the data is collected and maintained. The students who has less than 75% attendance, their data will be sent to the ARM processor through Ethernet again at every two weeks. Then the ARM processor will send the students attendance to their respective parents through the GSM (or) free SMS services like way2sms.com, which saves time and manpower which is the scope of my project.

II. PROPOSED SYSTEM

2.1 Block Diagram–

In my 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. Then through Ethernet, this data will be sent to the PC, using which the data is collected and maintained. The students who has less than 75% attendance, their data will be sent to the ARM processor through Ethernet again at every two weeks. Then the ARM processor will send the students attendance to their respective parents through the GSM, which saves time and manpower which is the scope of my project.

2.2 Algorithm steps–

The working of the project can be explained in the following steps:

1. Generate QR Images for the student data (Hall Ticket No and Subject Name) by using mobilefish.com online website.
2. Install QR Reader software in smart phone.
3. Scan the QR Images with the help of smart phone's camera.
4. Send the decoded information through GSM to ARM9.

5. Maintain the student data (Hall Ticket No and Subjects) and update the student data in ARM9 Processor.
6. Calculate the Attendance percentage and send it to PC for every two weeks.
7. If any student is having less than 75% attendance, then send the attendance to their respective Parent mobiles

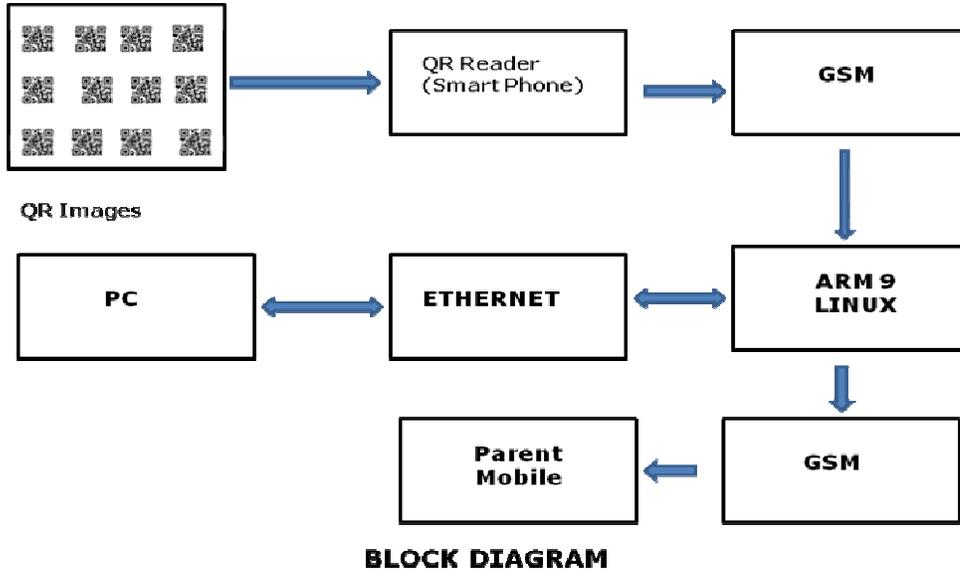


Figure 1. Attendance monitoring system using ARM9 and QR Code Block Diagram

2.3. Flow chart-

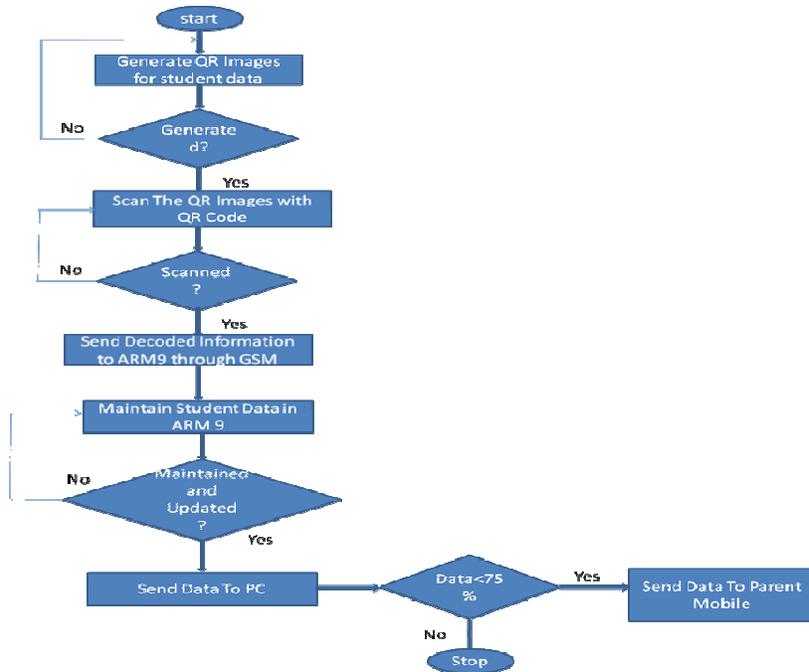


Figure2: Attendance Monitoring System Using ARM9 and QR Code

2.4 . Hardware Implimentation –

2.4.1 Control Unit

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.. It is cost effective and reliable. In my paper the .exe file of my code is dumped in this ARM Processor. 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. Then through Ethernet, this data will be sent to the PC, using which the data is collected and maintained. The students who has less than 75%attendance ,their data will be sent to the ARM processor through Ethernet again at every two weeks .Then the ARM processor will send the students attendance to their respective parents through the GSM (or) free SMS services like way2sms.com, which saves time and manpower.

2.4.2 GPS Module

The Global Positioning System (GPS) is a satellite based navigation system that sends and receives radio signals. The basis of the GPS technology is a set of 24 satellites that are continuously orbiting the earth. These satellites are equipped with atomic clocks and send out radio signals as to the exact time and their location. These radio signals from the satellites are picked up by the GPS receiver. Once the GPS receiver locks on to four or more of these satellites, it can triangulate its location from the known positions of the satellites. In my paper when accident occurs tha GPS receiver finds the latitude and longitude values so that the accident location is find out and the victims can be rescued.

2.4.3 QR Code

