DECISION SUPPORT SYSTEM FOR UNIVERSITI TEKNIKAL MALAYSIA MELAKA PROJECT TENDER

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I hereby declare that this project report entitled

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Is written by my own effort and that no part has been plagiarized

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DEDICATION

To my beloved family and friends
Whose boundless love and support replenishes and enriches my soul to complete this thesis.
Thanks for being my inspiration and encouragement

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ABSTRACT

Decision Support System (DSS) for Universiti Teknikal Malaysia Melaka Project Tender is a system that produces a decision making for the tender selection process for UTeM project tender. This system is a web-based system for UTeM Management Team, Company that involved in the selection process and also for the person who control the tender's process. The system also will lesson to make a decision based on criteria given by the individuals. Its feature make the current process go easier when it is well finished developed soon. It will control all the decision within selection making for the tender based on the criteria that have been given. The system is a web-based system and use internet browser to run the system.

ABSTRAK

Decision Support System (DSS) untuk tender projek, Universiti Teknikal Malaysia Melaka ialah sistem yang menhasilkan keputusan sendiri untuk tender projek di UTeM. Sistem ini ialah berasaskan laman web untuk kumpulan yang menguruskan tender, syarikat yang menender projek dan individu yang menguruskan proses tender. Sistem ini mempelajari membuat keputusan dengan criteria yang diberi oleh individu yang terbabit. Fungsi-fungsi yang bakal dihasilkan di dalam sistem ini diharap dapat membantu apabila siap nanti. Ia akan mengawal segala pemilihan tender dengan sendiri berdasarkan criteria yang diberi. Sistem ini beasaskan web dan menggunakan browser internet untuk berjalan.

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UTeM	- Universiti Teknikal Malaysia Melaka
DSS	- Decision Support System
UML	- Unified Modeling Language
GSS	- Group Support System
EIS	- Enterprise Information System
SCM	- Supply Chain Management
KM	- Knowledge Management
ES	- Expert System
ANN	- Artificial Neural Networks
IDSS	- Intelligent Decision Support System
ERD	-Entity Relationship Diagram
OOAD	- Object-Oriented Analysis and Design
RUP	- Rational Unified Process
OS	- Operating System
IE	- Internet Explorer
PSM	- Projek Sarjana Muda
IIS	- Internet Information Services
ASP	- Active Server Page
CGI	- Common Gateway Interfaces

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CHAPTER I

INTRODUCTION

1.1 Project Background

Nowadays, project tenders are still managed by human to make decision that which companies will get the tenders. In reality today, the company that will get the tenders, eventually will be choose from the meeting or some people of the highest rank in the members of the meeting. This meeting was called "Open Tender Box". In order to choose a right company for the tender, the project called "Decision Support System for Universiti Teknikal Malaysia Melaka Project Tender" is proposed for the final year project (PSM).

This system is basically an intelligent system that can make a decision required by management during tender selection. Customer can do the online tender checked and also check the status of their current tender. For the UTeM tender's management team (admin), this system helps to reduce processing time. Besides, the system can update or do maintenance such as add manage customer information (view/update) and decision module.

1.2 Problem Statement(s)

The tender process today take a lot of time to decide which company will get the tender. The process starting from several of meeting and discussion among members UTEM tender's management team. It's will take time to decide which company get the tender.

The current tender bidding process today also did not run in healthy environment. There is outside factor that involve in the process that will make the tender did not go to the company that should get it.

Besides those two problem, the currently tender process today also seems didn't run smoothly. When many tenders open in the same time, it will be some of the tenders will be hold their current tender bidding to let the previous bidding finish. Therefore, in this case today, some tender need sometimes several months to get the result.

Furthermore, the company that involves in the project tender cannot check their status either the tender go to them or not. If they want the confirmation about their status, they need to contact the UTeM tender's management team or wait for the acknowledgement letter.

