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User Requirement and Design of Appointment System with Email Alert Notification

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ABSTRACT

In universities, students and lecturers are interacting through short messaging system or the student will call the lecturer to ask for a meet up or either through an email. This is basically the only way for a student can interact with lecturer to book an appointment with the certain lecturer. This type of method used to make an appointment is informal and problem can occur, such as the information about the lecturer they received is wrong or the student might disturb the lecturer either they are in class or having any other matter. In order to solve this type of problem from occurring again in future, an Appointment System with Email Alert Notification (ASEAN) are proposed and developed. This system is hoped to solve the problem occurred between student and lecturer. An adapted Waterfall Model are used as a methodology in developing ASEAN system. The adapted waterfall model has five phases that consist of analysis requirement, designing, implementation, testing and evaluation and lastly is documentation.

KEYWORDS: Appointment System, Email Alert, Waterfall Model.

INTRODUCTION

Appointment system is an alternative support system designed and developed for handling and managing a process of appointing consultant. This system will anticipate an efficiency and accuracy of selecting qualified consultants for the projects, which will be performed. The main function of the system is about appointing the right consultants for the right project [1]. Lecturers are not only function as a lecturer, they are also student's advisor. By always need to seek for their lecturer, this student need to always text or call the lecturer to notify the lecturer that they want to meet and have an appointment with the lecturer. Because of unaware of the lecturer's schedule, the student might interrupt the lecturer. Furthermore, because of not knowing the lecturer's schedule, by calling and texting the lecturer at an inappropriate time will cause disturbance to the lecturer. Sometimes, the student will call the lecturer just to ask either the lecturer is in their room or not. This is because of the student did not know of the lecturer's schedule or free time and they need to discuss it using instant messaging [2]. The time taken for each appointment to be made is long since a lot of time is used to satisfy both needs. This is why it is important to have an appointment system not only to ease the parties to make an appointment, but it is also to overcome the way of communication and time management of students and lecturers.

The objectives are to identify the way to overcome the problem of communication between lecturer and student and to design and develop an appointment system with email alert notification. The users of the system is for academic affair's staff, administrator, lecturer and student. The significance of this system is to manage the way of communication between a lecturer and the student. The system is hoped to give benefits to the lecturer as the lecturer's schedule will be more practical and systematic. The lecturers are given a choice either to accept the appointment or to reject it for personal or urgent matter. Hence, this process get to reduce the disturbance occur and the time taken for an appointment to be made will be shortened for both parties that is the student and the lecturer. Besides, the way of communication between lecturer and student will be improved. Planning, organizing, allocating, applying and controlling time effectively so that all identified activities, projects and procedures are executed at the right time as refer to time management [3]. It is also mentioned in the best apply of time as to increase effectiveness, efficiency or productiveness. Humans assign specific time slots to activities based on their importance. This is what we called an appointment. Diaries and appointments are traditional methods that being used by all humans. However, in this new era, people are recessive to use the appointment system using a web whereby they can easily arrange their appointment [6]. An appointment system is important because it can help people who hardly have time to go and make an appointment themselves at the office. Besides, by using the appointment system, it will make it easier for the booking process appointment. It is also known as reserved time for some activities for example an appointment regarding a business, reservation or appointment with doctor [4].

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METHODOLOGY

The waterfall model is a sequential design process that is being used in a software development process. This waterfall model's progress is seen as a flowing downwards exactly like a waterfall. In a waterfall model have phases that includes of requirement analysis, system design, implementation, testing, deployment, testing and maintenance. An adapted version are used in order to make the development process work. An adapted version is shown as Figure 1.

