

UNIVERSITI TEKNOLOGI MARA

**FAQ AUTOMATED INFORMATION
SYSTEM (FAQAIS) DEVELOPMENT
BY APPLYING KEYWORD BASED
INFORMATION RETRIEVAL
TECHNIQUE**

IRSYAD ALJUHARI BIN ISMAIL ALJUHARI

**BACHELOR OF INFORMATION
TECHNOLOGY (Hons.) INFORMATION
SYSTEMS ENGINEERING**

JANUARY 2017

STUDENT'S DECLARATION

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

.....
Irsyad Aljuhari Bin Ismail Aljuhari
2014338985

FEBRUARY 10, 2017

ABSTRACT

The development of this project is meant for the students of UiTM Melaka Kampus Jasin. Through an observation that has been conducted, it is found that there is an inefficiency of information management effectiveness in the current process which is through the website and induction programs dissemination. Moreover, the difficulties in having a responsive way of organizing and perceiving information accuracy upon enquired question has been found out during the interview conducted which to assist in information management by using the social media platforms such as Twitter, Facebook and Instagram that calls for the development of FAQ automated Information System (FAQAIS). FAQAIS is a search engine based information system. In FAQAIS, a keyword extraction helps in extracting keywords from a various styles of questioning search term's sentences. Keyword matching are used align with keyword extraction in developing the system as every extracted search term's keywords are matched to any similar keyword with a strong similarity rate from the database. If none of the keywords which is the current question enquired matched to any relevant keywords to be retrieved, it will be recorded as a missing query question and be revised by the expert for any relevant solution. The findings and analysis was carried out and the objectives of this project is met and tally with the phases in methodology. The methodology used to assist this project is the Waterfall System Development Life Cycle, which contains 4 phases; Requirement Gathering Analysis, Knowledge Acquisition, Design as well as Implementation. One of the deliverables from the phases is the Software Requirements Specification that is the basis in producing the design documentation. Future enhancement to the system may include the centralized of the system throughout UiTM Malaysia and platform that is hybrid for its access mobility.

TABLE OF CONTENT

CONTENTS	PAGE
SUPERVISOR’S APPROVAL	ii
STUDENT’S DECLARATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENT	vi
LIST OF FIGURES	ix
LIST OF TABLES	xi
LIST OF ABBREVIATIONS	xii
CHAPTER ONE: INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Aim	7
1.4 Objectives	7
1.5 Scope	7
1.6 Significance	7
1.7 Anticipated Results/Outcomes	8
1.8 Chapter Summary	8
CHAPTER TWO: LITERATURE REVIEW	
2.1 UiTM Jasin’s Current Practice of Information Management	9
2.2 Overview of FAQ	10
2.3 Search Engine	12
2.4 Keywords Based Information Retrieval	13
2.4.1 Keyword Extraction	14
2.4.2 Keyword Searching	15
2.4.3 Keyword Matching	16
2.5 Artificial Intelligence Techniques	17
2.5.1 Case-Based Reasoning	17

2.5.2	Rule-Based Systems	19
2.5.3	Artificial Neural Networks	20
2.5.4	Comparison of the Techniques	21
2.6	Desktop Application against Web-Based Application	22
2.7	Web-Based System Development as a Chosen Platform	23
2.7.1	Choices of Languages	25
2.7.2	Overview of the Project's Database	27
2.8	Chapter Summary	27

CHAPTER THREE: METHODOLOGY

3.1	Waterfall System Development Life Cycle	28
3.1.1	Knowledge Acquisition Phase	31
3.1.2	Requirement Gathering Analysis Phase	31
3.1.3	Design Phase	32
3.1.4	Implementation Phase	33
3.2	Hardware and Software Requirements for the Project	33
3.3	Chapter Summary	34

CHAPTER FOUR: RESULTS AND ANALYSIS

4.1	Knowledge Acquisition Phase	35
4.1.1	Keyword Extraction	35
4.1.2	Keyword Searching	36
4.1.3	Keyword Matching	36
4.2	Requirement Gathering Analysis Phase	36
4.2.1	Identified Stakeholder	37
4.2.2	Conducted Interview Session	37
4.2.3	Conducted Questionnaire on Online Survey	40
4.2.4	Documented Requirements	44
4.3	Design	50
4.3.1	Designed the System	52
4.3.2	Documented the System Designed	56
4.4	Implementation	56
4.4.1	Develop the System	57
4.5	Chapter Summary	63