

CAR LOAN APPROVAL DECISION SUPPORT SYSTEM

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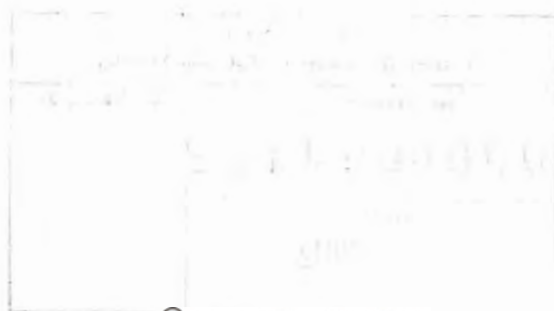
CAR LOAN APPROVAL DECISION SUPPORT SYSTEM

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This report is submitted in partial fulfillment of the requirements for the Bachelor of
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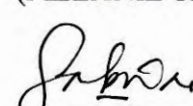


DECLARATION

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

This report is dedicated to my beloved parents, friends and supervisors who have provided encouragement and guidance all the way during the completion of the report.

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First and foremost, I would like to thank my supervisor, Madam Sabrina Binti Ahmad because of her loving and kindness for accepted me as her student under Final Year Project supervision. Her patience and dedication has helped me in completing my project ever since I started this project by giving opinions, ideas and guidance.

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ABSTRACT

The Car Loan Approval Decision Support System is a system that provides services to decrease the work load of bank officers in loan approval decision making. There are already existing system in current market such as Loan Origination System and Mortgage+Care Loan Origination and Loan Servicing System, with their own features. But, Car Loan Approval Decision Support System will be developed to add some features to these existing systems. The extra features are it is develop using PHP code, it has stronger security in user authorization, audit trail and audit log, backup and restore. Besides, the loan approval decision making is based on the analysis of German Credit Data dataset to produce decision tree using WEKA 3.6.4.

ABSTRAK

Car Loan Approval Decision Support System merupakan suatu sistem yang boleh memberikan sesuatu perkhidmatan untuk mengurangkan beban kerja pegawai bank untuk mendapatkan keputusan kelulusan kredit. Terdapat beberapa sistem yang telah wujud di pasaran masa kini, contohnya '*Loan Origination System*' dan '*Mortgage+Care Loan Origination and Loan Servicing System*', system masing-masing mempunyai ciri-ciri yang tersendiri. Namun, *Car Loan Approval Decision Support System* akan dibangunkan dengan menambah beberapa ciri-ciri baru berbanding dengan sistem yang telah wujud. Ciri-ciri tambahan itu adalah sistem baru akan dibangunkan dengan kod PHP, is juga mempunyai keselamatan yang lebih kuat dalam megenali hak pengguna, *audit trail* dan *audit log*, backup dan *restore*. Di samping itu, keputusan kelulusan kredit adalah berdasarkan pada analisis Jerman dataset Data Kredit untuk menghasilkan pokok keputusan menggunakan WEKA 3.6.4.

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENTS	iv
	ABSTRACT	v
	ABSTRAK	vi
	TABLE OF CONTENTS	vii
	LIST OF TABLES	xi
	LIST OF FIGURES	xiii
	LIST OF EQUATIONS	xv
	LIST OF ATTACHMENTS	xvi
CHAPTER I	INTRODUCTION	1
	1.1 Project Background	1
	1.2 Problem Statement(s)	2
	1.3 Objective	3
	1.4 Scope	3
	1.5 Project Significance	7
	1.6 Expected Output	7
	1.7 Conclusion	8

CHAPTER II	LITERATURE REVIEW AND PROJECT METHODOLOGY	9
	2.1 Introduction	9
	2.2 Facts and findings	10
	2.2.1 Domain	10
	2.2.2 Existing System	11
	2.2.3 Technique	13
	2.3 Project Methodology	14
	2.3.1 Requirement Analysis and Definition	14
	2.3.2 System and Software Design	15
	2.3.3 Implementation and Unit Testing	17
	2.3.4 Integration and System Testing	17
	2.3.5 Operations and maintenance	17
	2.4 Project Requirements	18
	2.4.1 Software Requirement	18
	2.4.2 Hardware Requirement	19
	2.4.3 Other requirements	19
	2.5 Project Schedule and Milestone	19
	2.6 Conclusion	20
CHAPTER III	ANALYSIS	21
	3.1 Introduction	21
	3.2 Problem Analysis	22
	3.3 Requirement Analysis	23
	3.3.1 Data Requirement	24
	3.3.2 Functional Requirement	24
	3.3.3 Non-functional Requirement	26
	3.3.4 Others Requirement	27
	3.4 Conclusion	28

