

## UNIVERSITI TENNOLOGI MARA

UTM ART GALLERY INFORMATION RETRIEVAL BASED ON SYNOXYM TEXT

NOOR EAFIZAH MOHD ZAIN

BAGHELOR OF GOMPUTER SCHNGE (HONS)
FAGULTY OF GOMPUTER AND MATHEMATICAL
SCIENCES

## **ACKNOWLEDGEMENT**

First of all, all praises and thanks to Allah, Lord of al-Mighty, for His Guidance and will, for the revelation of some of His knowledge for me in the successful to write this research.

Many thanks to my lovely family and special friends for never quit in giving me full support, understanding and courage throughout the research without hassle.

This research would also not be possible and successful without the help and support from my supervisor, Assoc. Prof. Dr. Nursuriati Jamil and course coordinator, Dr. Nasiroh Omar. Many thanks to them for giving instructions, advices, motivation, support and guide the research in obtaining a good research. Also thanks to En. Rahman Amin and En. Nurul Muzamel Rasidi, persons from UiTM Art Gallery that help me in order in getting the data and some information about that gallery.

Finally, a deepest gratitude goes to my course colleagues of CS230 for their help and others who have, in one way or others, given me invaluable help, assistance and advice. And to the respondents for the cooperation they gave. Last but not least, to the seniors who have shared their knowledge. Thank you very much.

**ABSTRACT** 

Information Retrieval is fast becoming the dominant form of information access over

taking traditional database style searching. Nowadays, retrieval system is very

important in order to search something especially to search in the large database. The

use of semantic information into text retrieval or text classification has been controversial.

Information Retrieval based on synonym is needed in order to increase the effectiveness of

searching system. The objectives of this project are to develop an online search prototype for

UiTM Art Gallery with synonym retrieval capabilities. The scope of this project is

information of artwork produced by Fine Art department of Faculty Art and Design. This

project is implemented using content-based technique for retrieval process. In the future, this

project needs enhancement to produce better result with implementing advance stemming

and retrieval techniques.

Keywords: Information Retrieval, Synonym, Stemming, Content-based technique

V

## TABLE OF CONTENTS

		Page
Approval		ii
Declaration		iii
Acknowledg	ements	iv
Abstract		${f v}$
List of Table	es	ix
List of Figures		х
8		
Chapter 1:	Introduction	1
1.1	Research Background	1
1.2	Problem Statement	3
1.3	Objective	4
1.4	Project Scope	4
1.5	Project Significant	5
Chapter 2:	Literature Review	6
2.1	Introduction	6
2.2	Information Retrieval	6
2.3	Information Retrieval Technique	8
	2.2.1 Content-based Retrieval	8
	2.2.2 Soundex	8
	2.2.3 Proximity	9
	2.2.4 Ranking	9
2.4	The Performance Measures of Information Retrieval	9
	2.4.1 Precision	9
	2.4.2 Recall	10
	2.4.3 Fall-out	11

	2.4.4 F-measure	11
	2.4.5 Average Precision of Precision and Recall	12
2.5	Retrieval Effectiveness	12
2.6	Stemming Algorithm	13
2.7	Synonym List	14
2.8	Stopwords	14
2.7	Relevant judgment	14
Chapter 3:	Research Methodology	16
3.1	Introduction	16
3.2	Research Formulation Framework	17
	3.2.1 Analysis	17
	3.2.2 Design	18
	3.2.3 Implementation	27
	3.2.4 Testing	28
	3.2.5 Documentation	28
3.3	Hardware and Software Requirements	29
Chapter 4:	Result and Finding	31
4.1	Introduction	31
4.2	Experiment Result	34
4.3	Testing Result	34
4.4	Discussion	35
Chapter 5:	Conclusion and Feature Research	36
5.1	Introduction	36
5.2	Constraint	36
5.3	Conclusion	37
5.4	Feature Research	37