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DEVELOPMENT OF MOBILE APPLICATION FOR STUDENT-LECTURER INTERACTION HOUR MANAGEMENT (e-APPOINTMENT)

CHONG KAR LING



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**FACULTY OF ART, COMPUTING & CREATIVE INDUSTRY
SULTAN IDRIS EDUCATION UNIVERSITY**

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**DEVELOPMENT OF MOBILE APPLICATION FOR STUDENT-LECTURER
INTERACTION HOUR MANAGEMENT (e-APPOINTMENT)**

CHONG KAR LING

**FINAL YEAR PROJECT REPORT SUBMITTED IN FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE BACHELOR OF SOFTWARE
ENGINEERING (EDUCATIONAL SOFTWARE) WITH HONOURS**

**FACULTY OF ART, COMPUTING & CREATIVE INDUSTRY
SULTAN IDRIS EDUCATION UNIVERSITY**

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I certify that all the materials in this final year project report are my own creations. If any other person's or group's work, whether it was published or not was used such as books, essays, papers, or materials in other media, I have previously acknowledged it using the proper academic etiquette. I also understand that the information in this final year project reports has not yet been published or submitted for consideration by any university for any other programmes, certificates, or degrees.

23 Feb 2023

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26 Feb 2023

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DEVELOPMENT OF MOBILE APPLICATION FOR STUDENT-LECTURER INTERACTION HOUR MANAGEMENT (e-APPOINTMENT)

ABSTRACT

In the current era of technological growth, the use of mobile applications has completely changed how people live. Currently, the system for making appointments between lecturers and students has existed but the system is unsystematic because the student needs to ask the lecturer personally about their schedule and book manually with their lecturer, especially at Sultan Idris Education University (UPSI). Thus, a user-friendly application known as e-Appointment is proposed for managing the student and lecturer interaction hour. The project development approach used for e-Appointment development is Small Scale Scrum. After the e-Appointment has been completely developed, the user testing was conducted to 10 lecturers and 10 students in UPSI. A set of questionnaires was distributed after the testing phase. The results show that the proposed e-Appointment has positive feedback from users and suitable to be used to make an appointment before lecturers and students have a meet up. Overall, e-Appointment makes very convenient for UPSI students and lecturers to schedule the appointment in advance and then go for that lecture. There are some improvements that can be made in the future which extends this system to other mobile platforms like iOS along with its availability over the web. It is hoped that this e-Appointment will be widely used in the future to oversee the interaction hour between students and lecturers.

ABSTRAK

Dalam era pertumbuhan teknologi semasa, penggunaan aplikasi mudah alih telah mengubah sepenuhnya bagaimana orang hidup. Pada masa ini, sistem membuat janji temu antara pensyarah dan pelajar telah wujud tetapi sistemnya tidak sistematik kerana pelajar perlu bertanya sendiri kepada pensyarah mengenai jadual dan buku secara manual dengan pensyarah mereka, terutama di Universiti Pendidikan Sultan Idris (UPSI). Oleh itu, aplikasi mesra pengguna yang dikenali sebagai e-Temujanji dicadangkan untuk menguruskan jam interaksi pelajar dan pensyarah. Pendekatan pembangunan projek yang digunakan untuk pembangunan e-Temujanji ialah Small Scale Scrum. Selepas e-Temujanji dibangunkan sepenuhnya, ujian pengguna telah dijalankan kepada 10 orang pensyarah dan 10 orang pelajar UPSI. Satu set soal selidik diedarkan selepas fasa ujian. Hasil kajian menunjukkan bahawa e-Temujanji yang dicadangkan mempunyai maklum balas positif daripada pengguna dan sesuai digunakan untuk membuat janji temu sebelum pensyarah dan pelajar bertemu. Secara keseluruhannya, e-Temujanji memudahkan pelajar dan pensyarah UPSI menjadualkan temujanji terlebih dahulu dan seterusnya mengikuti kuliah tersebut. Terdapat beberapa penambahbaikan yang boleh dibuat pada masa akan datang yang memperluaskan sistem ini ke platform mudah alih lain seperti iOS bersama dengan ketersediaannya melalui web. Diharapkan e-Temujanji ini akan digunakan secara meluas pada masa akan datang untuk menyelia jam interaksi antara pelajar dan pensyarah.

