Student Search Attendance management system using android application

#1Ajay Karanjkar, #2Rohan Keskar, #3Minesh Mane, #4Aisha Khan, #5Dipali More
#6Prof. Swapnil Shinde

1ajaykaranjkar7@gmail.com
2keskarrohan0596@gmail.com
3mineshmane@gmail.com
4aisha997khan@gmail.com
5dipalimore266@gmail.com

#6Professor, Computer Engineering,
#12345Students, Computer Engineering,

KJCOEMR, Maharashtra, India

ABSTRACT

The progressive application combines the best of web and mobile apps for student search records. It is a website built using web technologies for connecting server that acts like an app. So now days some problem raised how to student record is maintain user friendly. This problem is solved by using PWA enabled application. The user is given the advantages of accessing the webpage app-like by creating single keywords which eliminates the need for multiple clicks. The most important characteristic of this progressive app is that it must work on all devices and must enhance on devices and browsers that allow it. In this system we check the student records like marks, attendance, extra activity using the PWA search to the teacher and authorized person. Today students' attendance is become more important part for any institutions. In order to reduce time and human effort instead of manual attendance system we can use online attendance system. Hence, we design software for online attendance system. In this software, we can send message to student as well as to parent whose attendance is below 75% and who are absent. We are able to calculate percentage attendance when we required. In this software only staff has log in account and has right of making daily attendance and generating report

Keywords: Classification, Information Storage and Retrieval, Student Record, Attendance Record, Keyword based search, Data Mining.

ARTICLE INFO

I. INTRODUCTION

Todays, mobile application has become a more use daily life and way of life for students especially in higher education. Computer PC are now replaced by compact smart mobile that can be suitable into pocket and can be carried anywhere. The progress in mobile technology application has created a new area which is known as mobile learning system. The mobile learning is most important i.e. next generation of e-learning system that leads attractive way of knowledge delivery especially used in teaching and learning process. The development of this android application the student preferred more to use mobile devices as technology supported educational tool. This system is designed because notes dictation in the class is difficult considering semester duration, student might miss the exam and important notice displayed due to unawareness, chances of false marking of attendance is more due to more paper work and manual attendance entry, evaluation and report generation is tedious and time consuming job.

1.1 Related Work

Timely updates to parent are not possible. With this system teacher can upload notes, time tables, assignment on server and broadcast it to the registered mobile numbers so that it is easily accessible to student by their own smart phone. This system enables student to learn anywhere, anytime and at their own convenience. This system makes students to be active, responsive while learning their academic. Another application that is provided by this system is smart attendance evaluation and report generation. A. Manual attendance system It is the conventional method of taking attendance by calling names or signing on paper but it is

inefficient due to more chances of malfunctioning and more paper work as well. B. RFID with Object Counter Radio Frequency Identification (RFID) based attendance system is one of the solutions to address this problem, but that is time consuming and unsafe. Anyone can carry others card to mark proxy attendance .Smart phones are based on operating systems like blackberry, IOS and Android. To design proposed project, smart phones with Android operating system are chosen because penetration rate of Android OS is 70 percent. The proposed system is open source and free ware we share the application to any students. The application is compatible with all Android versions. In this system, the staff has authority to fill attendance, to view attendance and if any student is absent the staff just want to tick mark in front of the student and automatically the message will be sent to their parent. Parent can also view attendance, send feedback to any of the faculty member. C. Bluetooth Based Attendance System.

II. IMPLEMENTATION OF ATTENDANCE SYSTEM

In this, attendance is being taken using instructor's mobile phone. Application software is installed in instructor's mobile telephone, enables it to query student's mobile via Bluetooth. It transfers student's mobile Media Access Control (MAC) addresses to the instructor's mobile phone and presence of the student can be confirmed. The problem of this proposed system is student's phone is required for attendance. In case of absent student if his mobile is given to his friend and if kept it in coverage area then also his presence would be marked
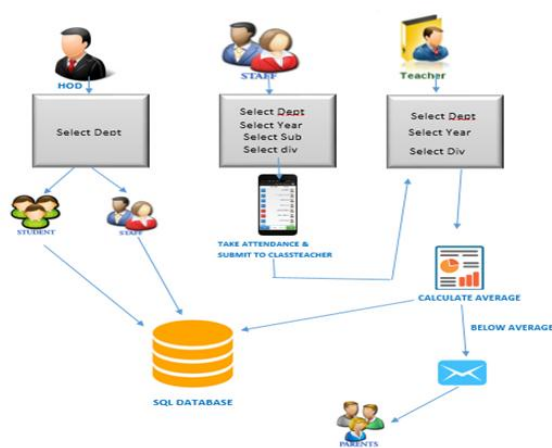

Fig -1: Block Diagram for Smart Attendance management system

Implementation of system that contains different unit which perform different functionality. It Contains different unit such as the HOD Panel, Staff Panel, Student panel etc.

