2581-4575
International Journal For Recent Developments in Science & Technology
Crossref
A Peer Reviewed Research Journal

GPS ONLINE ACADEMIC MONITORING SYSTEM

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ABSTRACT:

Our approach towards the problem statement is to develop a platform for automating the teaching monitoring process. a mobile-based application that can be accessed on any mobile operating system like Android, Apple etc. The App uses the combination of Face Picture and biometrics to authenticate the user. We also capture the GPS location of the user while he/she is submitting the survey. If he's/she's within the School GPS range, we approve of the survey and records that survey, otherwise we can tell that he's trying to cheat the system. The Combination of GPS+ Face Photo + Biometric is unbreakable and can't be bypassed. The monitoring process will include a pre-defined subjective and objective questionnaire that will be used by the visiting officers for rating the quality of teaching.Sentiment analysis will be done on the textual feedback to generate scores for review. If the user goes to a remote location and records a survey, the app still works and uploads the survey once internet connection becomes available. A website is developed to upload the visit reports. From the graphical representations on the dashboard, the teacher can thus infer and diagnose himself related to the pedagogical issues, curriculum revision etc. And further take necessary actions to improve upon them.

Keywords: GPS, QR code, High Accuracy.

1. INTRODUCTION:

In this era, smart phones play a significant role in our daily lives. The emergence of mobile application , has been impacted relatively cheap devices , high – performing devices, easy -to-use market place for apps, and the need for simple , targeted applications using mobile. UniversitiTeknikal Malaysia Melaka is the 14th public university in Malaysia . This university consists of three campuses which are the main campus , technology campus, and city campus. The university organizes various events for the student that will take part in the events, thus making the attendance taking process time consuming and may delay the start time of the event. Therefore, the purpose of this study is two-fold: First, to investigate the requirements in event attendance for a university‟s event, and second, to develop a mobile application that utilizes the QR code and GPS location. A proof of concept for the proposed solution is developed. The system

consists of admin view forevent‟s organizer to create an encrypted QR code, and a user view for students to log in the university site by using unique matric number and password, scanning the QR code shown by the organizer and their current location which is tracked by the GPS as the attendance. The user view will then communicate the information collected to the admin view to confirm the attendance.

Conventional attendance system is still used in most universities. However, this type of attendance system suffers problem like missing name, false attendance, missing attendance sheet, and tedious management. The advancement in attendance system has incorporate technological tools to improve the shortcomings in conventional system. In this section, various technologies used to support current work in the attendance system will be discussed. An efficient web-based application for attendance management system is designed to track students‟ activity in the class by using the electronic methods [2]. Besides, the attendance records are stored in the database and this system is developed with the usage of Model, View and Controller (MVC) architecture with the assistance of power of Laravel Framework. The purpose of this system is to differentiate the hours of theoretical and practical lessons since the calculation method for the absence rate of students for these lessons are different.

PROBLEM STATEMENT

The application should have a database of questionnaire which will be given to the students after a secured login. Admin should be there to add, modify or delete a question to/from the database. The application should evaluate the answers given by the students based on the feedback and a percentile / grade has to be generated to all the staff members of a particular department. This feedback report was checked by the faculty. He can view overall grades and view the grades obtained to the lecturers and give this report to the admin We have developed Feedback System to provide feedback in an easy and quick manner to the admin By using this online system we make it better and quick way.

2. LITERATURE SURVEY:

TITLE:DESIGN OF A GPS-BASED ACADEMIC PERSONNEL CLOCKING SYSTEM AUTHOR:T. C. ADENIRAN, A. O. ANYAEGBU, L. A. OLAWINYN and A. O. AJAGBE

Description: Ensuring optimal productivity in the workplace is a major concern for employers of labour; hence the proposition of clocking solutions for employees in a bid to track their presence and punctuality at their duty posts. However, the peculiarity of the academic environment makes general methods of clocking unsuitable for lecturers. This paper presents design and implementation of a GPS- based clocking solution for academic personnel using a web

App and an Android client. The web App; written in NodeJS and hosted on Heroku, in conjunction with the database (Mongo DB), registers and holds the schedule details of the lecturers. The android client which is installed on lecturers' mobiles, works in synergy with the web App to accomplish clocking. This concept is reliant on GPS, thus, the lecturers' mobiles require a clear view of the sky for successful clocking. The aspect of security can be improved upon with a few tweaks in the applications' program codes. In all, the system utilizes existing and readily available resources to achieve clocking of academic personnel.

