UTeM’s EVENT ALERT SYSTEM
(UTeMEAS)

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JUDUL: UTeM’s EVENT ALERT SYSTEM

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UTeM's EVENT ALERT SYSTEM
(UTeMEAS)

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Artificial Intelligent).

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2010
DEDICATION

I dedicate special thanks to my parents who giving me support and motivation throughout my PSM. This dedication are also to my PSM supervisor, Dr. Samad Hasan Basari for the consultation, advices, comments and support just to make sure that I can finish this PSM successfully. I also want to thanks to my all my friends that always are by my side as I working on this project.
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Firstly, thanks to Allah for given me a chance and strength to me for finishes this PSM until the end.

Special thanks to my supervisor, Dr. Samad Hasan Basari for all the guidance and help. I will never forget whatever he have support me and for being really understanding to me for complete this project successfully.

I would also like to thank to Dr. Buhairah bin Hussin as my evaluator and all my fellow best friends Nur Farah Anis and Nur Sajidah and also to all my classmates whom helps me a lot to complete my PSM.
UTeM's Event Alert System (UTeMEAS) is developed especially for an online application system for Universiti Teknikal Malaysia Melaka (UTeM). It is developed to ease the management process to alert all staff about the becoming event they need to attend. The purpose of this system is to develop a system that can manage a faster and efficient way to alert about the becoming event. The system will be used by the administrators of this system and all the staffs. This system is applying with AI technique which is Genetic Algorithm to make decision on the level of priority for each event. This system also uses SMS application where the message will be sent to the staffs via SMS service.
ABSTRAK

UTeM's Event Alert System (UTeMEAS) dibangunkan terutama untuk sistem aplikasi dalam talian untuk Universiti Teknikal Malaysia Melaka (UTeM). Ia dibangunkan untuk memberitahu semua kakitangan tentang program yang akan dijalankan dimana mereka perlu menghadiri dengan cara berkesan dengan mudah. Tujuan utama sistem ini adalah untuk membangunkan sistem yang boleh menguruskan dengan lebih cepat dan berkesan untuk memberitahu tentang program yang akan dijalankan. Sistem ini akan digunakan oleh pentadbir sistem ini dan semua kakitangan. Sistem ini mengaplikasikan teknik Kepintaran Buatan iaitu Algoritma Genetik untuk membuat keputusan pada berkaitan keutamaan untuk setiap program. Sistem ini juga menggunakan sistem aplikasi SMS yang akan menghantar mesej peringatan kepada kakitangan melalui perkhidmatan SMS.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>SUBJECT</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DEDICATION</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td></td>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>ABSTRAK</td>
<td>iv</td>
</tr>
<tr>
<td></td>
<td>TABLE OF CONTENTS</td>
<td>v</td>
</tr>
<tr>
<td></td>
<td>LIST OF TABLES</td>
<td>ix</td>
</tr>
<tr>
<td></td>
<td>LIST OF FIGURES</td>
<td>xi</td>
</tr>
<tr>
<td></td>
<td>LIST OF ATTACHMENTS</td>
<td>xii</td>
</tr>
<tr>
<td>CHAPTER I</td>
<td>INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Project Background</td>
<td>1</td>
</tr>
<tr>
<td>1.2</td>
<td>Problem Statement(s)</td>
<td>2</td>
</tr>
<tr>
<td>1.3</td>
<td>Objective</td>
<td>3</td>
</tr>
<tr>
<td>1.4</td>
<td>Scope</td>
<td>4</td>
</tr>
<tr>
<td>1.5</td>
<td>Project Significance</td>
<td>4</td>
</tr>
<tr>
<td>1.6</td>
<td>Expected Output</td>
<td>4</td>
</tr>
<tr>
<td>1.6</td>
<td>Conclusion</td>
<td>5</td>
</tr>
</tbody>
</table>
CHAPTER II  LITERATURE REVIEW AND PROJECT METHODOLOGY
2.1 Introduction 6
2.2 Fact and Findings 7
   2.2.1 Domain 7
2.2.2 Existing System 7
   2.2.2.1 The official website of UTeM 7
   2.2.2.2 The official website of USM 9
   2.2.2.3 The official website of UMS 11
2.2.3 Comparison of Existing System 12
2.2.4 Genetic Algorithm 12
2.3 Project Methodology 15
2.4 Project Requirement 17
   2.4.1 Software Requirement 17
   2.4.2 Hardware Requirement 18
   2.5.3 Other Requirement 19
2.5 Project Schedule and Milestones 19
2.6 Conclusion 20

