

Human Tracker System: RFID Simulator

By

Is Ealyana bt Zainal Abidin

Final report submitted in partial fulfillment of
the requirements for the
Bachelor of Technology (Hons)
(Information & Communication Technology)

JULY 2007

Universiti Teknologi PETRONAS
Bandar Seri Iskandar
31750 Tronoh
Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

HUMAN TRACKER SYSTEM (RFID SIMULATOR)

by

Is Ealyana bt Zainal Abidin

Dissertation submitted to the
Information & Communication Technology Programme

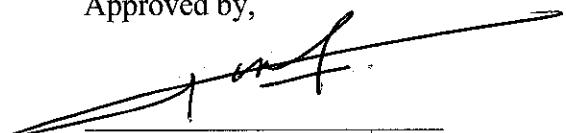
Universiti Teknologi PETRONAS

In partial fulfillment of the requirement for the

BACHELOR OF TECHNOLOGY (Hons)

(INFORMATION & COMMUNICATION TECHNOLOGY)

Approved by,



(Mr Izzatdin Abdul Aziz)

UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

JULY 2007

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgments, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.


IS EALYANA BT ZAINAL ABIDIN

ABSTRACT

This report is prepared to provide an overview of ideas for the Final Year project titled ‘Human Tracker System at Oil Refinery: Using Radio Frequency Identification (RFID)’. Certain area in the refinery is critical and full of hazards. Due to that, personnel movements need to be monitored so that we are able to detect the real-time position of the personnel. There are two objectives of this project; first, to perform a study on how to coordinate and locate the movement of personnel at the refinery area using RFID technology. Second, to develop a RFID simulator that can view personnel’s location via a digital map in a form of web base. This project explores how to detect the personnel movement in the building by using Radio Frequency Identification (RFID) system. Apart from that, a map-matching technology will also be proposed. This system will be developed using Waterfall Development Methodology. This methodology is a sequential software development model in which development is seen as flowing progressively downwards phase by phase. Along the duration of the project, a study will be conducted on RFID system, digital-map and on how to coordinate the location. This system will be running on Windows operating system and will be tested at Building 2, Academic Complex of Universiti Teknologi PETRONAS.

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TABLE OF CONTENTS

CERTIFICATION OF APPROVAL	i
CERTIFICATION OF ORIGINALITY	ii
ABSTRACT	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	vii
LIST OF TABLES	vii
ABBREVIATIONS	vii
CHAPTER 1: INTRODUCTION	1
1.1. Background of Study	1
1.2. Problem Statement	3
1.3. Objectives and Scope of Study	3
1.3.1. Objectives	3
1.3.2. Scopes of Project	3
CHAPTER 2: LITERATURE REVIEW AND THEORY	4
2.1. Hazards at oil refinery	4
2.2. Components of RFID system	4
CHAPTER 3: METHODOLOGY	9
3.1. Research Methodology	9
3.2. Design Methodology	9
3.3. Project Activities	12
3.4. Hypothesis	12
3.5. Tools Required	13

CHAPTER 4:	RESULT AND DISCUSSION	14
4.1.	Types of RFID tag	14
4.1.1.	Active RFID tag	14
4.1.2.	Passive RFID tag	14
4.2.	Carrier Frequency	15
4.3	Tracking Algorithm	16
4.3.1	Principle of Virtual Route Tracking algorithm	16
4.3.1	Interrogated by two readers simultaneously	17
4.4.	Use Case	19
4.5.	Data Flow Diagram	20
4.6	System Interface	21
CHAPTER 5:	CONCLUSION AND RECOMMENDATION	26
5.1.	Conclusion	26
5.2.	Recommendations	26
REFERENCES		27
APPENDICES		29

LIST OF FIGURES

Figure 1: Waterfall Development Model	10
Figure 3.2: Hypothesis	12
Figure 4.1: RFID reader network	16
Figure 4.2: An RFID transponder is interrogated by two readers simultaneously	17
Figure 4.3: Use Case – Human Tracker System	19
Figure 4.4: Data Flow Diagram – Human Tracker System	20
Figure 4.5: Human Tracker System Main Page	21
Figure 4.6: Human Tracker System – Data Editor	22
Figure 4.7: Human Tracker System – View Map	23
Figure 4.8: Human Tracker System – View Report	24
Figure 4.9: Human Tracker System – Contact Us	25

LIST OF TABLES

Table 4.1: Differences between Active and Passive RFID tag	15
Table 4.2: Frequency Bands and Applications	15

ABBREVIATIONS

RFID

Radio Frequency Identification

VRT

Virtual Route Tracking

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CHAPTER 1

INTRODUCTION

1.1 Background of study

In general, Radio Frequency Identification, or RFID, is a common term for technologies that use radio waves to automatically identify people or objects. There are several methods of identification, but the most common is to store a serial number that identifies a person or an object.

RFID system consists of tags, a reader, and software; a driver and middleware. RFID tags have two basic elements: a computer chip and an antenna. Information is stored in the microchip that is attached to the antenna. The antenna enables the chip to transmit the identification information to the reader. The reader converts the radio waves reflected back from the RFID tag into digital information that can then be passed on to computers.

There are two types of RFID tag; Passive and Active. Passive RFID tag does not contain a battery; the power is supplied by the reader. When radio waves from the reader are come across a passive RFID tag, the antenna within the tag forms a magnetic field and generates power from it. The tag then sends the information encoded in the tag's memory.

The proposed system for this project will use Active RFID tag as the system will produce real-time results. Active RFID tag contains a battery that can be used to generate a power for the tag's circuit and antenna. Active tags are much more reliable than passive tags due to its ability to transmit data at higher power level. It can be read

at distances of one hundred feet or more. This tag is typically more expensive than passive tags.

The objective of proposing this System is to ensure safety of the workplace; this system will help management to locate and monitor the movement of the personnel within the refinery area.

Besides all the advantages of RFID, it also have its limitation. In working environment, the reading ranges of the tags are often below the actual specifications of the tags and readers. This problem is due to many environmental factors in the workplace that affect the signal. To avoid this problem occur in the propose system, the reader must be placed within the building at a right position.

1.2 Problem Statement

In the refinery process, there are lots of machines and equipments involved that may contain potential hazard. Personnel movement cannot be limited since human tend to move around without any restriction. Due to this, it's important to locate where the personnel are by using RFID technology.

1.3 Objectives and Scope of Project

1.3.1 Objectives

- *To perform a study on how to coordinate and locate the movement of personnel at the refinery area using RFID system.*

A study on how to calculate the coordinate of the building will be conducted as the project progress.

- *To develop a RFID simulator that can view personnel's location via a digital map in a form of web base.*

This proposed system will provide a graphical user interface that allows the user to visually interact with the system.

1.3.2 Scope of Project

- This system operates in Windows Operating system.
- This system is developed in the web base form.
- This system is used in an oil refinery, but for testing purpose the floor plan of Building 2, academic complex of Universiti Teknologi PETRONAS is used as a test location.
- This system is produced a result via digital map and report.

CHAPTER 2

LITERATURE REVIEW

2.1 Hazards at Oil Refinery

"At least 15 workers died and more than 70 were injured in an explosion at a BP oil refinery in Texas City, Texas, that sent massive plumes of black smoke into the air shook buildings for miles and knocked a man off his barstool at a nearby tavern." [1]

"On February 23, 1999, four workers were killed in a fiery accident at Tosco Corporation's Avon refinery in Martinez, California. The men were in the process of replacing corroded pipes at one of the refinery's oil fractionators, a 150-foot distillation tower designed to heat and separate components of crude oil." [2]

The above statements show that refinery is a place with high potential of accident and can have serious consequences for workers, communities, and the environment. From the research that has been conducted by Work Save BC Company, average of 293 accidents reported per year and with the high price. [Appendix 1: Oil & Gas Industry Statistics]. To minimize the numbers of accident and to ensure safety of the workplace, all the refinery activities should be supervised and monitored accordingly. The proposed RFID system that will be developed will be able to locate and monitor the movement of the personnel within the specific area.

2.2 Components of RFID system

RFID system consists of tags, a reader with an antenna, and software such as a driver and middleware. The main function of the RFID system is to retrieve information (ID) from a tag (also known as a transponder). Tags are usually affixed to objects such as

animals or goods so that it becomes possible to locate where the goods and animals are without line-of-sight. A tag can include additional information other than the ID, which opens up opportunities to new application areas. [3]

RFID tags are also known as "proximity", "proxy" or "contactless tags" and come in three general varieties: passive or active. Passive RFID tags have no internal power supply. The minute electrical current induced in the antenna by the incoming radio frequency signal provides just enough power for the CMOS integrated circuit in the tag to power up and transmit a response. Unlike passive RFID tags, active RFID tags have their own internal power source which is used to power any integrated circuits that generate the outgoing signal. Active tags are typically much more reliable than passive tags due to the ability for active tags to conduct a "session" with a reader. [4] The Human Tracker system will use active RFID tag as the system will produce real-time result in monitoring the movement of workers in the refinery processing area.

Commercially available RFID systems can be broken down into three main frequency bands: the low frequency (LF) band operating between 100 and 500 kHz, medium frequency (MF) between 10 to 15 MHz and high frequency (HF) systems in the 850-950 MHz to 2.4-5.8 GHz range. [5]

RFID operates much the same as current laser-scanning barcodes: information is stored within the label and retrieved from a reader through a scanning process. From there, a computer makes sense of the information, such as linking it to a product. [5]

Put an RFID tag - a microchip with an antenna - on a product, case, or pallet of goods and a suitably equipped computer can now 'see' and 'talk' to it. As computers can begin to sense each other and interact with almost no human intervention, there is great potential for them to manage, synthesize, and act on the information they collect, allowing humans to focus on exceptions, and on the overall business process. [6]

Today, RFID can be used to identify missing pets, monitor vehicle traffic, track livestock to help prevent disease outbreaks, and follow pharmaceuticals to fight

counterfeit drugs. Many of us start our cars using RFID chips embedded in the ignition key. [7]

RFID provides the flexibility to track information from an end-to-end perspective, giving full visibility of activity in the physical world and potentially linking it to information technology systems. [8]

With the RFID technology, not only the human movement can be tracked, but also the information's about the user installed in the tag can be retrieved by the RFID reader/sensor. The location and all information can be viewed via graphical user interface.

