The Development of Event Application Management System (EMASS) for Sahabat YADIM

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ABSTRACT

Nowadays, Event Application Management System has been applied in many organizations. However, Sahabat YADIM is still using manual process to manage their application for event approval. The committee needs to wait for a long time to get the approval status from the management because of the staff in the management always overlook the email sent by the committee. Thus, the problem leads misunderstanding among the committee and the YADIM management. To overcome the problem, System Development Life Cycle (SDLC) methodology using Prototype Model is implemented which consists of Requirement Gathering: Primary Stage, Requirement Gathering: Secondary Stage, Quick Design, Building Prototype, and Customer Evaluation. With the involvement of theory which is User-Centered Design (UCD), the proposed system is targeted to have an interface followed the user's wants until they agree about the design besides the button is usable. The prototype of the Event Application Management System (EMASS) is tested and evaluated in term of functionality and usability by two (2) expert evaluators from different background and thirty (30) respondents. For the result, it shows that the development of EMASS was satisfied the users as most of the evaluation criteria show good score of the mean value. Since this system improves the management of paperwork application for event approval in the organization, this system will be advantageous to those who plan to implement event application system in the future and to those who have already implemented it and would like to make it better.

Keywords: Event Application Management System, Prototype Model, User-Centered Design (UCD).

1. INTRODUCTION

Currently, varied events at any places have encouraged the teenagers at early ages to joins because they believe it might give them benefits in the future. These events that have to encourage the teenagers to be attracted mostly is because of its attractiveness and responsiveness to their needs. However, all the events must need some fund to be run. Therefore, these teenagers will need to find any organization or government institutions in to get the fund to run their events.

Yayasan Dakwah Islamiah Malaysia (YADIM) company has organized one of the organization under them, which called as Sahabat YADIM (SY). Sahabat YADIM is known as the organization of the communities of da'wah driven which act as a platform for all of their members to run the event that purposely for them to spread the da'wah while increasing their skills and knowledge to generate the future leadership of a nation with Islamic ideology. Generally, this organization supports the funding and equipment for the events that want to be developed by their members.

The manual current process for applying the approval to develop the event start when the leadership council that handles the communities of Sahabat YADIM in each state (MPN) especially the secretary of leadership council need to create the paperwork to apply for the event approval together with equipment and funds asked.

There are several steps involved in the current business process of Sahabat YADIM as shown in figure 1.
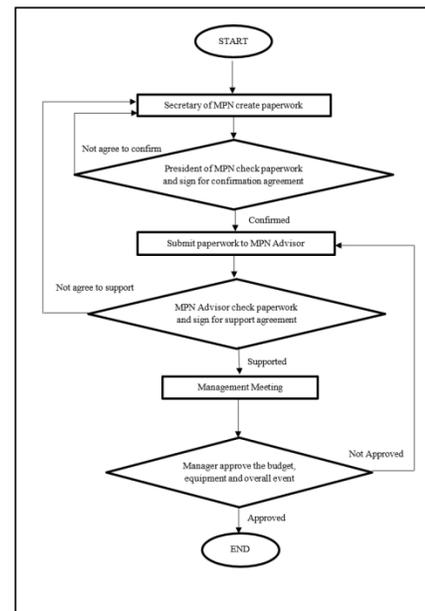
Figure 1: Current business process of Sahabat YADIM

The problem occurs when the document application received by the MPN Advisor or Staff is being misplaced and overlooked (or mishandling of the document by the staff) which it is quite hassled because the staff needs to start over at square one in getting the information back, thus delaying the approval process.

Next, the problem is there will always have inconsistent formatting of paperwork application submitted by MPN committees to the management. Its leads the MPN Committees to rework the applying process each time they want to apply for an event.

To overcome this problem, a web-based system, which is Event Management Application Management System (EMASS) is proposed. This system that can improve the process related to event application management of Sahabat YADIM.

