

infiniteRobo Administration Content Management System

by

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Certification of Approval

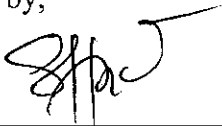
infiniteRobo Administration Content Management System (CMS)

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A project dissertation submitted to the
Information Technology Programme
Universiti Teknologi PETRONAS
in partial fulfilment of the requirement for the
BACHELOR OF TECHNOLOGY (Hons)
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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 acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.



(MOHD FIRDAUS FAIZAL TAN)

Abstract

A need to manage the content in the website without having to go back to web design house is very important. The purpose of the Content Management System (CMS) is to help non-technical people especially in Small and Medium Industry (SMI) to have and manage their website. The scopes of the product development are guided with developing low learning curve for the system and provide suitable features for the users, which will introduce to them new communication channel that may act as their advertisement medium or promoting their company in front of millions of computer screens with additional customer connections being established. The method in developing the product is focusing more towards the system design, not only the user interface but also including what features is suitable with them in order to meet with the objectives for low learning curve. Although the CMS are relatively new in the market, and while many are still not familiar with them, CMS have the potential to dramatically simplify the maintenance of the website.

Acknowledgement

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

One company is about to get a website built for their business and they successfully found a good web design people or company. Everything works fine and the design meets the company expectations. Once the website successfully setup and the customers start rolling in, the company would like to make another change. The change could be very small such as changing the address of the company, contact information, or adding more information into the website. The company still wants to keep the design but need to change the text only. Although the web designer do a great job, but it is not economical for both party to going back and forth just to change a little information. A hundred small changes in a year will leave both parties frustrated.

This is where Content Management System (CMS) comes in. The users just need to sit back behind the scene to edit or update or delete any information, in other words, CMS gives the users an ability to maintain their own website. A Content Management System (CMS) is critical to the success of almost every website and intranet.

1.1.1 What is Content Management System (CMS)?

From James Robertson, guest article at www.atlanticwebjitters.ca says that, a CMS is a software package specifically designed to manage a website.

Generally it is installed by the web designers (also can be installed by the user itself), but intended to be used by their clients. The interface is simple, non-technical way of updating the content and usually done through web-based

interface that works much like Microsoft Word does. CMS also can be defined as a supports to the creation, management, distribution, publishing, and discovery of corporate information. It covers the complete lifecycle of the pages on the website, from providing simple tools to create the content, through to publishing, and finally to archiving.

1.1.2 Why The Users Need To Have CMS?

There are many reasons to the usage of CMS. One example that may wrap up to summarize the situation is when the company XX has their own website. It has grown over time and while it is very useful, it is far from perfect. Most of the content in the website is out-of-date or inaccurate, updating the site is complex, and the appearance of the website is becoming dated. To make it worst, the company have lost track of all the pages on the site, and just having one person in charge to manage all of the content for example the skilled webmaster, the updates are pilling up in their tray.

That is one of the reasons that and usually occurs to few companies. CMS comes into rescue with few benefits that the users may gain from it. A CMS makes the work much easier in many ways:

1. The users did not have to depend on the web designers anymore to make changes in the website.
2. If the website has become primary communication channel to the business, the probability to use CMS increases because the information can be change at anytime they are needed.
3. The users did not have to know any technical aspects to manage and update their website, because CMS simply handled it all.
4. The CMS can track the users who had made any changes to the content, thus allowed the company to have more than one user to manage their website.

5. The CMS will ensure the consistent design and build all menu and navigations for the users.

As a result, the CMS can help the company to improve sales, increase user satisfaction, or assist in communicating with the public.

1.2 PROBLEM STATEMENT

General overview of typical Content Management System (CMS) capabilities has been presented as above and how they can be used to benefit the success of the website. In the marketplace at present, there is literally hundreds of Content Management System available off-the-shelf, where each of them has different capabilities and strengths. There is no “one-size-fits-all” solution in Content Management System technology. Therefore the users need to allocate sufficient time and resources to selecting the CMS that the users have confident in it.

The reason to developing another custom CMS generally in Malaysian context and for Small and Medium Industry (SMI) people especially is because of following reasons:

According to Jay Blanchard (19th April, 2002)

1. The off-the-shelf CMS has a high learning curve for both the persons responsible for the maintenance of the system and the CMS user.
2. The off-the-shelf CMS does not fit all of your requirements even though its high level of customizability should allow it.
3. The off-the-shelf CMS has either enough features, or too many features to suit you. There is the expense and that expense is either the retail price, or the cost of the customization, or both.

(http://evolt.org/The_ABCs_of_CMS)

From the citation above, two major problems arise from current CMS are:

1. High learning
2. Features availability

1.2.1 High Learning

It is not practical for the user especially from SMI people perspectives to allocate too much time just to learn how to use CMS. Most of them are busy to run their business, making decisions and many other things to maximize their profit generation. Therefore it is much more appropriate if the system can be learning just in a few hours or few clicks.

1.2.2 Features Availability

Even though, current off-the-shelf CMS gives high customizability to the users to fit with their requirements, it still takes time to fit with it, where the problem goes back to the above on high learning and too much time to be allocated for it. Some of the CMS provides many features that can be used, however it turns back to be more confusing and do not know what it is for, and the worst case if the system just provide few features such as adding content only.

It is a waste of time and money if the users need to learn one by one feature in the system which in the end the users did not really use it or need it. There must be a balance of features that can be used by the SMI people which is not in technical category, and the system also can be used as soon as possible.

1.3. OBJECTIVES AND SCOPE OF STUDY

The purpose of the project development is to help Small and Medium Industry (SMI) people to manage their own website as easy as possible and comes with features that enough with them to reduce the curve of learning. As a result, they may use the website

as a mean of communication channel because of the easy learning to create the website. Therefore the scope of target user have been narrowed down into a small group but related to the business.

1.3.1 What is Small and Medium Industry (SMI)?

The people who started their business is called entrepreneur. The objective of business being setup is to gain as much profit as possible.

From Scarborough and Zimmerer (2002)

An entrepreneur is one who creates a new business in the face of risk and uncertainty for the purpose of achieving profit and growth by identifying opportunities and assembling the necessary resources to capitalize on those opportunities.

Financial crisis that occurred in 1997, affected Malaysia economy severely where a large number of firms and factories were close down, thus creating a job lost or no new jobs were created. Unemployment rate especially among fresh graduate increase dramatically. Therefore Malaysia government has introduced the Small and Medium Industry where they believe, SMI can be pushed and becoming primary medium for the growth of economy nation. Small and Medium Industry can be defined as follows:

Category		Micro-Enterprise	Small-Enterprise	Medium-Enterprise
1	Manufacturing, Manufacturing-Related Services and Agro-based industries	Sales turnover of less than RM250,000 OR full time employees less than 5	Sales turnover between RM250,000 and less than RM10 million OR full time employees between 5 and 50	Sales turnover between RM10 million and RM25 million OR full time employees between 51 and 150
2	Services, Primary Agriculture and Information & Communication Technology (ICT)	Sales turnover of less than RM200,000 OR full time employees less than 5	Sales turnover between RM200,000 and less than RM1 million OR full time employees between 5 and 19	Sales turnover between RM1 million and RM5 million OR full time employees between 20 and 50

Table 1.3.1: SMI Definition (source: <http://www.smidec.gov.my>)

1.3.2 Primary Objectives of the Project

There are 3 primary objectives that have been set as guidance during the project development. There are:

1.3.2.1 Different Methodology for CMS Development

Most of the SMI people are not in technical category, thus it is not appropriate to provide them with any website jargon such as HTML tag. Therefore the system need to be not in technical way and can be used easily maybe works much like Microsoft Word.

The developer will place themselves as non-technical users during development in order to get the views and perception on how to make the CMS suitable with them. It is very essential and important to have this objective stamp in developer mind, thus guided the work of the developer towards providing good interaction and interface design for the end-users (SMI users). The method during development will be discussed in depth in Methodology section.

1.3.2.2 Consistent Design from Web Designer

In web designing, font plays a main role to attract the attention of the users and fonts design can be set through various fonts that available on the Internet. Although, there are various fonts available on the Internet, only few of them can be viewed on the Internet browser such as Tahoma, Times New Roman, and Arial, where this fonts becoming a standard that can be viewed successfully on the browsers nowadays. It is a headache to the web designers' especially in designing template for CMS. There is only one way to solve this problem by changing the text in design into an image, otherwise the designers need to use the standard font.

