UTeM's ONLINE INTERNSHIP PLACEMENT AND REPORTING SYSTEM

NUR WIDYARAHA BINTI ALI

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

BORANG PENGESAHAN STATUS TESIS*

JUDUL: <u>UTeM's ONLINE INTERNSHIP PLACEMENT AND REPORTING</u> <u>SYSTEM (IPRS)</u>

SESI PENGAJIAN: <u>2008/2009</u>	
	DYARAHA BINTI ALI TURUF BESAR)
mengaku membenarkan tesis (P Perpustakaan Fakulti Teknologi I kegunaan seperti berikut:	SM/Sarjana/Doktor Falsafah) ini disimpan d Maklumat dan Komunikasi dengan syarat-syara
 Perpustakaan Fakulti Teknologi salinan untuk tujuan pengajian s Perpustakaan Fakulti Teknologi 	k Universiti Teknikal Malaysia Melaka. Maklumat dan Komunikasi dibenarkan membua ahaja. Maklumat dan Komunikasi dibenarkan membua ertukaran antara institusi pengajian tinggi.
SULIT	(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)
TERHAD	(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)
TIDAK TERI	HAD
14	ada
(TANDATANGAN PENULIS)	(TANDATANGAN PENYELIA)
Alamat tetap : <u>No.30 Kg Selanchar I</u>	Pagoh PN. ZARITA BINTI MOHD KOSNIN
34600 Muar,	Nama Penyelia
Jphor.	·
Tarikh: 26 JUN 2009	Tarikh : 26 JUN 2009
(PSM)	un sebagai Laporan Akhir Projek Sarjana Muda IT atau TERHAD, sila lampirkan surat daripada

UTeM's ONLINE INTERNSHIP PLACEMENT AND REPORTING SYSTEM

NUR WIDYARAHA BINTI ALI

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY UNIVERSITI TEKNIKAL MALAYSIA MELAKA 2009

DECLARATION

I hereby declare that this project report entitled UTeM's ONLINE INTERNSHIP PLACEMENT AND REPORTING SYSTEM

is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT

: NUR WIDYARAHA BINTI ALI Date: 26 JUNE 2009

SUPERVISOR : PN ZARITA BT MOHD KOSNIN Date: 26 JUNE 2009

DEDICATION

To Almighty, ALLAH SWT

To my greatest idol, Rasulullah SAW

To my beloved parents Ali Bin Hamid, Zainon Bt. Haji Swardi and my family

To my kind supervisor, Pn. Zarita Binti Mohd Kosnin

To my kind assessor Puan Nurazlina Binti Mohd Sanusi

To all my friends

ACKNOWLEDGEMENTS

Bismillahirahmanirrahim... First of all, I would like to thank to Allah S.W.T, for giving me an opportunity to finish my *Projek Sarjana Muda*.. Then, I would like to saying thanks a lot to *Universiti Teknikal Malaysia Melaka* for giving me a chance to apply all my knowledges and develop my own system to fulfill the requirement of completing Bachelor of Science Computer (Software Development).

Further more, I would like to express lots of thanks to Puan Zarita Binti Mohd Kosnin as my supervisor to give me a comments and guidance during the development process. Her advices make me became more confidents to face and solve any problem raise during development process. Without her advices, this project would not be complete and good as planned before. Beside that, I would like wish thanks to Puan Nurazlina Binti Mohd Sanusi as my assessor for *Project Sarjana Muda(PSM) 1 and 2*.

Other than that, I also want to express thanks to all FTMK lectures who teaching me in a class and lab session about programming skill in my three years study in UTeM. Not forgot to UNIC administration, Cik Elia Binti Arof who giving me many informations about the flow of the current internship system. I appreciate all the cooperation that giving for me. Not forgetting to my family who give a moral support to me to finish my project. Lastly, I would like to take this opportunity to wish thanks to my classmates, house mates and anybody who help me and give advises to me during my completing my Projek Sarjana Muda. Thanks lots to all of you.

