

Managing Students Welfare Through the Development of Integrated Mentor and Mentee System (Imams)

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ABSTRACT: Consultation is among the services provided by the UiTM to its students. Each of the students will have mentor which is their personal advisor (P.A) that will monitor them until they graduate. iMAMS will help to improve the relationship between students and their personal advisor. By using iMAMS, the user could interact with each other via online. This paper discussed the development of the integrated Mentor and Mentee System (iMAMS) by the students and lecturers from Universiti Teknologi MARA (UiTM). This system is intended to solve all the issues of manual consultation session and improve the communication between the mentor and mentee. This system allows the user to communicate anytime and anywhere as long as they have devices and internet connection.

KEYWORDS –consultation, integrated mentor and mentee system, communication, mentor, mentee.

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I. INTRODUCTION

The University Teknologi MARA (UiTM) is aiming to offer high education to their students. One of the most important services offered to students was consultation with academic advisor. This is achieved through the academic advisor activities established in the University Teknologi MaraCawangan Kelantan (UiTMCK). Through this activity each academic advisor will act as a Mentor to several numbers of students, acting as Mentee. The Mentors are not expected to act as professional counsellors as they are not given serious training but they could be advisors to Mentees. Their Mentees can seek guidance from their Mentors on issues related to their studies. In order to assist the Mentors with the valuable advice they can give, the UiTM have opted to come up with Academic Advisor Manual. Based on cases being handled, it should offer some guide to Mentors on the best alternatives to their Mentee's situation. This guide also introduces some forms which contain some basic information that mentor should monitor from their mentee. The forms will be submitted to the Hal Ehwal Akademik (HEA) at the end of their Mentee's studies in UiTM. The objectives of iMAMS are:

- a. To improve the relationship between the mentor and mentees.
- b. To facilitate consultation session between mentor and mentees.
- c. As tools for communication between the mentor and mentees.
- d. To allow the mentor to check their mentees performance.

Apart from these, by using iMAMS it is expected to solve all the issues that are related with the consultation session such as difficulty in finding time for consultation session and mentees are reluctant to tell about their problems and meet their mentors.

Integrated Mentor and Mentee System (iMAMS) is created for all student and lecturer in UiTM to improve the relationship between students and their personal advisor (PA). It can be used to set time and place for the consultation session between the mentor and mentees in UiTM. Mentees can meet up personally with their mentor and discuss their studies problems or any other issue that is related to them. In addition, a mentor can interact with their mentees personally using the system. As long as they have a connection with the internet they can communicate with this system at anyplace and anytime when they want.

Moreover, by using the system, the mentor could check the performance and examination results of their mentee. Other than that, the mentor also can check for their student's details in this system and the appointment information with their mentees. If there is an issue or problem from the mentees, the mentor could give a feedback directly using this system.

By using iMAMS, mentee will fill in their details and their examination results to the system so the mentor can monitor them from time to time. Mentee also can request for consultation and make an appointment with their mentor via this system. If there is an issue with their education, financial or etc. they also can discuss

it with their mentor via Integrated Mentor and Mentee System (iMAMS). The records of the consultation will be kept for a reference purpose for the mentor and Hal Ehwal Akademik (HEA) department.

II. LITERATURE REVIEW

Nowadays, there are many problems with the students, but most of them are lazy and didn't have good effort to consult and meet with their lecturers or personal advisor. This will affect the student performance in the study. In UiTM, each of the students will have their own personal advisor to monitor the students until they graduate. The personal advisor will act as a mentor and will mentor a few numbers of students. So, to ensure the students are doing well in studies, some of the high education institutions have provided a method that we call Mentor-Mentee (mentoring program) to fulfil the requirement of the institution.