Fortunately, it is infiniteRobo Administration objective to solve this problem by providing one function that is called Dynamic-Text Replacement (DTR). DTR provides dynamic conversion from text to image where DTR will retrieve any set of text that have special tag append to it, and change that text into image according to the font that being used by the web designers. Besides, the users have the capability to change that set of text according to their preferences.

1.3.2.3 Provide Enough Features

In order for the infiniteRobo to have low learning curve, the features in the system should be enough to accommodate the need of the users. Besides of having enough features, it is also required to not confusing the users, on what that features do. For example, how should the users know that a feature is for content editing? The developer may put a simple and precise name to it for example, "Content Setup". Result and Discussion section will discuss in depth on infiniteRobo Administration function and capabilities.

1.4. SCHEDULING CONSIDERATIONS

The project development started at 19th September 2005 which focusing more in interface design before jumping into coding implementation. Testing is being done in each phase whether in interface design or coding development. After each of the phases successfully free from bug and have user-friendly interface, another testing is being done for the integration by these two phases.

The project can be broken down into three phases.

First Phase (Deadline: 3rd December 2005). The current CMS development is more focusing towards interface design for each features and functionality for each of the function that available in the system. Other pages also being developed but will not be incorporated with any code until the entire interface looking more smooth and friendly with non-technical users.

Second Phase (Deadline: 17th March 2006). The CMS will be integrating with all major functions between interface design and coding. Besides that, the database design also will come along to make it run more smoothly.

Third Phase (Deadline: 31st March 2006). Testing phase will be done in this period where the purpose of this test is to know the opinion from the targeting user (SMI business people or non-technical user). Two categories will be set which are the experience user with CMS and non-experience user with CMS. Besides that, this phase also will show if there is any bug occurred during the testing process.

The CMS project is coming along well, despite the loss of several months of activity. The design is sound and there is realistic timeline in place. There are no foreseeable major problems that will prevent timely implementation of this project. However, due to taking other courses and need to do other project also, it may compete with this project development, thus resulting in delay of this project. This project has the full support and commitment from my colleagues and person in industrial field especially from my industrial internship programme.

1.4.1 Pre-EDX Round 1

On 4th April 2006, pre-EDX round 1 evaluation has been setup. The purpose of this evaluation is to see the progress of the project that being proposed by the student, and if it has a commercial value or it is useful to be used, the project may go to the next level which is pre-EDX round 2. During evaluation period, the CMS project has got good reputation among the evaluators. Most of them satisfied with the progress and functionality of the system and it has good commercial value in it. There are also other critics such as the successfulness of implementation the good interface design and interaction where the evaluators want to know the users reaction when using the CMS.

1.4.2 Pre-EDX Round 2

The CMS project has successfully go to the next level of EDX which is pre-EDX round 2 evaluations on 20th April 2006. This round is much tougher where there are 4 evaluators evaluating the product. The main point that can be taken out from evaluators is that the price needs to be set worth with the features being provided in the system.

1.4.3 Engineering Design Exhibition (EDX) Final Round

At the end on 27th – 28th April 2006, the CMS product manages to go through the final round of EDX. From observation, the visitors during EDX exhibition

really impress with the system and most of them would like to use the system to manage their website.

CHAPTER 2

LITERATURE REVIEW

2.1 ANATOMY OF CMS

According to James Robertson (23rd January 2002), Content Management System can be broken down into several main categories, which are:

1. Content creation.
2. Content management.
3. Publishing.
4. Presentation.

(http://www.steptwo.com.au/papers/kmc_evaluate/index.html)

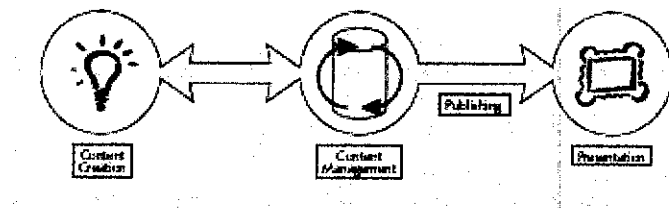


Figure 2.1: Anatomy of CMS

2.1.1 Content Creation

At the front of a Content Management System is an easy-to-use authoring environment, designed to work like Word. This provides a non-technical way of creating new pages or updating content, without having to know any HTML.

(James Robertson, 2002)

In infiniteRobo system, the user is provided with Rich Text Environment (RTE) where it is made of JavaScript coding. RTE gives the user an ability to manage their content the same as they work in Microsoft Word environment. Therefore, theoretically the user will not have to spend too much time on learning the functionality that has been set in infiniteRobo system.

2.1.2 Content Management

Once a page has been created, it is saved into a central repository in the CMS. This stores all the content of the site, along with the other supporting details. This central repository allows a range of useful features to be provided by the CMS such as, keeping track of all the versions of a page. (James Robertson, 2002)

infiniteRobo system saves all of the information in the database ranging from system setting until to the content of the website. This central database ensures the operation of the system run smoothly.

2.1.3 Publishing

Content Management Systems boast powerful publishing engines which allow the appearance and page layout of the site to be applied automatically during publishing. It may also allow the same content to be published to multiple sites. Of course, every site looks different, so the CMS lets the graphic designers and web developers specify the appearance that is applied by the system. (James Robertson, 2002)

Publishing in infiniteRobo system have two ways, which are private content and public content. Private content will need to have login authentication while public content can be seen by anybody. Besides that, infiniteRobo systems allow

the appearance of the website to be change according to the Super Administrator or Administrator preferences. There is a function called “Template Selection” that allowed the users to change to any template that they want to.

2.1.4 Presentation

The content management system can also provide a number of features to enhance the quality and effectiveness of the site itself. As an example, the CMS will build the site navigation for you, by reading the structure straight out of the content repository. (James Robertson, 2002)

infiniteRobo detecting the navigation through users input via “Menu Configuration” function. Any menu that being set in the function will be stored in database and will be use as navigation, and as users creating new menu, the system will make pages for content input automatically through “Content Setup”.

The core of Content Management System (CMS) is to help the users to manage their own website regards to the content. From James Robertson (17th March 2003), the key part of a content management system is the content. The CMS is just a “means to an end” to ensure the content can be effectively and easily created, stored, and published. The role of content brings into play a range of disciplines and methodologies, including usability, information architecture, interface design, technical writing, indexing, information management, and knowledge management. All of these areas must be addressed in a CMS project, to ensure that real business benefits are delivered. (http://www.steptwo.com.au/papers/cmb_unique/index.html)

Another feature that needs to have in CMS is the ability to introduce the user’s website to the public usually through search engine. This is the purpose or function of metadata.

Metadata is “information about information” used to describe, categorise, and manage the content in a CMS.

James Robertson (15th January 2003) says metadata is the most valuable information stored within the CMS, and it offers many benefits. Metadata usually used to:

1. Display in search results, to provide a more accurate summary than the automatically generated abstract.
2. Include in page metadata, assisting internet search engines.
3. Display in automatically generated site navigation.

(http://www.steptwo.com.au/papers/cmb_metadata/index.html)

In infiniteRobo system, there is feature that provides the users to enter their own description about their website where the system will use it as metadata to help publicize the website over the Internet. The depth on all the functions in the system will be discussed in Result and Discussion section.

Besides of having benefits to manage easily the content of the website, a good website will make a good Return on Investment (ROI).

According to Troy Janisch (30th August, 2005)

ROI objectives can represent tangible things such as cost savings and intangible things such as the projected impact your Web site will have on customer perception and behaviour. They identify how you plan to use the Internet recover your financial investment and to achieve some specific communication goals and marketing efforts.

(<http://evolt.org/roi-how-hard-is-your-web-site-working>)

Computer Management System (CMS) seeks to provide both efficiency and predictability to web publishing, while putting powerful tools in the hand of largely non-technical users how can organizations or companies know confidently that CMS provide a real return on investment? It is a challenging task to put a price tag on the look-and-feel of the website, however if the company do rapidly make web content up-to-date and being able to publish multilingual content, all of these intangible things do contribute to return on investment.

If the usage of website is successfully give a good impact to the company sales, the need of managing own website to be more informative and valuable will be there. That is where CMS will come to solve this problem. Besides of do not have to learn a very technical aspects in website development, they also can reduce the cost in business due to no budget being spend for course learning or hiring another worker or employee to maintain and manage the website. All of the information can be updated on a several click.