CHAPTER IV	DESIGN	29
	4.1 Introduction	29
	4.2 High-level Design	30
	4.2.1 System Architecture	30
	4.2.2 User Interface Design	31
	4.2.3 Conceptual and Logical Design	33
	4.3 System Architecture	36
	4.3.1 Software Design	36
	4.3.2 Physical database design	41
	4.4 Conclusion	73
CHAPTER V	IMPLEMENTATION	74
	5.1 Introduction	74
	5.2 Software Development Environment Setup	75
	5.3 Database Implementation	77
	5.3.1 Data Loading	77
	5.3.2 Data Access	78
	5.4 Software Configuration Management	79
	5.4.1 Configuration Environment Setup	80
	5.4.2 Version Control Procedure	80
	5.5 Implementation Status	82
	5.6 Conclusion	85
CHAPTER VI	TESTING	86
	6.1 Introduction	86
	6.2 Test Plan	87
	6.2.1 Test Organization	87
	6.2.2 Test Environment	88
	6.2.3 Test Schedule	89
	6.3 Test Strategy	90
	6.3.1 Classes of Test	91

6.4 Test Design	92
6.4.1 Test Description	92
6.4.2 Test Data	93
6.5 Test Result and Analysis	93
6.6 Conclusion	93
CHAPTER VII PROJECT CONCLUSION	94
7.1 Observation on Weaknesses and Strengths	94
7.1.1 Weaknesses of Car Loan Approval Decision Support System	95
7.1.2 Strengths of Car Loan Approval Decision Support System	95
7.2 Proposition for Improvement	96
7.3 Contribution	97
7.4 Conclusion	97
References	98

LIST OF TABLES

TABLE	TITLE	PAGE
2.1	Software Requirement	18
3.1	Software Requirement	27
5.1	Implementation environment of CLADSS	76
5.2	Server Configuration for CLADSS	76
5.3	Database Environment Setup for CLADSS	77
5.4	Versions of CLADSS	81
5.5	Implementation status of CLADSS	82
6.1	Test Organization of CLADSS	87
6.2	Test Environment of CLADSS	88
6.3	Test Schedule of CLADSS	89
A.1	Milestone PSM I	100
A.2	Milestone PSM II	102
C.1	Data Requirement	106
D.1	Input Design	112
G.1	Data Dictionary	124
I.1	Attribute Information	137
I.2	Attribute pre-process details	138
J.1	Test Description for Login Module	142
J.2	Test Description for Signup Module	143
J.3	Test Description for Open Account Module	144
J.4	Test Description for Loan Calculator Module	146

J.5	Test Description for Loan Application Module	147
J.6	Test Description for Credit Scoring Module	152
J.7	Test Description for Manage Staff Information Module	152
J.8	Test Description for Audit Module	155
J.9	Test Description for Backup and Restore Module	156
J.10	Test Description for Report Module	157
J.11	Test Description for Import and Export Module	159
K.1	Test Data	161
L.1	Test Result and Analysis for Login Module	166
L.2	Test Result and Analysis for Sign up Module	167
L.3	Test Result and Analysis for Open Account Module	168
L.4	Test Result and Analysis for Loan Calculator Module	170
L.5	Test Result and Analysis for Loan Application Module	171
L.6	Test Result and Analysis for Credit Scoring Module	177
L.7	Test Result and Analysis for Manage Staff Information Module	178
L.8	Test Result and Analysis for Audit Module	180
L.9	Test Result and Analysis for Backup and Restore Module	181
L.10	Test Result and Analysis for Report Module	181
L.11	Test Result and Analysis for Import and Export Module	184

LIST OF FIGURES

Figure	TITLE	PAGE
2.1	Waterfall Model	14
3.1	Flow Chart of the current system	22
3.2	Context Diagram of Car Loan Approval Decision Support System	24
3.3	Data Flow Diagram of Car Loan Approval Decision Support System	25
4.1	Client-Server Architecture	30
4.2	Navigation Design of Car Loan Approval Decision Support System	32
4.3	Backup	72
4.4	Restore	73
5.1	Client-server architecture	75
5.2	WAMP Server Configurations	80
B.1	Gantt chart	104
E.1	Empty Staff ID Error Message	116
E.2	Empty Password Error Message	116
E.3	Wrong Staff ID and Password Error Message	116
E.4	Different Password Error Message	117
E.5	Success Password Change Message	117
E.6	Success Backup Message	118
E.7	Success Password Change Password	118
E.8	Empty Field Error Message	119

E.9	No Record Found Error Message	119
E.10	Confirm Logout Message	120
F.1	Entity Relationship Diagram	122
M.1	Login Page	186
M.2	Sign up page	187
M.3	Open Account Page	188
M.4	Loan Calculator Page	189
M.5	Loan Application page	190
M.6	Loan Decision Page	191
M.7	Printer Link	192
M.8	Report of Loan Approval Decision	192
M.9	Add New Staff Page	193
M.10	Audit Page	194
M.11	Backup Database Page	195
M.12	Restore Database Page	195
M.13	Export Table Page	196

