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STUDENT MONITORING SYSTEM DATABASE FOR ACADEMIC ADVISOR

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ABSTRACT

In UiTM, each lecturer is assigned with a group of students and plays the role as an academic advisor. It is the duty of the academic advisors to monitor the academic activities, procedure, and performance of the group of students under their supervision. The academic advisors supervise every student in the group throughout the years of study until the students graduate. The academic advisors are responsible to be aware and update all information pertaining to the students academically and personally. However, the information is currently scattered all over online and offline sources. It could be hard and difficult for academic advisors to reach all the information for monitoring, especially when the information is required, and decisions need to be made immediately. Some information requires access through internet connection, and some requires manual access through various documents. To overcome this problem, the Student Monitoring System Database for Academic Advisor was developed and established using Microsoft Excel. In this system, databases such as year of admission, students' information, marks interval, status for exam results, study plan, course validation, dashboard, students' examination result, and link to relevant websites were provided. The database needs to be manually entered once though. Once entered, the database becomes one stop centre that could be accessed and referred to whenever required immediately. Mail merge feature from Microsoft Word could be integrated with the system to generate certificates. The database system could also link to Microsoft Power BI to display the performance dashboard in mobile phone to facilitate easy and mobile access for academic advisors.

Keywords: Academic Advisors, Student, Information, Monitoring, Database

1. INTRODUCTION

An academic advisor has a huge responsibility to monitor students' performance from admission until graduation. When a new group of students enroll in UiTM, a lecturer is assigned to supervise them as the academic advisor. The responsibility of an academic advisor is huge. Academic advisors must have knowledge of everything for students under supervision academically and personally. To monitor the students efficiently and effectively, an academic advisor needs to access the students' information from time to time as it is nearly impossible to remember every data and information related to the students. Not only the students' information, but academic advisors need to know other information such as study plan, marks interval, and various status for exam results. Unfortunately, the information is scattered all over the sources. Some sources require online internet connection while some require manual access

to various types of documents. The sources are not within the same place and may not be connected to each other. Even in the Student Information Management System (SIMS) itself, the data was scattered within the menu. The academic advisors need to login and go through various menus within SIMS to retrieve students' data one by one. This could cause the searching process to be very slow and painful. Other websites for various UiTM Systems were also scattered all over. This causes hurdles and difficulties to jump from one system to the other during browsing. It is best to have one system that contains all the information and links to all the relevant websites.

Thus, it is best to have one automation database system that contains all information and links to all the relevant websites. Automation is the technology that allows machines to complete missions with minimal human intervention and free people from mundane, repetitive tasks that machines already perform better and efficiently (Heller & Savargaonkar, 2021). Automation in Microsoft Excel is the process of using Excel's automation tools to accomplish a variety of steps with a single click. Automation in Excel generally involves coding in Visual Basic for Applications (VBA), a simplified version of the Visual Basic programming language that communicates with the Excel application. VBA can be used to create macros, which are sequences of commands and actions that can be recorded and replayed in Excel. Macros can help to automate tasks such as formatting, calculations, data analysis, and more (Weller, 2019). Excel provides an environment that supports data management, ability to import data from external sources into spreadsheet, and perform tasks such as sorting and filtering easily to become increasingly valuable (Palocsay et al., 2010). Databases can reliably handle a huge amount of data and information. A database is often created to make it simple to retrieve data. An Excel database is a worksheet having rows and columns of data arranged and structured in such a manner that worksheet formulae can readily utilize the information (Ayon, 2023).

Therefore, the Student Monitoring System Database for Academic Advisor was developed and established to solve the problem. The database system focuses on providing the data only for the group of students under the academic advisors' supervision. Whenever required, the academic advisors only need to access the database system to look and retrieve the information for all students. Links to other websites such AIMS, eRES, SIMS, UFuture, EQPS, and many more were also provided if the academic advisor feels the need to browse for further supporting information. Integration with Microsoft Word mail merge feature was also established to facilitate the generating of digital certificates for the students' achievements. To facilitate easy and mobile access, the system was linked to Microsoft Power BI. The academic advisor only needs to launch Microsoft Power BI in the mobile phone to access all the information and dashboard whenever required immediately anywhere and anytime.

