Hotels in Pocket (HiP)

by

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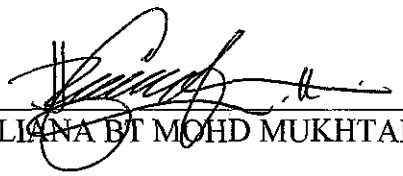
CERTIFICATION OF ORIGINALITY

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



(IDA SAZLIANA BT MOHD MUKHTAR)

ABSTRACT

This project is called Hotels in Pocket which is also called as HiP. The development of this pocket PC application is due to the needs on hotel website in mobile device by telecommuting staff in PETRONAS Gas Berhad (PGB) and after studying the advantages of the mobile device latest technologies. Currently, the telecommuting staff in PGB do not use mobile device to get the hotel's information. Upon this problem, the HiP will be an alternative tool to handle this problem. The objective of this project is to develop a hotel web site, for telecommuting staff in mobile device, Personal Digital Assistants (PDA) and to provide adequate and well arranged information, interface and design for easy and quick access. . It will help for easy and quick access with organized information, simple and easy navigation, and user friendly interface. At present, the telecommuting staff will get the hotel's information from various and numerous sources such as computers and via telephones. It does not offer mobile characteristics and sometimes, the information is inadequate or insignificant. The mobile characteristic here means the ease of use to get the information at anytime and anywhere. The scope of studies will include the website's interface for PDA analysis, design and development, and data gathering on the hotels involved. Besides, it will cover on information synchronization between the PDA and computers. The software that will be used is eMbedded Visual Basic. Meanwhile, PDA, and computer are the hardware for data display devices. Through the findings, the main aspect to the HiP is a system to display the hotel information according to telecommuting staff in PGB's choice.

ACKNOWLEDGEMENT

Though I would like to take credit for the concepts and ideas presented in this Hotels in Pocket (HiP) application, I am not alone. I would like to thank the countless number of people who have helped get this Final Year Project (FYP) into a complete task.

I am indebted to the IT department for their concerns and technical support on this HiP project, especially Mr Shuib b Basri as the FYP coordinator. Many thanks go to my supervisor Mr Faizal Ahmad Fadzil, who always been there when I need that advice and extra burst of energy to tackle yet another problem. He always help me with some guidance in few areas where my skills were deficient.

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All your help, support and guidance are highly appreciated

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ABBREVIATIONS AND NOMENCLATURES

1. HiP	-	Hotels in Pocket
2. PGB	-	PETRONAS Gas Berhad
3. PDA	-	Personal Digital Assistants

CHAPTER 1

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

Today, in high-technology demanding world, mobility becomes as an important characteristics to make us as effective as possible at doing our job. The importance of the mobile device is increasing, especially for the telecommuting staff in PETRONAS Gas Berhad (PGB), who always traveling around Malaysia. Several problems such as time consuming might be the most factor faced by the telecommuting staff in PGB.

Currently, before go travels, telecommuting staff in PGB will gather hotels information from various sources such as website, via telephone, or via friends' experience and information. The best hotel will be chosen after comparison is made and found the preferred hotel. Then, they will make the reservation hotel.

Following the needs on mobility in work life and after studying a lot of advantages on mobile devices, the author has stepped forward with a proposal to develop a website in Personal Digital Assistants (PDA) to meet this demand as called Hotels in Pocket (HiP). The following subject matters are to be covered throughout this project.

1.1.1 Basic guidelines to develop application Personal Digital Assistants (PDA)

The proper guidelines to design application Personal Digital Assistants (PDA) will be referred and followed. This is to ensure that the Hotels in Pocket (HiP) meet the PDA features as a mobility device.

1.1.2 Accuracy data collection for Personal Digital Assistants (PDA)

Hotels in Pocket (HiP) is expected to help user resolve time consuming problem. For this purpose, a study on the accuracy data, which is displaying information that always needed by the PGB user, to provide sufficient information is conducted.