The RFID system architecture consists of a reader and a tag (also known as a *label* or *chip*). The reader queries the tag, obtains information, and then take action based on that information. That action may display a number on a hand held device, or it may pass information on to a POS system, an inventory database, or relay it to a backend payment system thousands of miles away. [9]

Data from tags is captured by a reader unit, which consists of an antenna and radio transmitter, attached to a stationary or handheld device. The reader emits radio waves, and when a tag comes within the range of the reader, the tag wakes up and starts sending data. The reader captures this bit stream, decodes it and sends it back over a network to a host processor. [10]

An active tag is an RFID tag that incorporates a battery, and can communicate with a reader that is several tens of meters away (there are tags that can communicate at several hundreds of meters). Active tags can also spontaneously transmit an ID. There are various types of transmission opportunities such as the very common periodic transmission type, or the unscheduled transmission type such as when there are changes in vibration or temperature or when a button is pushed. In many cases, the ID data comprise several tens of bits. [11]

Active RFID tags have an internal battery providing a robust, long-range transmission signal. Requirements for hands-free wireless tracking of vehicles, personnel, and assets into and out of controlled access areas are applications that can only be done properly with active RFID tag. In fact, any high value item can be successfully and economically tagged and tracked using active RFID tag. It can be used to provide real-time sensor alerts as well. Such sensors as temperature, humidity, radiation, and motion as well as various gas and chemical leak detections are all application sets that require on-board power combined with wireless transmission to provide acceptable results. Active tags also can be equipped with tamper detection capability to provide real-time notification whenever the tag itself has been compromised. In addition, active tags can be programmed to independently transmit at any required duty cycle from every minute to once a year. This “beaconing” feature likewise requires an active RFID tag’s on-board power supply. [12]

From the research, RFID tag comes in two general types; Active and Passive. The proposed system will use active RFID tag as the system will produce real-time result. Active tags have their own power source which is used to power any integrated circuits; usually it has an internal battery. It also transmits at higher power levels and allows longer ranges between the reader and tag.

Unlike bar code-based tracking systems, an RFID system can read the information on multiple tags without necessarily requiring line of sight and without the need for a particular orientation. That means RFID systems can be largely automated, greatly reducing the need for manual scanning. [13]

The read/write device receives the tag signal with its antenna, decodes it and transfers the data to the host computer system. RFID tags can be attached to virtually anything – from a semi tractor, to a pallet, to a case, to an item on a store shelf. If multiple tags are present in the field, more efficient RFID implementations have anti-collision algorithms, which determine the order of response so that each tag is read once and only once. [14]

Therefore, to enable multiple tags to be read simultaneously by the RFID reader, anti-collision algorithm must be implemented in this system. Anti-collision refers to different ways to keep radio waves from one device from interfering with radio waves from another device.

As RFID is a radio based technology, performance considerations for its implementation are that 1) RFID can be susceptible to interference from other radio transmissions and metal 2) some materials absorb RF signals more readily than others 3) sensitivity to interference varies by frequency and the usage environment. These factors can impact the tag read/write range and speed that is seen. [14] To ensure that the proposed system will work properly, the 3 factors that can affect the performance of RFID system must be put into consideration as well.

4.4 Use Case

The Human Tracker System has one actor that has access to the following functions:-

- Create Data – create sample RFID data that can be used to test the Human Tracker system.
- View personnel movement via digital map
- Generate report

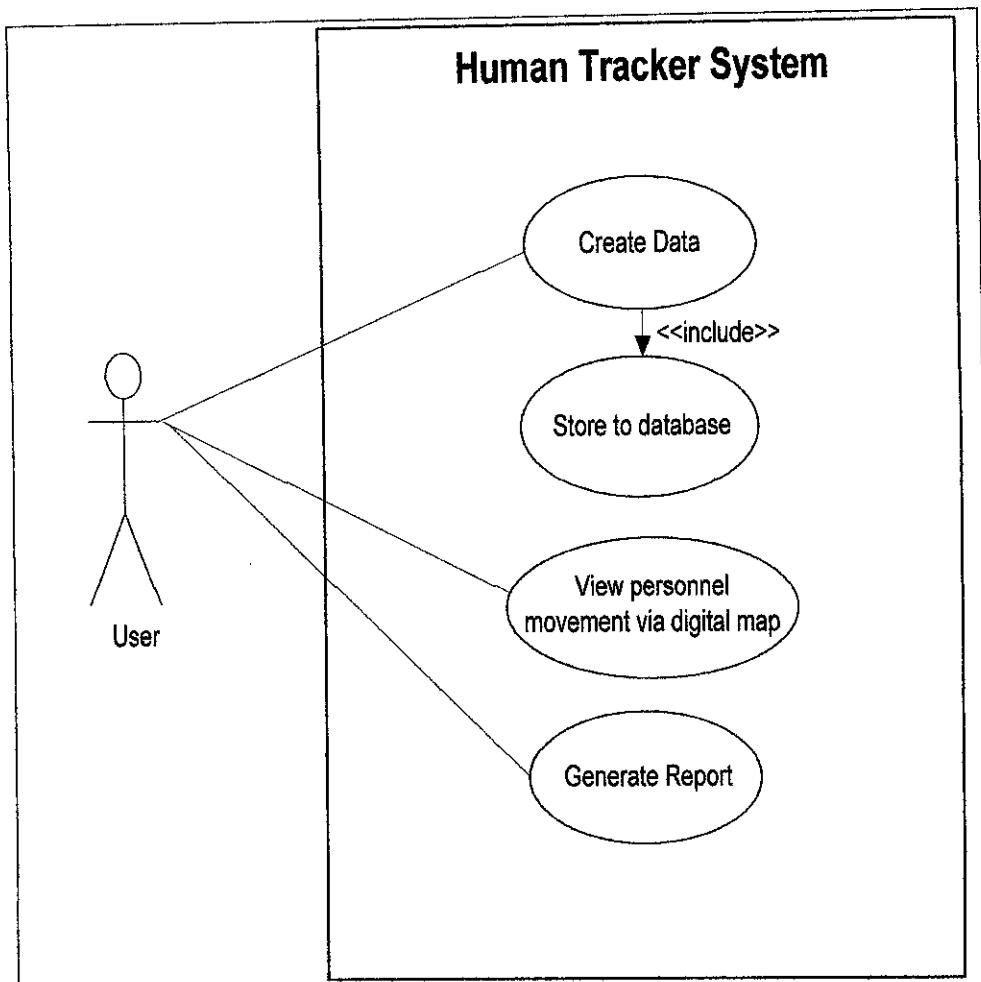


Figure 4.3: Use Case – Human Tracker System

4.5 Data Flow Diagram

The data flow diagram shows the sequence of operation between the functions.