CHAPTER III  ANALYSIS
3.1 Introduction 21
3.2 Problem Analysis 22
3.3 Requirement Analysis 23
   3.3.1 Data Requirement 23
   3.3.2 Functional Requirement 24
      3.3.2.1 Use-Case View 24
      3.3.2.2 Actors 24
      3.3.2.3 Use Case Description 25
3.4 Conclusion 25
CHAPTER IV DESIGN

4.1 Introduction 26

4.2 High-Level Design 26
  4.2.1 System Architecture 27
  4.2.2 User Interface Design 28
    4.2.2.1 Navigation Design 28
    4.2.2.2 Input Design 29
    4.2.2.3 Technical Design 30
    4.2.2.4 Output Design 31
  4.2.3 Database Design 32
    4.2.3.1 Logical Database Design 32

4.3 Detailed Design 33
  4.3.1 Software Specification 34
    4.3.1.1 Login page 34
    4.3.1.2 Add Event Details 35
    4.3.1.3 Edit Event Details page 36
  4.3.2 Physical Database Design 37

4.4 Conclusion 38

CHAPTER V IMPLEMENTATION

5.1 Introduction 39

5.2 Software and Hardware 40
  Development Environment Setup
    5.2.1 Operating System 41
    5.2.2 Database Server 41

5.3 Software and Hardware 41
  Configuration Management
    5.3.1 Configuration Environment Setup 42

5.4 Implementation Status 46

5.6 Conclusion 48
CHAPTER VI  TESTING

6.1  Introduction  48
6.2  Test Plan  49
    6.2.1 Test Organization.  49
    6.2.2 Test Environment  50
    6.2.3 Test Schedule  51
6.3  Test Strategy  51
    6.3.1  Classes of test  52
6.4  Test Implementation  53
    6.4.1 Test Description  53
    6.3.2 Test Data  53
    6.3.3 Test Result and Analysis  57
6.1  Conclusion  58

CHAPTER VII  PROJECT CONCLUSION

7.1  Observation On Weaknesses and Strengths  59
    7.1.1 System Weaknesses  59
    7.1.2 System Strengths  60
7.2  Proportions for Improvement  61
7.3  Contribution  61
7.4  Conclusion  62

REFERENCES  63
BIBLIOGRAPHY  64
APPENDIX
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Table of comparisons between mutation and crossover genetic technique.</td>
<td>14</td>
</tr>
<tr>
<td>2.2</td>
<td>Software Requirement</td>
<td>18</td>
</tr>
<tr>
<td>2.3</td>
<td>Hardware Requirement</td>
<td>19</td>
</tr>
<tr>
<td>4.1</td>
<td>Login page Input Design</td>
<td>29</td>
</tr>
<tr>
<td>4.2</td>
<td>Add Event Details page Input Design</td>
<td>29</td>
</tr>
<tr>
<td>4.3</td>
<td>Edit Event Details page Input Design</td>
<td>30</td>
</tr>
<tr>
<td>4.4</td>
<td>View Event Details page Input Design</td>
<td>30</td>
</tr>
<tr>
<td>4.5</td>
<td>View Event Details page Output Design</td>
<td>31</td>
</tr>
<tr>
<td>4.6</td>
<td>Alert Message via SMS Output Design</td>
<td>32</td>
</tr>
<tr>
<td>5.1</td>
<td>Implementation status of UTeM Event Alert System (UTeMEAS)</td>
<td>46</td>
</tr>
<tr>
<td>5.2</td>
<td>Implementation status of UTeM Event Alert System (UTeMEAS)</td>
<td>47</td>
</tr>
<tr>
<td>6.1</td>
<td>Test organization of UTeM Event Alert System (UTeMEAS)</td>
<td>49</td>
</tr>
<tr>
<td>6.2</td>
<td>Test environment I of UTeM Event Alert System (UTeMEAS)</td>
<td>50</td>
</tr>
<tr>
<td>6.3</td>
<td>Test schedule of UTeM Event Alert System (UTeMEAS)</td>
<td>51</td>
</tr>
<tr>
<td>6.4</td>
<td>Description classes of tests of UTeM Event Alert System (UTeMEAS)</td>
<td>52</td>
</tr>
<tr>
<td>6.5</td>
<td>Test description and data for login page module</td>
<td>53</td>
</tr>
</tbody>
</table>
6.6 Test description and data for Add event Details module.
6.7 Test description and data for Edit Event Details module.
6.8 Test description and data for View Event Details module.
6.9 Test result and analysis of UTeM Event Alert System (UTeMEAS).
### LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>The official website of UTeM</td>
<td>9</td>
</tr>
<tr>
<td>2.2</td>
<td>The official website of USM (1)</td>
<td>10</td>
</tr>
<tr>
<td>2.3</td>
<td>The official website of USM (2)</td>
<td>11</td>
</tr>
<tr>
<td>2.4</td>
<td>The official website of UMS</td>
<td>12</td>
</tr>
<tr>
<td>4.1</td>
<td>UTeMEAS Entity Relationship Diagram</td>
<td>33</td>
</tr>
<tr>
<td>5.1</td>
<td>Starting GSM driver configuration</td>
<td>43</td>
</tr>
<tr>
<td>5.2</td>
<td>Configuring the details</td>
<td>44</td>
</tr>
<tr>
<td>5.3</td>
<td>Connection of GSM driver</td>
<td>45</td>
</tr>
</tbody>
</table>
# LIST OF ATTACHMENTS

