

DEVELOPMENT OF STAFF RESIDENCE KOLEJ (SRK) REPORTING SYSTEM USING LARAVEL MVC IN UITM PERLIS

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ABSTRACT - Staff Resident College (SRK) is a key position at a residential college or university, particularly at UiTM Perlis. It consists of academic staff and university administrators. The management of university student affairs appoints SRK to help college administration and resident students. The management allocates each SRK with a private residence in the college. Google forms and WhatsApp are the contemporary techniques that SRK employs to manage student information. The current approaches are unreliable since SRK must continuously update the student's condition. Managing a bigger number of residents will need a substantial amount of time and effort. Two objectives of this study include to design and develop a functional SRK Reporting System for UiTM Perlis and to evaluate the SRK Reporting System using functionality and usability test. The system is developed following the waterfall model of SDLC using Laravel MVC as an evolving framework to create a website connected to a MySQL database. As developed, the system was tested with usability and functionality tests by the SRKs and students. From the survey distributed, it was found that the website functioned successfully to replace the previous method to lodge reports.

Keywords: Laravel MVC, MySQL, SRK Reporting System, Reporting System, Waterfall

1. INTRODUCTION

UiTM Perlis has 30 SRKs who are organized into 5 groups which are Group A, Group B, Group C, Group D and Group E. The fact that SRK must maintain certain student information and guarantee student safety simplifies their task. A similar problem was raised in a study by Samanekar et al. (2018) where the author stated that most academic institutes are reliant with manual processes and paperwork to submit reports, managing attendance and admissions hence a new student management system was proposed for his institute. On the contrary, Google Forms and WhatsApp are two of the contemporary techniques that SRK employs to manage student information. Staff Resident College Report Management System, a web application, will be created to address this issue. This web application is built with Laravel as it is emerging as a new tool for software development to enhance their creativity. Laravel is poised to become a game changer for web development in 2023 (Babirli, 2023). According to Ahmad Nizar & Othman (2020) from UTHM, they proposed a similar solution which uses PHP and MySQL to deliver a new system for managing residents in their hostel. Laravel itself uses PHP language plus various simple syntax as a back-end development tool.

2. METHODOLOGY

Methodology that is used in this project is Waterfall Model of Software Development Life Cycle (SDLC). Design phase is the earlier phase which includes the design of the data flow of the system, design of the database and design The user interface. By using the design that has been created, implementation will be conducted to complete this project. Implementation phases include the development of user interface, develop system and creation of database. Testing has been conducted by using method functionality testing and user experience test to evaluate the satisfaction of the user during use website application.

2.1 Laravel MVC

The MVC (Model View Controller) architectural pattern is used by the PHP (Hypertext pre-processor) framework Laravel to isolate the presentation layer from the application functionality (Md Sakib, 2019). In accordance with the MVC principle, Laravel divides the application logic into three distinct components which are Model responsibility, View responsibility and Controller responsibility. In developing the web, Laravel will be implemented because of its robust and future scalability for further use. The application's functionalities will be constructed using Laravel components.

3. RESULTS AND DISCUSSION

Two methods of testing relevant to this study are functionality testing and usability testing. The specific tests will be distributed to three classes of population in UiTM Perlis. 10 students, 10 SRKs would be the target respondents for the survey. From the survey distributed, users agree that the new system proposed successfully to replace the existing reporting system which was 95.2% of the respondents. Figure 1 shows the relevance of the new system proposed.

4. NOVELTY OF RESEARCH / PRODUCT

The system proposed would be the first to implement Laravel MVC framework as a back-end development platform. Workload of management staff and SRKs can be reduced since the system will systematically conquer the manual process of acquiring residents' reports compared to the previous method. The future goal of the project is also to be implemented into the official website of the university. As compared to the related work done by Rahman et al., (2017) where through the application developed by the author, students can also calculate their CGPA through CGPA calculator and student's attendance, UiTM has already developed a more functional web application that does so much more than the author. Hence the website can be more complete if there would be a SRK reporting system attached to the website itself to be accessed by the staff and students.

5. CONCLUSION

Overall, all the objectives were achieved, and the Development of Staff Residence Kolej (SRK) Reporting System Using Laravel MVC in UiTM Perlis was successfully developed in accordance with the plan. This web application also has been successfully developed according to the users need which is an easy application to book the SRK reports. For further development, the system would be better if a mobile application would be developed in conjunction with the reporting system for mobility.

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