2. LITERATURE STUDY
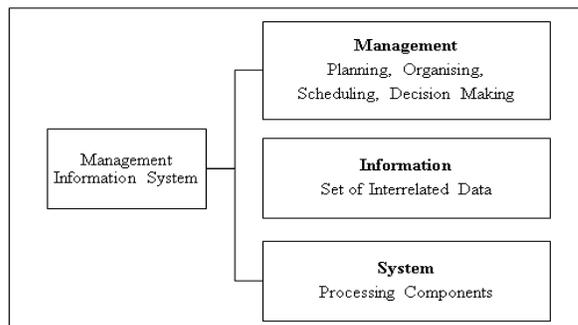
2.1 Management Information System

The concept of Management Information System (MIS) can be explained and indicated differently from varied of authors. The concept originated in 1970 and has been used until today as stated by [8]. MIS had performed in the early of '80 in the US enterprises which are the resources of the combination of human and computer that aim at the data and information collecting, storing, organizing, calling, communication, distribution and used by managers for the performance of leading activities [1].

The MIS has the main goal to be set up in the organization which is to utilize the information for the decision making purpose made by the manager of the organization. It is important to understand how MIS is a function to achieve the organizational goal. Figure 2 shows the functions of MIS.
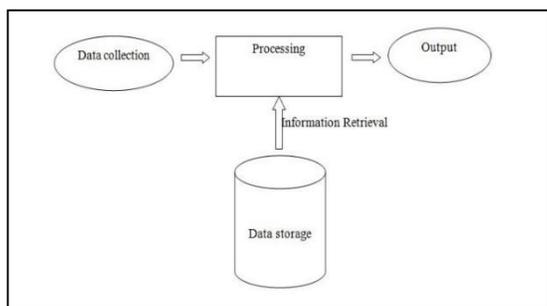
Figure 2: Functions of MIS

The quality of information and the proper system will be not attained success for an organization if there is no management in the function of MIS. Next, according to [8], the term MIS is a combination of Management Information System which has three components as shown in figure 3.

Figure 3: Components of MIS

Management Information System has many advantages to support an organization activity. According to [1], Management Information System can provide clear detail on concrete issues and problems by using the reports and data received. Next, the Management Information System will do not put away many papers with a minimal of reports that have been printed to provide information that is complete and continuously to the top-management. It also supports quality assurance and information timeliness that the management need. Besides, the Management Information System is suited to the top management information requirements.

2.2 Event Application Management System

According to [5], they found that Event Application Management System as Online Registration Management System (ORMS). It is a platform that is a full-featured, cost-effective and customizable solution which helps in assist enterprise and organization to encourage members and customers to register and pay events through online at any time and anywhere.

The users may get advantages if the Event Application Management System is developed. Firstly, they may enjoy the productivity and cost savings which reduce by using the automated registration. Besides, payment processing and comprehensive online reporting are efficient through this system. Next, this system will enhance the service quality to members with real-time information searching on registration and payment statuses. Moreover, it helps in efficiently manage multiple events made by the people by using this system. Therefore, they will feel comfortable to develop new event by using the system.

2.3 User-Centered Design (UCD) Theory

User-Centered Design includes focusing on the user's required, carrying out an analysis of the activity as well as an analysis for general requirements, brings out early testing and evaluation, and iteratively design. User-Centered Design (UCD) is the process of developing a tool, such as, the user interface of a website, from the point of view of how human will understand and use it [5]. It is mean that the field of UCD is built based on understand human interaction [3]. Implementation of Human Computer Interaction (HCI) theory

in the EMASS can give benefits in term of maintaining consistency, provide adequate feedback, provide adequate navigation mechanism, present information clearly, and offer assistance.

2.4 Prototype Model

In the past research about the prototyping model, it was found that the adopted prototyping in the SDLC models has found to be more dynamic and responsive to client needs besides giving efficiency with the less risky to the system [2]. This model provides the details of the project requirements and the best scenarios of its work before the project running in time. Figure 4 shows four different stages of the prototype model and the benefits and drawbacks of the prototype model is shown in table 1.
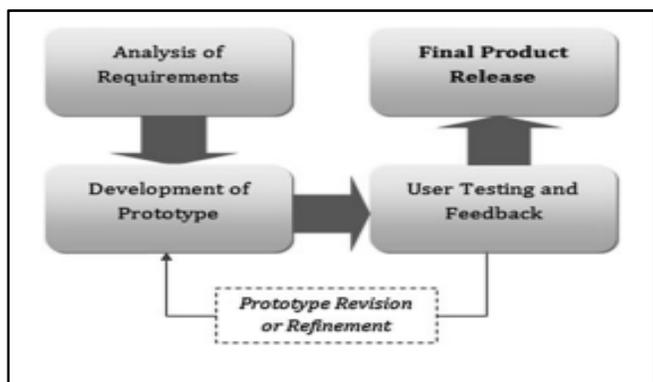