2.2 A MATH IN ROI

From Jin Howard, CEO of CrownPeak Technology,

Return on Investment (ROI) = (cost saved from system use) - (cost of installing a system + cost of maintaining a system)

Divide by time, to get the time to ROI.

For example,

If an organization can save \$10,000/month from using the system, and the system costs \$42,000 to install and train staff, and \$4,000 a month to manage and support, a one-year calculation looks like below:

$$(10,000 \times 12) - (42,000 + (4,000 \times 12)) = 32,000$$

\$32,000 returned from investment in one year.

To calculate speed of return or how long does it takes this system to pay for itself will be like below:

$$10,000 \times 12 = \$120,000 \quad , \quad 42,000 + (4,000 \times 12) = \$88,000$$

Therefore,

$$(88,000 / 120,000) \times 12 \text{ months} = 8.8 \text{ months, until the system paid for itself.}$$

CHAPTER 3
METHODOLOGY

3.1 OVERVIEW

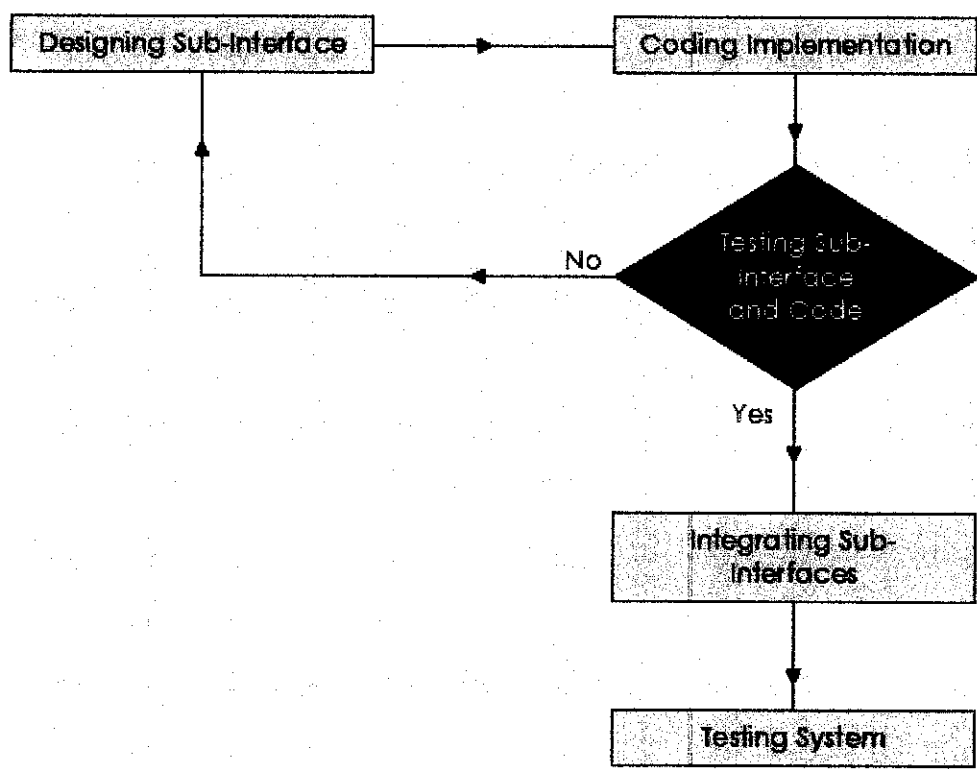


Figure 3.1: Overview of the Methodology

This methodology has been developed to meet the project development deadline, where the development is focusing more towards friendly user interface and smooth navigation between the users with the system.

3.1.1 Designing Sub-Interface

At this phase, the developer is focusing more to develop a good interaction with the users, which may consist of design and how system responds. This phase is very crucial in order to meet the objectives of product development which are reducing the learning curve as low as possible and provide enough and suitable features for SMI users especially.

3.1.2 Coding Implementation

After satisfied with the design, coding implementation will be done. This is where all of the function code come into place and make the sub-interface works. The task for the developer is now becoming easy because the developer know what is the code that suitable with the design.

3.1.3 Testing Sub-Interface and Code

Before proceed to the next level in product development, the sub-interface need to be test first to see the interface and code works perfectly. This is where try-and-error method being done. If the sub-interface works perfectly, it will be on-hold and put into the system at the end of the product development. If not, the developer will go back to the design phase, to see any mislead design and change it if necessary. The code also will need to be change if there is any change to the design if necessary. Try-and-error method is the core in this testing phase.

3.1.4 Integrating Sub-Interfaces

This is where all of the passed sub-interfaces being integrated under one roof. Each interface layout and arrangement is based on the design being made earlier. Therefore there is no need to allocate so much time in this phase.

3.1.5 Testing System

The development of the product come into end when the system is already established after sub-interfaces integration had been done. The purpose of the testing is to get in depth about how user feels when using the system and at the same time get to know the bug if any.

3.2 ARCHITECTURE OF THE SYSTEM

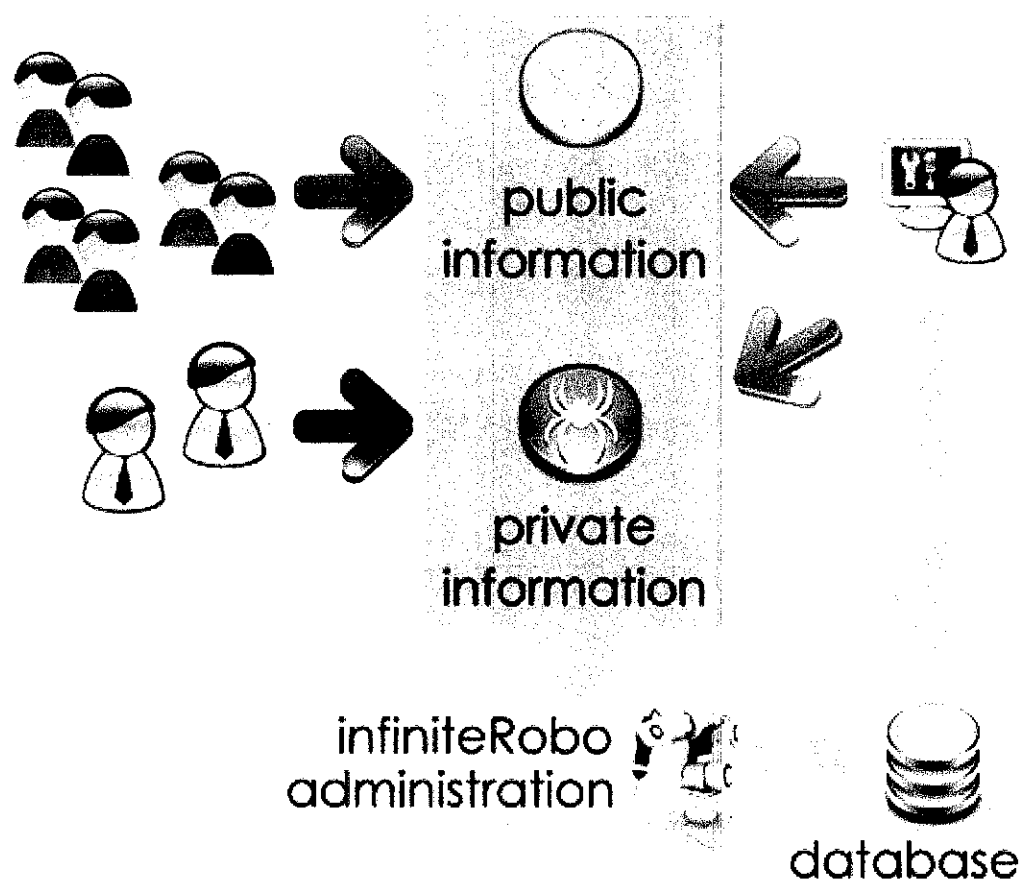


Figure 3.2: Architecture of the System

The above figure showed how the systems interact with the users. As a summary, there are two groups of users that may access to the website which are the authorized person and unauthorized person. The system will be managed by one or more administrators. infiniteRobo administration is our CMS that manage everything about the website where the CMS will get the information from database.