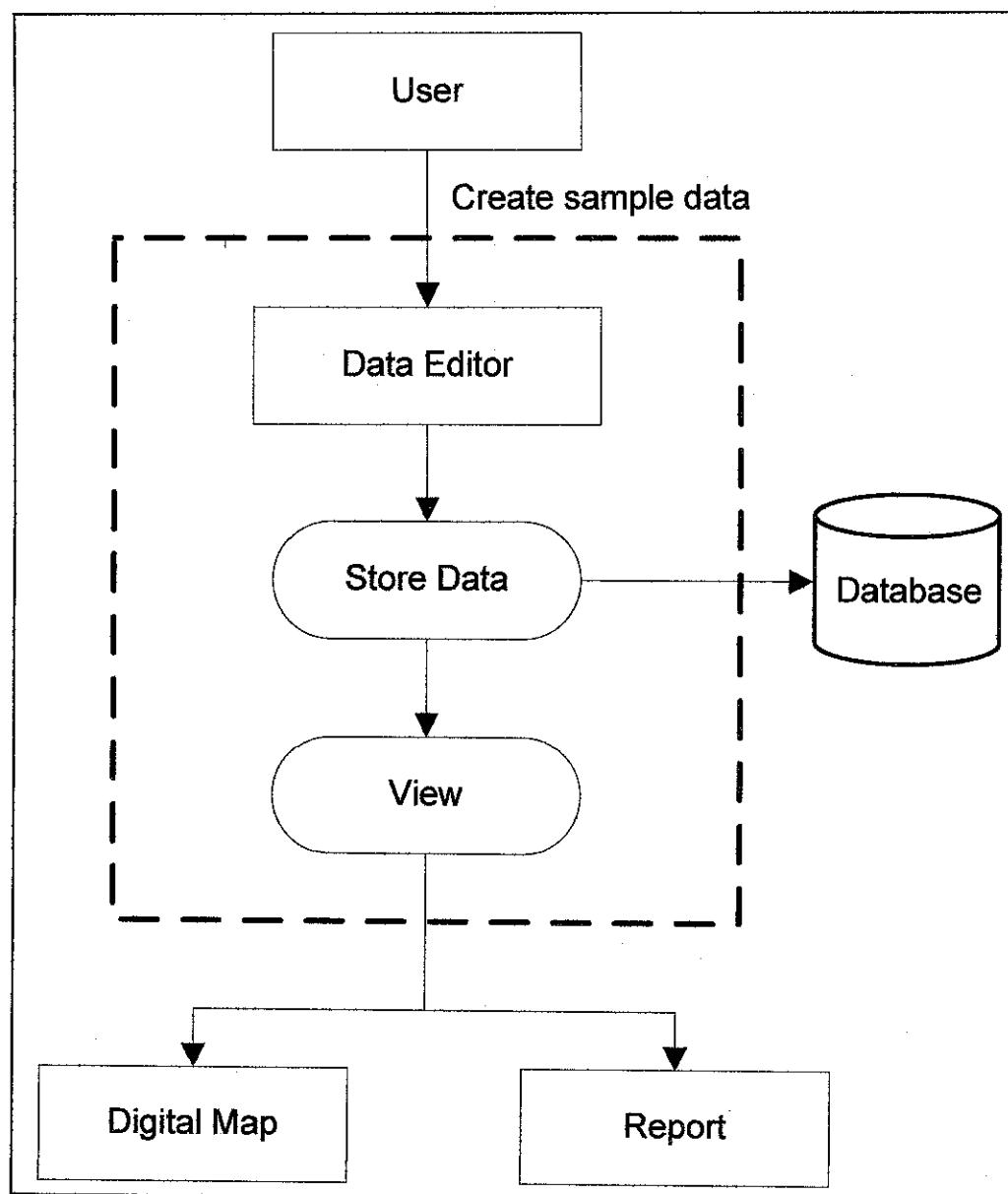


Figure 4.4: Data Flow Diagram – Human Tracker System

4.6 System Interface

- Human Tracker System Main page

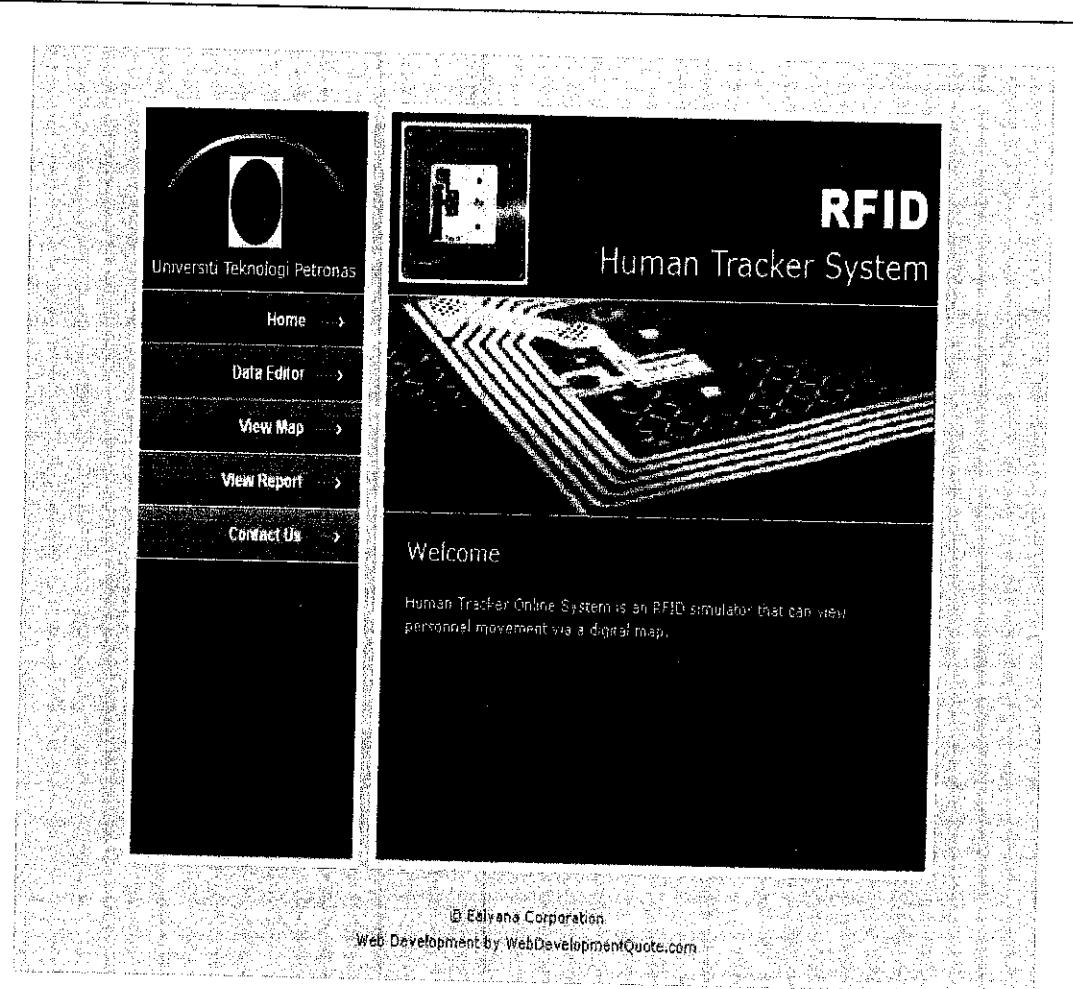


Figure 4.5: Human Tracker System Main Page

Figure 4.5 shows the Main Page for the system. As can be seen, there are five major menus for this system. The menus involved with Home menu, Data Editor menu, View Map menu, View Report menu and Contact Us menu. Each menu has different functions.

- Human Tracker System – Data Editor Page

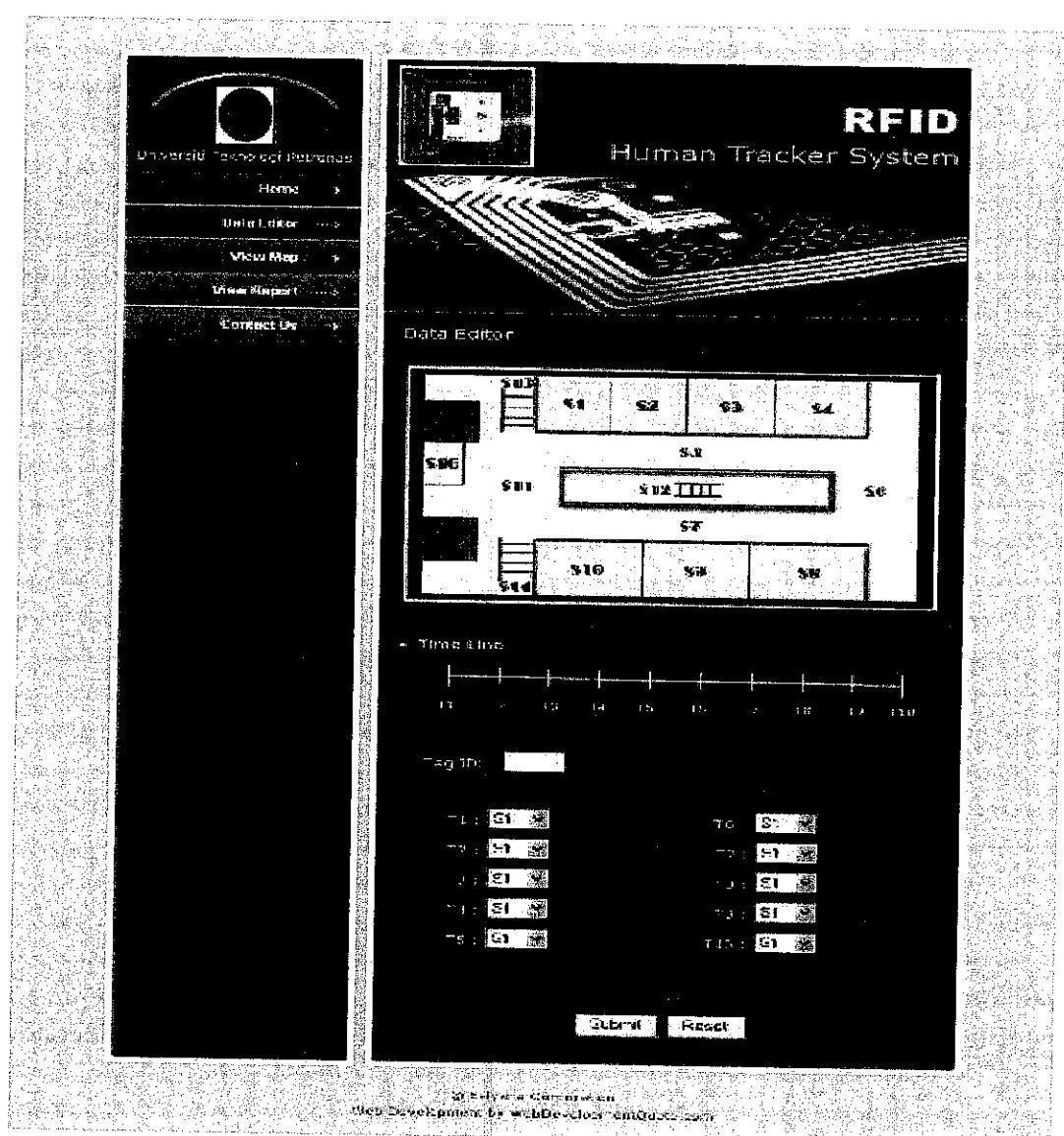


Figure 4.6: Human Tracker System – Data Editor

Figure 4.6 shows the page for Data Editor menu. User can use Data Editor to input sample RFID data for testing applications, without acquiring real RFID hardware. The data created with this tool is used to set the path of personnel's movement and will be saved in a database. The time interval for the movement is from T0 to T10. The map is just an indicator for the users to plan the path. The map also shows where the readers / sensors have been placed.