According to the Carmen [1], Gerstein [2] and Gehrke [3], mentoring can be defined as the process by which one person, usually of superior rank and outstanding achievement, guides the development of an entry level individual, seen as the mentee. In higher education, mentoring programs for new faculty provide the opportunity to share pertinent and valuable resources, assistance and support, and cross-disciplinary collaboration and discussion. While mentors cannot guarantee the job satisfaction and happiness of new faculty mentees, they can offer support, encouragement, and useful information.

According to the Cohen [4], with increasing professional demands, there is no "one-size-fits-all" mentor. Successful mentoring is a dynamic process whereby each mentor-mentee pair learns to respect and trust the other's commitment and expertise, but individual choice and style play important roles. This individuality creates unique mentor pairs or teams. The principle is that sustained support can come from one "super mentor," a team of mentors, or an evolving, mentoring process.

To make it easy for the mentoring program, we need to make a new change which creates a new system for this program. Mentor-mentee system will provide many benefits and advantages to the lecturers and students.

III. METHODOLOGY

An information system is a collection of interrelated components that collect, process, store and provide as output the information needed to complete a business task. Most organizations find it beneficial to use a standard set of steps called a system development methodology to develop and support their information system. The development of information systems commonly follows the life cycle. SDLC is the appropriate methodology adopted for the development and implementation of iMAMS that consist of five major phases which are Planning, Analysis, Design, Implementation, and Maintenance as shown in fig. 1 below:

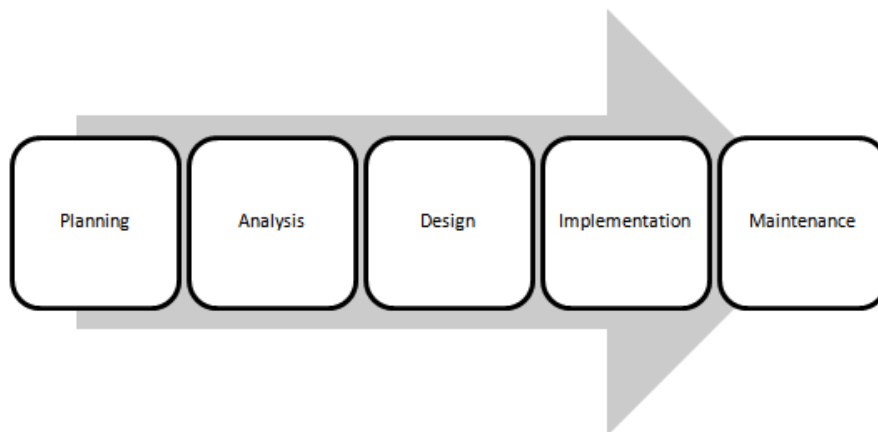


Figure 1: System Development Life Cycle Phases

A. *Planning*

Throughout the discussion with the stakeholder, few ideas were thrown for feasibility assessment by the project team. Based on the feasibility assessment, the project team has decided to develop a mentoring program, that both cater for improving the welfare of students and improving communication with their mentor. Strengthening the relationship between mentor and mentees is one of the core agenda for the Higher Education Ministry of Malaysia. Therefore, iMAMS was coined as the new application to be developed for the use of students and mentors (lecturer, non-academic staff).

Integrated Mentor and Mentee System (iMAMS) has the ability to improve the relationship between students and their personal advisor. The original idea is to focus on a system that will help the consultation session between mentor and mentees. At the current time, students need to meet up personally with their personal

advisor and it is difficult to find a suitable time. However, with this system, mentees can get a consultation session via online and the system also could help the mentees and mentor to find a suitable time if they want to meet up for consultation.

B. Analysis

To gain more information on the system development, an interview was conducted with students and some personal advisors in UiTM Machang, Kelantan. The purpose of the interview session was to identify the needs of the system, and specific features and functions. Besides, the project team also make a comparison with a similar system that can be found on the internet. Some of the academic institutions already have the same kind of system, however, such system is not available in the UiTM.