Icon	Title	Description
	Usual User Or Unauthorized User	If there is any information in the website that do not required any login authentication, this user will see that intended content. This group may consist of users outside from the company or the employee itself.
	Authorized User	Authorized user will have their own username and password that being set by the super administrator in CMS. If there is any information that being set as private, the user will need to have both username and password to access it. The purpose for the system to have this capability is because if the administrator of the website just want to publish that information to the employee only for example.
	Administrator Or Super Administrator	The man behind the website management is belonging to this group of people. There are 3 levels that can be setup in the system which are Super Administrator, Administrator, and Authorized User. Authorized User cannot access the system but can access the private content that being set by the Super Administrator or Administrator.
	Database	This is where all of the information in the system being stored. The information range from the setting of the system until the content of the website. Database plays a main role in the system to ensure the availability and integrity of the information.
	Private Information	The icon represents the identity or status of the content in the website. Any private content will be secured with the login authentication provided with md5 technology.
	Public Information	The icon represents the identity or status of the content in the website. Any public content can be seen by any users without having any authentication.
	infiniteRobo Administration	This icon represents the identity of the system. infiniteRobo is the name of our CMS product. It will manage everything that being set by the Super Administrator or Administrator. Any information in the database will be used by the system as a guideline to operate or manage the website.

Table 3.2: Legend of Architecture

3.3 TOOLS IN DEVELOPING THE PRODUCT

The tool that is used in design phase is Adobe Photoshop CS. The purpose of using Adobe Photoshop is because of the features specially design for web designing. The developer work becoming easier through the usage of slicing functionality in Adobe Photoshop.

As for the core of the system, the developer has use PHP: Hypertext Preprocessor to develop the system. The reason to the usage of PHP is because of the usage or learning is very easy and well implemented for dynamic interactivity between the users and the system. As PHP's capabilities have grown, so too has its popularity. According to NetCraft (www.netcraft.com), PHP was running on more than 1 million hosts in November 1999. As of September 2001, that figure had already risen to over 6 millions host and by October 2003 PHP was reportedly installed on almost 14 million hosts.

Therefore it is a good start to develop the system by using PHP not just because of its popularity, but also PHP is a free programming language and can run on Linux platform which means the cost to setup website in the hosting is low as compared to Windows platform. This will encourage the SMI people to invest just a small amount of money to have their own website.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 OFF-THE-SHELF CONTENT MANAGEMENT SYSTEM COMPARISON

Scope of this report is narrowed down as below:

1. Strength and weaknesses
2. What technology is using
3. What other website is using it
4. How much need to pay for the system

The next page is the summarization for 4 Content Management System that available in the Internet. It consists of Squarespace, WordPress, b2evolution, and Textpattern. Each of them has their own strength and weaknesses.

Features	Squarespace	WordPress
Strength	<ol style="list-style-type: none"> 1. WYSIWYG system. 2. A lot of choices for layout 3. Variety of editor 4. Completely manageable 	<ol style="list-style-type: none"> 1. Completely free for downloading and editing purposes 2. High chances of finalizing the webpage because edited in own computers
Weaknesses	<ol style="list-style-type: none"> 1. A high price to pay for the service 2. Probability of losing connections when editing webpage 	<ol style="list-style-type: none"> 1. Not supported hosting and domain 2. Lack of theme and management of the sites. 3. Need to configure and editing the layout on our own.
Technology	PHP and MySQL	PHP and MySQL
Examples	http://www.alongthejourney.com http://www.fva.com http://coffeegirl13.squarespace.com http://casadom.squarespace.com	Not available
Price	According to month and category	Free
Screen	Appendix 2	Appendix 3

Table 4.1a: Squarespace and WordPress Summary

Features	b2evolution	Textpattern
Strength	<ol style="list-style-type: none"> 1. Easy to use. 2. Clean interface of control panel to manage the website. 3. Several templates to change the view and layout of the websites. 4. Web browsers can change the styles of the website that suitable with them. 5. Automatic archiving for older version of topics in website. 	<ol style="list-style-type: none"> 1. Control panel is very nice looking and can navigate easily. 2. Every section that is going to create in the website can be edited and manage easily on a fly.
Weaknesses	Not available	4. Lack of styles for the website that being published.
Technology	PHP and MySQL	PHP and MySQL
Examples	http://www.singlebrides.com/ http://jamrecording.com/ http://www.peruse.me.uk/TWIST/	Not available
Price	Free	Free
Screen	Appendix 4	Appendix 5

Table 4.1b: b2evolution and Textpattern Summary

4.1.1 Squarespace

4.1.1.1 Strength

Squarespace is a publishing system that provides plenty of advantages in designing and publishing webpage. Squarespace provide 4 types of editor to edit the content and also the layout of the pages. There are:

i. WYSIWYG Editing

What You See Is What You Get. This system will present you with a graphical editor which will allow you to visually edit rendered HTML directly within the editor.

ii. RAW HTML Editing

It is a plain text field which will allow you to enter HTML code directly. This code will not be changed in any way by Squarespace.

iii. Textile Editing

Textile is an editing system that will allow you to enter pseudo-plain text elements that will be translated to XHTML by the mark-up system. Further details are available within the editor. Even more details are available from the author's website.

iv. Markdown Editing

Markdown is an editing system that will allow you to enter pseudo-plain text elements that will be translated to XHTML by the mark-up system. The editor purposes are the same as textile editing purposes.

There are also a lot of templates that can be choosing from the Squarespace templates which is very outstanding and can be manage easily. Besides that, Squarespace also provided a theme colour for every

template that being chosen. The publishing system also gives a full command and editing purposes at the hand of the user where all of the design and layout can be easily rearranged and also import another layout that is on our own design.

The interface also very convenient and user-friendly where with just only one single click, the changes applied immediately. Provide log and stats for the webpage. Squarespace publishing system is not just Blog website, but more than that, which cover everything about website from just for personnel page to e-commerce website.

4.1.1.2 Weaknesses

Two major weaknesses in the publishing system have been encounter which may lead to the rejection of the system.

- i. A high price needs to pay for the system and the price will be paid according to the plan that being choose. Please look at the Appendix 1 for the price list.
- ii. A high probability of losing connection may occur when editing webpage. This is because, the editing mode is done in online mode and no downloading is available for editing purposes. Therefore, when there is a connection problem, there will be difficulty in updating and editing the webpage. However, this weakness is not a major concern because of the enhancement in connection technology which can solve a connection problem, if there is.

4.1.2 WordPress

4.1.2.1 Strength

A major feature in the WordPress advantages is the open source development and the cost of it is free of charge. The installation is very easy where the users just have to download the file from WordPress official website and extract it into the users own server if they have the server or extracting the file into any web hosting server for editing and installing purposes.

The code is quite organize for editing but need to go through all of the code functions before proceed to editing mode because every code in the system are related to each other and need to be customize carefully. The cost or price of the system is also free of charge.

4.1.2.2 Weaknesses

WordPress did not include their own hosting and domain name for their publishing system. The users need to find on their own hosting because the purpose of WordPress is just to provide a code or function for Blog website. Besides, WordPress just provide for Blog functionality only if compared to Squarespace that provide everything to make webpage.

WordPress also did not include readily-template where the users can change the layout of their website automatically and therefore the users need to change the layout on their own. Besides that, the management system also is not very good in usability and not very user-friendly. The users need to go through all of the system before they can edit the webpage.

4.1.3 b2evolution

4.1.3.1 Strength

This web log publishing system is similar to WordPress publishing system that being reviewed before this where the interface and system installation is exactly the same, but b2evolution can be say as the evolve of WordPress. b2evolution is much easier to use and have a very good interface to manage the content of the website. The layout of the website that being generated by b2evolution is also very nice and pleasant to look. Below is the list of few enhancements for the b2evolution system.

- i. Every news that being posted can be set whether the user can comment or not and if no comment are allowed, the comments link will be hide and the user will see it as a content of a website rather than a topic that can be commented.
- ii. Easily changes of layout for the website and also at the control panel.
- iii. The user also can change styles of the websites which are suitable with them (style-switching).
- iv. Blocked or banned domain blacklist function available for every posting or comments.
- v. Automatic archiving for older version of topics in website.

4.1.3.2 Weaknesses

During the research being made, b2evolution has shown an impressive functionality with a great style especially for corporate style. Therefore, certain weaknesses are just a minor and not so serious like Textpattern problem. One weakness that was encounter is, it has too much functionality that most of the users did not use it at all and it takes time to go through all of the functions in the control panel. Sometimes it is

hard to encounter that there is a properties of configuration in certain pages, for example, to change user properties.