1.1.3 Accessibility of the Hotels in Pocket (HiP)

This system is hoped to help the end user, who are telecommuting staff in PETRONAS Gas Berhad (PGB), for easy accessing the hotels information in the Personal Digital Assistants. In order to guarantee that the Hotels in Pocket (HiP) is accessible, a study concerning this issue is conducted an applied in the HiP.

For best performance, the HiP should consists of all the above three criteria. When all the criteria are successfully met, the HiP is said has completed the PDA features.

1.2 PROBLEM STATEMENT

1.2.1 Problem Identification

At present, the telecommuting staff in PETRONAS Gas Berhad (PGB) might not have enough time to find and get hotels' information which they desired from

existing sources. This is because they are busy with the routine works. Through questionnaire done, usually, the method they use are by surfing the websites one by one at a time, asking their friends who are familiar with the hotels, calling the hotel's receptionist, asking from finance department in PGB and asking the TELEKOM operators. Then, they will compare the information they gathered which is from various sources to choose the best hotel as desired. In addition, sometimes, the information they gathered are not up dated.

The scenario creates a few problems and issues. This method does not apply the mobile characteristics which lead for time consuming problem. The telecommuting staff in PGB can not work independently if the methods mentioned above are unavailable. Besides, they have to spend more times to find the required information from the various sources. Sometimes, the information given is inadequate and insignificant. Nevertheless, comparison on the information gathered from various sources will be done manually on himself or herself. Sometimes, the data and information is not up-dated.

1.2.2 Significance of the project

It is important to develop this application as called Hotels in Pocket (HiP). The need for a mobile device to make the telecommuting staff in PGB as effective as possible at doing their job is increasing and essential. It is difficult for telecommuting staff in PETRONAS Gas Berhad (PGB) to go for a few steps before they can gather the information on the hotel as desired. The implementation of this HiP will reduce such problems for them.

Today, technologies that implement mobile devices have growing positively in daily lives. There are various types of fields make use of the advantages provided in

mobile devices. The mobility features offered such as small, ease of use and portable utilizing the needs for telecommuting staff in PGB.

As the opportunity offered, HiP is an alternative complete solution that will effectively benefit the telecommuting staff in PGB. HiP will provide a hotel application that usually invited by telecommuting staff in PGB. The PDA application is designed in a mobile device, Personal Digital Assistants (PDA).

In the HiP, data will be displayed according to user's preferences. User can access the information quickly as data can be browsed according to its group. The hotels' information provided in the HiP will be well arranged and categorized. In terms of time consuming, user can eliminate too much time to find and gather hotels' information.

In addition, simple navigation with interactive interface and button will be provided to help user navigate easily and quickly. Data and pictures in the HiP are well arranged and displayed for easy data gathering.

Besides, continuity of the application is well designed. As for example, the navigation from a page to next page is designed so that user's expectation for his or her action is same as system produce. This is important so that the system is operated parallel with the user's expectation.

1.3 OBJECTIVES

The objectives of the project are as follows:

- To develop a hotel application that usually invited by telecommuting staff in PETRONAS Gas Berhad (PGB) for its staff in a Personal Digital Assistants (PDA).
- To provide adequate and well arranged information, interface and design for easy and quick access.

1.4 SCOPE OF STUDY

This system is to be developed within three or four month period of time. It will cover the Website's interface of Personal Digital Assistants (PDA) analysis, design and development. Second, it will cover data gathering on the hotels information according to hotel that usually invited by telecommuting staff in PETRONAS Gas Berhad (PGB).

Basic guidelines for designing application in PDA is referred and followed. It helps for the PDA application interface of PDA analysis, design and development. The guidelines direct the correct way to build application in PDA which fulfills the mobility features.

Second, selection of data gathering is done. It is important to provide user with adequate and sufficient hotels' information only. In addition, the information is dynamic where in future, it can be updated at anytime when changes occur from the resource center of the HiP in the PGB.

