

VENDOR EVALUATION SYSTEM USING DECISION SUPPORT SYSTEM

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VENDOR EVALUATION SYSTEM USING DECISION SUPPORT SYSTEM

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This report is submitted in partial fulfillment of the requirements for the Bachelor of
Computer Science (Software Development)

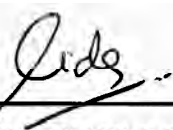
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DECLARATION

I hereby declare that this project report entitled
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is written by me and is my own effort and that no part has been plagiarized
without citations.

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DEDICATION

To my beloved parent and siblings, I love you all. To my supportive friends and my supervisor, thank you so much for the assist and help.

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Bismillahirrahmanirrahim

Praise to Allah for giving me strength and patience to complete the Projek Sarjana Muda throughout these semester.

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To all my friends, who always give me the moral support and been there whenever I am in need.

ABSTRACT

Vendor Evaluation System Using Decision Support System is a web based system development project. The primary purpose is to develop the system that can help and guides FTMK staff to easily evaluate the vendors. This system will cover the information about the vendor, quotation, bidding process, and evaluation. The system will be used by FTMK management. This system encircles registration module, login module, project module, questionnaire module and decision support system engine module. To develop this system, Object Oriented approach is used and RUP model had been chosen as a methodology. The programming language used in developing this system is Java Server Faces (JSF), and its rich component library, RichFaces. For database, this system using Java DB as storage. Results from this system is hoped to give the ability for the FTMK staff management to evaluate the vendor.

ABSTRAK

Vendor Evaluation System Using Decision Support System merupakan sistem yang berasaskan web. Tujuan utama sistem ini dibangunkan adalah untuk membantu dan membimbing kakitangan FTMK untuk memilih pembekal. Sistem ini merangkumi maklumat berkenaan dengan pembekal, sebutharga, proses bidaan dan pemilihan. Sistem ini akan digunakan oleh pentadbiran FTMK. Sistem ini juga merangkumi modul pendaftaran, modul log masuk, modul projek, modul soalan, dan modul Sistem Bantuan Pemilihan. Untuk membangunkan sistem ini, pendekatan berorientasikan objek telah digunakan dan model *Rational Unified Process* telah dipilih sebagai metodologi. Bahasa pengaturcaraan yang digunakan dalam membangunkan sistem ini adalah *Java Server Faces (JSF)*, dan juga perpustakaan komponennya iaitu *RichFaces*. Untuk simpanan maklumat, *Java DB* digunakan. Oleh itu, hasil daripada sistem ini diharap dapat membantu kakitangan FTMK untuk memilih pembekal.

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LIST OF ABBREVIATIONS

VES	Vendor Evaluation System
DSS	Decision Support System
JSF	Java Server Faces

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CHAPTER I

INTRODUCTION

1.1 Project Background

Vendor Evaluation System (VES) using Decision Support System is a system developed for FTMK management to evaluate the vendor qualification and provide constructive feedback based on vendor analysis using an intelligent decision support system that automatically calculated the scoring weighted based on questionnaires. Multiple vendors and evaluations by using decision support system provide the efficient ways to evaluate the vendors.

In this project, a web based decision support system, user-friendly interface, the vendors scored and weighted, and sophisticated questionnaires issued and answered online create a flexible environment that is capable of evaluating vendor using a flexible evaluation process.

The use of the system to facilitate the evaluation process enables FTMK management to reduce the time and cost of vendor evaluations, reduce the subjectiveness of evaluations, provide a complete record of process, eliminate paper intensive processes, and make the evaluation process efficiency.

1.2 Problem Statement

The current problems are:

- i. Always choose wrong vendor that provides bad services.
- ii. Vendor comparison is hard to make.
- iii. Give a project to acquaintance only.
- iv. The record and process of vendor evaluation used a lot of paper.

1.3 Objective

The main objectives of the application are:

- i. Ensuring the selection of the most qualified vendor using decision support system.
- ii. To easily make comparison between vendor.
- iii. Reduce subjectiveness of vendor evaluations process.
- iv. Eliminate paper intensive process and provide keep record of the process.
- v. To publish the available project through the system.

1.4 Scope

The scope of the project is only applied on two areas: Target Users and Modules. Each area is describes as below.

a) Target User

- Vendors
 - The person who wishes to get the project.
- FTMK Staff
 - The person who creates/request the project by defining the requirement and evaluation criteria of the project.

b) Modules

- Registration
 - Vendor registration is who wishes to get the project need to register and fill the specific information that will be used as criteria of vendor evaluation.
- Login
 - User must login to use the system.
- Project
 - Admin who is manages the project
 - Vendor can bid the project by submitting the online quotation.
 - Staff can create the project
- Questionnaire
 - FTMK Staff frame the project requirement criteria as question and assigning weighted to each questions.
- Decision support system engine
 - The system will automatically aggregate to support comparative scoring, weighting, and evaluation of vendor by providing the shortlist of vendors.

1.5 Project Significance

This system application will help the FTMK management to easily evaluate the vendor based on project requirement criteria. This system also helps to reduce the subjectiveness of vendor evaluations process and makes comparison between vendors. Besides, the decision making process can be done easily with decision support system will generate the shortlist of qualified vendors. Admin only need to select from shortlist of vendor from decision support system process.

1.6 Expected Output

This project is expected to produce a decision support system, which will benefit FTMK management to save more money and to help make a shortlist of vendor based on project requirement criteria that automatically gives scoring result from answered questions. This project also hopefully can make management's work more easily and efficiency because the evaluation process used the web based system. Besides that, the system hopefully can help the FTMK management to evaluate the vendor based on requirement criteria.

1.7 Conclusion

As a conclusion, this application is developed for FTMK management to easily evaluate the vendor by using decision support system. The Vendor Evaluation System (VES) gives many benefits to the FTMK management in order to improve their services. This chapter reviews on the description of the project and some related background information on the project. Beside that, this chapter observes the problem statement of this project to give a clear insight of what is the scope and objectives of the project. This chapter will become the guideline to all the work that is to be carried out in the later stage.