

**Universiti Teknologi MARA**

**Development of an Early Software Project  
Risk Assessment Application Using  
Case-Based Reasoning**

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Thesis submitted in fulfillment of the requirements for  
**Bachelor of Science (Hons) Information Technology**  
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Quantitative Science**

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## DECLARATION

I certify that this thesis and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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## **APPROVAL**

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## ABSTRACT

One of the major problems with early software project development is the difficulty to assess and manage the software project risk that might occur. It is vital for project manager to assess the risk because failure to recognize risk can cause the project to fail. Many applications have been developed in software development to assist project manager to estimate quality and cost based on relevant features of a project using the neural network and fuzzy set theory. It helps project manager to reduce the risk of incorrect estimation of project cost in software development. However, this project is focuses on the development of early software development project risk assessment using case-based reasoning (CBR) technique. It covers the six software project risk feature that are selected as case feature and the Nearest Neighbor algorithm that is used for similarity matching process in retrieval phase of the CBR cycle. The prototype has been successfully tested using new data. It shows that the CBR technique is able to find the similarity between the new input case and previous experience cases and give a recommended solution.

# TABLE OF CONTENTS

	<b>Page</b>
<b>DECLARATION</b>	ii
<b>APPROVAL</b>	iii
<b>ACKNOWLEDGEMENT</b>	iv
<b>ABSTRACT</b>	v
<b>CONTENTS</b>	vi-viii
<b>LIST OF FIGURES</b>	ix
<b>LIST OF TABLES</b>	xi
<b>CHAPTER</b>	
<b>1.0 INTRODUCTION</b>	
1.0 Introduction	1
1.1 Problem Description	1
1.2 Project Objective	2
1.3 Project Scope	2
1.4 Project Significance	3
1.5 Summary	3
<b>2.0 LITERATURE REVIEW</b>	
2.0 Introduction	4
2.1 Definition Of Terminology	4
2.2 Case-Based Reasoning (CBR)	5
2.2.1 CBR Cycle	7