2. METHODOLOGY

The Student Monitoring System Database for Academic Advisor was developed using Microsoft Excel. When opening the system, users will be greeted by the home page (Figure 1a) which shows general information, Navigation and Link to websites. The General Information

page contains cells in which users can fill the general information such Advisor's Name, Branch of UiTM, Campus Location, Faculty, Programme Name, Programme Code, Student Intake and Student Group. The Navigation Section displays buttons to access other pages such as Student Information, Marks Interval, Exam Results Status, Study Plan, Course Validation, Dashboard, and the Examination Results for part 1 to part 6. The Link to Website section displays buttons to access other websites such as AIMS, SIMS, eRES, UFuture, EQPS, Academic Calendar, Entry Requirement, Academic Regulation, etc. The Student Information page displays the basic personal information for the students such as name, student number, IC number, date of birth, age, city, state, gender, religion, telephone number, email, status, study mode and notes. The information is arranged in the form of a table and can be seen and accessed in one user interface. The academic advisors can view the students' information in one display and can be filtered further to suit the advisor's preferences. From the Data Table, the Pivot Table and Pivot Chart can be established to provide brief analysis to enhance the overview of data. The Pivot Table and Pivot Chart are linked to the Data Table and can be automatically changed whenever the data is amended. The Marks Interval page displays the official UiTM marks interval. Often when required for reference, it was unclear where to find the marks interval information. Therefore, the marks interval was included in the system.

Meanwhile, the list of Status for Exam Result page displays the description for the examination results status. At times advisors could not remember the description for each status code. When required for reference, advisors need to refer to the academic regulation document. Therefore, this information is included in the system to facilitate fast and easy access. The Study Plan page displays the package of courses that the students registered for throughout the year of study from admission until graduation. The information shows the credit hours and contact hours for every course. The Course Validation page displays data for students who submitted a pdf softcopy of course validation to academic advisor for record. The Dashboard page displays the overview of overall achievement of examination results for comparison from Part 1 to Part 6. All the charts are linked to the examination result page respectively. The Examination Results page displays final examination results for every student under the academic advisor's supervision and are displayed in one interface showing the GPA, CGPA, Status and Description. Therefore, this provides fast and easy access for the academic advisor to check and retrieve the data.

The Pivot Table, Pivot Chart and Slicer were incorporated in the page to allow academic advisors to immediately filter the information when required. All Pivot Charts in the examination result page were linked to the Pivot Charts in the dashboard page so that any changes made to the Pivot Charts in the examination result page will simultaneously change the Pivot Chart in the dashboard page. The Student Monitoring System Database for Academic Advisor is integrated with the Mail Merge feature in Microsoft Word. The integration allows faster production of digital certificates from Academic Advisor to excellent students with Dean Award (Figure 1b). Digital certificates in PDF format for students can be prepared with a single process and sent through messaging apps such as Telegram or WhatsApp. The Student

Monitoring System Database for Academic Advisor is integrated with Microsoft Power BI. The integration allows display of all data from the system in dashboard view (Figure 1c) and can be accessed directly in mobile phones (Figure 1d).

Figure 1 (a)The System Home Page (b) Dashboard in Microsoft Power BI (c)Power BI View in Mobile Phone (d) Digital Certificate Generated with Mail Merge in Microsoft Word

3. CONCLUSION

UiTM academic advisors currently hold lots of endless workloads in hand and to have another responsibility to supervise a group of students will add more load. To add more burden, all data pertaining to students were scattered all over the system, online and offline. This caused various information search processes relating to students by academic advisors to become very slow, painful and time consuming. Therefore, the introduction of the Student Monitoring System Database System has potential to facilitate academic advisors in managing and supervising students' data and record. Academic advisors will only have to access one system that is capable of providing various data and information pertaining to students. Academic advisors just need to enter the students' academic and personal data in the system only one time. Once entered, the system becomes a database that can be used as demographic reference, database record, performance monitoring, courses taken, examination results analysis, courses pass failed record and generation of digital certificate.

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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
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Setuju.

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