<table>
<thead>
<tr>
<th>ATTACHMENTS</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Comparison between existing systems and</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>proposed system</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Project Schedule and Milestone</td>
<td>67</td>
</tr>
<tr>
<td>C</td>
<td>Global View of Use Case Model</td>
<td>68</td>
</tr>
<tr>
<td>D</td>
<td>Use Case Description</td>
<td>69</td>
</tr>
<tr>
<td>E</td>
<td>System Architecture</td>
<td>78</td>
</tr>
<tr>
<td>F</td>
<td>Navigation Design</td>
<td>79</td>
</tr>
<tr>
<td>G</td>
<td>Physical Database Design</td>
<td>79</td>
</tr>
<tr>
<td>H</td>
<td>Software development environment Setup</td>
<td>82</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

1.1 Project Background

UTeM’s event alert system (UTeMEAS) is a system that will be developed as a tool to alert the community, especially staffs in UTeM about events that will be held in the campus or outside campus area. As other current alert systems exist nowadays, this system will be user-friendly and manage to send messages by grouping staffs such as specific by position, department, faculty, and others. For this UTeM’s event alert system, it can alert event by the event’s priority. The highest priority will be alerted first in the list so that the person who gets the alert message will easily know which event he/she must choose to attend.

To develop this alert system that can decide by itself or automatically, the event list it has to be built by applying one of artificial intelligence techniques. So, the best or the suitable artificial intelligence technique should be used is the genetic algorithm. By using genetic algorithm techniques, the system can decide intelligently which event is more important. Each event will be set with priority weight, and by this weight, the genetic algorithm technique will schedule back the list of events by the highest to lowest priority. And more importantly, the alert system will be intelligently decide the must-attend event for specific persons by position, department, faculty, and so on. This system also uses GSM modem, so all the alert system will send via SMS (Short Messaging Service). This system chooses SMS because with SMS the process is more...
interactive and easy to use. It is also because this technology is very popular and many people used it nowadays.

1.2 Problem Statement

UTeM’s event alert system (UTeMEAS) is being developed to complement the existing system that also to reduce the problem that have been faced by the system's administrations. There are some problems that have been capture and identified such as below

(i) None Systematic Management

- Previous system, which using UTeM portal's popup to alert staffs are depend on administration to update it by upload the details about all events will be held in one month in one page.
- This method of management is not systematic because it is taking such a long time to update and need regularly update by the administration or in other way this system is not automatically update. This system also not schedule or sorts all the events in order by its date.
- By UTeM’s event alert system via SMS, it will include all the related functions. Through this system a systematic approaches in management process is materialized and will schedule all the events automatically.

(ii) Hard to be notice.

- The previous system are using website to alert the staffs, it’s hard to notice staffs about the event by or before the event be held.
• If the staff has notice the event, they probably will forget about it if they not be reminded about it regularly.

• By using UTeM's event alert system these problem will be solved because staffs will be regularly reminded about the events by send them massage or SMS trough their mobile phone.

• This system used SMS technology as the tools and this is the most efficiently, easiest and faster way to get noticed by every single staff about the event held in UTeM or outside of UTeM.

(iii) Redundant events.

• In UTeM, there are numbers of events will be held in the same day or in the same date. The worse case is some of the event need to be attended by the same person.

• Even UTeM have its own portal that have pop up to alert the staff about the event, the pop up system cannot help the staffs to notice the staff which one is more importantly to be attended.

• UTeM need intelligent alert system that can make UTeM's staffs life easier. This may help them make decision which event is more important to be attended.

1.3 Objective

(i) To explore the delivery system of an organization.

(ii) To develop a computerized delivery system.