LIST OF EQUATIONS

EQUATION	TITLE	PAGE
4.1	Loan Calculation Formula	38

LIST OF ATTACHMENTS

ATTACHMENT	TITLE	PAGE
A	Milestone	99
B	Gantt chart	103
C	Data Requirement	105
D	Input Design	111
E	Output Design	115
F	Entity Relationship Diagram	121
G	Data Dictionary	123
H	Software Design	128
I	Decision Tree	136
J	Test Description	141
K	Test Data	160
L	Test Result and Analysis	165
M	User Manual	185
N	Proposal Form	197

CHAPTER I

INTRODUCTION

1.1 Project Background

A loan service is one of the services provided to bank customers. It enables bank customers to buy their dream properties such as car, house and land, whenever they do not have enough money to buy. They can borrow money from the bank and pay the debt through installments in years based on their criteria. As more and more customers apply for loan, the process of handling loan application has become more troublesome. The loan officer has to calculate loan amount with the terms of duration, installment rate and monthly payment. This is where we need a Decision Support System to help the loan officer to make decision whether to approve the loan application.

There are many people with different criteria applying for loans, some of them are qualified and some are not qualified to apply loan. The bank officer has to crack heads in order to review the loan applicant's criteria and calculate the proper amount of

installment (loan) to prevent credit crisis. In order to reduce the work load of loan officer, the Car Loan Approval Decision Support System (CLADDS) is used. Meanwhile, the system also consists of calculator to automate the calculations of loan amount, loan duration and monthly payment.

Besides that, CLADSS is also able to manage and secure the database of the system. First of all, it can track the action and activities done by the user in the system. Meanwhile, the connection time of users to the system is also recorded. In order to ensure the data in the database is maintained by performing backup and restore, and export and import.

1.2 Problem Statement(s)

- Confusion and difficulties in granting loan to applicants.
 - There are too many requirements to refer before making decision to approve loan to applicants.
- Insufficient interface to manage applicant and customer information.
 - The current system doesn't have any user interface to back up and recover the system whenever the system is down.
- Lack of security and access control.
 - The information of the applicants and customers are not kept safely in the database. Hence, unauthorized person is easy to access the database.
- The officers always have mistakes in installment calculations.
 - The complexity calculation of installments (loan amount) may confuse the officers to calculate wrongly.

1.3 Objective

- To support intelligence, choice and implementation
 - The system will intelligently help loan officer to make decision in granting loan to applicants.
- To produce interactive relation between loan officer and system's user interface
 - The system will be interactive and easy to use.
- To strengthen the security and access control
 - The system will only allow authorized person to enter the system.
- To reduce the mistakes of installment calculations
 - The system will calculate the installments based on the loan interest rate, duration of loan in terms of month and the monthly payment.

1.4 Scope

- Target user:

The Car Loan Approval Decision Support System (CLADDS) target user is mainly loan officer.

 - Loan officer
 - Loan officer is the authorized person who can login to help loan applicant to open account in the bank.
 - Then, the loan officer can help the applicant to open account and apply loan through a user interface and make decision to grant loan to applicants.
 - Based on the decision make by the system, the loan officer can help loan applicant to evaluate credit crisis.

- The system contains functions that can efficiently manage decision making procedure.
- Administrator
 - The administrator is the authorized person who helps to maintain the database of CLADDS.
 - The administrator is also able to backup and restore database, and export and import the database's table when the system is crashed.
 - He/she is able to generate report to audit/track the user's activity of the system.
- Modules:

The Car Loan Approval Decision Support System (CLADDS) will be implemented with the following modules:

 - Login module
 - This module will authenticate the user who login into the system. Only authorized person is able to enter the system.
 - Signup module
 - This module will assist new user of the system to sign up as a user. New user will be given new password of '123456'. Once this password is detected, the system will direct the new user to change password.

- Open account module
 - This module is use to help customer to open account in the bank.

- Loan calculator module
 - This module calculates the installments based on the monthly payment, interest rate and loan duration in terms of months.

- Loan application module
 - This module is use to apply loan for the loan applicant assist by loan officer. It stores the information of loan applicant for the granting loan application decision.

- Credit Scoring module
 - This module approves the loan application based on the credit own by the applicants. It is important in granting loan.

- Manage staff information module
 - This module enables the administrator to register a new staff and user of the system. All information of the staff can be view here.

- Audit module
 - There are two types of audit in this module, they are audit trail and audit log.
 - The audit trail is used to track what data users have been insert and update to the database.
 - The audit log is used to track the connection time of users to the system.

- Backup and restore module
 - This module helps the administrator to back up database logically or physically. Whenever there is database failure, this module may help to restore. Hence, the database is maintained.

- Report module
 - This module helps the loan officer to view report of the loan applicants' approval.
 - Besides, it also helps the administrator to view the report about activities happen in the system by users.

- Import and export module
 - This module helps the administrator to export database's table in .csv file. Once it is exported, it can be import into the system to restore the database's table.