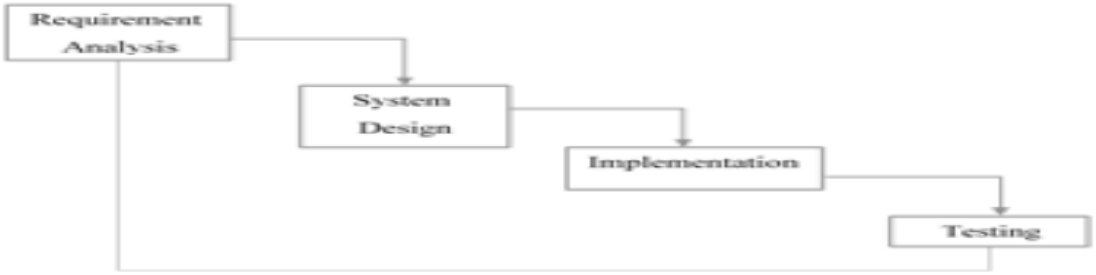

Figure 1: Adapted Waterfall Model

Requirement Analysis Phase

The first phase involved in this methodology is planning phase. In this phase, the collection of data and information are being collected and all tasks required are done in this planning phase. The reason why researchers need to do this phase is because researchers need to know the problem occurred in the previous system in order to come out with an effective solution for the new system. Table 1 and 2show the hardware and software requirement for this project.

Table 1: Software requirement

Software Tools	Description
PHP My Admin	To develop system using appropriate programming language
XAMPP Server	Act as Web Server and Development Server
Microsoft Project	To develop Gantt Chart
Microsoft Visio	To develop ERD, DFD and Context Diagram
MySQL	Database Tools
Dreamweaver CS	Coding purpose
Microsoft Windows 8	Operating System
Microsoft Word	Documentation purpose

Table 2: Hardware requirement

Hardware Tools	Description
Input Device	Keyboard and mouse
Output Devices	Monitor, laptop and printer
Storage	Hard disk drive and external hard disk

RESULTS AND DISCUSSION

Design Phase

In this phase, all information and requirements that have the researcher obtained were examined thoroughly and convert into design and software representation [5]. All design that involves are site map, work flow of the system for each of the users of the system, Entity Relationship Diagram (ERD), Data Flow Diagram (DFD) and Context Diagram of the system. The objectives of these diagramsare to make usersclearly understand about the overview and the flow of the system.

Workflow of the System

Figure 2 shows the workflow of the appointment system with email alert notification.

Context Diagram

Figure 3 shows the context diagram of ASEAN that consists of student, lecturer and administrators the entity of the system.