4.1.4 Textpattern

4.1.4.1 Strength

The interface of control panel is very nice looking and can navigate easily. The main advantages of this system is the functionality of the control panel where it is very impressive and the administrator can create categories on the fly for every section such as articles, links, and images according to their favourite. Every section will have their own configuration and what the administrator need to do is to ensure the categories that have been created is very useful and can manage easily.

4.1.4.2 Weaknesses

However there is a disadvantage of using this publishing system that related to a style of the website. The system will not create an interface for us which can be used for website layout, where the users need to develop the interface on their own.

4.2 INFINITEROBO FEATURES AND FINDINGS

This section will discussing the functionality and features that available in the system. At a first glance, the system will have 5 major features which are:

1. Home
2. Site
3. Manager
4. Modules
5. Inbox

4.2.1 Home

This feature is the first page that the Super Administrator and Administrator will see after successful login authentication. This page will summarize all of the information and settings that has been set in the system by the user itself. The summarization ranging from:

1. Statistics

The users may see number of visitors that have viewed or opened the website and get to know the 3 popular pages that always being viewed by the surfer.

2. Poll

This panel showed to the users, the status of the poll in the website, latest title and votes. The options for the vote also will be shown synchronize with the total hits.

3. User Account

Any new account creation will be displayed at this panel up to 6 users.

4. Site Latest Configuration

Status of the website, metadata, error message, offline message, and website requirements will be displayed.

5. Latest Inbox

2 latest messages from other user will be put in this panel to alert the user there are messages already sent to them.

6. Log Information

The system will record the login of the system based on who is login, at what time and at what date.

7. Server

Due to the system being made of from PHP, the hosting also needs to have PHP engine capability. This panel will show to the user, the latest version of PHP and MySQL that being installed in the server. Besides that, the space that being allocated for storing files also being displayed included with the space that has been used and how much space is free.

Please look at the Appendix 6 for the screen capture of the system.

4.2.2 Site

Site is a page for global configuration. Any website requirements such as title, logo, and metadata will be editing in this page. If the users want to shut down the website for maintenance purposes, they may set it from this page to shut down the website. Instead of good looking website, the offline message will appear where the message can be edited according to the users' preferences. Please look at the Appendix 7 for the screen capture of the system.

4.2.3 Manager

This section is the core to the success of system operation. It consists of 4 main features which are User Account, Menu Configuration, Content Setup, and Template Selection. User Account functionality is a special case in managing the system. User Account will just only appear in the system if the access of the users is at Super Administrator level while the Administrator level cannot get through the User Account functionality. The purpose of this differentiation is to make the system more secure and more organize where the person who installing the system will get the privilege to be Super Administrator and will give an access to the users that he or she want to. By using this way, the Super Administrator may monitor the administrator more efficiently.

1. User Account

The name already tells the user the functionality of that function. The users can add new account, edit and delete current account. Few information's need to be input by the Super Administrator when creating a new account, and there is one information that need to be entered carefully which is the user level. The user level ranging from Super Administrator, Administrator, and Authorized User, and each level have its own specialty. Super Administrator can go into the system and use every function that available in the system, including private information in the website. As for the Administrator, he or she cannot get through the User Account only while the other functions is available for them, including private information in the website. Lastly, the Authorized User is a level where the system will denied their access but they can access to the private information in the website. Please look at the Appendix 8 for the screen capture of the system.

2. Menu Configuration

The navigation in the website is being done by the user itself. They may edit the name of the menu, publishing the menu, and also set the privacy options for the menu. Every new menu that being created will be set as a page for content input that will be done in Content Setup. If the users want to delete the menu, the content for that menu will not be deleted. It will be archived by the system in the database. Please look at the Appendix 9 for the screen capture of the system.

3. Content Setup

This is where every content input will be set including the content styles or format. The users will be provided with Rich Text Environment (RTE) so that they may enrich their content easily, for example, bolding one of the words in the paragraph. RTE is being used to enrich and enhance the styles of the content. It is much more the same as Microsoft Word capabilities which have bolding, italic, underline, alignment, spacing, table and many more functionality that being provided in RTE. The main purpose of RTE is to make the users feel more

comfortable when editing their content just-at-a-click without the need to memorize HTML tag to stylize their content and due to it have same capabilities as Microsoft Word and most of SMI persons use this product, it such a good features for them because they do not need to learn instead just use what they use to in Microsoft Word. This will make the learning curve lower and not so much time to be spent for learning on new features.

This section also provides a place for the users to upload their images, where the system will detect the size, type, and dimension of the images to inform to the users the probability of downloading time and consequences that may occur if they upload images into the server.

The interesting part in Content Setup functionality is Dynamic-Text Replacement (DTR). DTR has been introduced early 1993 to help the web designers converting a text into an image. The purpose of DTR is to change any text into image with font that has been set.

Standardization issues come into place when developing a website especially in font selection. For current browsers nowadays such as Internet Explorer and Mozilla Firefox (just naming a few), just supporting standard font which are, serif, sans-serif, Arial, Tahoma, Verdana, Times New Roman, and MS Trebuchet. If the web designers want to use another font in the website to make the design looks more interesting, they need to use an image as a replacement to usual text. If not, the browsers will look for alternative font if the font in the website is not installed in the visitors' computer. This will make the design of the website looks different than the original creation.

In order to make the CMS more dynamic, DTR has been introduced where it will help the users to key in any text that they want in the content, and with special format, the system will detect that format and change it into an image according to the font that has been set. Therefore, the template from CMS will be more consistent and meet with the design. Please look at the Appendix 10 for the screen capture of the system.

4. Template Selection

Template Selection gives the users an ability to change the appearance of their website. For the first installation, the users will be provided with 2 default templates that they may choose. If the users want to add more templates, they may download it from the developer website, and put it into the template folder in the system. Automatically the system will detect the new template complete with the name of the template and the preview of the template in terms of thumbnail. Please look at the Appendix 11 for the screen capture of the system.

4.2.4 Modules

Modules provide a function to add more dynamic and interesting panels in the website. The modules can be turn off or on depends on the user favour. Therefore it can be called as a plug-in to the website. Please look at the Appendix 12 for the screen capture of the system. For current development, there are only 2 modules being produces which are:

1. Shout Box

A Shout Box is a chat-like feature of some websites that allow people to quickly leave messages on the website, generally without any form of user registration. In their simplest form, Shout Box simply lists of short messages, possibly with information about their authors. The page may be automatically refreshed after a certain interval, or polled dynamically in order to keep new messages visible.

Older posts are often deleted after a certain number of messages have been written in order to preserve space on the server.

Shout Box usually maintained in a manner similar to that of more complex boards, with administrators that can delete posts and ban usernames or IP addresses. Occasionally, features such as impostor identification, flood control, and profanity filters may be included.

For the most part, Shout Box embedded into a page with inline frames or JavaScript. Many Internet forum and weblog software packages can be modified to add Shout Box in sidebars on site pages.

2. Poll

Polls are surveys of opinion using sampling. They are usually designed to represent the opinions of a population by asking a small number of people a series of questions and then extrapolating the answers to the larger group.

The administrators can add new polls with title and options available up to 5 options and they can delete it if they want to.

4.2.5 Inbox

Due to the system is developed for SMI people, it is appropriate to provide a functionality of communication that is more formal. Inbox is different from Shout Box where the visitors may post any queries regards to the company product, information or anything but in formal ways. The form is complete with the field consists of the name of the sender, email address, date, subject and lastly the content. The queries that have being posted will be saved in the database for later viewing by the administrators. With the implementation of Hotmail interface, the learning of Inbox usage can be lowered down as possible.

Please look at the Appendix 13 for the screen capture of the system.

Hotmail is a free webmail e-mail service, which is accessible via a web browser. Its competitors include AIM Mail, Gmail and Yahoo! Mail. Hotmail, founded by Jack Smith and Sabeer Bhatia in 1995, was commercially launched on July 4, 1996, Independence Day in the United States, symbolically representing freedom from ISPs. The reason to Hotmail interface implementations is because of the date it was launched. The table below showed the comparison between the popular webmail providers.