- Human Tracker System – View Map Page

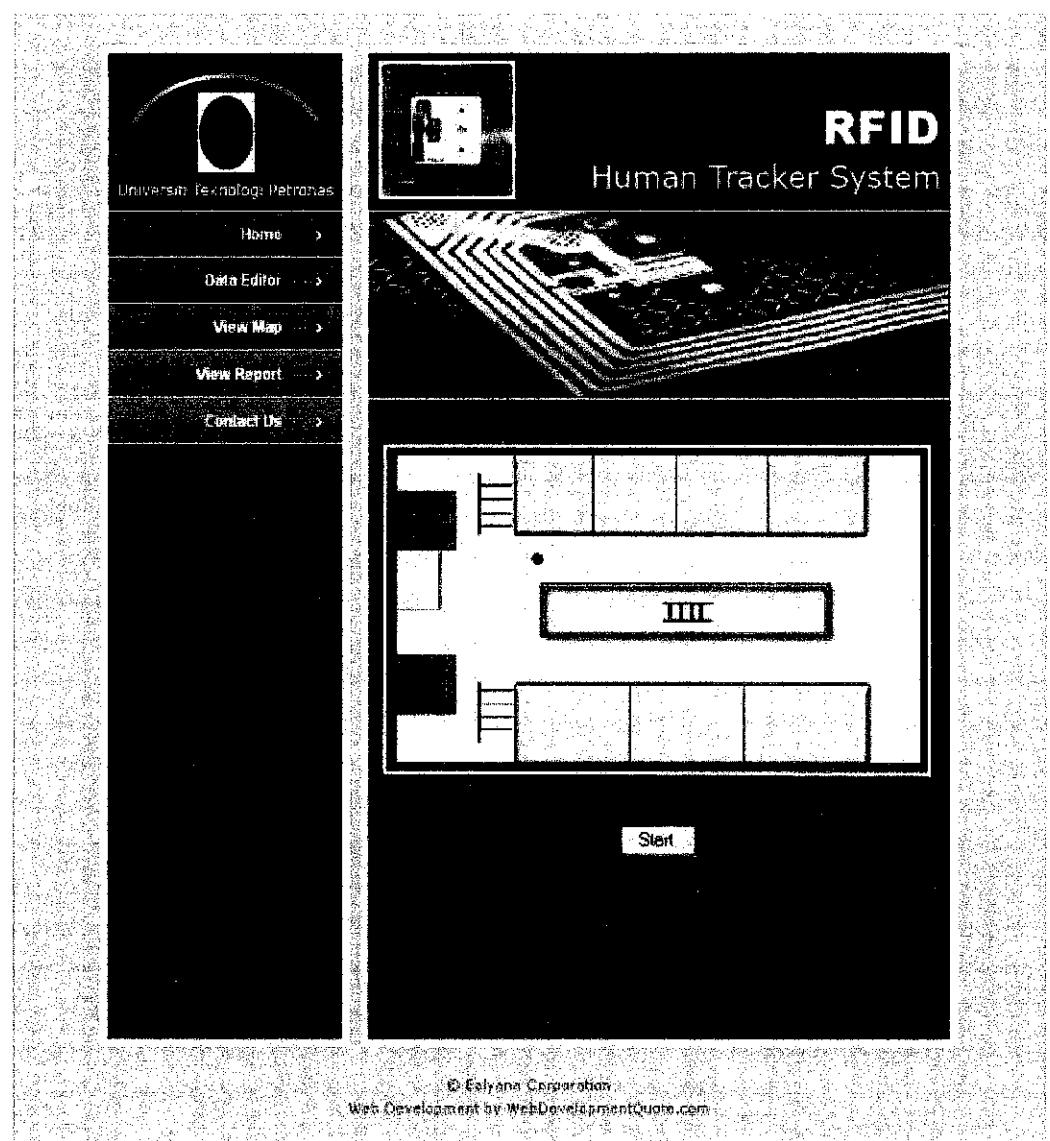


Figure 4.7: Human Tracker System – View Map

Figure 4.7 shows the View Map page. This page will act as important function used to display the personnel's movement within the building. When user click on the start button, a blinking red dot will appear represent the personnel and it will move within the map according to the data input from the user.

- Human Tracker System – View Report Page

The screenshot shows the 'View Report' page of the Human Tracker System. On the left, there is a sidebar with a logo and a list of navigation links: Home, Data Editor, View Map, View Report (which is highlighted in blue), and Contact Us. The main content area features a large 'RFID Human Tracker System' logo with a stylized tag icon. Below the logo is a map of a building with several red and white curved lines indicating tracking paths. A table titled 'Report' displays data for ten tag IDs (T1-T10). The table has columns for Tag ID and columns labeled T1 through T10. Each cell contains a value such as S1, S2, S3, etc. At the bottom of the table are search and view all buttons.

Tag ID	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
8789	S3	S5	S5	S6	S14	S4	S3	S5	S4	S15
5869	S4	S9	S15	S14	S14	S3	S4	S16	S14	S14
6789	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
2569	S3	S4	S4	S6	S14	S4	S5	S6	S15	
7532	S7	S5	S6	S9	S15	S5	S4	S5	S7	S9
2345	S15	S11	S13	S13	S6	S14	S3	S7	S9	S10

Figure 4.8: Human Tracker System – View Report

Figure 4.8 shows the View Report page. In the view report, the information data created in the Data Editor will be automatically stored inside the database and full report can be generated from the database anytime required by the user.

- Human Tracker System – Contact Us Page

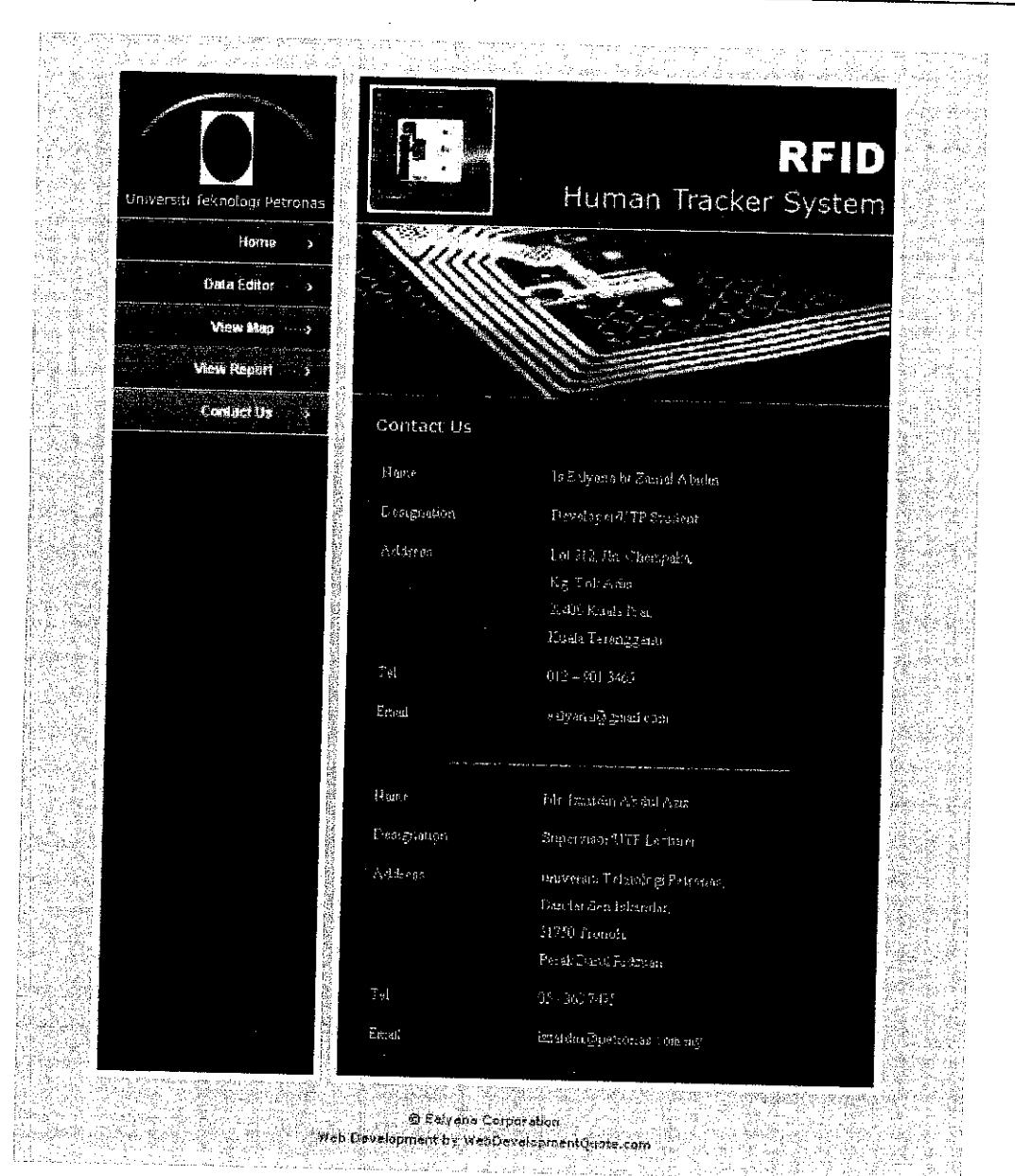


Figure 4.9: Human Tracker System – Contact Us

Figure 4.9 shows the Contact Us page. Here the author had included the contact number of the important persons involved in developing this project to its success. For further explanations, user can contact directly to the person listed in the screen.

CHAPTER 5

CONCLUSION & RECOMMENDATION

5.1. Conclusion

Human Tracker System project is carried out in order to help the management unit monitor their personnel at the refinery area. The main goal is to address the problem of security issues. To solve this problem, a Human Tracker system is developed to track and view the personnel location.

5.2. Recommendations

For further enhancement, it is recommended if the system could be attached to the real RFID device making it fully operating and design more attractive user interface.

