



UNIVERSITI
TEKNOLOGI
MARA

Cawangan Perak

VINSPIREd
Virtual Ispoh International Summit on
Professionalism, Research and Education 2022

leGRESAFE
2022

E-PROCEEDING OF

**1st INTERNATIONAL
E-CONFERENCE ON
GREEN & SAFE CITIES
2022**

“Sustaining the
Resilient, Beautiful and Safe Cities
for a Better Quality of Life”

20 & 21 SEPTEMBER 2022

Organisers:



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA



Co-organisers:

OFFICE OF RESEARCH, INDUSTRIAL LINKAGES, COMMUNITY &
ALUMNI (PJM&A), SERI ISKANDAR CAMPUS
DEPARTMENT OF BUILT ENVIRONMENT STUDIES & TECHNOLOGY (JABT),
FACULTY OF ARCHITECTURE, PLANNING & SURVEYING (FSPU)

<https://myse.my/gresafecities2/leGRESAFE/>



e-PROCEEDING OF
1st INTERNATIONAL E-CONFERENCE ON
GREEN & SAFE CITIES

“ **Sustaining the Resilient, Beautiful and Safe
Cities for a Better Quality of Life** ”

ORGANISED BY

Gresafe_Cities RIG
The University of Queensland, Australia
Kampus Hijau UiTM Perak

CO-ORGANISED BY

Research, Industrial Linkages, Community
& Alumni Network (PJIM&A)

© Unit Penerbitan UiTM Perak, 2022

All rights reserved. No part of this publication may be reproduced, copied, stored in any retrieval system or transmitted in any form or by any means; electronic, mechanical, photocopying, recording or otherwise; without permission on writing from the director of Unit Penerbitan UiTM Perak, Universiti Teknologi MARA, Perak Branch, 32610 Seri Iskandar Perak, Malaysia.

Perpustakaan Negara Malaysia

Cataloguing in Publication Data

No e ISBN: 978-967-2776-13-0

Cover Design: Muhammad Falihin Jasmi

Typesetting : Ts Dr Azizah Md Ajis

ORGANISING COMMITTEE

Patron	: Prof. Sr. Dr Md Yusof Hamid
Advisor	: Assoc. Prof. Ts Dr Norhafizah Abdul Rahman
Chairman 1	: Assoc. Prof. Ts Dr Siti Rasidah Md Sakip
Chairman 2	: Assoc. Prof. Sr Dr Nur Azfahani Ahmad
Secretary 1	: Ms Nur'Ain Ismail
Secretary 2	: Ms Nurhidayah Samsul Rijal
Treasurer 1:	: Dr Nor Nazida Awang
Treasurer 2	: Dr Nadiyah Mat Nayan

MAIN SECRETARIAT

Invitation & Sponsorship	: Ts Dr Ida Nianti Md Zin (L) Dr Nor Eeda Ali Ms Nur'Ain Ismail Ms Nurhidayah Samsul Rijal Ts Ahmad Haqqi Nazali Abdul Razak
Participation, Registration & Certificates	: Dr Atikah Fukaihah Amir (L) Ms Marina Abdullah
Graphic & Printing	: Mr Muhammad Falihin Jasmi (L) LAr Ruwaidah Borhan
Promotion & Website	: Ts Nur Hasni Nasrudin (L) Ts Sr Dr Asmat Ismail
Information technology (IT & AV) & Media	: Mr Aizazi Lutfi Ahmad (L) Mr Muhammad Anas Othman Mr Tuan Sayed Muhammad Aiman Sayed Abul Khair
Scientific Reviewers & Publication	: Assoc. Prof. Sr Dr Thuraiya Mohd (L) – Sc. Reviewer Assoc. Prof. Dr Sallehan Ismail (L) - Journal Assoc. Prof. Sr Dr Siti Aekbal Salleh Assoc. Prof. Dr Kharizam Ismail Assoc. Prof. Ts Dr Siti Akhtar Mahayuddin Assoc. Prof. Sr Dr Nur Azfahani Ahmad Assoc. Prof. Sr Dr Natasha Khalil Dr Puteri Rohani Megat Abdul Rahim Ts Dr Azizah Md Ajis Sr Dr Asmalia Che Ahmad Dr Dzulkarnaen Ismail Dr Lilawati Ab Wahab Ms Marina Abdullah
Event Manager & Moderator	: Ts. Ahmad Haqqi Nazali (L) IDr Dr Othman Mohd Nor TPr Dr Kushairi Rashid Dr Mohd RofdziAbdullah Ar Haji Azman Zainonabidin
Banquets & Charities	: Ms Noor Faiza Rasol (L) Mr Afzanizam Muhammad Ms Siti Rohamini Yusoff