Title: A LOCATION-BASEDPERSONALTASKREMINDERFOR MOBILEUSERS AUTHOR:CHI-YI LIN

Description:Personal task reminders have been indispensable for modern people, in order to remind them of their tasks at specific circumstances. Traditional paper-based reminders are still useful, but they cannot be organized efficiently. Electronic reminders based on the calendar in cell phones are more efficient and gaining popularity, but such reminders are mostly triggered by time. In many situations, tasks are only meaningful to be performed at a specific location, so it would be useful if reminders for those tasks can be triggered only when the person to be reminded is physically near or located at that location. Therefore, in this research, we develop a location-based personal task reminder for Android- based smartphones and tablets. To distinguish our work from existing ones that rely solely on the GPS Technology, we take advantage of the ubiquity of IEEE 802.11 WLAN infrastructure to compliment the "blind spots" of GPS location sensing. Combining the two technologies makes it possible for the personaltask reminder to be effective in both indoor and outdoor environments. We also propose two operating models for the personal task reminder to boost the usability of the application. Furthermore, as long as the WLAN infrastructure is available, our work as a foundation of location-based services can easily be extended to be used in many other scenarios, such as guiding in public transportation systems or tourist attractions, location-based learning, and even caring of the Dementia residents.

TITLE: A LOCATIONBASEDTIMEAND ATTENDENCE SYSTEM AUTHOR:MOHHAMMAD SALAH UDDIN

Description:Time and Attendance System provides many benefits to organizations. It enables an employer to have full control of all employees working hours. It helps control labour costs by reducing over-payments, which are often caused by transcription error, interpretation error and intentional error. Manual processes are also eliminated as well as the staff needed to maintain them. It is often difficult to comply with labour regulation, but a time and attendance system is invaluable for ensuring compliance with labour regulations regarding proof of

attendance. Every Organization has a specific location, which is determine by the GPS. The location of an employee can be determined by GPS device (Mobile Phone, GPS watch or GPS enabled device etc.). If the location of an employee and the location of organization is same (Approx.), then it should be said that, the employee is in the office. This paper use location as a proof of attendance and proposed a new time and attendance system based on location.

TITLE: GPS LOCATION-TRACKINGTECHNOLOGY
AUTHOR:R.BAJAJ, S.L.RANWEERA; D.P.AGARWAL

Description:Increasing commercial use of the Global Positioning System will soon make it possible to locate anything, anywhere, anytime. The Global Positioning System can provide extremely accurate location information for mobile objects and people which is far superior to earlier tracking techniques. The challenge today is integrating the necessary components into older systems and improving GPS accuracy in areas with numerous obstructions. As more devices become GPS enabled, accuracy will increase and the system's scale and global reach will benefit everyone. Wireless technology promises to be a key element in any long-term solution.

EXISTING SYSTEM:

In existing system, Coming to the existing system the feedback is done by manual process. In the existing system students can give feedback about the lecturers by using paper and pen. by this process, Student can give feedback in online system without waste his time in writing, after giving feedback by every student. Papers are collected by the Hod's and calculate the overall grade for each subject and each lecturer. After that those all grade report is viewed by the principal which is given by the Hod's. Hence estimating the performance of lecturers and giving counseling to college staff. So, the existing system is carries more time to do a piece of work for this reason. The online system feedback is implemented.