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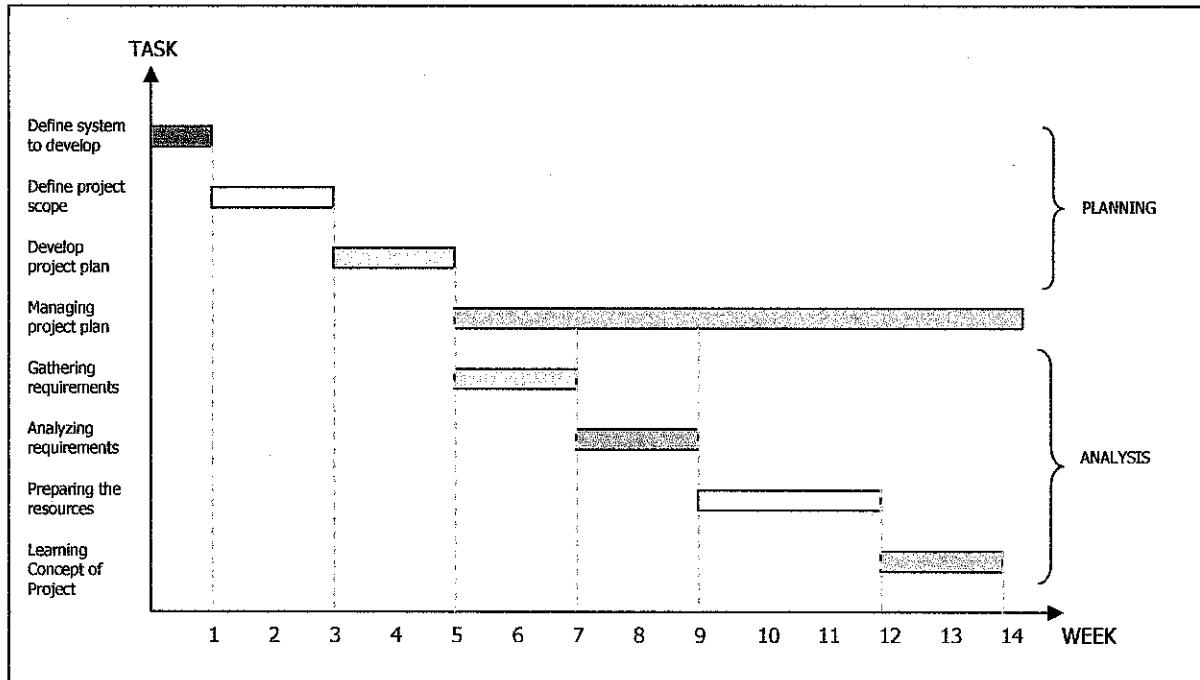
APPENDICES

Appendix 1:	Oil & Gas Industry Statistics	30
Appendix 2:	Gantt chart of Project Progress (First Semester)	31
Appendix 3:	Gantt chart of Planned Project Progress (Second Semester)	31
Appendix 4:	Evaluation Kit	32
Appendix 5:	Active RFID reader & Tag	32
Appendix 6:	REALTIME™: Asset tracking and location management system for hospitals	33
Appendix 7:	RFID system components	33
Appendix 8:	RFID Tag components	34
Appendix 9:	Coding – Complete Program	35

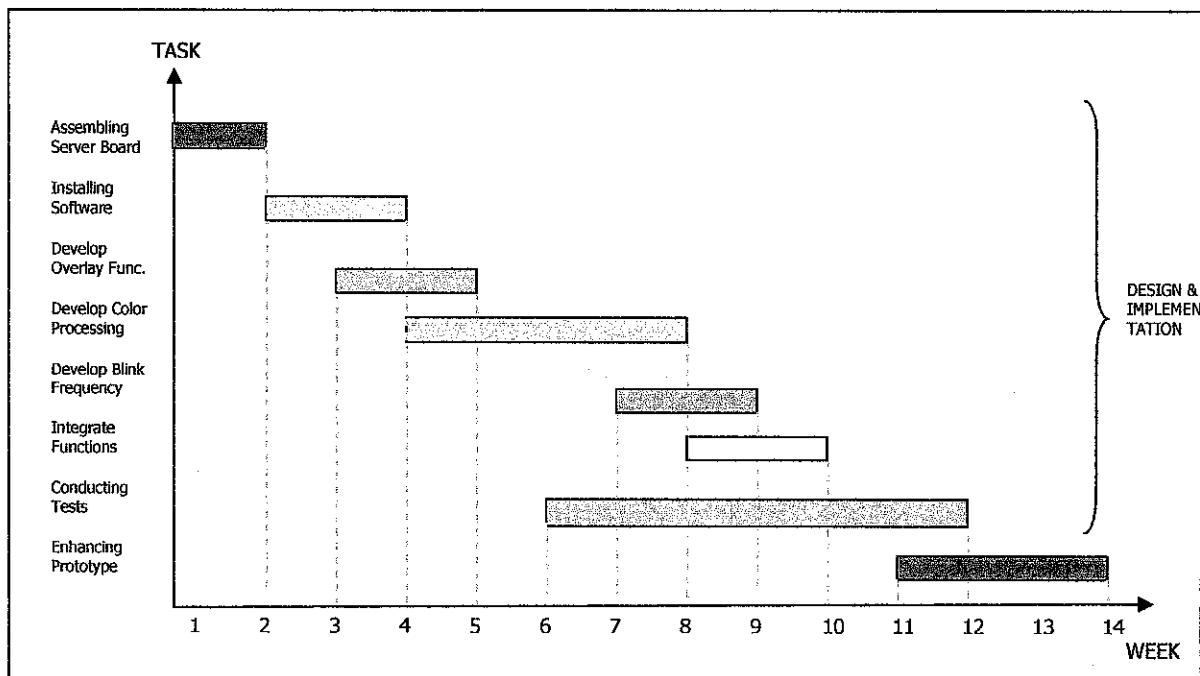
Year	#STD/LTD/ FTL Claims	Claim Costs Paid	Total Work Days Lost	Injury Rate	Assessable Payroll	Serious Injuries	# Fatal Claims
2001	324	\$12,727,924	24,758	2.1	\$493,693,613	19	6
2002	271	\$12,077,778	25,192	1.7	\$478,447,516	10	10
2003	258	\$10,306,407	21,766	1.5	\$562,222,671	13	7
2004	310	\$11,604,218	26,329	1.6	\$647,045,119	21	6
2005	301	\$9,575,174	21,463	1.5	\$720,000,569	21	3
2001- 2005 Total	1,464	\$56,291,501	119,508	1.6 (average)	\$2,901,409,488	84	32

Appendix 1: Oil & Gas Industry Statistics

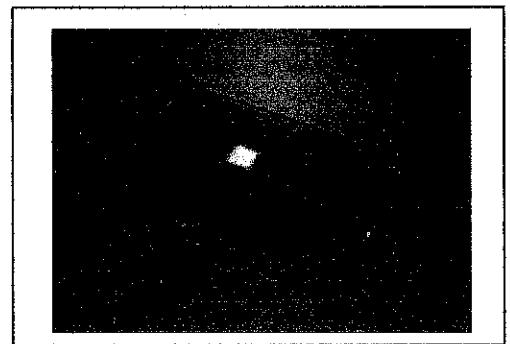
Gantt chart of the Project Progress



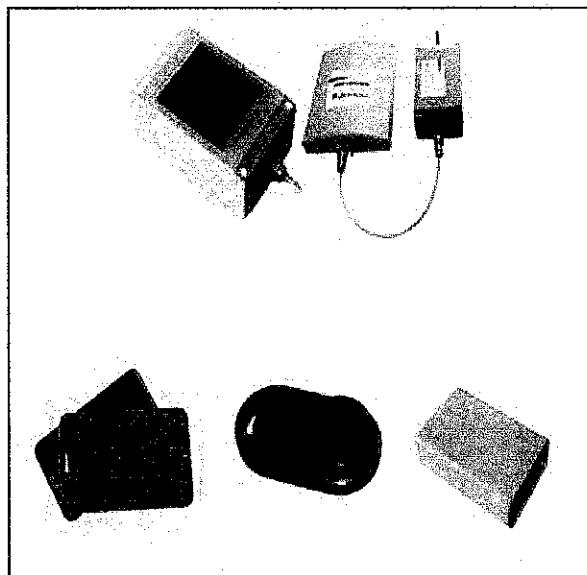
Appendix 2: Gantt chart of Project Progress (First Semester)



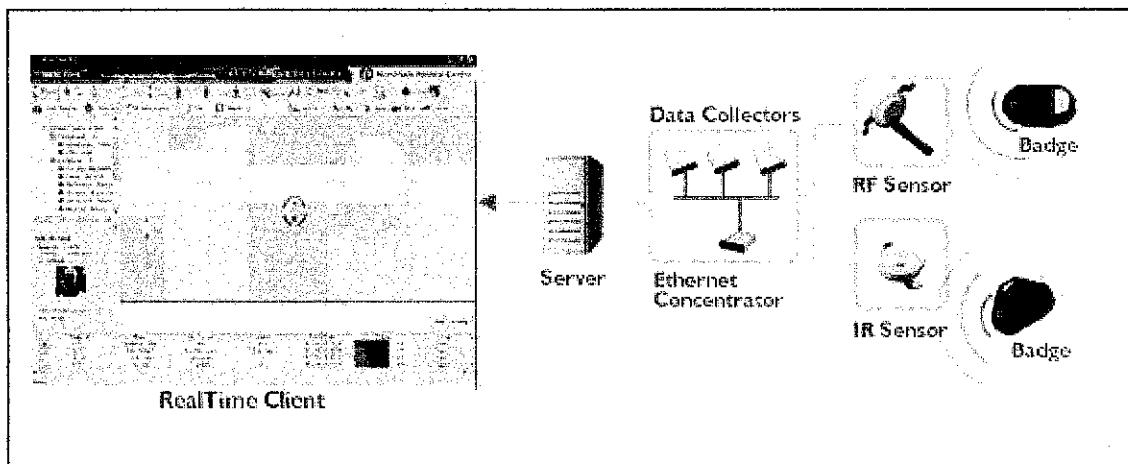
Appendix 3: Gantt chart of Planned Project Progress (Second Semester)