DEVELOPING A STUDENT ATTENDANCE RECORD SYSTEM FACILITATES FOR CLASS TEACHERS TO MAKE EVALUATION

Munirah Mokhtar¹, M. Irwan^{2*}, Mohd Najib Husain³

***Corresponding Author**

^{1,3}Department of Built Environment Studies and Technology,
Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA,
Perak Branch, 32610 Seri Iskandar, Perak, Malaysia

²Sekolah Menengah Iskandar Shah, 32800 Parit, Perak

munirah@uitm.uitm.edu

*mirwan@moe.edu.my

najib1979@uitm.edu.my

Abstract

This research took a different approach on students when introducing the use of a new attendance recording system to record student attendance. The problem statement highlights for previously the class teacher had a problem calculating the attendance of class students on a monthly basis. The workload of classroom teachers is increasing due to the many things that need to be recorded as a classroom teacher. The system that will be developed can help class teachers to record the first warning, second and then further action without having to calculate manually. The method introduced in this research is to develop a new system to support the existing system. Data of students from one school in Central Perak will be used as a study to obtain the results and then can be used for other schools in Malaysia. As a result, classroom teachers are able to generate attendance records for each of their students accurately, quickly and efficiently. The student report that can be generated will be used as evidence to be kept by the school administration and shown to the student's parents. This study helps the community, especially on behalf of teachers and school administration; it is very beneficial to them.

Keywords: recording system, classroom teacher, Central Perak, schools, community

INTRODUCTION

This paper has presented the design and development of a student attendance management system is critical to fulfil the administration of school students. The traditional scenario of pursuing student attendance in the classroom is done by compelling the students to physically mark the attendance slip that goes around the classroom while a course teacher is delivering the class. For example, a course teacher with a general class may notice the bother of having the attendance slip being passed around the class and the physical marking of attendance by students are repressive and no doubt occupy them from instructing and getting complete consideration from the students. The main focus of this paper is to introduce an attendance record system. The main benefits of this system is that the teacher can get a computed percentage, print copies with details of attendance information, save data in a phone database, as well as save data to a remote server database which ensures that the information will never be lost, and able to use the data whenever needed.

In every organisation, one of the trusts that exist between the employers towards their employees is their attendance. Attendance is a symbolic representation that could be a benchmark to the higher authority to assess their staffs' commitment toward their job. This scenario is similar to any organisation, such as the educational system. In this case, the teacher will play a role as the higher authority, whereas the students will be his/her subordinates. The decision-making system used today is based on the conventional method, and it slows down as well as needs each teacher in the school to make reports for their part, and requires careful preparation, which will reduce the rate the effectiveness of decisions made due to the delay in receiving reports from teachers. Based on the current system, for the co-curricular part, teachers will enter student scores into a file manually and then process data into a report format. The current system is a storage system, which is desktop-based, rather than in a web-based form. It also does not have the ability to process entire data automatically and display the results directly.

The whole process of distributing a thorough decision is time consuming and requires a high cost. Moreover, when an immediate decision needs to be made, the school administration has no latest information, and only makes decisions based on information available in their storage. This will make it difficult for the administration to make the best decision for a desperate situation. This hinders the exertions of the school administration to make decisions and choices in a short time.

Co-curricular is a system of education educated out of the classroom, which encourages sustainable obligation to educational outcomes. Therefore, an online application, or also known as the web application, is introduced to advance the current co-curricular management system of a school. The national curriculum is an educational programme that contains curriculum and co-curricular activities that cover all knowledge, skills, norms, values, cultural elements, and beliefs to help a student's development physically, spiritually, mentally, and emotionally as well as to inspire and enhance moral values.