Therefore, the project team decided to proceed with the development of a mentoring system, codename iMAMS (Integrated Mentor and Mentee System). The objectives of Integrated Mentor and Mentee System (iMAMS) which is to improve the relationship between the mentor and mentees, to facilitate consultation session between mentor and mentees, as tools for communication between the mentor and mentees and lastly, to allow the mentor to check their mentees performance. iMAMS are designed especially for UiTMCK In UiTM, the personal advisor will be assigned to a specific number of students to monitor them until graduated. There is two target user for this system which is mentor and mentee. This system enables students to make their appointment with their lecturers and discuss their performance in studies or any things that make a problem to them. Students and lecturer also can communicate with each other using the system at any time or anyplace as long as they have the internet connection in their devices or computer. Students will need to insert their details and their examination results for the lecturer's reference. Lecturers will be able to view the information about students. Lecturers also can send the appointment status and consultation into the system. The following shows the context diagram and data flow diagram for the proposed system:

1. Context diagram

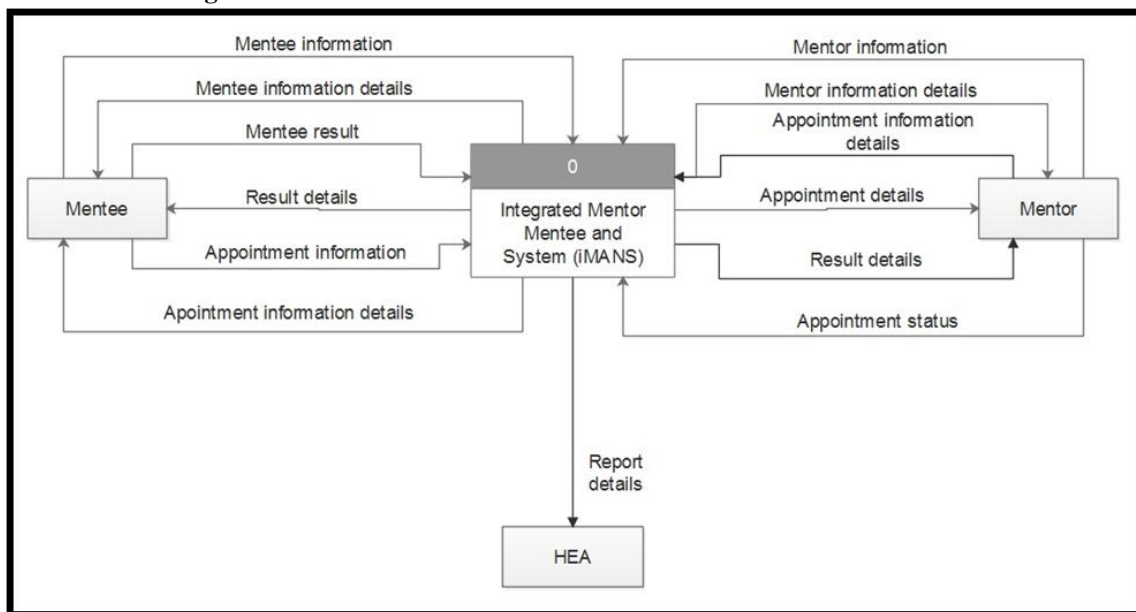