ABSTRACT

UTeM's Online Internship Placement and Reporting system is web based applications that develop for students to ease them in order to get their internship placement. Besides, it also develops to ease the management in University Industry Centre (UNIC) in order to manage the data about the companies and students placement. This online system applies the best solution to students in order to search the company depend on their study criteria or desire location. The system wills suite the company with the student's criteria. The project has developed by using the SSDAM methodology and using the Incremental Model. This system allows five levels of users to using it which are students, company supervisor, company HR, faculty supervisor and UNIC Administrator. The software requirements for the system are Microsoft Project, Microsoft Visio 2003, Adobe Photoshop CS2, Macromedia Dreamweaver 2004 and Microsoft Visio. The operating systems that used to develop this system are Windows Professional XP Service Pack 2 and the database system is using MySQL. Other than that, the scripting language of this system is using PHP5 whereby Apache is the application server of the system. Other than that, the hardware requirements to develop this system are personal computer and server. To ensure this system can be online and functional properly. The internet connection is required.

ABSTRAK

UTeM online Internship Placement and Reporting system merupakan satu sistem yang berorientasikan web di mana ia dibina untuk memudahkan pelajar UTeM yang akan menjalani Latihan Industri mencari tempat dan syarikat untuk menjalani latihan. Selain daripada itu juga, sistem ini dapat memudahkan pengurusan di Pusat Industri Universiti UTeM (UNIC) dalam proses menguruskan data-data syarikat dan penempatan pelajar latihan industri. Sistem ini menyediakan peyelesaian terbaik pelajar untuk mencari penempatan latihan idustri mengikut lokasi ataupun criteria yang diingini. Sistem ini akan memadankan kelayakan dan criteria pelajar dengan syarikat yang berkenaan. Sistem ini dibangunkan dengan mengunakan pendekatan Metodologi Structural Design (SSDAM) dan menggunakan kaedah Incremental model. Sistem ini juga membenarkan lima peringkat pengguna untuk menggunakan aplikasi ini. Mereka yang terlibat adalah pelajar, penyelia syarikat, bahagisan Sumber Manusia syarikat, penyelia fakulti dan pihak pentadbiran di UNIC UTeM. Perisian yang digunakan adalah Microsoft Project, Microsoft Visio 2003, Adobe Photoshop CS2, Macromedia Dreamweaver MX2004 and Microsoft Visio 2003 manakala sistem pengoperasian adalah menggunakan Windows Professional XP Service Pack 2. Untuk pangkalan data pula, MYSQL telah digunakan. Manakala PHP5 digunakan untuk bahasa pengatucaraan. Selain itu Apache digunakan sebagai pelayan aplikasi untuk membina sistem ini. Keperluan perkakasan untuk sistem ini adalah komputer peribadi dan pelayan. Untuk memastikan sistem ini dapat berjalan dengan lancar secara dalam talian, sambungan internet adalah diperlukan.

TABLE OF CONTENTS

CHAPTER	SUF	ВЈЕСТ	PAGE
	DEC	CLARATION	ii
	DEI	DICATION	iii
	ACI	KNOWLEDGEMENTS	iv
	ABSTRACT TABLE OF CONTENTS LIST OF TABLES		v
			vii
			xi
	LIS	Γ OF FIGURES	xii
	LIS	Γ OF ABBREVIATION	xiii
	LIST OF APPENDICES		xv
	LIST	T OF ATTACHMENTS	xvi
CHAPTER 1	INT	RODUCTION	
	1.1	Project Background	1
	1.2	Problem statement(s)	2
	1.3	Objective	3
	1.4	Scope	5
	1.5	Project significance	8
	1.6	Expected output	9
	1.7	Conclusion	11
CHAPTER II	LITI	ERATURE REVIEW AND PROJECT	
	MET	HODOLOGY	12