LITERATURE REVIEW

According to Abdul Rahman and Abu Bakar (2019), the co-curricular scoring process was based on the amount of activity coupons collected by students in the co-curricular activity card and the scoring process was done manually. The use of extracurricular activity cards creates problems such as increased costs, loss of coupons and activity cards, theft of activity cards and makes it difficult for students to monitor their achievements from time to time throughout their studies.

Systems that provide fantastic presentation of data with slow retrieval or unwieldy data management are not useful. The same is true for systems that provide excellent data management and access but poor data presentation. Increased awareness of disciplinary problems such as the above, requires parties the school investigates the causes and consequences of discipline problems, as well as identifying strategies for reduce the problem (Ghani et al., 2017).

Soewito et al., (2015) proposed an attendance system using fingerprint and GPS technology through a smartphone. The system is time-consuming as it uses fingerprint technology. The system is able to collect data but cannot generate .pdf or .xlsx files. Furthermore, Zhu (2006) stated in their study that fingerprint scanners come with many advantages, including ease of use, permanent, unique, good anti-fake mechanism, and are increasingly recognised by many people. The technology behind this mechanism is biometric recognition. In higher learning institutions such as universities, attendance is made compulsory for every student in order for them to understand the subject matter taught in class. With the

existence of the fingerprint scanner, it has been made easy for educators, such as lecturers to record student attendance.

Zainal (2014) stated that most universities in Malaysia have attendance systems that can be easily manipulated. As proof to this fact, imagine if in each class, a lecturer has to pass the attendance list, which is printed on a paper, to the students to record their attendance. In this situation, the student only needs to fill out the attendance form with their signature. However, some of the students might imitate their friends' signatures even though they are absent. Most universities have barring procedures which exclude students from taking the examination if their attendance record is less than 80%. One of the solutions is to call out the student's name to mark their attendance. Nevertheless, this approach is very time consuming.

The amount of time required to implement a system is a major consideration in choosing whether to build or buy a data system. Developed locally, implementation of a data warehouse with reporting and analysis capabilities often takes years, while most commercial vendors promise an established (i.e., running and useful) product in a matter of months. Competent commercial vendors can usually bring practical experience and specialised staffing, and thus can often get a system established and functional much faster than school personnel can when building it themselves. This is not a criticism of local school technology personnel; it merely reflects the efficiency advantages when an organisation or business specialises in a particular product and set of processes. The best route to rapid implementation is one of the important choices a school system faces in launching such a system, and it is beneficial to know that there are multiple options available to achieve this objective.

METHODOLOGY

Figure 1.0 shows the proposed solution of the student attendance system where a class teacher takes attendance via a database, then the application processes the data and the teacher can save the data in the web server as well as a phone server. The remaining part of this paper is organised as follows. The process of system analysis aims to study an existing system to entirely design a new system. System analysis is performed to achieve two aims, namely to understand the process or the system clearly. This will assist in the new system design. System analysis will help to identify the problems in the existing system; therefore, this will help to know the inefficiency reasons.

Testing the database is important in order to find errors, which might affect the system reliability, consistency, performance, and security. Database testing involves the retrieval of information from the database by the desktop application or web. It assists in evaluating the system against the requirements specified by the user. Data in the user interface should be matched as per the records stored in the database. The proposed system uses PHP to implement the database. The model's co-curricular management system is used to broaden this project. The model consists of five phases starting with data requirements. The first phase is the data requirement phase. The data requirements for this project are analysed. The second phase is the system design phase, where the interfaces and the details in the application are designed according to specific requirements from the previous manual form of the co-curriculum. The third phase is the implementation process and continues with the system testing phase. The last phase is maintenance, where any difficulties occurred in the testing phase will be resolved.

Figure 1
Research Methodology Flowchart



RESULTS

The assessment of the school's co-curricular management system is a study conducted on co-curricular management in schools. Results of previous studies found that existing co-curricular management cannot be implemented smoothly and systematically. Therefore, a system that is able to assist co-curricular management in this school will be developed in the near future. Co-curricular management at the school level is still a problem and the burden rests on teachers who have so far borne many responsibilities besides educating students. This leads to the implementation of co-curriculum in schools, which is far behind when compared to academic curriculum. Therefore, awareness should arise about the importance of more efficient co-curricular management so that it can be fully implemented.