Figure 2: Context diagram of iMAMS

2. Dataflow diagram

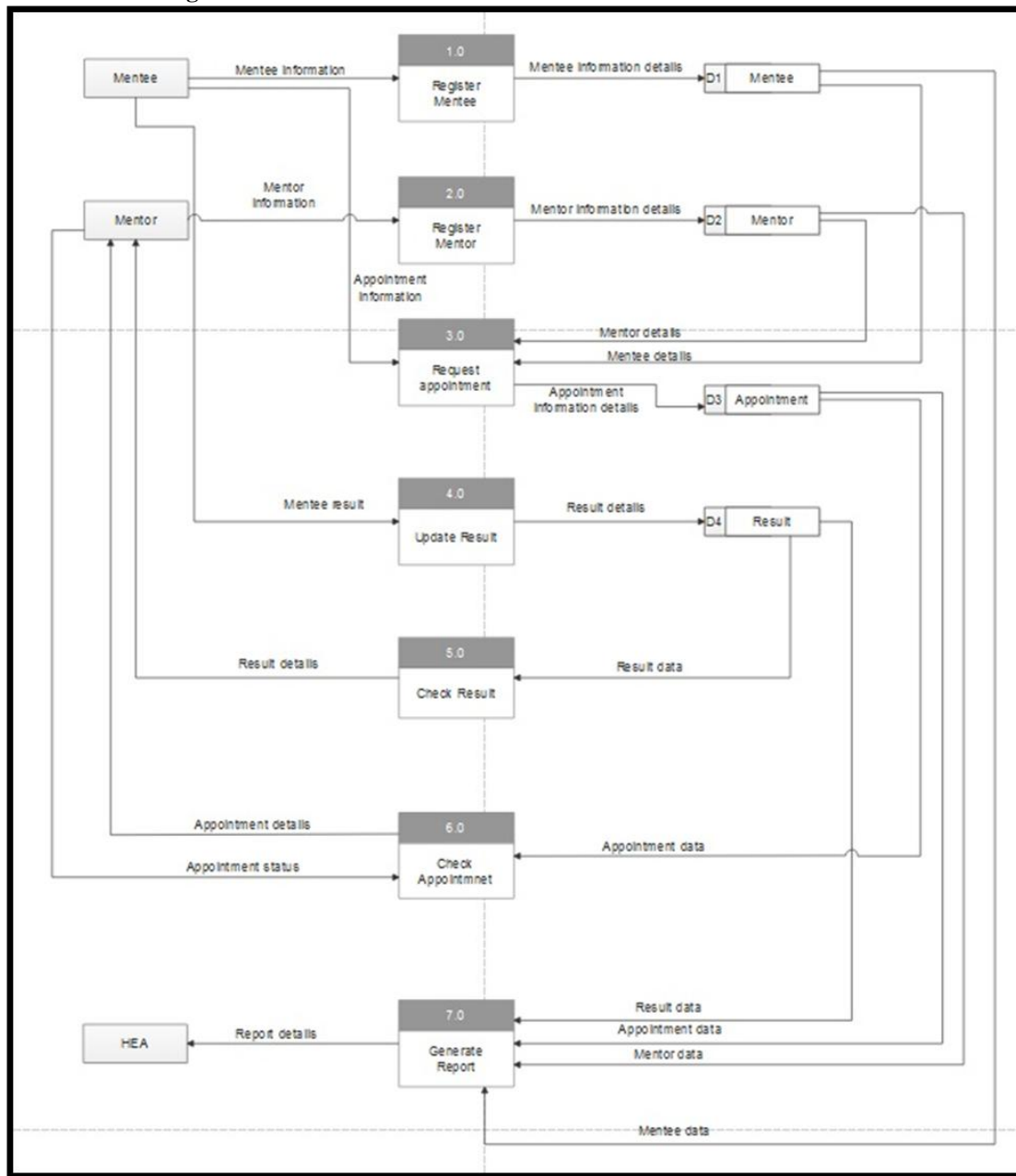


Figure 3: Data flow diagram of iMAMS

C. Design

iMAMS have a function that focuses on two users which are mentor and mentee. The project team has created a diagram for a structure of data, in order to meet the users' need for the system. The design is accurately designed with actual structure by using context diagram, data flow diagram, an entity relationship diagram. The data structure design will help in developing the system easily by following the structure, arrange it systematically and enable development of the system smoothly without any problem. In developing the iMAMS, the team used popular and familiar computer languages to write the coding. It is the combination of Hypertext Mark-up Language (HTML) with hypertext pre-processor (PHP). MySQL was used as the database for the proposed system. There are two types of design which are:

- **Logical Design**

iMAMS are a straight-forward system but with a lot of functions. iMAMS design and interface mostly will be created with hypertext pre-processor (PHP) with the combination of other computer programming language such as JAVA. This is mainly because programming language such as PHP and JAVA are suitable for various kind of platforms such as windows and Macintosh which will make iMAMS more user-friendly since it can adapt to various kind of platforms.