1.3 Objective

1. Use Decision Support System to produce the best tender among the tenders in a specification time given.
2. To use by the UTeM tender's management team in tender's selection process.
3. To change the current manual process into a system.

1.4 Scope

There are two sides of parties as a target user that will be involve in this system. The users are UTEM tender's management team (admin) and company (user).

The Admin:-

- Access Control
  - Admin need to enter the authentication id number and password to login
- Manage Tender Information
  - Admin can add, update and delete tender and User(Company) information
- Decision Making
  - Admin have the authority to filter the decision process making by the system and also authority to approve the company that enter the tender

The User (Company):-

- Access Control
  - User need to enter ID number and password
- Tender Status
  - User can check the status of success or not get the tender

1.5 Project Significant

The one that will get the benefits from this system is company's management team because this system will help them to manage the tender management which is from

the activities open the tender until the selection. Therefore the customer will have to wait for result about the decision. This may help both of involving parties will reduce time for make selection and the selection that will be made is better in faster time. For the customer, they will know in the short time by online web services.

1.6 Expected Output

The expected output that will get Decision Support System for UTeM Project Tender is that this system will be able to manage the tender bidding process smoothly. Besides it will make the tenders process finish in a specific time required.

1.7 Conclusion

In conclusion, this DSS is a decision maker system that will help any of the tender bidding run smoothly without any effect from the outsider. The project background is the introduction to the project in briefly explanation, problems statements is description about the problems that the user face with the current system, project objectives is list down the thing that we want to get from this system or why we build the system, while scopes are basically the specific user for the system and the modules that involved in this project and also the expected output when the system is finish. Lastly project significant is describe who/what may benefits from the project and how it going to give benefits to the users. The next activities to be developed will be the literature review and project methodology of the system.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

A literature review is an evaluative report of information found that related to your selected area of study. This review will describe the summaries, evaluate and clarify of this literature. It should give a theoretical base for the research and help to determine the nature of your research. Works which are irrelevant should be discarded and those which are peripheral should be looked at critically. A literature review must be organized around and related directly to the thesis or research question that being developed, synthesize results into a summary of what is and is not known, identify areas of controversy in the literature and formulate questions that need further research.

Project is a temporary endeavor undertaken to create a unique product or service. Thus, the end result sought may be distinct from the mission from the organization which undertakes it because the project specifically has a deadline and the endeavor is temporary. According to the John S. Reel (2002), at least seven of 10 signs of IS project failures are determined before a design is developed or a line of code is written. The 10 signs of IS project failure from Tom Field analyzed is:-

1. Project Manager didn't understand users' needs.
2. The project's scope is not well defined.
3. Project changes are managed poorly.

4. The chosen technology changes.
5. Business needs change.
6. Deadlines are unrealistic.
7. Users are resistant.
8. Sponsorship is lost.
9. The project lacks people with appropriate skills.
10. Manager ignores best practices and lesson learned.

By the time you figure out you have a quality problem; it is probably too late to fix it (John S. Reel, 2002). This is best lesson for some organization that wants to build a project; there is 70 percent of the project failure before the implementation phase start. Although the problem is found in an implementation phase, it might be too late to fix it due to a due date of the project or financial and other more. Nearly every software development project faced with numerous difficulties and problem. Therefore when the project is successful, it is not because there were no problem but because the problems were overcome. Software project development depends on the documents and the documentation (Paul Rook, 1986). That why every is done right in software have done early and so there is little problem occur later, it can be overcome. This is what the software are:-

1. Software has no physical appearance.
2. Few software metrics exist.
3. Software has much higher complexity.
4. Effects of software change propagate explosively.
5. Software includes data as well as logic.
6. Software development makes very little use of pre-existing components.

Project Management is the art of creating the illusion that any outcome is the result of a series of predetermined, deliberate acts when; in fact, it was dumb luck (Kerzner, 2002). There is 9 key of effectiveness for good project management. First is