A QR 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. The acronym *QR* is derived from the term **Quick Response**. The company Denso Wave originally spawned the term 'QR' as the creator intended that such barcodes and their contents were to be decoded at high speed electronically.

2.4.4 QR Code Generator

QR Code generator is used to generate QR Codes.By using mobilefish.com online website we can generate the QR Code.

2.4.5 QR Reader

QR Reader is used to read the QR Code information. To read a QR code, a smart phone set up with a camera and a QR code reader is required. The QR code reader is an application (to install on your smart phone) which uses the camera to capture the code and decode it.

III.EXPERIMENT AND RESULT



Figure1: QR Code

- By using QR Reader ie, inigma Reader we are scanning the qr code



Figure 2.(a) Scanning the QR Images by using QR Reader

- The simulation results in the PC

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File Edit View Terminal Help
shastra@eslab2pc5:~/Desktop$ cc att test.c
att test.c: In function 'dump_data':
att test.c:33: warning: format '%d' expects type 'int', but argument 4 has type 'long int'
att test.c: In function 'update_record':
att test.c:46: warning: format '%d' expects type 'int', but argument 2 has type 'long int'
att test.c:51: warning: format '%d' expects type 'int', but argument 2 has type 'long int'
att test.c:56: warning: format '%d' expects type 'int', but argument 2 has type 'long int'
att test.c:60: warning: format '%d' expects type 'int', but argument 3 has type 'long int'
shastra@eslab2pc5:~/Desktop$ ./a.out
New HT Number: 400001 found. Adding new student.
Attendance of student with HT: 400001 is updated for subject maths
New HT Number: 400011 found. Adding new student.
Attendance of student with HT: 400011 is updated for subject maths
Attendance of student with HT: 400001 is updated for subject science
Attendance of student with HT: 400011 is updated for subject science
Attendance of student with HT: 400001 is updated for subject science
Attendance of student with HT: 400011 is updated for subject science
New HT Number: 400003 found. Adding new student.
Attendance of student with HT: 400003 is updated for subject english
New HT Number: 400013 found. Adding new student.
Attendance of student with HT: 400013 is updated for subject english
received SIGUSR1
```

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file Edit View Terminal Help
[1] 400001 1 2 0
[2] 400011 1 2 0
[3] 400003 0 0 1
[4] 400013 0 0 1
attendance_data.txt 1,2 All

```

IV.CONCLUSION

The development process of “ATTENDANCE MONITORING SYSTEM USING ARM9 WITH QR CODE” has been successfully designed and tested. In my 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% attendance ,their data will be sent to the PC through the Ethernet as well as to their respective parents through the GSM .

Attendance monitoring system is very important in our daily life. It possesses a really great advantage. Among the whole types of Finger scanning technology, QR Code attendance monitoring system is the most accurate. In this research paper, we have given an introduction of Attendance monitoring system and its advantage; QR code information will be in the encrypted format, so nobody can be misuse.

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

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