• **Physical Design**

With the use of hypertext pre-processor (PHP) and JAVA, this will help the interface of the system to become more user-friendly since the coding or language are easy to build and reconstruct according to the specification needed but also provide great function to the system.

D. Conceptual Database Design

The next step is to draw a conceptual database design for iMAMS. As shown in fig. 4, mentor, mentee, results, and appointment are object referred as "entities". An entity is a noun which describes a person, place, object, event, or concept in the business transaction for which the information must be recorded or retained. Explaining the diagram, one mentor can have many mentees under him or her, and many mentees can be placed under one mentor. One mentee may have many results, and many results can be updated by one mentee. Both mentor and mentee can make many appointments. Staff identification number is identified as an attribute in the MENTOR entity similar to student identification number attribute for MENTEE entity and result identification number attribute for RESULT entity. Appointment identification number will be an attribute for APPOINTMENT entity. Every time the mentor and mentee applied for an appointment, their identifications number are included to hold their information for establishing the relationship between them.

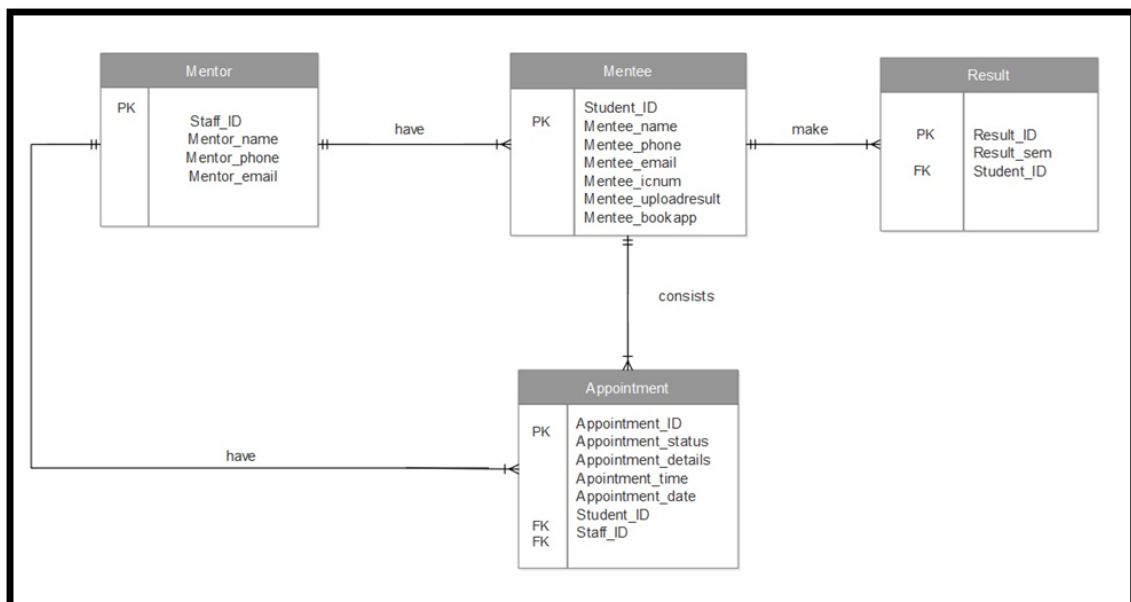


Figure 4: iMAMS conceptual database entity relationship diagram (ERD)

E. Interface Design

The following shows the interface design for iMAMS:

