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# UiTM PBDutify: UiTM Police Security Scheduling System

Wan Normaini Binti W Mohamad Idris<sup>1</sup>, Sarah Syazwani Shah Kamarudin<sup>1</sup>, Mustapha Salleh<sup>2</sup>, Suhail Najmi Ayub<sup>3</sup>

<sup>1</sup> Infostructure Department, Universiti Teknologi MARA (Terengganu)

<sup>2</sup> Police Security Office, Universiti Teknologi MARA (Terengganu)

<sup>3</sup> Faculty of Science and Computer, Universiti Teknologi MARA (Terengganu)

[wannor959@uitm.edu.my](mailto:wannor959@uitm.edu.my)

## ABSTRACT

The issue of security is very important in any organization, especially campuses that have many students and assets that need to be taken care of. Therefore, towards a digitalization era a system needs to be established to assist those responsible for monitoring and controlling campus security. This system will help the person in charge to organize staff schedules in a better and an orderly manner. Before this, the compilation of staff work schedules was done manually and has caused many problems to arise. One of the conflicts is when it is difficult to arrange work schedules not to overlap each other. With the existence of this system is expected to help staff to organize, update schedules and can also view the systems anytime and anywhere.

**Keyword:** daily schedule, Police Security, RAD

## 1. INTRODUCTION / PRODUCT DESCRIPTION

Campus security at UiTM Cawangan Terengganu is under the supervision of the Police Security Office (*Polis Bantuan*) and conducted for 24 hours. Since it is conducted for 24 hours, the implementation of tasks is done in rotation of 3 shifts - morning, evening, and night and also office hours. To facilitate task preparation, a daily task schedule was prepared manually to distribute and arrange tasks to officers of the Police Security. Presently, the campus digitization plan manual daily task schedule was replaced with UiTM Police Security Scheduling System (PBDutify). It is interesting because of the complexity in order to arrange and manage members' tasks for 24 hours with 3 different shift rotations, different tasks and different locations and used for 3 different campuses at UiTM Cawangan Terengganu.

The problem for manual daily task schedules comes when officers need to prepare a new schedule or make changes. Where officers need to check past records to ensure fair and equitable placement of duties of members on duty. In addition, officers need to do daily housekeeping records. The problem also comes when there is a change of duties on the current shift, where sometimes it causes an overlap of tasks and causes confusion and dissatisfaction among members.

The objective of the paper is to facilitate new or replacement officers in managing and monitoring daily task schedules and avoid the injustice in division of tasks, PBDutify is formed to replace manual daily task schedules. It also helps to reduce complaints between members and officers, and produce a healthy and happy working environment. Beside it is to accomplish one of the plan campus digitization and to acquaint myself with the PBDutify system with other campuses.

The System Development Life Cycle (SDLC) is the process guideline used to develop the PBDutify application. As a result of the implementation of the application, the work schedule of the Police Security at UiTM Cawangan Terengganu is more manageable, systematic and easier for members to use. We hope the new application will create a happy working atmosphere as a result of its fairness in distributing and allocating tasks among the members.

## 2. System Development Life Cycle

This section describes the Public Sector System Development Ecosystem which consists of development methodology and aspects of consideration that influence the successful implementation of the system development projects.

The application system development life cycle model (SDLC) follows the International Software Testing Qualifications Board (ISTQB) Certification elements that consists of 6 main phases, namely the collection phase of needs and analysis, design phase, development phase (coding), testing phase, implementation phase (development) and maintenance phase as described in Figure 1. Each phase has a series of activities through the use of selected techniques for the production of submission documentation.

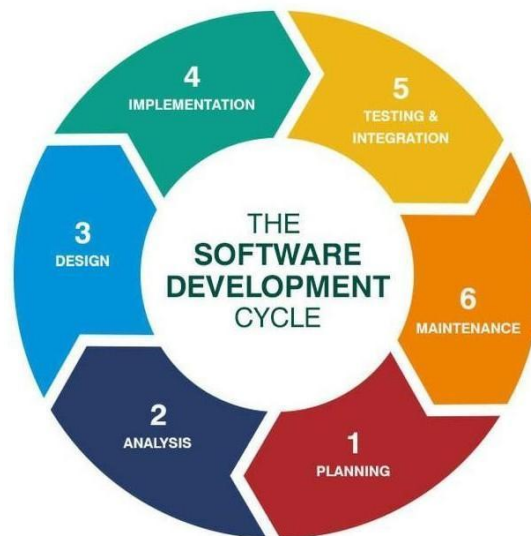


Figure 1: Application System Development Life Cycle

There are various application system development methodologies that have been adopted to develop the system/application. As for the PBDutify system, the Rapid Application Development (RAD) Methodology has been adopted in developing the system. The RAD rotation includes 4 main phases, namely need planning, design, development and implementation (Figure 2). Furthermore, the phase is implemented by a group of skilled application developers who work closely with the management of Police Security throughout the development period. In order to quickly produce a high-quality system which emphasizes the needs of the owner of systems or user.