Every school, whether in secondary school or in primary school, has co-curricular activities that must be contributed by students. Each student is obliged to be a member of at least one of three bodies, i.e., uniformed body teams, clubs, and associations. Each student will also be provided with an attendance record book for co-curricular activities and co-curricular assessment record books.

All record books are required to be brought along at each meeting of such activities. Due to imperfect and unsystematic aspects of management, without using a system capable of integrating such management processes, co-curricular management cannot be implemented

effectively and efficiently. The effects of ineffective and inefficient co-curricular management will have an impact on holistically assessing student achievement.

Real and efficient co-curricular management can be applied through monitoring and informal access to information or data related to the students as well as the course of each major co-curricular activity in school. Lack of a smooth and effective management process, such as monitoring, could not be carried out as efficiently as possible. Therefore, a drastic change to current processes, such as changing from manual to digital handling of co-curricular management through an online application needs to be implemented.

CONCLUSION

This preliminary pilot study shows that the system management application is considered to assist teachers in Malaysia, especially in secondary schools for tracking co-curricular activities record by displaying the information on the application and helping teachers to make reports on the co-curricular activities by automatically generating the co-curriculum data dashboard. Computerising classroom attendance tracking has many advantages over the old system. Data from classrooms can easily be transformed into databases for possible future analysis or usage. The proposed system will also help in generating the defaulters list on its own and send emails to those students whose attendance are below the required amount. Previous co-curriculum records were done manually and not so effective for teachers. The expected outcome of this project is to develop a fully functional application for managing the school co-curriculum in Malaysia. The implication of this project is to improve the current co-curricular management system through an online application.

ACKNOWLEDGEMENT

Researchers would like to express the highest appreciation given to the MyRA Research Grant for PhD Graduates from UiTM which gives researchers the opportunity to develop an application to help and contribute ideas to the country for national educational institutions.

REFERENCES

- Abdul Rahman, T. F., & Abu Bakar, Z. (2019). Merekod markah menggunakan kod QR ke dalam sistem pendaftaran kokurikulum (marks recorded in co-curricular registration system using QR code). *Jurnal Inovasi Malaysia*, 2(2), 19-39.
- Ghani, M. F. A., Radzi, N. M., Ghavifekr, S., Kenayatullah, H. B., & Muhamad, M. (2017). Pengurusan disiplin murid di sekolah kawasan bandar dan luar bandar: Perspektif pemimpin sekolah. *Jurnal Kepimpinan Pendidikan*, 1(1), 7-40.
- Soewito, B., Gaol, F. L., Simanjuntak, E. & Gunawan, F. E. (2015). Attendance system on Android smartphone, *International Conference on Control, Electronics, Renewable Energy and Communications (ICCEREC)*, Bandung, 208-211.
- Zainal, N. I., Sidek, K. A., Gunawan, T. S., Manser, H., & Kartiwi, M. (2014). Design and development of portable classroom attendance system based on Arduino and fingerprint biometric. *In The 5th international conference on information and communication technology for the muslim world (ICT4M)* (pp. 1-4). IEEE.

Surat kami : 700-KPK (PRP.UP.1/20/1)

Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
Universiti Teknologi MARA
Cawangan Perak



Tuan,

**PERMOHONAN KELULUSAN MEMUAT NAIK PENERBITAN UiTM CAWANGAN PERAK
MELALUI REPOSITORI INSTITUSI UiTM (IR)**

Perkara di atas adalah dirujuk.

2. Adalah dimaklumkan bahawa pihak kami ingin memohon kelulusan tuan untuk mengimbas (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.

3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna perpustakaan terhadap semua maklumat yang terkandung di dalam penerbitan melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

PROF. MADYA DR. NUR HISHAM IBRAHIM
REKTOR
UNIVERSITI TEKNOLOGI MARA
CAWANGAN PERAK
KAMPUS SERI ISKANDAR