	2.1	Introduction.	12
	2.2	Facts and Findings	12
		2.2.1 Domain	13
		2.2.2 Research of Existing System	13
		2.2.3 Technique	19
	2.3	Project Methodology	21
	2.4	Project requirements	22
		2.4.1 Software requirement	22
		2.4.2 Hardware requirement	24
		2.4.3 Other requirement	25
	2.5	Project schedule and milestones	26
	2.6	Conclusion	28
CHAPTER III	ANA	ALYSIS	
	3.1	Introduction	29
	3.2	Problem analysis	30
		3.2.1 Background of Current Practice	30
		3.2.2 Problem Statements	34
	3.3	Requirement Analysis	35
		3.3.1 Data requirement	35
		3.3.2 Functional Requirement	35
		3.3.3 Non – functional Requirement	40
		3.3.4 Others Requirement	41
	3.4	Conclusion	44
CHAPTER IV	DES	IGN	4.5
	4.1	Introduction.	45
	4.2	High-Level Design	45
		4.2.1 System Architecture	46

4.2.2 User Interface Design	46
4.2.3 Database Design	
4.3 Detailed Design	50
4.3.1 Software Design	58
4.3.2 Physical Database Design	58
4.4 Conclusion	58
CHAPTER V IMPLEMENTATIONS	58
5.1 Introduction.	
5.2 Software Development Environment setup	59
5.3 Software Configuration Management	59
5.3.1 Configuration environment setup	60
5.3.2 Version Control Procedure	60
5.4 Implementation Status	61
5.5 Conclusion	63
CHAPTER VI TESTING	64
12011110	
6.1 Introduction	65
6.2 Test Plan	66
6.2.1 Test Organization	66
6.2.2 Test Environment	66
6.2.3 Test Schedule	67
6.3 Test Strategy	68
6.3.1 Class of tests	68
6.4 Test Design	69
6.4.1 Test Description	
	69
6.4.2 Test Data	
6.4.2 Test Data6.5 Test Result and Analysis	69

CHAPTER VII	PROJECT CONCLUSION		
	7.1	Observation on Weaknesses and Strengths	119
	7.2	Proposition for Improvement	120
	7.3	Contribution	121
	7.4	Conclusion	121
	REF	ERENCES	
	APPI	ENDICES	

LIST OF TABLES

TABLE	TITLE	PAGI
2.1	Comparison between the several internship system	18
2.2	Diagramming Techniques in SSADM	21
2.3	Hardware specification	25
2.4	Network requirement	25
2.5	Project Schedule of IPRS	26
3.1	Hardware Specification	44
3.2	Network requirement	44
6.1	Test Environment Specification	67
6.2	Test Schedule by developer	67
6.3	Test Schedule by Users	67
6.4	System Testing for UNIC admin	70
6.5	System Testing for Faculty Supervisor	75
6.6	System Testing for Student	79
6.7	System Testing for Company HR	84
6.8	System Testing for Company Supervisor	88

LIST OF FIGURES

DIAGRAM	TITLE	PAGE
2.1	The Multimedia University FIT Industrial Training System	13
2.2	The company list in the MMU internship system	13
2.3	The CareerSense Help System	14
2.4	The CarrerSense Help system Registration Form	14
2.5	UTM FSKSM Industrial Training Management System	15
2.6	UTM FSKSM Industrial Training Management System,	15
	Registration Form	
2.7	JobStreer Internship searching system	16
2.8	The Incremental model	19
2.9	The incremental process	19
3.1	Flowchart of UTeM's Internship Placement-Current	31
	practice	
3.2	Flowchart of Company Advertising-Current practice	32
3.3	Context Diagram for manual system	33
3.4	Decomposition diagram for IPRS	36
3.5	Context Diagram for IPRS	37
3.6	DFD Level 0 for IPRS	38
3.7	DFD Level 0 for IPRS-continue	39
4.1	IPRS 3 tier architecture	46
4.2	Navigation design of IPRS	48
4.3	Entity Relationship Diagram - ERD for IPRS	51
5.1	System Architecture of IPRS	60