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LIST OF ABBREVIATIONS

App	Application
FYP	Final Year Project
ICT	Information and Communications Technology
IDE	Integrated Development Environment
MVC	Model-View-Controller
PHP	Hypertext Preprocessor
PoC	Proof of Concept
SDD	Software Design Document
SDK	Software Development Kit
SDLC	Software Development Life Cycle
SMS	Short Message Service
SPSS	Statistical Package for the Social Science
SQL	Structured Query Language
SRS	Software Requirements Specification
SSS	Small Scale Scrum
STD	Software Test Document
SUS	System Usability Scale
UI	User Interface
UML	Unified Modelling Language
UPSI	Sultan Idris Education University

XML Extended Markup Language

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A	Project Backlog
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C	Software Design Document
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CHAPTER 1

INTRODUCTION



Mobile applications have abetted in restructuring most of the tasks performed every day, which makes lives simple and uncomplicated. The history of educational communications and information technology includes numerous failed innovations and unfulfilled promises. The research aimed at adopting a mobile e-Appointment app to manage the students and lecturer interaction hour management. The objective and desired outcome is not on the technology used, but it must be centered on the effectiveness of student lecturer time management. In this research, the mobile application was designed to be used in the context of student lecturer interaction hour management. These applications are most widely used in solving problems concerning student learning and scheduling appointments with lecturer. Previously, these



appointment scheduling were carried out manually thus, there were many cases of over-bookings or making the same reservation for two or more student or failing to delete an appointment not needed to allow replacement. To eliminate these human errors due to manual appointments scheduling system, there is need to develop a mobile application that enables appointment processes easier. A mobile-based appointment scheduling system within a university is a very good idea, as it minimize time usage for the students and lecturers (Wu et al., 2021).

Information dissemination and teaching techniques employed in a course system will enhance efficiency of educational process. Education, according to refers to the process of acquiring knowledge, attitudes, interests, abilities, cultural norms and skills of a society; and transmit these to the next generations so as to improve everlasting development of the society. All lecturers have mobile phone, and also gain access to the internet. The lecturers used mobile app as avenue for accessing and delivering lecture based on appointment schedule to the students. It will also record the hours student and lecturer spent on learning which courses (Bokolo, Peremoboere Maureen and Abdul Majid, 2021). This study presents a web-based appointment booking system through mobile devices that assists both students and lecturers to be acquainted with the time of appointment wherever they are. The system allows students and lecturers to simply gain access to the system by connecting to the internet. It also enables students to drop any message which consists of the purpose and time of the appointment. According to the existing system, students schedule appointments either through email or going in person to the advisor's assistant and request for an appointment. This process is very tedious and time taking (Bhangale et

al., 2021). By deploying this system, we can avoid wasting time and cost because this application will set an appointment by auto generated. Therefore, this system is hopefully to solve problem for scheduling. E-Appointment Scheduling performs the related task associated with students or lecturers and doctor such as:

- a- Student needs to see lecturers or doctor first before making the appointment.
- b- Student needs to fill the form before meet with the doctor.
- c- Consume more time to key in data into current system.
- d- Increase error while entering data into current system.
- e- The scheduling not effective for doctor and lecturers.

1.2 Project Background

Long waiting times for getting chance to see a lecturer is problematic in some universities and colleges, especially in Sultan Idris Education University (UPSI). A mobile app-based appointment system is developed to reduce the difficulties in meeting lecturers among undergraduate UPSI students for their interactions. The project aims to help the students with developing a e-Appointment app to schedule the lecture session between lecturer and student. An appointment is a particular time scheduled for something such as a business deal, doctor visit and much like a reservation. Various aspects of appointment processes, such as confirmations, reservations and cancellations are controlled automatically. Recently, there have been various trends in development of mobile application, and it is a fast and ever-growing



field. Mobile applications have a user interface which allows the user to interact and can manage large amounts of data. They can book the appointment everywhere and anytime according to the lecturer's free time (Mohamad Rosman et al., 2021). Currently, all UPSI students are directly go to meet their lecturers without applying any appointment. e-Appointment app system has a great role which will allow the UPSI students to schedule the appointment with lecturers for their coursework and attend the lecture or meet with the lecturers on scheduled time. It will help both UPSI students and lecturers to manage their complete schedule as, any student wants to meet with a lecturer, then he must come to his lecturer's office physically, but in this situation, many times lecturers are not available and not free. As things are going online making the e-Appointments makes very convenient for UPSI students and lecturers to schedule the appointment in advance and then go for that lecture. It also helps lecturers to set their available time for appointment and number of students can schedule appointment in a particular time. Proposed system will allow student and lecturer to schedule their appointment online (Elleman and Caporusso, 2020).