	Maintainer	First Public Released Date
Hotmail	Microsoft	4 th July 1996
Yahoo Mail	Yahoo!	8 th October 1997
Gmail	Google	1 st April 2004
AIM Mail	America Online	11 th May 2006

Table 4.2.5: Comparison of Webmail Providers

From the date, the first to be launched is Hotmail on 4th July 1996. Since then the e-mail usage has booming where by February 1999, Hotmail reported more than 30 million active members. Hotmail serves e-mail accounts in many countries, supporting 17 languages, and is still one of the largest webmail providers as of July 2005, with 35.5% world market share according to comScore Media Metrix data. Therefore as conclusion, the user will need a little time to learn on Inbox functionality due to the interface and the interactions is the same as Hotmail interface.

Besides that, the other reason to the usage of Inbox is to avoid spamming activities. Spammers obtain e-mail addresses by a number of means: harvesting addresses from Usenet postings, DNS listings, or Web pages; guessing common names at known domains (known as a dictionary attack); and "e-pending" or searching for e-mail addresses corresponding to specific persons, such as residents in an area. Many

spammers utilize programs called web spiders to find e-mail addresses on web pages, although it is possible to fool the web spider by substituting the "@" symbol with another symbol, for example "#", while posting an e-mail address or replace the e-mail address text into image.

4.3 EXCEL-HTML CONVERSION

Excel-HTML Converter is one of the functions in Modules. Most of the information, usually figures and project lists in tabular format are usually being saved as spreadsheet format and the most popular spreadsheet format is the Excel format from Microsoft. Among SMI person, the usage of Excel spreadsheet is very common and it will be a good advantage to the CMS to be used because current CMS off-the-shelf do not have this functionality and usually the functionality of Excel conversion is excluded as standalone software which just convert the Excel format into HTML only.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

All of the discussions and findings as described above give a big impact to persuade the SMI business person to use and take advantage of the Internet capabilities, especially in website start-up. By using a great help from CMS tool to manage the content of their website which have features that fit with them, it is a good start for them to have their own website without having to hire anymore website developer or IT technical expertise, thus cutting cost or budget for them. Besides that, the appropriate people which very familiar with those information that being put in the website can manage it easily.

infiniteRobo Administration is develop to have low learning curve and suitable features for SMI people, where it helps the non-technical users to learn the system in a short amount of time. From entrepreneur definition above, we can find four major points, which are:

1. Entrepreneur is one who creates a new business in the face of risk.
2. For the purpose of achieving profit.
3. Identifying opportunities.
4. Assembling the necessary resources.

Most of their times and resources need to be allocated for the success of the business. Website creation can be as one of their major parts which maybe in terms of advertising or as communication channels, and it is still play as a main role but not very important

as the above. Therefore the system should be learning in a short time maybe in half or one hours for learning and training session.

However, although CMS give great benefits as being discussed before this, it is still have drawbacks.

According to Martin Burns (2nd February, 2001)

You don't need a CMS (yet) if...

At least 4 of the following are true:

1. You have a small organisation where web publishing is in-house, and can communicate exceptionally well with content creation
2. Your site is small and doesn't update frequently in content or structure
3. Your online operation doesn't perform any personalisation
4. You don't integrate content between the web site and retail outlets, call centres, email newsletters or other channels
5. You don't need to manage specifications from R&D to customer support
6. You are not offering customers a community where they can contribute to a site
7. One individual has intimate knowledge of the entire site (and others have intimate knowledge over their own sections)

(<http://evolt.org/node/5127>)

That is what makes CMS useless to the SMI business. However with the blooming of Internet and more users are surfing, making online transaction, making a research on various product, and many more that can be done with Internet, the usage and importance of website cannot be denied. The CMS that come with full features that support non-technical users to manage their own website come in handy for them.

5.1 LIMITATIONS

Few limitations from the system have been encounter and listed as below:

5.1.1 Browser Compatibility

Mozilla Firefox, Internet Explorer, Safari, Opera, and many other browsers have different format and standard in viewing the website. Most of the website will look different in other browser. This has cause a real problem and headache to the developer to develop a website that can be previewed in each browser. To the date, there is a problem with the system especially RTE functionality where it will not be executed other than Mozilla Firefox and Internet Explorer. This is a limitation to the system because if the system wants to be widely used, it will need to be compatible with each browser that available.

5.1.2 Thumbnail Creation

The system has successfully implement image listing in the Content Setup where it will give the user the name of the images that available in the server. The advantage through this method is fast downloading of the content. However another problem occurred where the user cannot see the image first before put it inside the content. Therefore it is necessary for the system to show the thumbnail of the image, so that the user will know what that image is.

5.1.3 Automatic Modules Add-On

The system dynamic has been limited where the Modules functionality can only be hard-coded to make the operation run smoothly. If compared to the other CMS, infiniteRobo lost to this function, where other CMS has capability to add any module that the users want to.

5.1.4 Sub-Menu Creation

At this time, Menu Configuration can only set the main menu only. The sub-menu functionality cannot be created during development process due to a problem of differentiating that sub-menu belongs to what main menu.

5.2 RECOMMENDATIONS

It is recommended for the system to be compatible with every browser that available for the computing system. As for the next version of infiniteRobo, it is recommended for the system to have thumbnail viewer for each image available in the server. New modules should be automatically add-on to enrich the dynamic panels in the website, and last but not least, the sub-menu functionality, where the users can set sub-menu under main menu easily and manage to differentiate which is main menu and which is sub-menu it belongs to.

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APPENDICES

- Appendix 1a: Squarespace Personal Licensed Packages
- Appendix 1b: Squarespace Business Licensed Packages
- Appendix 2: Screen Capture: Squarespace
- Appendix 3: Screen Capture: WordPress
- Appendix 4: Screen Capture: b2evolution
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- Appendix 7: infiniteRobo – Site Global Configuration
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- Appendix 11: infiniteRobo – Template Selection Manager
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- Appendix 13: infiniteRobo – Inbox

APPENDIX 1a: SQUARESPACE PERSONAL LICENSED PACKAGES

Squarespace Personal Licensed Packages			
	Basic	Pro	Advance
Rate	\$7/month	\$12/month	\$17/month
Storage	100 MB	200 MB	300 MB
Bandwidth	2.0 GB/month	3.0 GB/month	4.0 GB/month
Editors	1	1	5
Registered Members	None	25	50
Advertising	Optional	Optional	Optional
Access Log	•	•	•
Host Management	•	•	•
XML-RPC Pinging	•	•	•
XML-RPC Blogging	•	•	•
Spell Checking	•	•	•
Multiple Editing Systems	•	•	•
More Layout Options	•	•	•
Downloadable XML Backups	•	•	•
Domain Mapping		•	•
URL Mapping		•	•
Multiple Members		•	•
Multiple Editors			•
Member Subscriptions			•
One Step Publishing			•
Drop Box			•
Advance Template Editing			•
SSL Security			

APPENDIX 1b: SQUARESPACE BUSINESS LICENSED PACKAGES

Squarespace Business Licensed Packages			
	Tier 1	Tier 2	Tier 3
Rate	\$20/month	\$25/month	\$30/month
Storage	400 mb	500 mb	600 mb
Bandwidth	6.0 gb/month	8.0 gb/month	10.0 gb/month
Editors	5	10	15
Registered Members	50	75	100
Advertising	Optional	Optional	Optional
Access Log	•	•	•
Host Management	•	•	•
XML-RPC Pinging	•	•	•
XML-RPC Blogging	•	•	•
Spell Checking	•	•	•
Multiple Editing Systems	•	•	•
More Layout Options	•	•	•
Downloadable XML Backups	•	•	•
Domain Mapping	•	•	•
URL Mapping	•	•	•
Multiple Members	•	•	•
Multiple Editors	•	•	•
Member Subscriptions	•	•	•
One Step Publishing	•	•	•
Drop Box	•	•	•
Advance Template Editing	•	•	•
SSL Security	•	•	•

APPENDIX 2: SCREEN CAPTURE: SQUARESPACE



APPENDIX 3: SCREEN CAPTURE: WORDPRESS

<u>? Name</u>	<u>URI</u>	<u>Catego</u>
Alex Description:	<u>alexking.org</u>	Links
Dougal Description:	<u>dougal.gunters.org</u>	Links
Matt Description:	<u>photomatt.net</u>	Links
Mike Description:	<u>zed1.com/journalized</u>	Links
WordPress Description:	<u>wordpress.org</u>	Links

WordPress

Write Edit Categories Links Users Options Plugins

Title

Post

Quicktags:

str

em

link

b-quote

~~del~~

ins

img

ul

APPENDIX 4: SCREEN CAPTURE: B2EVOLUTION

Intecture Blog System

This is the long description for the blog named 'Blog A'.