Figure 4: The Prototype Model

Table 1: The benefits and drawbacks of Prototype Model

Advantages	Disadvantages
The user gain the proper functionality clarity and 'feel' of the software and they can recommend changes and modifications.	The prototype will be no use and refers as "Throw-away" prototype once requirements are acquired from the client after showing prototype model
Assist demonstrate the idea to prospective investors to gain project funding.	The prototype is a slow process.
Reduces the risk of failure, as their potential can be recognized early and can take moderation steps early.	User involvement is too many
Produce a very good and conducive environment during project between iteration of the development team and client.	Changes that are too many can intrude the rhythm of the development team.

3. METHODOLOGY

In this project, the Prototype Model already selected to incorporate together with SDLC phases as a method of research methodology. During the planning and analysis process, the requirement is gathered for the primary stage and secondary stage. An interview was conducted with the MPN Advisor in order to get the information. From the interview, the problem about the process flow for MPN Committees to manage the event application approval to the management was identified. Moreover, the observation on the current process of Event Application in Sahabat YADIM has been made to gather the extra information. Therefore, the data of interview and observation received then it was analyzed to get and gather the requirements that might help in reducing the problem faced in managing the MPN events application and approval.

Next, in the design activity, the Process Flow Diagram, Site Map, Context Diagram, Data Flow Diagram (DFD), Entity Relationship Diagram (ERD) and User Interface Design are produced to have a better knowledge about the process and the connection between the functionality of the system and the users. Figure 5 below shows the Process Flow Diagram for EMASS.
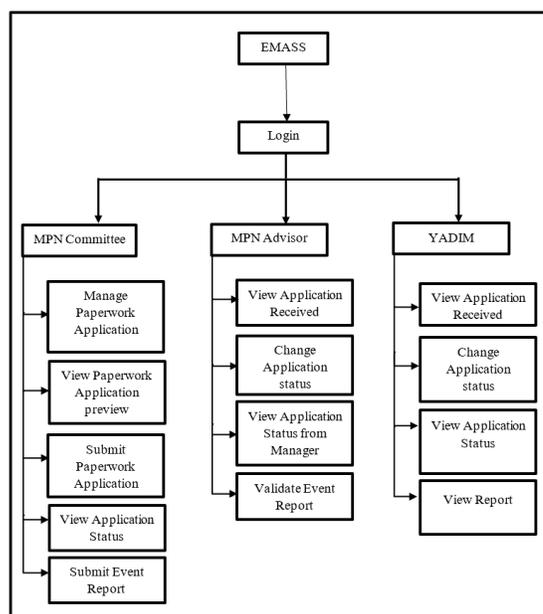

Figure 5: Process Flow Diagram

Then, the implementation for EMASS is carried out by building its prototype. The several versions of EMASS prototype are developed based on the comments and feedback receives from the users which are MPN Committees, MPN Advisor and YADIM Manager through the prototype's evaluation process. Figure 6 shows the prototype of the index page for MPN Committee.

Figure 6: MPN Committee Index Page

The improvement of the prototypes will be done after all the feedbacks and comments from the users are gathered and it will be continued until their requirements are met with the prototypes of EMASS.

After that, the testing and evaluation process is made. According to [6], testing in the system development is important to get error free program and to find mistake in the design. There are two groups that will test the system which is users and expert. For EMASS, the expert person that will test the system is who are expert in software development, Computer Science and MPN Advisor. However, for the users, the MPN Committees are involved to evaluate the system. These groups will evaluate the system on the questionnaires which will be constructed and distributed to them based on their function in the system. As shown in table 2 is a sample test plan for the users.