LIST OF ABBREVIATIONS

IPRS - Internship Placement and Reporting System

University Industry Centre

DBMS - Database Management System

SSADM - Structured Systems Analysis and Design Methodology

PHP - Personal Home Page

DFD - Data Flow Diagram

SDLC - System Development Life Cycle

ERD - Entity Relationship Diagram

RAM - Random Access Memory

PSM - Projek Sarjana Muda

CSS - Cascade Style Sheet

GUI - Graphical User Interface

OS - Operating System

NF - Normal Form

PK - Primary Key

FK - Foreign Key

RDBMS - Relational Database Management System

SQL - Structured Query Language

DDL - Data Definition Language

FIT - Faculty of Information Technology

 $\mathbf{F}\mathbf{IP}$ File Transfer Protocol

TCP **Transmission Control Protocol**

IP **Internet Protocol**

MMUMultimedia University

HR **Human Resource**

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	FLOW CHART	122
В	DFD LEVEL 1-3	132
C	INPUT AND OUTPUT DESIGN	141
D	DATA DICTIONARY	157
${f E}$	NORMALIZATION	170

CHAPTER 1

INTRODUCTION

1.1 Project Background

The UTeM's Online Internship Placement and Reporting System (IPRS) is developed for UTeM's student in order to searching the placement for their internship program. Besides that, it also developed to ease the companies advertise their internship oppurtunity to UTeM students. Furthermore, IPRS application will help the management process in UTeM's University Industry Centre, UNIC, supervisor from each faculty in UTeM and company supervisor. This online system allows students to select their desire company based on their studies field, the type of organization and location of company. After students click the search button in the system, it will match and list all the related companies that have been registered with the system. So, students have an opportunity to view available companies, company profile and internships advertisement. This application also allows the internship application via online. Currently, most of students are still using the manual form to apply an internship and get the list of companies such as through spreadsheets that are provide by each faculty. Other than that, some of students have using the job street system in order to searching their internship placement. That is not suitable ways in order to searching the placement because Job Street purposes and focus are more to job seekers. So, this online system basically involves the match search function to help students analyze and select the best company for them. Furthermore, students are able to get the information about the company background and the activities done by those companies. Further more, this online computer application

enable students to find the best company based on their specific studies field. IPRS also will provide easier way to find and auto-match companies with the student's criteria. So that, the students no need to spent a lot of time to retrieve the company information using Google, Yahoo and many more search engine. By using this system, both parties can save lots of time and money with more effective ways.

1.2 Problem statement(s)

- Students: By using the manual system, students facing difficultly to find the suitable internship placement for them. In UTeM, they are still using the spread sheet that provided by each faculty to view an available list of company. Besides that, it spends a lot of time and money in order to find the suitable internship placement.
- Company: Spend lots of time and money to advertise their companies in order to find the suitable internship students, hoping that they could get new skills and fresh ideas for their company enhancement with low cost (low payment).
- Students: Manual internship searching system sometimes does not match with the student ability and skills. So, students will feel unsatisfied and cannot get any benefit from the internship program.
- Students and company: No notification given to students and companies via their emails. Therefore, students and company doest not know the status of their application. By using several systems, sometimes there have too many emails received in their mailbox that make they feel frustrated and confuse in order to make a selection.
- Company, students and supervisor: Difficult to get the feed back and report from each others about internship student performance.

• Faculties and UNIC: Difficulty to UTeM's UNIC and each faculty's supervisor to announce and inform their students about the available company list. Currently, they are still using spread sheet to list out all the available company record to students.

1.3 Objective

Before developing the UTeM Online Internship Placement and Reporting System (IPRS), the objectives must be identified. The objectives of IPRS are:-

• To make an easy, effective, and efficient way to help students find and apply the suitable company for their internship program.

By using IPRS application, all the process can be done at home or anywhere. Students do not have to worry about how to find the internship placement because this system will provide the specific searching function that will suit with the student criteria. The students can also apply via online. This system will be effective than other ways because it will provide more specific searching functions which are based on students criteria and by location. Then, all the relevant companies would be displayed. Therefore, the students will not receive any advertisements mails that could be confuse them. So, it can help and guide the student to make selection effectively.

• To make a flexible advertising, low cost and time efficient channel for the companies to get new or fresh ideas and services from qualified internship student.