- **Recently** (1 item)
- **Recently** (no items)

February 2005

1	2	3	4	5	6
7	8	9	10	11	12
13					

ews. Background

b2evolution

b2evolution 0.9.0.11 - Blog system (14/2007) - PHP 5.0+

Write Edit Categories Blogs Stats Antispam Templates Users

:: New post in blog: Blog All InBSystem

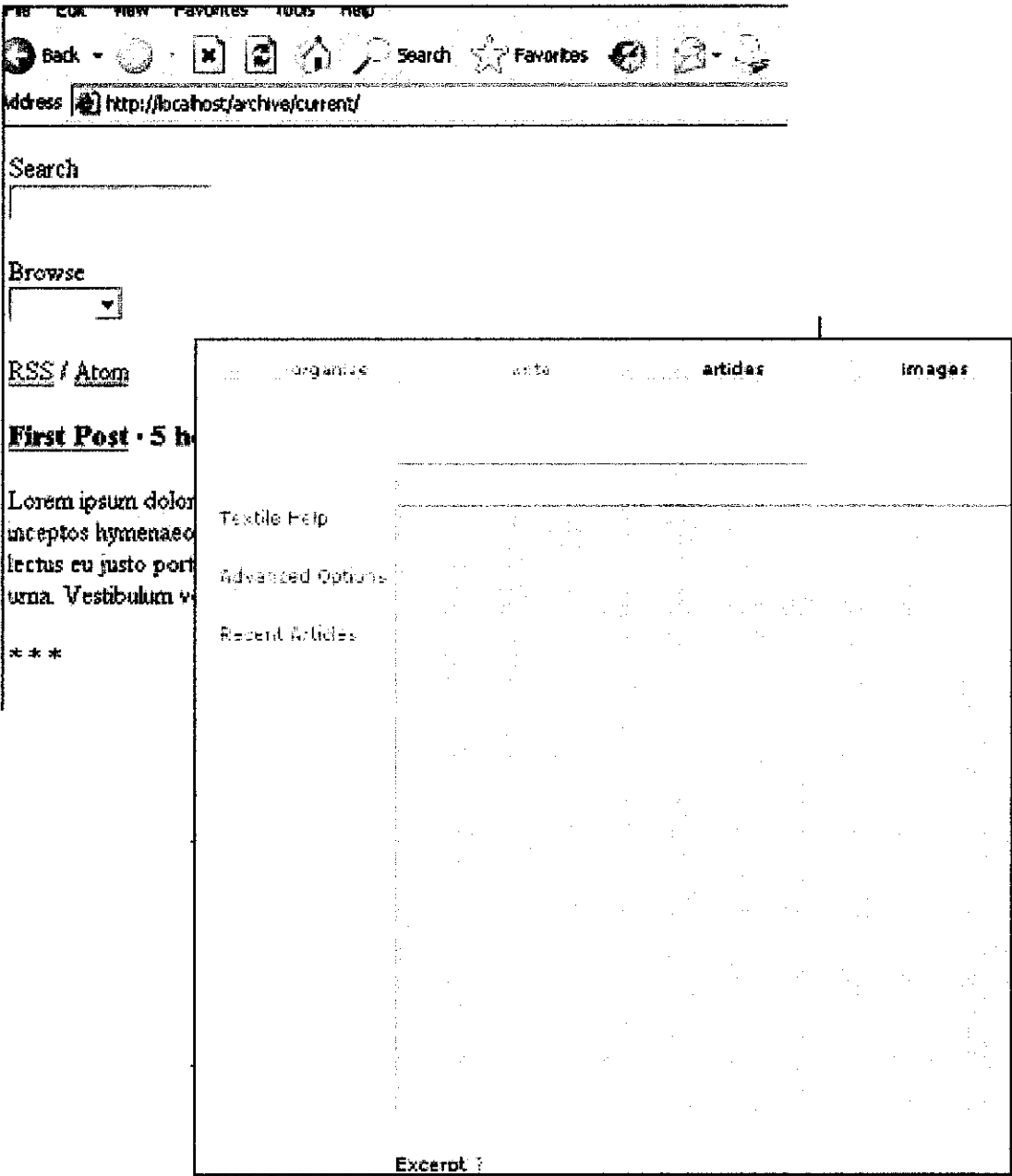
Post contents

Title: Language: English

Link to url:

ins del str em code p ul ol li block img lin

APPENDIX 5: SCREEN CAPTURE: TEXTPATTERN



APPENDIX 6: INFINITEROBO - HOME

[illegible]

APPENDIX 7: INFINITEROBO - SITE GLOBAL CONFIGURATION

infiniteRobo administration

Logout | Site Config | Manage Site | Home

Global Site Configuration

Website Status

What is your website status?

Online

Offline

By default, your website should be online. However if in case you want to shut down the website temporarily for website upgrading or maintenance, you may choose to off the website as the option above.

Admin Messages

Offline Message

This site is down for maintenance. Please check back again soon.

Error Message

This site is temporarily unavailable. Please notify the System Administrator.

In order to inform the surfers if the website is down or have any error, the message that being entered here will be used to inform them.

Meta Tags

Meta Description

UTP pioneers and delivers IT infrastructure systems to meet the visionary needs of Malaysian E-Government. These systems include hardware, software, training and af

Meta Keywords

e-Government, IT infrastructure, hardware, software and training.

Meta tag is very useful when the surfers searching for your website. The keywords that they searched search engine, such as Google, will be used to track your website.

Common Information

Company Logo

Browse

From your server configuration, the maximum size that being able to upload file is: 2M


Company Slogan / Motto

Insecure, e-Construction, Construction IT & e-Government

It is recommended if the dimensions of the company logo is between 300 pixel width x 100 pixel height or meet with the template design.

Width = 300 pixel

Height = 100 pixel



APPENDIX 8: INFINITEROBO - USER ACCOUNT MANAGER

infiniteRobo administration

Logout Admin (0) | Preview Site

Home

Site

Manager

Modules

Inbox

Tools To Manage Your Website

Tools To Manage Your Website

Find dates based on fields

• All Fields

• USER ACCOUNT

• User Accounts Listing

• Content Copy

• Manage Comments

• Comments

User Accounts Listing

NAVIGATION

Page 1 of 1 pages

Huzairah Dzulkifli	Edit Delete	Puan Syarifah Bahiyah Rahayu Syed Mansoor	Edit Delete
Hana* Abi Kader	Edit Delete	Noor Sami Hakim Teoh	Edit Delete
Azzah Saadu	Edit Delete	Mohd Hafiz Wan Omar	Edit Delete
Mohd Feroous Razali Tan	Edit Delete		

New Account Registration

Name*

Mr. / Mrs. / Ms. / Dr. / Other

Nick*

Mr. / Mrs. / Ms. / Dr. / Other

Password*

Minimum 6 characters, must contain at least one letter and one number

Designation*

Mr. / Mrs. / Ms. / Dr. / Other

Identification Card No.*

16 0000000-XX-00000

E-mail*

Example: name@domain.com

Phone No. (Mobile)

16 0000-0000000000

Phone No. (Home)

16 0000000000

State


16/01/2016

User Level*

User


User information will be stored in the database. Please ensure the proper level for the user that you registered.

APPENDIX 9: INFINITEROBO - MENU CONFIGURATION MANAGER




[Logout](#)
[Admin](#)
[Home](#)
[Site](#)
[Manager](#)
[Modules](#)
[Inbox](#)

Tools To Manage Your Website



Menu Configuration

- User Account
- Menu Configuration**
- Ordering
- Order Revision



Listing Menu

Menu Item	Configure	Order	Published	Access
About Us	Configure	0	Publish	Public
Vacancy	Configure	2	List Publish	Public
Project List	Configure	3	Publish	Private
News	Configure	4	Publish	Public

Menu Item	Configure	Order	Published	Access
Contact Us	Configure		Publish	

Contact Us is separated from the other menu, because Contact Us is specially design for this system.

You may change the name of the menu to meet your preferences. It is recommended that the menu is not more or less than 5 options selection to ensure proper operation of the system.

APPENDIX 10: INFINITEROBO - CONTENT SETUP MANAGER

infiniteRobo administration

Legend: Home / Site / Manager / Modules / Inbox

Tools To Manage Your Website

LOG MENU

• User Account

• Content Manager

• CONTENT SETUP

• Group

• Page type

• Page layout

• Page

• Page template

• Template & Editor

NOTE

The content that you setup is being recorded with the time and date as below.