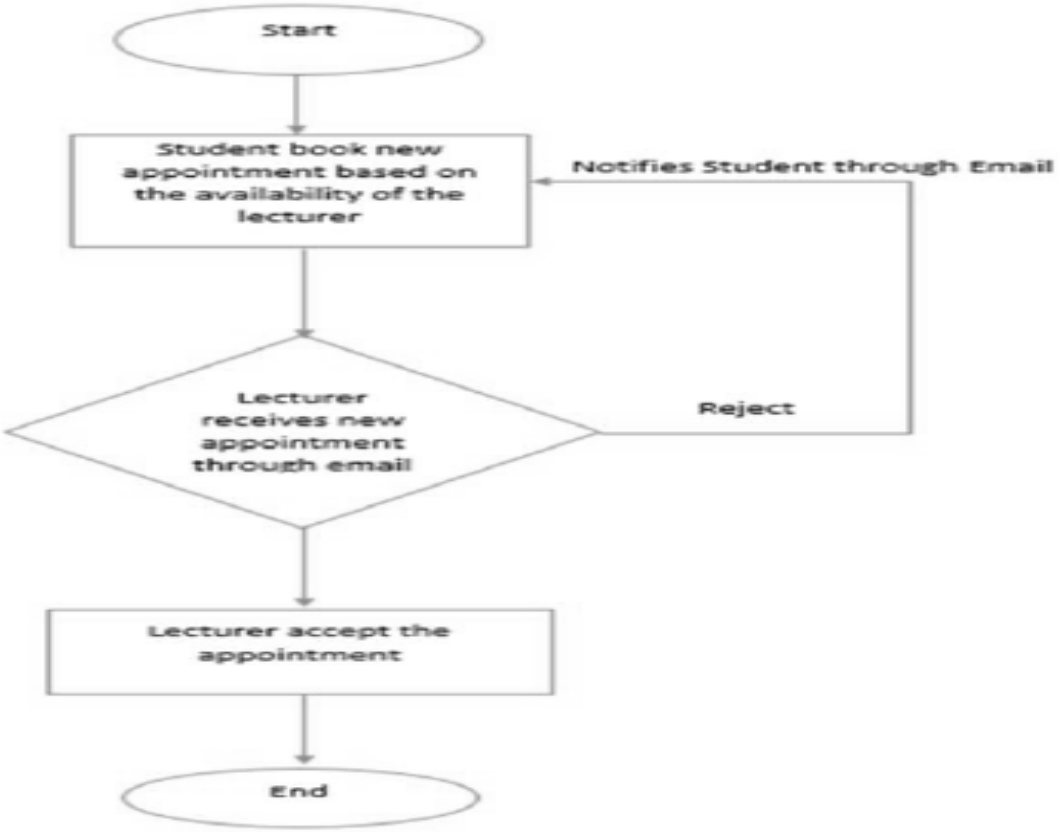

Figure 2: Workflow of the system

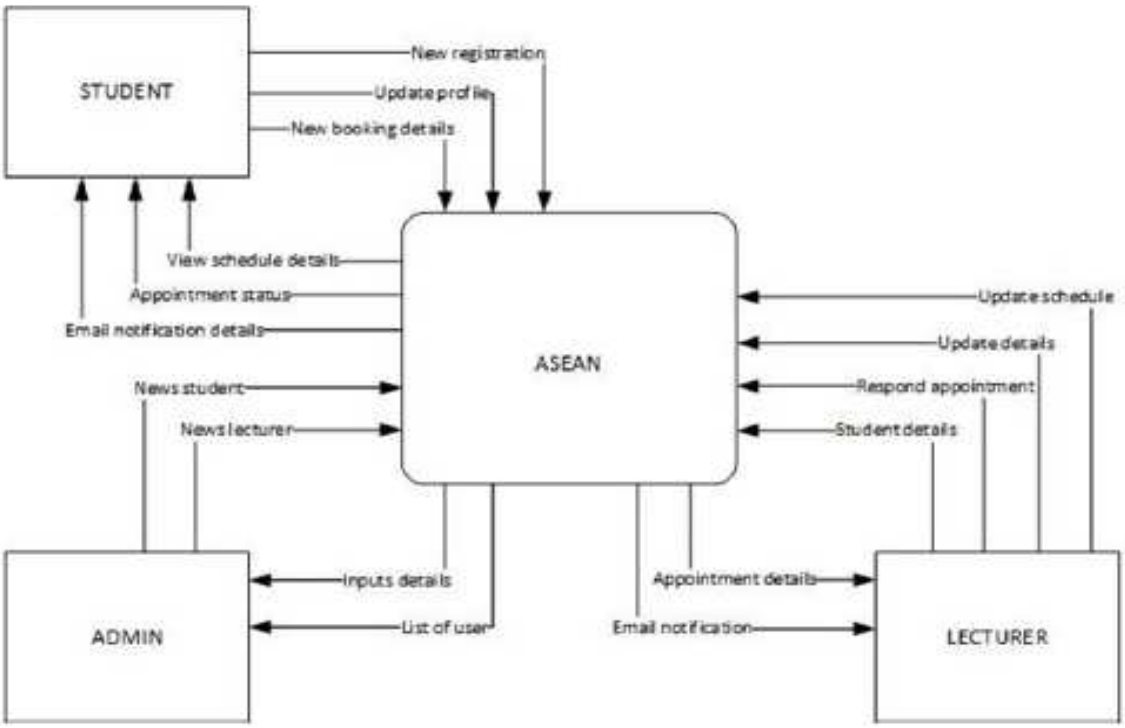

Figure 3: Context diagram

Entity Relationship Diagram

Figure 4 shows the ERD of the system. There will be six entity that will be concluded in this system. There are student, appointment, alert, admin, blockAppointment and lecturer.

