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DATA VISUALIZATION OF STUDENT RESIDENTIAL IN UITM ARAU, PERLIS

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ABSTRACT - The Student Affairs Division at UiTM Arau, Perlis is responsible for managing non-academic matters, including student residence data. However, the current e-Kolej system lacks comprehensive information on residential details, making it challenging for staff and students to understand and utilize the data effectively. This project aims to address this issue by developing a residential dashboard that serves as a centralized hub for college statistics. The dashboard will enable staff members to access and analyze the necessary information, facilitating informed decision-making and efficient management of student residences. The project objectives include requirements analysis, dashboard design, and usability evaluation through User Acceptance Testing (UAT). The methodology involves four phases, namely requirement analysis, design, development, and evaluation. The evaluation involved 30 respondents who provided valuable feedback, confirming the usefulness and effectiveness of the dashboard in providing the required information to users.

Keywords: Dashboard, student residential, residence, data visualization

1. INTRODUCTION

Student dormitories in universities are of paramount importance after education (Daliri Dizaj & Hatami Khanghahi, 2022). However, not all students at UiTM Arau, Perlis are guaranteed with college accommodation. The current e-Kolej system utilized by UiTM does not provide any visualization of college information for both staffs and students. The aim of this project is to develop a student residential dashboard for UiTM Arau, Perlis, which will visualize and analyse residential statistics. The objectives of this project were to analyse the requirements, design, and evaluate the usability of the student residential dashboard in UiTM Arau, Perlis.

2. METHODOLOGY

There are four phases in completing the project started with requirement analysis, design, development, and evaluation. In requirement analysis phase, all information that is related to the project will be collected. An interview is made to gather the system requirements. In addition, an in-depth literature review will be performed to ensure the project requirements are identified. Next, design phase focus on designing the data model and the dashboard interface. This includes designing the use case diagram, sitemap, and wireframe sketch. In the development phase, data warehouse will be created and ETL process will be performed, and the dashboard will be developed using Microsoft Power BI. Lastly is the evaluation phase. A questionnaire will be created using Google Form once the development process is completed then the questionnaire will be distributed to the targeted users.

3. RESULTS AND DISCUSSION

The evaluation process utilized User Acceptance Test (UAT), where a questionnaire was created using the Google Form platform. The questionnaire included three sections: demographic background, usability testing, and comments and suggestions. The selected sample users were limited to students and staff members from UiTM Arau, Perlis. The usability testing section consisted of 10 questions specifically designed to assess the usability of the dashboard. Based on the results acquired, majority of the users are satisfied with the dashboard's usability. The users also found that the dashboard interface is visually appealing and well-organized as well as easy to use and useful for both students and staffs of UiTM Arau, Perlis.

4. NOVELTY OF RESEARCH / PRODUCT

Three prior research studies were examined and analysed to identify and collect the necessary requirements for this project. Aprillia et al. (2021)has proposed a project on developing a dashboard as a monitoring system for the

distribution of government aid at Balai Besar Perikanan Budidaya Air Payau (BBPBAP) Jepara, Indonesia. Furthermore, Lucio et al. (2018) has proposed a project on developing a dashboard as a tool for visualizing management decisions to justify valuable proposals in university management. Destiandi & Hermawan (2018) has proposed a project of business intelligent method for academic dashboard as displayed in Figure 2.10. The academic dashboard developed will assists the decision making to improve the quality of education.

5. CONCLUSION

In conclusion, this study successfully accomplished its objectives, which involved analyzing system requirements, designing and developing a student residential dashboard at UiTM Arau, Perlis using Microsoft Power BI, and evaluating the dashboard through User Acceptance Test (UAT) in usability testing. The dashboard improves students understanding of residential information and assists staff in making informed decisions about college allocations.

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