1.4.1 Relevancy of the Project

It is very relevant to implement Hotels in Pocket (HiP) based on the current high technology demanding world. Telecommuting staff in PETRONAS Gas Berhad (PGB) can gather the information about hotels from any location at any time of day. Besides, as the users are always on the move, updated information in HiP will be useful for them. In addition, due to the small scope of the project it is belief that the project is relevant to be finished in 14 weeks time.

1.4.2 Feasibility of the Project within the Scope and Time Frame

It is feasible for this project to be accomplished within the scope and time frame. Due to the small scope of the project, it is expected to meet the dateline, which is the end of this semester.

CHAPTER 2

LITERATURE REVIEW

CHAPTER 2

LITERATURE REVIEW AND THEORY

Nowadays, mobility becomes an important subject for workers that always works away from office. They are working away from the workstation and this mean, working with a mobile device will help them in order to work effectively and efficiently.

Effective here means, the telecommuting workers can complete the works given to them at time. Meanwhile, efficiently, they manage to perform well, quickly and easily in every task they do. It is because they work in an appropriate way and well managed time. With reference to the Palm Power Company's issues on October 28, 2002, [1] comparison of Personal Digital Assistants (PDA) selling have been made between some companies. Please refer *Appendix 1*. It shows that the selling of PDA has increasing from year 2001 to 2002 and the selling of PDA growth positively in the market. Hence, the development of Hotels in Pocket (HiP) is very significant and substantial studies and necessary to be addressed.

In addition it is supported by the PDA handyman, which stated that "As of today a lot of workflows especially for the employees on the road are still paper-based and therefore lack in automated processing and backend integration. With new small, lightweight and inexpensive mobile devices and the increased coverage of wireless data networks, mobile solutions have become applicable for a broad usage. Real-time access to enterprise data and applications for the mobile work" [2]. The features of the PDA which is small and lightweight itself give benefits and suitability to the telecommuting workers who always away from office. They will simply get the information quickly and easily.

Application or programs in PDA is increasing from time to time and well developed so that it is able to compete with other offered devices in the market. According to WebmasterWorld.com, "There has been so much talk about wireless internet for the last couple of years, and I'm wondering if finally there is some merit in developing an internet service aimed exclusively at PDA users - i.e. if there is a sufficient amount of users to warrant it. The other way of looking at it is that, even if there aren't enough users at present, maybe it would be wise to start developing a presence now so that when it really takes off, we would be ahead of the game and well established." [3]. With reference to the questionnaire done, there are 90% of users that warrant the HiP. Application in PDA is still new in the market and the demand from the user is neutral. However, good motivation in involving into this field is good preparation decision. It is because at this early period, we can familiarize with problems that might occur, try and error with developing application in PDA , and research which benefits us with in-advanced knowledge compare to other developers soon.

PDA is a device that can act as computer office. This will help user to save a lot of their time and work space as they only need to do their work in the same device. "Mobile devices are not only defined in terms of equipment and people but also with due consideration for the importance of information. That means the extensive possibilities that are emerging with the convergence of communications, networking and intelligent information management technologies, new and better ways of accessing and managing the abundant information available to us" (Michael Prochak, On the Road, 1995) [4]. It supports that PDA as one of mobile devices able to provide useful information for telecommuting workers when away from office. The user can access significant information which is really needed on that time easily and quickly.

Through My AvantGo's mobile capabilities, customers have immediate access to the travel-related information they need, when they need it, regardless of their location such as at home, work, in the airport, or while traveling (Dublin's Newspaper, 7 April 2003)[5]. This shows the advantages of the mobile devices in our lives today which eliminate time and location limitation. Telecommuting workers is always on the move that might located anywhere when performing the jobs away from their office. With PDA, they can rely and get information that they want easily, simply and without problems. In addition, if they are too busy with works or do not have much time to rest, PDA is a good choice as it is able to work quick and fast.