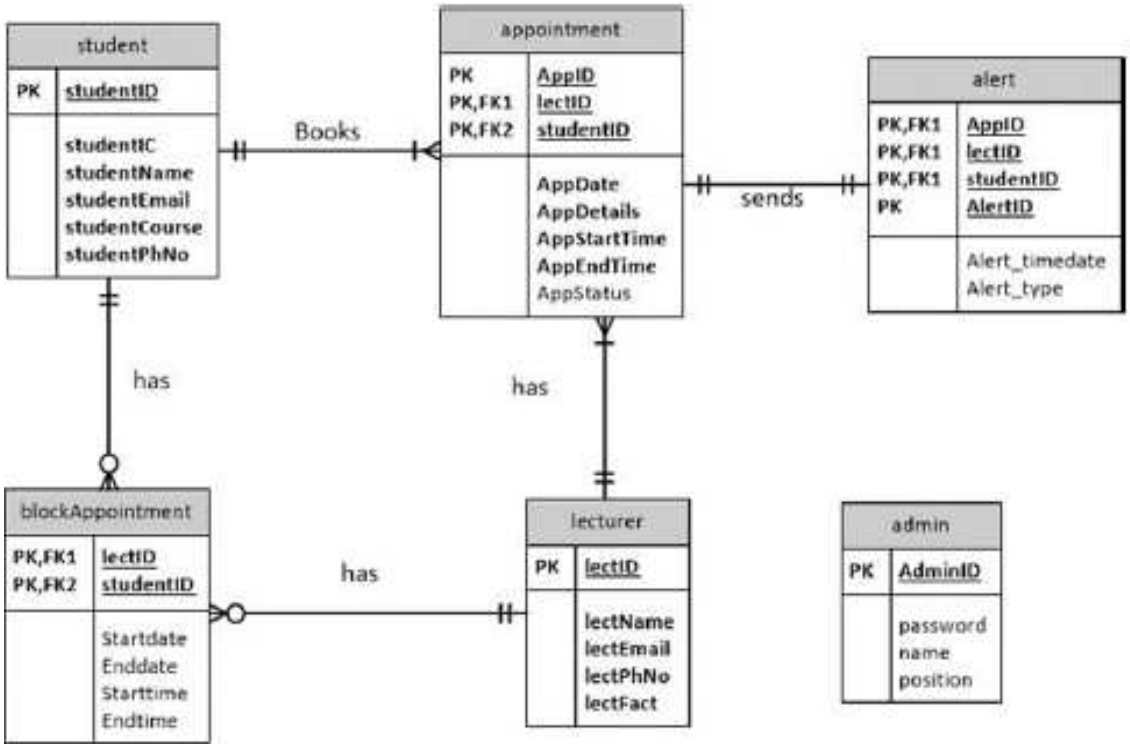

Figure 4: Entity Relationship Diagram (ERD)

Implementation Phase

This is coding phase where it tookthe longesttime from others. This phase also is the point where theory is turned into practice. The researcher needs to implement the project based on the design that has been decided in the previous phase. The developer starts to build the application based on the project's goals in order to make their project work smoothly. The implementation phase also involves the procedure of producing and creating applications using user interface elements such as navigation bars, shapes, buttons and many more. The developer also needs to review the codes and the system once again in order to make sure there is no error occurs. The application then will be moved over to targeted user to judge its strength.

Testing and Evaluation Phase

Here in testing phase, improvement can be performed before the genuine application is delivered or issued.When faults happen, the developer needs to determine the mistakes that have been distinguished in the testing stage.Deficiency of knowledge on application development can cause various failures of an application.Feedback from target users in the testing phase is also extremely beneficial for application maintenance.In the testing stage, it can be separated into a several unit such as unit testing, system testing and user testing.In parliamentary law to develop a full functioning system, a trial should be directed to these units of testing then that developer can repair if errors happen.

Documentation

Documentation is one of the most important stage because this is where all the evidence and feedback obtained from users and the system [4, 7-8] developer themselves.The record purpose is to alleviate the operation of project report.All information derived from all phases are met and documented in a report.

CONCLUSION

In conclusion, this paper highlights the user requirement and methodology that has been developed by the researcher and focusing on the activities planned for each phase. Here also discusses the research model that represents the overall appointment system with alert email notification.

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