1.3 Problem Statement

One of the most common problems experienced by students and professors at educational institutions is scheduling meetings in a timely and efficient manner. Lectures normally have a set schedule for their regular lessons, but they are sometimes interrupted by unplanned meetings, extra classes, official work, and other obligations. Because these occurrences are so often and unpredictable, students who want to meet



with their professors outside of class find it difficult to do so. This article suggests a student-lecturer appointment system to alleviate the inconvenience of waiting for professors and hunting for them across campus. It is impossible to know and suggest the free time to meet the lecturer if we do not know the lecturer schedule that sometimes they are busy and not in their room. Without notification alert about the appointment that have been made, sometimes either students or lecturers possible to forget about the appointment. Currently, system for making appointments between lecturers and students has been existed but the system is unsystematic because the student needs to ask the lecturer personally about their schedule and book manually to their lecturer. Moreover, it always happened in existing system that the students could not reach the lecturer. Sometimes, the student needs to wait long turn for their appointment even though the student needs to meet the lecturer for the appointment only just a little time. So, in current scenario appointments are not managed in time efficient manner and its waste lot of time to get the appointment from the lecturer. The main problem faced by student to find the lecturer time slot and they face difficulty in going and booking appointment. Office staff also face difficulty in finding existing appointment of lecturer and then book. This e-Appointment app will solve the problem for students, staffs, and lecturers.



1.4 Research Objectives

The main objective in this project as follows:

Objective 1: To identify the problems faced by students and lecturers in managing the appointment.

Objective 2: To develop a user-friendly application known as e-Appointment app for managing the appointment between the students and lecturers.

Objective 3: To test the functionality of the application among students and lecturers.

1.5 Research Questions



In this research it seeks to solve the following questions related to the project:

- i. What are the main problems of students and lecturers facing to manage their appointment?
- ii. What are the respondents' perceptions towards e-Appointment app system?
- iii. What is appropriate functionality of e-Appointment app system?



1.6 Scope of Project

Nowadays, an appointment for student and lecturer are always happen in university real-life. Some students are not confidence and shy to ask anything in front of people. Through an appointment, the students can ask about their problems in studies or any else personally without any self-problems. An appointment with lecturers will help students to understand more about their studies in case they are asking about studies.

Function – Manage and improve the time management for communication and interaction between undergraduate UPSI students with their lecturers. e-Appointment app can reduce the disturbance that occurs when the students meet with their lecturers.

Content – The app system will include a simple platform with the basic lecturers and undergraduate UPSI students' information, the lecturer's schedule, date and time picker for the students to book the appropriate appointment to meet their lecturers.

Target Users – Undergraduate UPSI Students and Courses Lecturers

Geographical Area – UPSI, Tanjung Malim, Perak

1.7 Significance of The Project

Before meeting with the lecturer, it is important to consider the roles that the student to communicate with their lecturer. This process is very tedious and time taking. This makes it hard for the students to meet the lecturers in their office room. The development of e-Appointment app gives benefits to students where they can quickly find available times to ask their lecturers for a meet up. Lecturers basically won't reply right away and will take a long time to respond to student calls or text messages (Short Messaging System). For some students, waiting for long responses from lecturers who are busy or have no time is considered time-consuming. The e-Appointment mobile app system will help reduce the time students spend waiting for lecturers as they can know the lecturer's status before going to see the lecturer. Therefore, students and lecturers are able to reduce their waiting time by scheduling the meeting using e-Appointment app. The scheduling appointment mobile app enables the lecturers may choose to accept appointments or decline appointments due to personal or urgent matters.

Sometimes students don't have the lecturer's phone number to contact. When they try to reach them at the faculty, the lecturer is not in the room either because of having class, meetings or on leave. This is making it hard for students to contact lecturers after office hour to make an appointment on the next day especially for urgent matters such as discussing for Undergraduate Research Project. e-Appointment app also can help the students to learn different technology and workflow of e-



Appointment mobile application. Software tools that are used to develop e-Appointment app are including Android Studio Code and Google Firebase (Database).

1.8 Conclusion

This chapter discusses the contribution and achievement of the developed project, its constraint, future work and conclusion. The contribution and achievement will discuss how the e-Appointment app system can contribute and how it helps in assisting users when they use this system. The project constraint will state all the difficulties during development of this system. Then, the significance of this study or project is to give benefits to students and teachers on appointment scheduling in university or college.

Future work is more into discussing the additional suggestions and feedback from students and lecturers. Based on that this development will follow.