Table 2: Sample Test Plan

No	Requirements	Comment	Developer	Tester
1.	Click EMASS page	Homepage for EMASS		
2.	Enter Username and Password	Start		
3.	Click login button	Dashboard of MPN Committees		
4.	Click Event Application	Create new event application		
5.	Click Paperwork Preview	View paperwork preview		
6.	Click button submit	Submit Application		
7.	Click Application Status	View Application Status		
8.	Click Report button	Upload Event Report		
9.	Click Submit Button	Submit Event Report after the event ends		
10.	Click List of Events	View lists of events that successfully runs		

4. RESULT AND DISCUSSION

This section discussed on result and discussion of the EMASS, which is related to expert and user evaluation of the system.

4.1 Expert Evaluation

For the expert evaluation process, two expert users were involved, which are the lecturers in the Computer Science Department of UiTM Cawangan Terengganu Kampus Kuala Terengganu (UiTM CTKKT). The evaluation consisted of seven criteria which are perceived usefulness, user interface,

satisfaction, ease of use, user-centered design, consistency, and efficiency.

As the theory that has been applied for EMASS is user-centered design, table 3 shows the feedback from both experts regarding the theory.

Table 3: Expert Evaluation for User-Centered Design

A. User Centered Design	Do you think the design is good and suitable for all users?
	What do you prefer to make the system improve for users?
	Overall, is this system design are focusing on the user?
	Comment: Yes. (Expert 1) Provide more efficient information on displayed. (Expert 2)
	Suggestion:

From the feedback, it shows that both experts were satisfied and gives positive comments for the improved version of EMASS. Figure 7 and 8 show the previous version and the improved version of EMASS for index page for MPN Committee.

**Figure 7:** Previous Version of EMASS

Figure 8: Improved Version of EMASS

4.2 User Evaluation

For user evaluation, 30 respondents were involved to evaluate the EMASS which consists of MPN Committee and UiTM CTKKT students. Similar to the expert evaluation, the evaluation for the user also falls into seven criteria. For user evaluation, Likert scale of 1-5 where 1 for strongly disagree and 5 for strongly agree is used as a measure.

Figure 9 shows the mean of all seven criteria. It is indicated that the criteria of EMASS were satisfied the users as most of the means value is above 4, with the highest mean is 4.2 for consistency criteria. The users agreed that the system is consistent and easy to learn with minimal and understandable requirements.
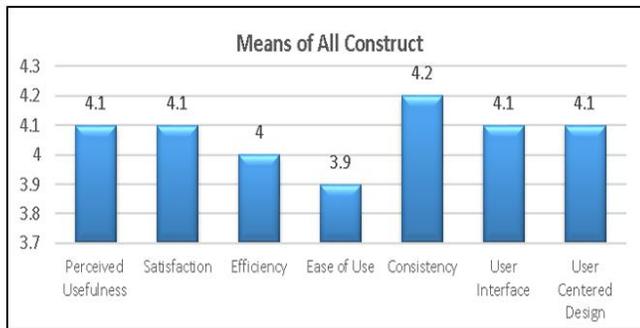
Figure 9: The Mean of All Criteria

5. CONCLUSION

Event Application Management System (EMASS) is a computerized system which using the knowledge from management information system (MIS) and developed by incorporating elements of User-Centered Design to improve the system usability to the users. The system is developed to help the organization of Sahabat YADIM and YADIM management in the process of applying for the paperwork application approval.

There are several limitation problems occurred during the development of EMASS. The first problem occurred in the initial stage of collecting data for EMASS development, where it is difficult to get all the information needed for the development because of security and confidential issues of the data and information. Next problem is due to the time and cost involved during the collecting data process because of distance journey to the organization.

As a conclusion, few recommendations can be made to the proposed system. From the finding results, it can be concluded that the development of EMASS was fulfilled all the criteria but needed some enhancement of the functionality so that the system can be more user-friendly and easy to use. It is also suggested that the application process not only limited to the MPN Committee, but the members of Sahabat YADIM also can use the system and can send the event application proposal.

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