Other than make an easy way for students, the companies also can get benefits from using this system such as IPRS will help their organization to get new ideas and services from the qualified internship students. This system will be a platform to them to advertise their offer and services via online. Before using the system, the companies must be registered with the system, later on they can make anything such as advertise the available internship to students, reporting purpose and so on via online. Actually, it can be an efficient tool to enhance their staff or services quality with the lower cost. (Pay an internship student with low allowance, if necessary). Besides that, the system will also provide an opportunity to companies and UTeM to

link each other. Therefore, they can introduce their company for UTeM's students. It is actually as a gateway to allow and attract more professional skills and qualified students to join them in the future.

• To make this online system as a platform for students to seek an internship placement that suitable with their studies area and skills.

Furthermore, this online system will be a platform for students to find a suitable internship placement based on their specific criteria such as a desired company location, skills, studies area, language preferred and so on. So, students are able to gain the right knowledge and experience according to their course, and then apply it in the real working environment. Actually, to select the right internship is an important thing for students to preparing their self before joining the real job industries.

• To give notification to students and company about their application status and result.

This system also provides notification via email about the status of application, result or so on. The reason to using an email as a mechanism for notification is because email is checked daily by everyone.

• To make an easier way in monitoring students performance in a company.

This system also will provide an easier way for UTeM's supervisor to get some feedback from the company about their student performance that undergo internship program.

To provide a computerize system to store all the companies record.

To provide computerize system to easier UTeM's UNIC and supervisors to store all the available companies records and can be retrieved by students later.

1.4 Scope

i. Platform: Web-based

The UTeM's Online Internship Placement and Reporting System (IPRS) have applied the web-based as their platform. It is meaning that this system's information and application will available via the World Wide Web (www).

ii. Users:

- a. UTeM's students who will undergo an internship program.
 - Enable students to search their internship placement and also have ability to view the company profile and available internship offered based on their specific studies area.
 - Enable students to make application via online.
 - Enable students to view all advertisements which are released by the related companies.
 - Enable students to receive notification and result of their application faster.

b. UTeM's UNIC (University Industry Centre)

- Act as a middleman between companies and students to enable the companies to advertise their internship opportunity for UTeM's students.
- Manage and store the data of companies.
- To be a modulator for students and supervisor in each faculty.
- To make sure that the company are legal to join UTeM's internship program by doing some research. Normally they will visit the company to ensuring.

c. Company supervisor

• Communicate and reporting directly with faculty's supervisor and UNIC about the student's performance in their company.

d. Company HR.

 To select the eligible students for undergo an internship in their company. (Based on students application and selection process will be made manually).

e. Supervisor for each faculties in UTeM

- To store all their students record.
- To register the internship students details.

iii. Modules:

In order to develop this system, there have 8 modules identified:

a. Login

The login module is allowed user to using the system. There have 5 level of access in login based on their positions which are students, faculty supervisor, company supervisor, UNIC Admin and Company HR.

b. User Management

This module consist all the management processes such as students registration, company and registration of faculty supervisor.

c. Application and Approval

This module allowed student to make application via on-line after they find the suitable placement for their internship. The functions that have in application module is upload the resume, cancel the application, delete, submit and print the application form.

d. Searching Placement

This module allows students to search their desire company that suit with their criteria. Students must fill all their criteria and then click the search button. After that, all the related companies will be listed. As a result, student can view company details and apply an internship directly via online.

e. Notification of application

This module will give an email and system notification to students and company about the application status and result. After the students submit the application form, the notification message will be send to both company and student's mailbox.

f. Reporting and monitoring

Reporting and monitoring will help both UTeM's supervisor and company's supervisor in order to reporting and get some feedback about their internship student's performance. So, faculty's supervisor will know their student's performance faster.

g. Invitation Module

This module will allow the UNIC's Admin and faculty supervisor to invite the company by entering the company email address.

h. Advertisement management

This module will allow the registered company to post advertisement s to UTeM's student.

1.5 Project significance

Nowadays, there are have too many of Higher Learning Institution in Malaysia whether public (IPTA) or private (IPTS) that are developed rapidly. Mostly, each institution requires their students to undergo industrial training or internship program in particular Company. UTeM's students are always facing some difficulty in order to get an internship opportunity because of competition from other institutions. So,