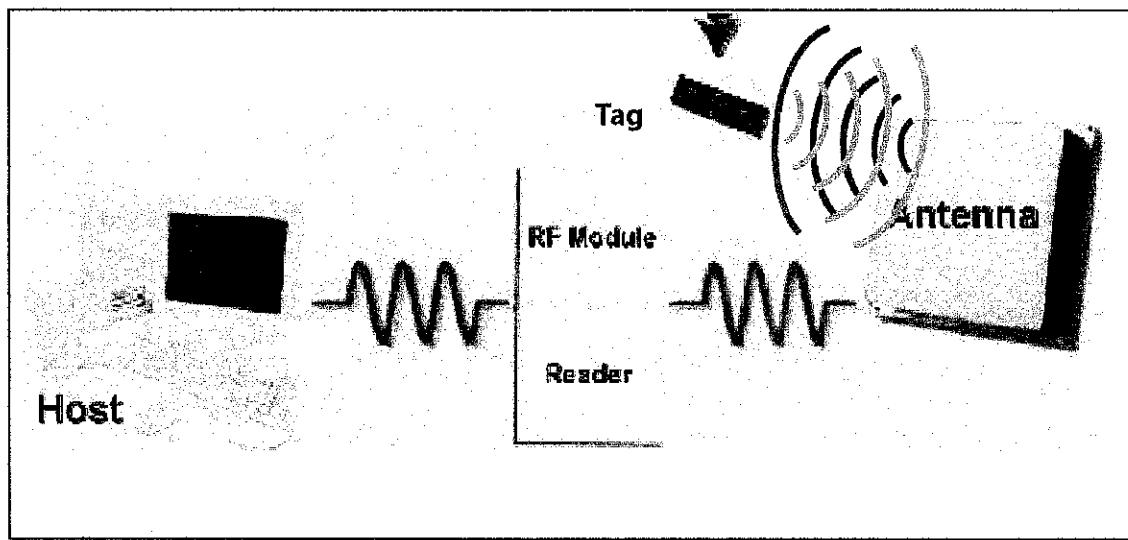
Appendix 4: Evaluation Kit



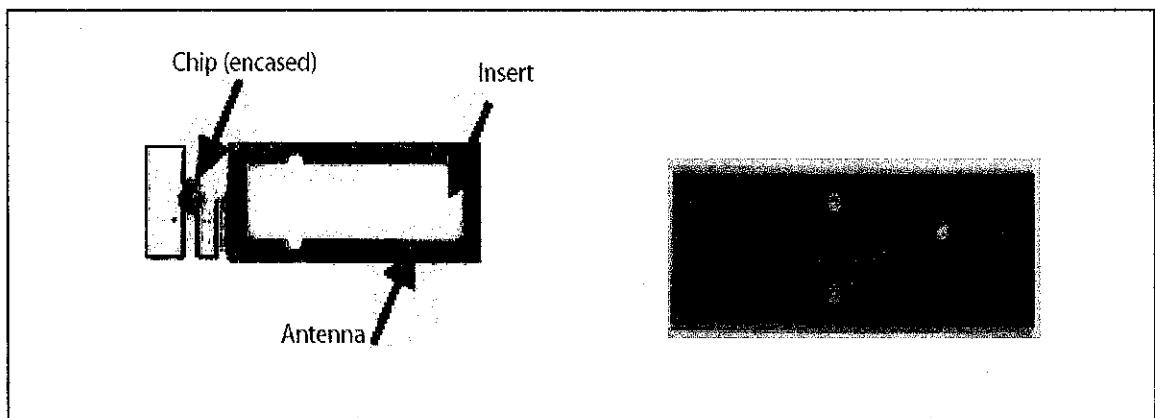
Appendix 5: Active RFID reader & Tag



Appendix 6: REALTIMETM: Asset tracking and location management system for hospitals



Appendix 7: RFID system components



Appendix 8: RFID Tag components

Appendix 9

Coding – Complete Program

• Index.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Home</title>
<meta name="keywords" content="keyword1, keyword2, keyword3, etc..." />
<meta name="description" content="Description of website here..." />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<!--[if IE ]>
<link href="css/ie.css" rel="stylesheet" type="text/css" />
<![endif]-->
</head>
<body>
<div id="main">
<div id="interior">
<div id="top">
<div id="logo"><a href="index.html"></a></div>
<div id="slogan"></div>
</div>
<div class="clear"></div>
<div id="mid">
<div id="left">
<div id="navbar">
<ul>
<li class="button1"><a href="index.html">Home</a></li>
<li class="button2"><a href="Data_editor.php">Data Editor</a></li>
<li class="button3"><a href="View_map.html">View Map</a></li>
<li class="button4"><a href="View_report.php">View Report</a></li>
<li class="buttonlast"><a href="contact.html">Contact Us</a></li>
</ul>
</div>
</div>
<div id="right">
</div>
<div id="mantext" style="width: 426px; height: 209px">
<h1 style="line-height: 150%"><font size="3">Welcome</font></h1>
<p style="line-height: 150%">Human Tracker Online System is an RFID simulator that can view personnel movement via a digital map.<p style="line-height: 150%">&nbsp;<p style="line-height: 150%">&nbsp;<p style="line-height: 150%">align="right">&nbsp;</div>
</div>
</div>
</div>
<div id="footer"> &copy; Ealyana Corporation </a><br />
```

```

<!-- This template is provided free of charge as long as you keep the link to
http://webdevelopmentquote.com -->
<a href="http://webdevelopmentquote.com/" target="_blank" style="text-decoration:none;">Web Development</a> by WebDevelopmentQuote.com</div>
</body>
</html>

```

- **Data_editor.php**

```

<?php
$con = mysql_connect('localhost', 'root', '');
if (!$con)
{
die('Could not connect: ' . mysql_error());
}

mysql_select_db("rfid", $con);
?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:v="urn:schemas-microsoft-com:vml"
xmlns:o="urn:schemas-microsoft-com:office:office" xmlns:(null)11="http://www.w3.org/TR/REC-html40">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Data Editor</title>
<meta name="keywords" content="keyword1, keyword2, keyword3, etc..." />
<meta name="description" content="Description of website here..." >
<link rel="File-List" href="Data_editor_files/filelist.xml">

<link href="css/style.css" rel="stylesheet" type="text/css" />
<!--[if IE ]>
<link href="css/ie.css" rel="stylesheet" type="text/css" />
<![endif]-->
<!--[if !mso]>
<style>
v\:* { behavior: url(#default#VML) }
o\:* { behavior: url(#default#VML) }
.shape { behavior: url(#default#VML) }
</style>
<![endif]--><!--[if gte mso 9]>
<xml><o:shapedefaults v:ext="edit" spidmax="1027"/>
</xml><![endif]-->
</head>
<body>
<div id="main">
<div id="interior">
<div id="top">
<div id="logo"><a href="index.html"></a></div>
<div id="slogan"></div>
</div>
<div class="clear"></div>

```

```

<div id="mid">
  <div id="left">
    <div id="navbar">
      <ul>
        <li class="button1"><a href="index.html">Home</a></li>
        <li class="button2"><a href="Data_editor.php">Data Editor</a></li>
        <li class="button3"><a href="View_map.html">View Map</a></li>
        <li class="button4"><a href="View_report.php">View Report</a></li>
        <li class="buttonlast"><a href="contact.html">Contact Us</a></li>
      </ul>
    </div>
  </div>
  <div id="right">
    </div>

<div id="maintext" style="width: 430px; height: 756px">
  <h1 style="line-height: 100%">Data Editor</h1>
  <p style="line-height: 100%" align="center">&ampnbsp</p>
  <p style="line-height: 100%" align="center">
    </p>
    <p align="center">
      <!--[if gte vml 1]><v:line id="_x0000_s1025"
style='position:absolute;left:0;text-align:left;top:0;z-index:0' from="388.5pt,461.25pt"
to="708.75pt,462pt" o:regroupid="1" strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if
!vml]><span
style='mso-ignore:vglayout;position:absolute;z-index:0;left:516px;top:613px;
width:431px;height:5px'></span><![endif]><!--[if gte vml
1]><v:line
id="_x0000_s1026" style='position:absolute;left:0;text-align:left;top:0;
z-index:0' from="389.25pt,275.25pt" to="707.25pt,276pt" o:regroupid="1"
strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if !vml]><span
style='mso-ignore:vglayout;position:absolute;z-index:0;left:517px;top:365px;
width:428px;height:5px'></span><![endif]><!--[if gte vml
1]><v:line
id="_x0000_s1027" style='position:absolute;left:0;text-align:left;top:0;
z-index:0' from="708pt,274.5pt" to="708pt,461.25pt" o:regroupid="1"
strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if !vml]><span
style='mso-ignore:vglayout;position:absolute;z-index:0;left:942px;top:364px;
width:4px;height:253px'></span><![endif]><!--[if gte vml
1]><v:line
id="_x0000_s1028" style='position:absolute;left:0;text-align:left;top:0;
flip:x;z-index:0' from="389.25pt,274.5pt" to="390pt,460.5pt" o:regroupid="1"
strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if !vml]><span
style='mso-ignore:vglayout;position:absolute;z-index:0;left:517px;top:364px;
width:5px;height:252px'></span><![endif]><!--[if gte vml
1]><v:group
id="_x0000_s1044" style='position:absolute;left:415.5pt;top:511.5pt;width:273.75pt;
height:20.25pt;z-index:1' coordorigin="573,682" coordsize="365,27">
<v:line id="_x0000_s1029" style='position:absolute' from="695,686" to="695,705"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>

```

```

<v:line id="_x0000_s1030" style='position:absolute' from="655,685" to="655,704"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1031" style='position:absolute' from="616,684" to="616,703"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1032" style='position:absolute' from="575,682" to="575,706"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1033" style='position:absolute' from="776,686" to="776,705"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1034" style='position:absolute' from="736,686" to="736,705"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1035" style='position:absolute' from="898,686" to="898,705"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1036" style='position:absolute' from="858,686" to="858,705"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1037" style='position:absolute' from="818,686" to="818,705"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1038" style='position:absolute' from="573,694" to="938,697"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
<v:line id="_x0000_s1039" style='position:absolute' from="938,685" to="938,709"
o:regroupid="1" strokecolor="white" strokeweight="1.5pt"/>
</v:group><![endif]--><![if !vml]><span style='mso-ignore:vglayout;position:
absolute;z-index:1;left:553px;top:681px;width:367px;height:29px'></span><![endif]></p>
<p>&nbsp;</p>
<ul>
    <li><b><font size="2">Time Line</font></b></li>
</ul>
<p>&nbsp;</p>
<p>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<!--[if gte vml 1]><v:shapetype
id="_x0000_t202" coordsize="21600,21600" o:spt="202" path="m,1,21600r21600,l21600,xe">
<v:stroke joinstyle="miter"/>
<v:path gradientshapeok="t" o:connecttype="rect"/>
</v:shapetype><v:shape id="_x0000_s1043" type="#_x0000_t202" alt="" style='position:absolute;
left:390.75pt;top:524.25pt;width:548.25pt;height:37.5pt;z-index:1' filled="f"
stroked="f">
<v: textbox>
<table cellspacing="0" cellpadding="0" width="100%" height="100%" id="table1">
    <tr>
        <td align="center">
            <p align="left">&nbsp;&nbsp;&nbsp; T1&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;
T2&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; T3&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;
T4&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; T5&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;
T6&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; T7&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;
T8&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; T9&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; T10</td>
    </tr>
</table>
</v: textbox>
</v:shape><![endif]--><![if !vml]><span style='mso-ignore:vglayout;position:
absolute;z-index:1;left:521px;top:699px;width:735px;height:54px'></span><![endif]></p>
<p>&nbsp;</p>
<form method="POST" action="submit.php">

```