Time : 5:49:27 A.M

Date : Fri, 26/5/2006

Editing Content

Currently you are editing About Us menu content. Click here to upload an image into your server

Title

Lorem Ipsum Dolor

Content

Lorem Ipsum Dolor

Intecture pioneers and delivers IT infrastructure systems to meet the visionary needs of Malaysian E-Government. These systems include hardware, software, training and all components required to meet the expectation of a discerning, responsible Government and the People it serves.

100% Malaysian-designed, Intecture capitalizes on Internet technology to deliver affordable, scalable and deployable solutions financed in a concession-based business model for the delivery of citizen-centric, urban management and development management to all Local Governments throughout Malaysia and abroad.

On the Malaysian front, Intecture's E-Government gateway, the protocol Urban Management System is deployed at the Petaling Jaya Municipal Council. And to ensure that Private Sectors are suitably equipped to plug-in to the efforts of the Local Government, Intecture developed propeX, a broadband application service.

Intecture's E-Readiness studies provide the platform for IT Audit and Needs Assessment to identify the stage of ICT readiness for E-Government initiatives. The outcome of these studies in the form of ICT Blueprints will serve as a roadmap for subsequent development planning and execution.

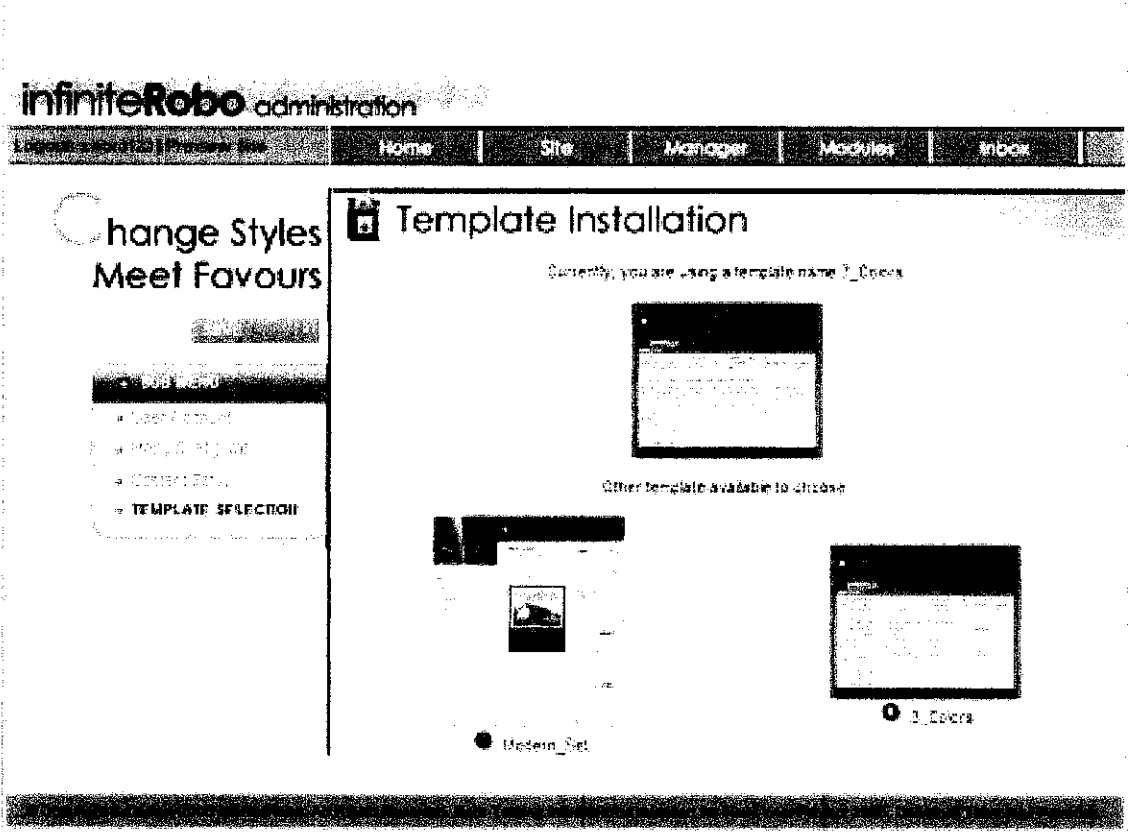
In the international arena, Intecture has proposed a 3-step programme of activity in downsizing the national system for Malaysia based on the Knowledge base

Style: - - - - -

Format: - - - - -

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

APPENDIX 11: INFINITEROBO - TEMPLATE SELECTION MANAGER



APPENDIX 12: INFINITEROBO - SHOUTBOX & EXCEL-HTML MODULES

infiniteRobo administration

Logout | Admin | 20 | Previous Site

Home | Site | Manager | Modules | Inbox

Extended Functionality

SHOUTBOX

Click the checkbox at the top of the shoutbox list if you want to select all of the shouts and delete it all once.

Shoutbox Panel

NAVIGATION Page 1 of 1 pages

You have a total of 7 shouts in shoutbox.

Form	Time	Date	Shout
<input checked="" type="checkbox"/>	2 26 36 P.M.	Thu 27/4/2006	asldkaskldasldasdasld
<input checked="" type="checkbox"/>	1 35 43 A.M.	Wed 26/4/2006	z
<input checked="" type="checkbox"/>	1 27 27 A.M.	Wed 26/4/2006	good luck
<input checked="" type="checkbox"/>	5 57 08 A.M.	Thu 23/4/2006	Præsent fermentum pelerosque dui
<input checked="" type="checkbox"/>	4 35 44 P.M.	Wed 19/4/2006	Mauna ut sapien nec auris hendrerit
<input checked="" type="checkbox"/>	7 08 09 P.M.	Fri 7/4/2006	Sed prebum prebum enim. Quisque quid a
<input checked="" type="checkbox"/>	3 37 42 P.M.	Thu 6/4/2006	Felching

infiniteRobo administration

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Extended Functionality

EXCEL CONVERSION

After successful upload the content in Excel file will be converted into HTML table. Just copy/paste the table into the page that you want to via Manager + Content Setup.

Excel-HTML Converter

61 Topics

Bill Remington - Tarikh Program

1	First - Person Role Player	
2	Silent Hill 2 - Director Cut	
3	Command & Conquer - Renegade	
4	Resident Evil 3 - Nemesis	
5	Oni Second Edition	
6	Metal Gear Solid 1 - Solid Snake	
7	Metal Gear Solid 2 - Substance	
8	Hitman 2	
9	Max Payne	
10	Revolution	
11	Global Operations	
12	Roboquest	
13	Quake 1	
14	Quake 2	
15	Ghost Recon	
16	Duke Nukem - Manhattan Project	
17	XIII - Your Number Is Up	
18	Deus Ex - Invisible War	
19	Terminator 3 - War of The Machines	
20	CSI - Dark Motives	
21	Fighting	
22	Psychic Force 2	
23	Strategy	

APPENDIX 13: INFINITEROBO - INBOX

infiniteRobo administration

Connect to server (2) | Personal Site

Home

Site

Manager

Modules

Inbox

Connecting With Others

NOTE

Click the checkbox at the top of the inbox list, if you want to select all of your message and delete it at once.

Inbox Listing

NAVIGATION

Page 1 of 1 pages

You have a total of 5 messages in your inbox. 3 new messages in your inbox.

Subject	From	Date
<input checked="" type="checkbox"/> Deleted Planet metus eu quis.	Hooy Sam Hakim Tech	Wed, 19/4/2006
<input checked="" type="checkbox"/> Praesent faucibus condidit id est. Vestibulum ultrices tempor ipsum. Phasellus ultricies Phasellus.	Mohd Hafiz Wan Omar	Wed, 19/4/2006
<input checked="" type="checkbox"/> Praesent faucibus condidit id est. Vestibulum ultrices tempor ipsum. Phasellus ultricies Phasellus.	Azraf Sastu	Wed, 19/4/2006
<input checked="" type="checkbox"/> Interim ipsum dicit ut amet. consectetur adipiscing elit. Phasellus vel molest.	Mohd Firdaus Fadzil Tan	Wed, 19/4/2006
<input checked="" type="checkbox"/> Maintenance Budget Expenses For Year 2007	Thomas	Sat, 8/4/2006