(iii) To apply Genetic Algorithm to the proposed system.
1.3 Scope

The scope for this system is:

(i) Used only by administrator in UTeM or supervised by them.

(ii) Used only to send alert message to UTeM's staffs.

1.4 Project Significance

This UTeM's event alert system (UTeMEAS) is an intelligent system that can decide by itself and can reschedule automatically the event's list. One of artificial intelligence technique will be applied in this system namely genetic algorithm (GA). By using GA the system can decide intelligently which event is more important. Each event will be set with priority weight, and by this weight GA will schedule back the list of event by the highest to lowest priority. Even more important is the alert system will be intelligently decide the must attend event for specific person by position department, faculty, and so on.

1.5 Expected Output

The expected output for this project is to built system that can intelligently alert the event with priority by specific staff. The UTeM's event alert system (UTeMEAS) should be able to list where the event from highest priority to lowest priority. The system will send the alert system via SMS and should be in the simple list so it is easier for the staff to understand. The administrator that manage the event to be key in the event data can set the priority of each event so all the event can be scheduled automatically by the alert system. So, this UTeM's event alert system (UTeMEAS) should be the intelligent system that can decide by itself and can reschedule that event's list automatically.
1.6 Conclusion

UTeM's staff always have difficulties to make decisions when redundant events are held on the same day or date. To solve this problem, UTeM's event alert system (UTeMEAS) is developed. This system is designed to alert every single staff member in this community about all events in UTeM held in the campus or outside the campus area. This system will be developed by using decision tree techniques in it so it will intelligently decide the priority event to be attended by specific person by position, department, faculty, and so on. This system also uses GSM modems to ensure all the alert system will be sent via SMS (Short Messaging Service). The project hopes that these systems will easily be used and intelligently solve the related problem.
CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

A literature review is a summary of previous research on a topic. Literature reviews can be either a part of a larger report of a research project, or it can be a bibliographic essay that is published separately in a scholarly journal. Either way, the purpose is the same, to review the scholarly literature relevant to the topic you are studying. This review will help in designing methodology and help others to interpret research area.

In this chapter, the literature review is focus on the research of the current system and the new system. The purpose of a literature review is to explain how the question to be investigated fits into the larger picture and why this approached the topic. This section of a scholarly report allows the reader to be brought up to date regarding the state of research in the field and familiarizes to any contrasting perspectives and viewpoints on the topic. This section also will do some literature review on genetic algorithm and do the comparison between techniques in the genetic algorithm.
2.2 Fact and Findings

2.2.1 Domain

The domain of this application is intelligent information system and alert system. This system can benefit the administrator of UTeM and especially to the UTeM’s staffs. This application will be designed to fulfill all the needs to develop efficient event alert system. It is important to well understand about the concept of event alert system before this project can be developed. Some research about related system must be done to understand the need and how to fulfill all the need in event alert system. Overall, this chapter focuses more on research from related or passed case study that involve event alert system. There are several examples of pages that have event alert system that we can see in internet. Then the comparisons between existing systems will be developing to understand more about event alert system.

2.2.2 Existing System

2.2.2.1 The official website of UTeM

(i) System

From Figure 2.1, the official page of UTeM (Universiti Teknikal Malaysia Melaka) lists the entire upcoming event by using scroll down menu. When users visit this main page, this scroll down menu will automatically list out the upcoming event. The scroll down menu has limited space so it will only display the title of the events and for further information, the user need to click on the particular title. When users click on the title, they will automatically link to other page which has all the information about the event.

The pop up page can be seen from the main page of the official page of UTeM. Beside user will be notice by scroll down menu, this main page also used pop up page as other initiatives to alert the community about upcoming
event of UTeM. This pop up page will display interactive poster of upcoming event and user can click on particular event to see the poster in large pop up.

(ii) Technique

The technique used to alert the events is by using website. The website alert users about the events by using scroll down menu and pop up approach. The scroll down menu is automatically scrolled down the entire events. The pop up page display the interactive poster of the entire events. The scroll down menu is only display the title of the events and not interactive compare to the pop up page which display the poster of the events which contain the details about the events.

This website alert both UTeM’s students and staffs about the entire events for UTeM. All the events been list down in scroll down menu and popup page are not orderly divided by its group of users. Staff’s upcoming events and student’s upcoming events are listed down together in the same page. The users of this page have to notice by themselves which is the upcoming event for them. The probability the redundant events in the university especially university’s staffs are high, so this website also display all the entire redundant events without noticed the users which event more important.

The website is managed by administrators of UTeM. Admin need to always update the events when want to key in new data and delete events. This website did not applying any intelligent technique or algorithm in it.