```

        </button>&nbsp;<button name="B2"
type="reset">&nbsp;Reset&nbsp;&nbsp;
        </button></p>
    </form>
<p></p>
</div>
</div>
<div class="clear"></div>
</div>
</div>
<div id="footer"> &copy; Ealyana Corporation <a><br />
    <!-- This template is provided free of charge as long as you keep the link to
http://webdevelopmentquote.com -->
    <a href="http://webdevelopmentquote.com/" target="_blank" style="text-decoration:none;">Web
Development</a> by WebDevelopmentQuote.com</div>
</body>
</html>

```

- **submit.php**

```

<script language="JavaScript">
<!--
function FP_reloadImgs() {//v1.0
var d=document,a=arguments; if(!d.FP_imgs) d.FP_imgs=new Array();
for(var i=0; i<a.length; i++) { d.FP_imgs[i]=new Image; d.FP_imgs[i].src=a[i]; }

function FP_swapImg() {//v1.0
var doc=document,args=arguments,elm,n; doc.$imgSwaps=new Array(); for(n=2; n<args.length;
n+=2) { elm=FP_getObjectByID(args[n]); if(elm) { doc.$imgSwaps[doc.$imgSwaps.length]=elm;
elm.$src=elm.src; elm.src=args[n+1]; } }

function FP_getObjectByID(id,o) {//v1.0
var c,el,els,f,m,n; if(!o)o=document; if(o.getElementById) el=o.getElementById(id);
else if(o.layers) c=o.layers; else if(o.all) el=o.all[id]; if(el) return el;
if(o.id==id || o.name==id) return o; if(o.childNodes) c=o.childNodes; if(c)
for(n=0; n<c.length; n++) { el=FP_getObjectByID(id,c[n]); if(el) return el; }
f=o.forms; if(f) for(n=0; n<f.length; n++) { els=f[n].elements;
for(m=0; m<els.length; m++) { el=FP_getObjectByID(id,els[n]); if(el) return el; } }
return null;
}
// -->
</script>
<?php
include 'connect.php';

$TagID = $_POST['TagID'];
$T1 = $_POST['T1'];
$T2 = $_POST['T2'];
$T3 = $_POST['T3'];
$T4 = $_POST['T4'];
$T5 = $_POST['T5'];
$T6 = $_POST['T6'];

```

```

$T7 = $_POST['T7'];
$T8 = $_POST['T8'];
$T9 = $_POST['T9'];
$T10 = $_POST['T10'];

$result=mysql_query("INSERT INTO RFID_tag ( TagID, T1, T2,T3,T4,T5,T6,T7,T8,T9,T10) VALUES
('$TagID','$T1','$T2','$T3','$T4','$T5','$T6', '$T7', '$T8', '$T9', '$T10' )");
echo "<p align=center>&nbsp;</p>
<p align=center><font color=0000FF size=4 face=Verdana>
Data has been added to the system!</font></p>

mysql_close();
?><body onload="FP_reloadImg(/url*/button15.jpg, /url*/button16.jpg)"><p align="center">
<a href="Data_editor.php">
</a></p>

```

- **connect.php**

```

<?php

$host = "localhost";
$username = "root";
$database = 'rfid';

$connect = mysql_connect($host, $username)
or die( " Database Connection Failed! <br> ");

mysql_select_db($database, $connect)
or die ("Database could not be selected!" );
?>

```

- **view_map.html**

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:v="urn:schemas-microsoft-com:vml"
xmlns:o="urn:schemas-microsoft-com:office:office" xmlns:(null)0="http://www.w3.org/TR/REC-
html40">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>View Map</title>
<meta name="keywords" content="keyword1, keyword2, keyword3, etc..." />
<meta name="description" content="Description of website here..." >
<link rel="File-List" href="View_map_files/filelist.xml">

<link href="css/style.css" rel="stylesheet" type="text/css" />
<!--[if IE ]>
<link href="css/ie.css" rel="stylesheet" type="text/css" />
<![endif]-->
<!--[if !mso]>

```

```

<style>
v\:*      { behavior: url(#default#VML) }
o\:*      { behavior: url(#default#VML) }
.shape    { behavior: url(#default#VML) }
</style>
<![endif]--><!--[if gte mso 9]>
<xml><o:shapedefaults v:ext="edit" spidmax="1027"/>
</xml><![endif]-->
</head>
<body>
<div id="main">
  <div id="interior">
    <div id="top">
      <div id="logo"><a href="index.html"></a></div>
      <div id="slogan"></div>
    </div>
    <div class="clear"></div>
    <div id="mid">
      <div id="left">
        <div id="navbar">
          <ul>
            <li class="button1"><a href="index.html">Home</a></li>
            <li class="button2"><a href="Data_editor.php">Data Editor</a></li>
            <li class="button3"><a href="View_map.html">View Map</a></li>
            <li class="button4"><a href="View_report.php">View Report</a></li>
            <li class="buttonlast"><a href="contact.html">Contact Us</a></li>
          </ul>
        </div>
      </div>
      <div id="right">
        
      </div>
    </div>
    <div id="maintext">
      <!--[if gte vml 1]><v:line id="_x0000_s1026"
      style='position:absolute;left:0;text-align:left;top:0;z-index:0' from="384pt,447.75pt"
      to="711.75pt,448.5pt" o:regroupid="1" strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if !vml]><span
      style='mso-ignore:vglayout;position:absolute;z-index:0;left:510px;top:595px;
      width:441px;height:5px'></span><![endif]><!--[if gte vml
      1]><v:line
      id="_x0000_s1027" style='position:absolute;left:0;text-align:left;top:0;
      z-index:0' from="383.25pt,258pt" to="712.5pt,258.75pt" o:regroupid="1"
      strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if !vml]><span
      style='mso-ignore:vglayout;position:absolute;z-index:0;left:509px;top:342px;
      width:443px;height:5px'></span><![endif]><!--[if gte vml
      1]><v:line
      id="_x0000_s1028" style='position:absolute;left:0;text-align:left;top:0;
      z-index:0' from="711.75pt,257.25pt" to="711.75pt,450pt" o:regroupid="1"
      strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if !vml]><span
      style='mso-ignore:vglayout;position:absolute;z-index:0;left:947px;top:341px;
      width:4px;height:261px'></span><![endif]><!--[if gte vml
      1]><v:line
    
```

```

id="_x0000_s1029" style="position:absolute;left:0;text-align:left;top:0;
flip:x;z-index:0' from="384pt,258pt" to="384.75pt,447.75pt" o:regroupid="1"
strokecolor="white" strokeweight="2.25pt"/><![endif]--><![if !vml]><span
style='mso-ignore:vglayout;position:absolute;z-index:0;left:510px;top:342px;
width:5px;height:257px'></span><![endif]><form
method="POST" action="--WEBBOT-SELF--">
    <!--webbot bot="SaveResults" U-File="fpweb:///private/form_results.csv" S-
Format="TEXT/CSV" S-Label-Fields="TRUE" -->
        <p align="center">&nbsp;</p>
        <p align="center">
            <object classid="clsid:D27CDB6E-AE6D-11CF-96B8-444553540000" id="obj1"
codebase="http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version=6,0,40,0"
border="0" width="383" height="234">
                <param name="movie" value="floorplan_editstop.swf">
                <param name="quality" value="High">
                <embed src="floorplan_editstop.swf"
pluginspage="http://www.macromedia.com/go/getflashplayer" type="application/x-shockwave-flash"
name="obj1" width="383" height="234"></object>
            </p>
            <p align="center">&nbsp;</p>
        </form>
        <p>&nbsp;</p>
        <p>&nbsp;</div>
    </div>
    <div class="clear"></div>
</div>
</div>
<div id="footer"> &copy; Ealyana Corporation</a><br />
    <!-- This template is provided free of charge as long as you keep the link to
http://webdevelopmentquote.com -->
    <a href="http://webdevelopmentquote.com/" target="_blank" style="text-decoration:none;">Web
Development</a> by WebDevelopmentQuote.com</div>
</body>
</html>

```

- **View_report.php**

```

<?php
include 'connect.php';
?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html>
<head>
<title>View Report</title>
<meta name="keywords" content="keyword1, keyword2, keyword3, etc..." />
<meta name="description" content="Description of website here..." />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<!--[if IE ]>
<link href="css/ie.css" rel="stylesheet" type="text/css" />
<![endif]--></head>

<body>