2.1 HOD Panel
In the present system all work is done on paper. The whole session attendance is stored in register and at the end of the session the reports are generated. In this system, they are not interested in generating report in the middle of the session or as per the requirement because it takes more time in calculation. At the end of session the students who dont have 75% attendance get a notice.

2.2 Staff Panel

To make process of taking attendance smooth and convenient to everyone students, staff members. In every school and colleges, attendance is considered as criteria for internal marks of students. By using our traditional way of taking attendance it makes so hard to maintain record of each student and it is time consuming   Attendance Management System in Android is software developed for daily student attendance in schools, colleges and institutes. It facilitates to access.

2.3 Student Panel

The attendance Information of a particular student in a particular class. The information is sorted by the operators, which will be provided by the teacher for particular class. This system will also help in evaluating attendance eligibility criteria of a student.

2.4 PROPOSED SYSTEM

In order to overcome the drawbacks in existing system we propose a new System which does not required any hardware devices. In this system, the staff has authority to fill attendance, to view attendance and if any student is absent the staff just want to tick mark in front of the student and automatically the message will be sent to their parent. Parent can also view attendance, send feedback to any of the faculty member. In this project, we gave access to three user i.e. Admin, Student, Others. This project is based on client-server. In this project teachers or the admin will be filling attendance and sending message to the student who is absent. The flow of sending message will be attendance filled by teacher will be stored in database and also the message sent by teacher will be stored in database and when parent will open there account the message sent by teacher which is stored in database will be fetched and will view to parents or student. Also the system provides the facility to send message to the students whose Academic fees are pending. Admin means staffs who have access to the system. They will have privilege to fill attendance form, update attendance form, send message to the guardian's account whose child is absent, also those attendance is less than 75%, and they also have privilege to send message to the students whose fees are pending. Each staff member will have its own user name and password they will be entering date, time along with the course while login. The staff can also view the message whenever they want and also can modify the details of students. Parents have privilege to view attendance and to view message sent by the teacher. This message may be for absentees of student, less attendance i.e. below 75% or for pending fees. Parents will have their username and password for login. So that the parents will be updated day-To-day. Students also have their account with the privilege to view message sent by the subject teacher and to view the attendance. The system architecture above fig 1 shows, Consists main e model of: the database, the application program and the server.

Database: below fig 1. System maintains the database consists of a number of tables, which stores records. We

used apache derby database which is easy, fast and efficient and can store a large number of records and requires a little configuration.
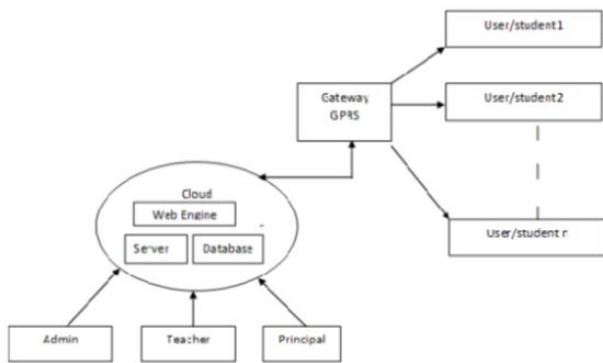
Application Program: Above fig 1. System, the application program is developed with Android programming language using net bean framework. The application program provides user interface to both the employees and office server. Programming in Android is simple, user friendly and android offers an excellent data connectivity.

Server: Above fig 1. System, the server is for running the application program on the personal computer using apache-Tomcat7. Tomcat7 is free, robust and easy to deploy. Technology.

III. LITERATURE SURVEY

Following traditional systems are used to mark attendance in the teaching process. Timely updates to parent are not possible. With this system teacher can upload notes, time tables, assignment on server and broadcast it to the registered mobile numbers so that it is easily accessible to student by their own smart phone. This system enables student to learn anywhere, anytime and at their own convenience. This system makes students to be active, responsive while learning their academic. Another application that is provided by this system is smart attendance evaluation and report generation[5]. F.RFID-Based Attendance System In initial level task of any attendance tracking and management system is to get a number of a participant entering and leaving the premises, so to get accurate real time data on the number of attendance may be for absentees of student, less attendance i.e. below 75% or for pending fees. Students will also have their username and password for login.

IV. MODULES

4.1 HOD Panel

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Fig. H.O.D

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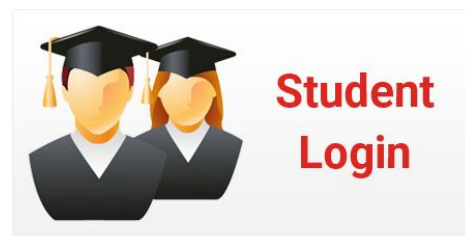

Fig. Student

V. ALGORITHM

KNN Algorithm

A case is classified by a majority vote of its neighbors, with the case being assigned to the class most common amongst its K nearest neighbors measured by a distance function. If

K = 1, then the case is simply assigned to the class of its nearest neighbor.