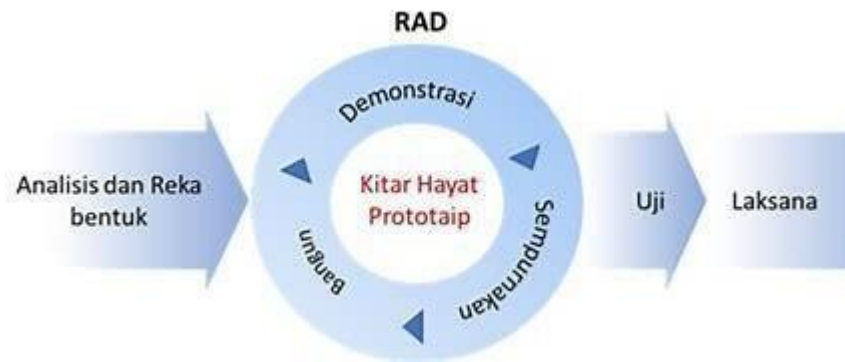


Figure 2: Rapid Application Development (RAD)

### System Planning

System planning begins with a formal request to the IT department from the owner of the system in 2021, which describes problems or desired changes in an information system or a business process. After discussion with the representatives of the Security Police Office and Infostructure Department, UiTM Terengganu, Kampus Dungun, the actual requirement to make daily schedule tasks more systematic, manageable and easy to use has been identified and discovered. The discussion resulted in the creation a few of sub module for the PBDutify System. There are 5 sub modules that are provided in it. Figure 3 shows sub modules that had been provided in the PBDutify System.



Figure 3: Sub Module of the PBDutify System

### System Analysis

The purpose of the system analysis phase is to build a logical model of the new system. A logical model has been created using "draw.io" to reveal all the relationships between attributes and the database shown in figure 4. The entity relational diagram (ERD) had been discussed between developers. The logical model is an overview of how the system works as shown in figure 5.



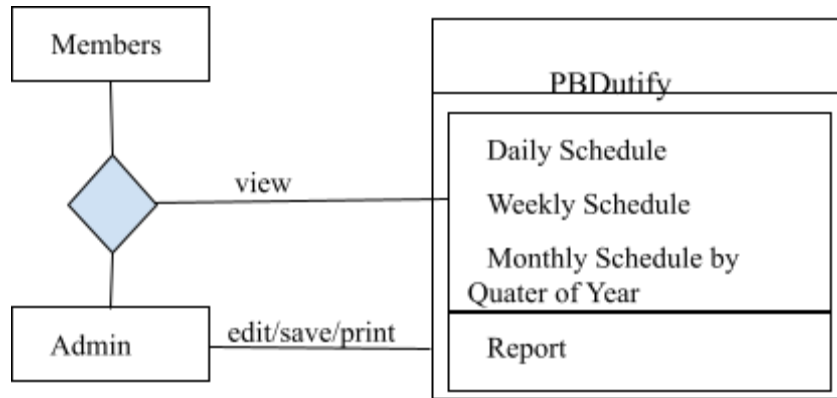


Figure 5: Logical work

### System Design

The purpose of the systems design phase is to create a physical model that will satisfy all documented requirements for the system. In the first phase, the storyboard of the system was designed and presented to the owner of the system and output from the discussion has been noted for the next phase.

### System Implementation

During the system implementation phase, where the developers use structured analysis or O-O methods, the procedure was designed to the requirement needs — programs are written, tested, and documented, then the system is installed.

### System Testing

System testing is implemented on the PBDutify system several times and the progress has been presented to the owner of the system (representatives of Police Security, UiTM Cawangan Terengganu Kampus Dungun). The system has many logical errors but is systematically able to run. All databases are found to be good. The report for the upgrade has been prepared after the first presentation.

### System Maintenance

To improve performance and to adapt the system to a changed environment, system maintenance is needed to modify the system to correct faults. The design of the system was maintained after a presentation with the owner of the system. The maintenance was performed to reduce user input and fixing errors occurred while running the PBDutify system.

Even though the process took a relatively long time due to the Covid19 pandemic and the knowledge constraints of the system developers and persons in charge of the system, the system was completed in 2021. As noted earlier there are 5 sub modules in PBDutify. In the first sub module list of the security police staff, the name of staff with rank and authority number is displayed that is unique and different from the current UiTM staff system. Therefore, for PBDutify system does not require any integration with the current task scheduling system at this moment. For the second to fourth module, task schedules displaying the month, weekly and daily time table. Last but not the least, the fifth module which includes the reporting ability which helps officers to generate reports and schedules if needed.

### **3. FINDING**

The use of electronic technology in UiTM is not something new. Therefore, to comprehend the Campus Digitization Plan, the existence of PBDutify can improve the service standard of the Police Security unit especially at UiTM Cawangan Terengganu. PBDutify brings a few impacts to senior officers and overall members at the Police Security, especially in management. Where division of tasks is easier and being fairer and more equitable. Besides, data storage being more systematic and easier to retrieve when needed.

### **4. CONCLUSION AND RECOMMENDATION**

In conclusion, the transformation made by the Police Security Office, UiTM Cawangan Terengganu towards the development of the PBDutify system has a goal to ensure the quality of service and management, especially more efficient and comprehensive, is right on time. Although the scope of this study is limited in terms of the duration of using the PBDutify and user satisfaction in response to the system usage and scope. For the future research, hopefully PBDutify sub module will be extended to replace other manual tasks for overall use and also can be used by other UiTM branches.

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4. Dr Zainuddin Bin Zakaria, UiTM Cawangan Terengganu Kampus Dungun

\*SM – Police Sergeant Major

\*KPL – Police Corporal

\*DSP – Deputy Superintendent of Police

\*PB – Polis Bantuan

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