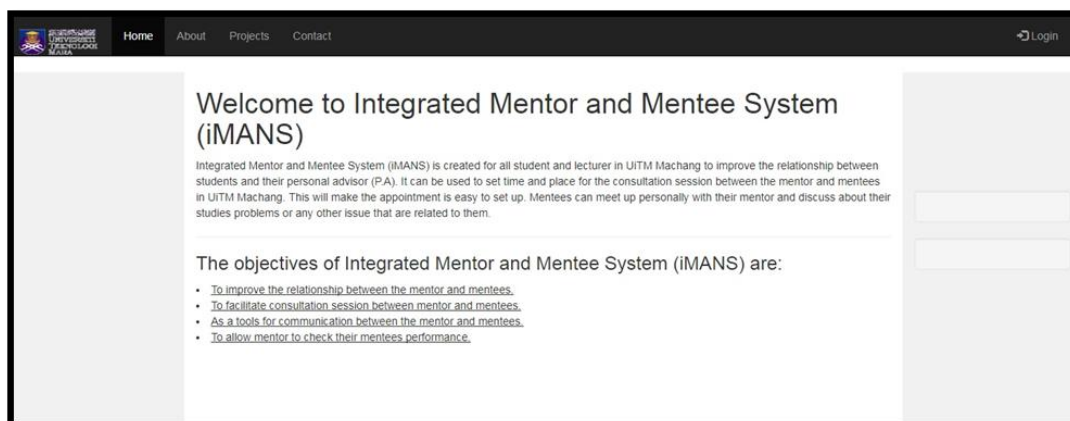


Figure 5: Homepage of the iMAMS

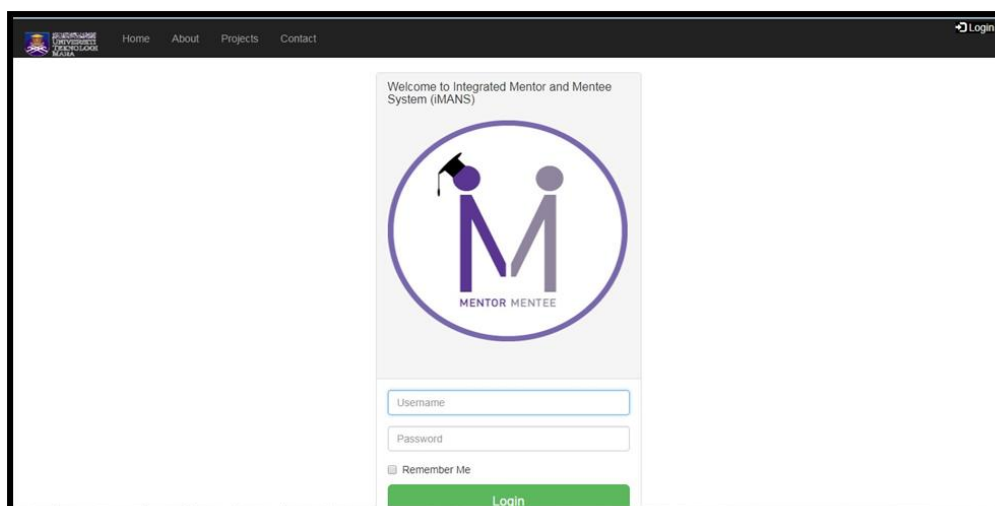


Figure 6: Login interface of iMAMS

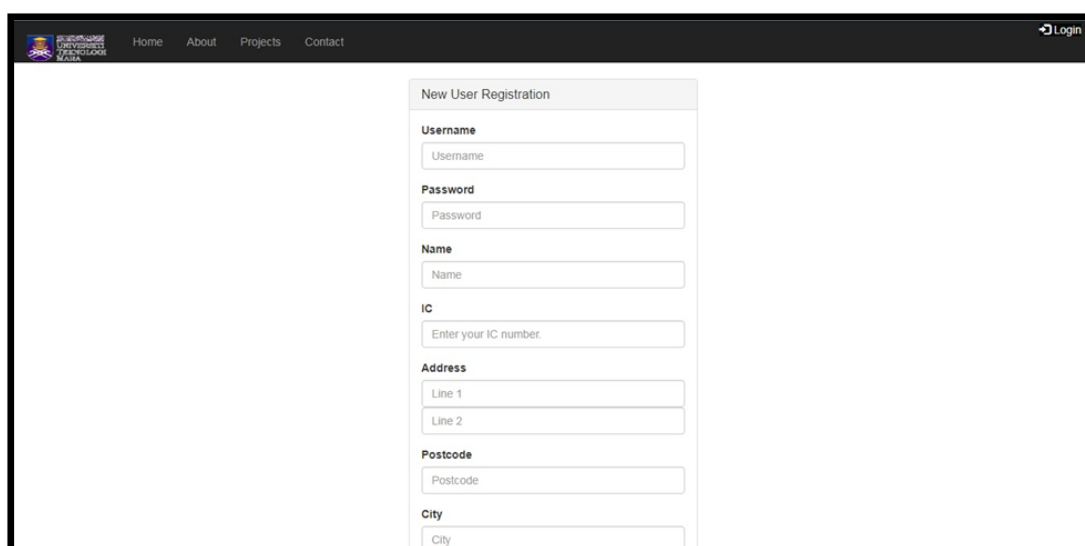


Figure 7: Registration interface of iMAMS

IV. RESULT AND FINDINGS

Based on the development of iMAMS, the system has given solutions to some of the issues that related to the consultation activity which included:

- A cheaper and easy solution to two-way communication tool for student and lecture to solve the issue.
- A platform to prevent duplication or clash of appointment.
- A platform to facilitate the mentor to check their mentees academic performance.
- A platform that facilitates the online consultation activities and enhances mentoring experience.
- An open platform that enables mentor to manage the consultation session and process.

From the results stated, it could be regarded the biggest impact of the iMAMS is improving the communication between the student and lecturer. This is because with the usage of iMAMS mentor and mentee are available to communicate via online. The user can communicate 24/7 as long as they have devices and internet connection. Mentee also might not be reluctant to discuss their problems with their mentor through the system. The system also will help to prevent the duplication or clash of appointment. A mentor might have many different appointments with different mentees, so it is important to ensure that the appointment time is different for each of the mentees.

V. CONCLUSION

iMAMS is an information system designed to improve the relationship between the mentor and mentees in UiTM Kelantan and it could be commercialized to another high education institution, public and