Distance functions

$$\text{Euclidean} \quad \sqrt{\sum_{i=1}^{k}(x_i - y_i)^2}$$

$$\text{Manhattan} \quad \sum_{i=1}^{k}|x_i - y_i|$$

$$\text{Minkowski} \quad \left(\sum_{i=1}^{k}(|x_i - y_i|)^q\right)^{1/q}$$

It should also be noted that all three distance measures are only valid for continuous variables. In the instance of categorical variables the Hamming distance must be used. It also brings up the issue of standardization of the numerical variables between 0 and 1 when there is a mixture of numerical and categorical variables in the dataset.. Choosing the optimal value for K is best done by first inspecting the data. In general, a large K value is more precise as it reduces the overall noise but there is no guarantee. Cross-validation is another way to retrospectively determine a good K value by using an independent dataset to validate the K value. Historically, the optimal K for most datasets has been between 3-10. That produces much better results than 1NN.

Standardized Distance:
One major drawback in calculating distance measures directly from the training set is in the case where variables have different measurement scales or there is a mixture of numerical and categorical variables. For example, if one variable is based on annual income in dollars, and the other is based on age in years then income will have a much higher influence on the distance calculated.

VI. OPERATION

1. These applications help the institute to move forward quickly, fulfill their vision and accomplish their goals, E – way.

2. The proposed system helps to the teacher to take attendance through smart phone and keep record of students for their progressive assessment.

3. This system enables student to learn anywhere, anytime and at their own convenience. D. Online Attendance Management System using RFID with Object Counter.
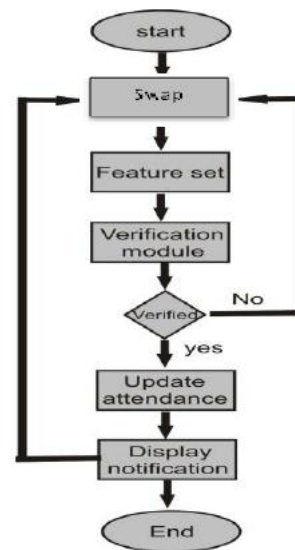
Flow Chart:

Fig. Flowchart

VII. MATHEMATICAL MODEL

Let us consider a set S
where, S= {U, R, SER, D, G, C,I }
Here,
S: System which includes:
U: Set of Users Where U= {U1, U2, U3 …, Un}
SER: Server. R: Set of Request.
Where R= {R1, R2, R3……., Rn}
D: Database.
N: user Inputs
C: Set of Centroid.
Where C={C1, C2} C1=User centroid, C2=Robot centroid.
If C1 > C2 then it is a User request, else it is a Robot request.
I :- Internet Communication for Data Transfer in PWA

VIII. FUTURE DEVELOPMENTS

In future this system can be implemented to automate most of the educational systems and it can be designed for cross platform. In order to be able to simulate Web traffic, we need a certain amount of information about the components, that participate in Web traffic. These components are WWW servers and clients and Web files like Pages and Embedded Objects. Web servers and clients have to provide information about the kind of network connectivity they support.

IX. CONCLUSION

The proposed system is cost efficient by this system students can learn anywhere anytime as per their own convenience. Timely updates of student can be sent to

students as well as their parents. Attendance marking and report generation becomes easy.

REFERENCES

[1] Ankita Agrawal and AshishBansal "Online Attendance Management Systemusing RFID with Object Counter", International Journal of Information and Computation Technology.ISSN 0974-2239 Volume 3, Number 3 (2013), pp. 131-138

[2] Vishal Bhalla, Tapodhan Singla, Ankit Gahlot and Vijay Gupta, "Bluetooth Based Attendance Management System", International Journal of Innovations in Engineering and Technology (IJIET) Vol. 3 Issue 1 October 2013, ISSN: 2319 – 1058
.
[3] Kamaruddin Mamata, Farok Azmat, "Mobile Learning Application for Basic Router and Switch Configuration on Android Platform" published in Sixth International Conference on University Learningand Teaching (In CULT 2012) 1877-0428 2013.

[4] Nurul Farhana Jumaata, Zaidatun Tasir,"Integrating Project Based Learning Environment into the Design and Development of Mobile Apps for Learning 2D-Animation" 1877-0428 2013Social and Behavioural Sciences 103(2013) 526-533.

[5] Christopher Dong, Xing Liu.,"Development of Android application of Language studies" 2013 International conference on Electronic engineering and computer Science. 2212-6678 2013.

[6] M Hsuan Che Yang, Wen-YingWang."Facilitating Academic Service-Learning with Android-based Applications and Ubiquitous Computing Environment" 978-0-7695-4493-9/11 26.00 2011IEEEDOI10.1109 U-MEDIA.2011.29.

[7] K.w.T.G.T. Priyankara, D. c. Mahawaththa, D.P.Nawinna, J.M.A. Jayasundara, K.D.N. Tharuka, S. K.Rajapaksha "Android Based eLeaming Solution for Early Childhood Education in Sri Lanka", International Conference on Computer Science and Education Colombo, SriLanka (ICCSE) April 978-1-4673-44632013.