```

```

<div id="main">
  <div id="interior" style="width: 704px; height: 586px">
    <div id="top">
      <div id="logo"><a href="index.html"></a></div>
      <div id="slogan"></div>
    </div>

    <div class="clear"></div>
    <div id="mid">
      <div id="left">
        <div id="navbar">
          <ul>
            <li class="button1"><a href="index.html">Home</a></li>
            <li class="button2"><a href="Data_editor.php">Data Editor</a></li>
            <li class="button3"><a href="View_map.html">View Map</a></li>
            <li class="button4"><a href="View_report.php">View Report</a></li>
            <li class="buttonlast"><a href="contact.html">Contact Us</a></li>
          </ul>
        </div>
      </div>
      <div id="right">
        </div>
      <div id="maintext" style="width: 426px; height: 283px">

        <b><font size="2">Report</font></b>
        <form method="POST" action="View_report.php">
          <p align="center">Tag ID : <input type="text" name="tagID" size="15">&ampnbsp
          <input type="submit" value="Search" name="search">
          <input type="submit" value="View All" name="all">

        </form>

      <?php
      if(isset($_POST['search']))
      {

        $result = mysql_query("SELECT * FROM rfid_tag WHERE tagID='$_POST[tagID]' ");
        $num=mysql_num_rows($result);
        if($num>0)
        {
          echo"<TABLE BORDER=\\"1\\" align=\\"Center\\>";
          echo"<TR bgcolor=\\"blue\\><TD><B><font size=2 color=white> Tag ID
</font><br/></B><TD><B> <font size=2 color=white>T1</font> </B><TD><B> <font size=2
color=white>T2</font></B><TD><B> <font size=2 color=white> T3</font></B><TD><B> <font size=2
color=white>T4</font></B><TD><B> <font size=2 color=white> T5</font></B><TD><B> <font
size=2 color=white> T6</font></B><TD><B> <font size=2 color=white>
T7</font></B><TD><B> <font size=2 color=white> T8</font></B><TD><B> <font size=2
color=white> T9</font></B><TD><B> <font size=2 color=white> T10</font></B>";

          for($i=0; $i<$num; $i++)
          {
            $rows= mysql_fetch_array($result);

```

```

        echo"<TR><TD>". $rows['tagID']. "<TD>". $rows['t1']. "<TD>". $rows['t2']. "<TD>"
        . $rows['t3']. "<TD>". $rows['t4']. "<TD>". $rows['t5']. "<TD>". $rows['t6']. "<TD>". $rows['t7']. "<TD>"
        . $rows['t8']. "<TD>". $rows['t9']. "<TD>". $rows['t10']. "</TR>";

    }
    echo"</table>";
}
}

if(isset($_POST['all']))
{
    $result = mysql_query("SELECT * FROM rfid_tag");
    $num=mysql_num_rows($result);
    if($num>0)
    {
        echo"<TABLE BORDER=\"1\" align=\"Center\">";
        echo"<TR bgcolor=\"blue\"><TD><B><font size=2 color=white> Tag ID
</font><br/></B><TD><B> <font size=2 color=white>T1</font> </B><TD><B> <font size=2
color=white>T2</font></B><TD><B><font size=2 color=white> T3</font></B><TD><B><font size=2
color=white> T4</font></B><TD><B><font size=2 color=white> T5</font></B><TD><B><font
size=2 color=white> T6</font></B><TD><B><font size=2 color=white>
T7</font></B><TD><B><font size=2 color=white> T8</font></B><TD><B><font size=2
color=white> T9</font></B><TD><B><font size=2 color=white> T10</font></B>";

        for($i=0; $i<$num; $i++)
        {
            $rows= mysql_fetch_array($result);
            echo"<TR><TD>". $rows['tagID']. "<TD>". $rows['t1']. "<TD>". $rows['t2']. "<TD>"
            . $rows['t3']. "<TD>". $rows['t4']. "<TD>". $rows['t5']. "<TD>". $rows['t6']. "<TD>". $rows['t7']. "<TD>"
            . $rows['t8']. "<TD>". $rows['t9']. "<TD>". $rows['t10']. "</TR>";

        }
        echo"</table>";
    }
}
?>
</body>
</html>

```

- **Contact.html**

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:v="urn:schemas-microsoft-com:vml"
xmlns:o="urn:schemas-microsoft-com:office:office" xmlns:(null)13="http://www.w3.org/TR/REC-
html40">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Contact Us</title>
<meta name="keywords" content="keyword1, keyword2, keyword3, etc..." />
<meta name="description" content="Description of website here..." />
<link rel="File-List" href="contact_files/filelist.xml">

<link href="css/style.css" rel="stylesheet" type="text/css" />
<!--[if IE ]>

```

```

<link href="css/ie.css" rel="stylesheet" type="text/css" />
<![endif]-->
<style>
<!--
table.MsoTableGrid
    {border:1.0pt solid windowtext;
    font-size:10.0pt;
    font-family:"Times New Roman";
    }
-->
</style>
<!--[if !mso]>
<style>
v\:*      { behavior: url(#default#VML) }
o\:*      { behavior: url(#default#VML) }
.shape     { behavior: url(#default#VML) }
</style>
<![endif]--><!--[if gte mso 9]>
<xml><o:shapedefaults v:ext="edit" spidmax="1027"/>
</xml><![endif]-->
</head>
<body>
<div id="main">
    <div id="interior">
        <div id="top">
            <div id="logo"><a href="index.html"></a></div>
            <div id="slogan"></div>
        </div>
        <div class="clear"></div>
        <div id="mid">
            <div id="left">
                <div id="navbar">
                    <ul>
                        <li class="button1"><a href="index.html">Home</a></li>
                        <li class="button2"><a href="Data_editor.php">Data Editor</a></li>
                        <li class="button3"><a href="View_map.html">View Map</a></li>
                        <li class="button4"><a href="View_report.php">View Report</a></li>
                        <li class="buttonlast"><a href="contact.html">Contact Us</a></li>
                    </ul>
                </div>
            </div>
            <div id="right">
                
            </div>
        </div>
        <div id="maintext" style="width: 426px; height: 435px">
            <h1>Contact Us</h1>
            <table class="MsoTableGrid" border="0" cellpadding="0" style="border-collapse: collapse; border-width: 0" id="table4" width="360">
                <tr>
                    <td width="103" valign="top" style="width:77.4pt;padding:0in 5.4pt 0in 5.4pt">
                        <p class="MsoNormal" style="line-height: 100%>Name </td>
                        <td width="24" valign="top" style="width:.25in;padding:0in 5.4pt 0in 5.4pt">
                    </td>
                </tr>
            </table>
        </div>
    </div>
</body>

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<p class="MsoNormal" style="line-height: 100%;">Is Ealyana bt Zainal Abidin</p>
<p class="MsoNormal" style="line-height: 100%;">Designation</p>
<p class="MsoNormal" style="line-height: 100%;">Developer/UTP Student</p>
<p class="MsoNormal" style="line-height: 100%;">Address</p>
<p class="MsoNormal" style="line-height: 100%;">Lot 212, Jln. Chempaka,</p>
<p class="MsoNormal" style="line-height: 100%;">Kg. Tok Adis,</p>
<p class="MsoNormal" style="line-height: 100%;">20400 Kuala Ibai,</p>
<p class="MsoNormal" style="line-height: 100%;">Kuala Terengganu</p>
<p class="MsoNormal" style="line-height: 100%;">Tel</p>
<p class="MsoNormal" style="line-height: 100%;">012 &#8211; 901 3465</p>
<p class="MsoNormal" style="line-height: 100%;">Email</p>
<p class="MsoNormal" style="line-height: 100%;">:</p>

<p class="MsoNormal" style="line-height: 100%;">ealyana@gmai.com</p>																			
<p>&nbsp;</p>																			
<table border="0" style="border-collapse: collapse; border-width: 0px; width: 360px;"> <tr> <td style="width: 103px; padding-left: 5.4pt; padding-right: 5.4pt; padding-top: 0in; padding-bottom: 0in;"> <p>Name</p> </td> <td style="width: 24px; padding-left: 5.4pt; padding-right: 5.4pt; padding-top: 0in; padding-bottom: 0in;"> <p>Mr. Izzatdin Abdul Aziz</p> </td> </tr> <tr> <td></td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>Designation</p> </td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>Supervisor/UTP Lecturer</p> </td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>Address</p> </td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>universiti Teknologi Petronas,</p> </td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>Bandar Seri Iskandar,</p> </td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>31750 Tronoh,</p> </td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>Perak Darul Ridzuan</p> </td> </tr> <tr> <td></td> </tr> <tr> <td style="padding-left: 5.4pt;"> <p>Tel</p> </td> </tr> </table>	<p>Name</p>	<p>Mr. Izzatdin Abdul Aziz</p>			<p>Designation</p>		<p>Supervisor/UTP Lecturer</p>		<p>Address</p>		<p>universiti Teknologi Petronas,</p>		<p>Bandar Seri Iskandar,</p>		<p>31750 Tronoh,</p>		<p>Perak Darul Ridzuan</p>		<p>Tel</p>
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<p>Tel</p>																			

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0in 5.4pt">
<td width="24" valign="top" style="width:.25in;padding:0in 5.4pt
<p class="MsoNormal" style="line-height: 100%"></td>
<td valign="top" style="width: 209px; padding-left: 5.4pt; padding-
right: 5.4pt; padding-top: 0in; padding-bottom: 0in">
<p class="MsoNormal" style="line-height: 100%">05 - 368
7495</td>
</tr>
<tr>
0in 5.4pt">
<td width="103" valign="top" style="width:77.4pt;padding:0in 5.4pt
<p class="MsoNormal" style="line-height: 100%">Email</td>
0in 5.4pt">
<p class="MsoNormal" style="line-height: 100%"></td>
<td valign="top" style="width: 209px; padding-left: 5.4pt; padding-
right: 5.4pt; padding-top: 0in; padding-bottom: 0in">
<p class="MsoNormal" style="line-height: 100%">izzatdin@petronas.com.my</td>
</tr>
</table>
<p class="MsoNormal" style="line-height: 100%"><!--[if gte vml 1]><v:line
id="_x0000_s1028"
alt="" style='position:absolute;left:0;text-align:left;top:0;z-index:1'
from="443.25pt,462.75pt" to="665.25pt,462.75pt" strokecolor="white"
strokeweight=".35189mm"/><![endif]--><![if !vml]><span style='mso-ignore:vglayout;
position:absolute;z-index:1;left:590px;top:616px;width:298px;height:2px'></span><![endif]></div>
</div>
<div class="clear"></div>
</div>
</div>
<div id="footer"> &copy; Ealyana Corporation</a><br />
<!-- This template is provided free of charge as long as you keep the link to
http://webdevelopmentquote.com -->
<a href="http://webdevelopmentquote.com/" target="_blank" style="text-decoration:none;">Web
Development</a> by WebDevelopmentQuote.com</div>
</body>
</html>

```