private sector organizations for the same goals. The performance of the system including its features could be upgraded from time to time to cater the needs of the end user. In relation to the consultation activity, the iMAMS could assist the user to find a suitable time for the consultation session and improve the communication between the mentor and mentees. For example, it is difficult for both parties to find a suitable time for consultation because both of mentor and mentees have their own commitment. Mostly of the mentor is the lecturers of UiTM that have to attend classes and meetings every day. Mentor have their own work to do and sometimes they can't fulfil the consultation time from the mentees. The same thing goes to the mentees that have to attend to classes or other activities and them as a student also are busy especially at the end of the semester. Sometimes the mentees can't come for the consultation session at the time that has been fixed by their mentor because of the classes or activities that they need to attend. The efficiency could be increased in which the task to set up the consultation session are accomplished automatically via online. The process of creating, saving, updating, distributing, accessing, retrieving, and deleting of data would be executed faster as the records have been located in a centralized database that made it easy to be the monitor.

During the analyzing and developing the system, there are three important lessons by the system developers. Firstly, a feasibility study must be thoroughly carried out during planning phases to identify resources required to avoid any wasting of resources. Secondly, this system needs to be analyzed and developed in a proper manner based on end-user functions and functional system requirements. Lastly, the database design should be clearly designed during analysis and design phases to ensure that development of the system could be easily performed without facing any difficulties

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