PROPOSED SYSTEM:

Student Feedback System for college students have been developed which aims to rate and analyze the college faculty's performance. The system also reduces the burden of efforts and burden of keeping and maintaining the records on a manual base, it requires a lot of space and safety to keep up such records. And we are proving authentication by using gps and face authentication

3. METHODOLOGY

With the combined ϵ evaluations of the teachers-user and students, data rvealed that QR Code as attendance monitoring system was generally very highly acceptable in terms of reliability, efficiency, accuracy, usability, while highly acceptable in terms of security and confidentiality. Here is the interface

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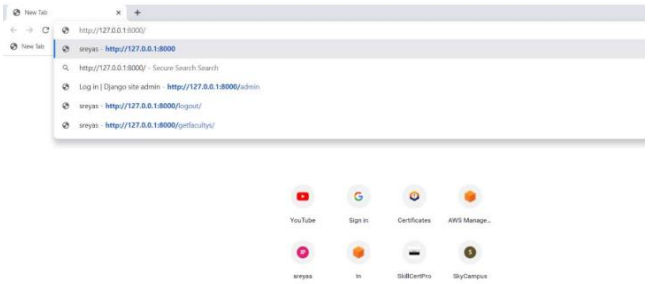

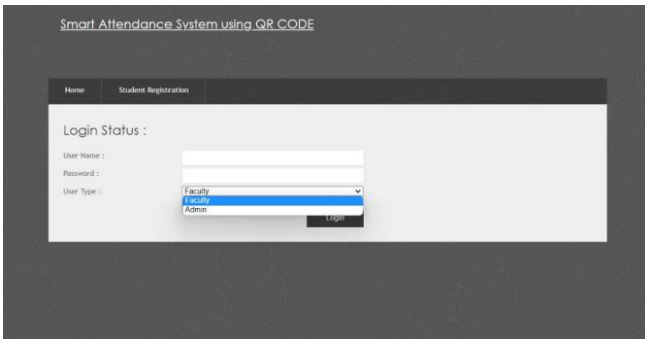

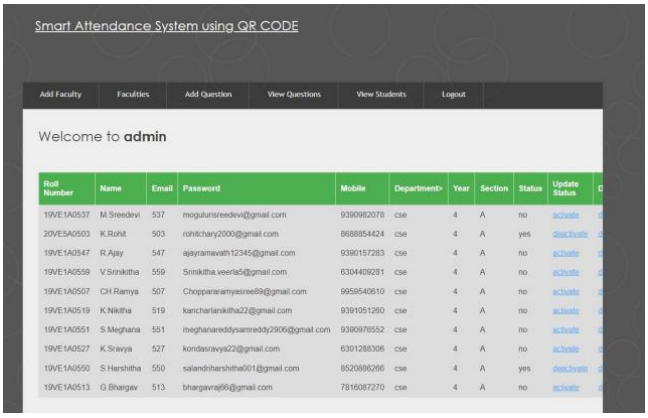

CONCLUSION

Location-aware Event Attendance System using QR code and GPS technology is implemented using android application and Firebase database in cloud to manage the attendance information. From the evaluation, the proposed system was capable to take the student attendance by scanning the QR code. The GPS location, time login and logout were tracked to ensure full attendance. We found positive feedback for the system in the user acceptance test. However, this system can only support android application which makes it inconvenient for iOS users. Furthermore, the proposed system is only capable of tracking the location without calculating the distance to the event venue. In addition, the application also needs strong Internet connection.The QR based attendance management system was implemented with Microsoft's C# on the .NET framework and Microsoft's Structured Query Language (SQL) Server 2005 as the backend. The future work may consist of creating the database of students which contains the academic details of the students. We can send the academic details of the students periodically to the parent's mobile along with the attendance report. So in near future we can use finger vein recognition in this attendance system which very unique compared to the fingerprint authentication. The authentication can also be made as more secure by using human odor for the Security purpose.

Future Scope

For future work, we plan to improve the application operability to support both android and iOS smart phone. To calculate the distance between the user and the venue, we propose to incorporate Google Maps Distance Matrix API in the application. To decrease false attendance and secure

authentication, the authors also plan to apply factor-based authentication scheme with low cost method in the application . This study can be extended to other areas such as recommender system. Our future work will focus on expanding the system to support factories and companies with large numbers of workers who need attendance monitoring. We will also provide safer and improved options.

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