The programs and application offer in the PDA is suitable for all people. Besides, the programs and application it provides can be manipulated in various ways. PDA is also used in other areas such as medical fields. One of the story in this report cover on Results of the 2003 AvantGo Healthcare Professional Survey show that medical professionals are using PDAs most often to access clinical information (70%), get medical news (58%) and leverage medical calculators (57%). (Article in Dublin's newspaper, September 29, 2003)[6]. It shows that PDA is used and gives benefits in various fields.

Interface design is important in displaying data in Personal Digital Assistants (PDA). The size of PDA and elements in application is a substantial aspect to be considered and must be well designed. It is because the usability in application is depends on a good or well designed user interface.

Above statement is supported in SAP.com which state "User interface design is very important for mobile applications. Due to the limited user interface in terms of

data in/output, applications should be simple and focused to a user's task." [7]. Guidelines must be followed and referred so that Hotels in Pocket (HiP) project is developed according to the PDA features.

"The design for an application intended for a Window CE-based device must be different from one intended for the desktop" (embedded Visual Basic 3.0 Help Menu, 2004) [8]. In addition, this is supported by the statement of "AvantGo survey of physicians and healthcare professionals identifies current PDA usage trends and most desired mobile medical content. AvantGo offers more than 2500 channels of content, including medical-specific channels for news, health updates and medical research" (Article in Dublin's newspaper, September 29, 2003) [9]. Interface for PDA and computers are different. So, in the interface of hotels application called Hotels in Pocket (HiP), it must be designed suitable with the PDA features. It must be developed with user friendly and simple interface. Selection of data is important to be written in an application. Only important and significant data is presented so that helpful for user to navigate, gather or perform tasks.

Questionnaire has been used to identify user requirement and interface design for HiP project. User's feedback on the questionnaire will assist to design the PDA application according to user preference.

According to the guideline in UCC.com, "Prior to the development of a questionnaire, three things are necessary". [10]

1. The overall goal of the questionnaire needs to be written. That is, what overall information do you want to obtain from the questionnaire?
2. The specific objectives to achieve the goal need to be written. What information do you specifically seek from this questionnaire? For each objective, one to five questions need to be developed.
3. The target population needs to be identified and the sampling procedures need to be established."

From the quote, it shows that goal, objectives and target population are the main point that needs to be focused for succession of getting good findings from the questionnaire. Goal need to be identified to understand why is the questionnaire important in getting the finding from the respondents. Objectives are recognized to understand what is the area of questions is needed to be asked in the questionnaire. Meanwhile, target population must selected correctly so that, findings are accurate with the research requirement.

Reliability is also an important point when developing an application in PDA. Good application will be able give user to rely and depends to the services offered. User can use the application without having any problems and navigate it smoothly.

According to a survey from PDA handyman.com, "The survey respondents with peripherals were more satisfied with product reliability than PC owners were. For example, 79 percent of printer owners expressed high satisfaction with reliability, and PDA owners came in at 72 percent on this measure. But just 67 percent of desktop PC owners and 72 percent of notebook users said they were similarly satisfied." [11] Users believe that the reliability is an important factor when they

use a device. If the devices offer good dependents features, it is benefits them to do their job well.

CHAPTER 3

METHODOLOGY

CHAPTER 3

METHODOLOGY/PROEJCT WORK

3.1 PROCEDURE IDENTIFICATION

Project approach towards Hotels in Pocket (HiP) is based on the Project Development Schedule which prepared by the Final Year Project (FYP) committee. The duration of the project works is about four months, starting January 2004 to April 2004.

Waterfall model is used as the development methodology and guidelines. It is a linear system development life cycle for planning, analyzing, designing and developments. The rationale of adopting this model is because it is a well structured model, easy to follow, and very suitable for this project, especially in term of the project scope and project time factors.

The project consists of following major tasks:

1. HiP Project Definition and Planning
2. HiP Analysis and design
3. HiP development
4. System Testing
5. Project implementation and Project Close-out

Please refer to *Appendix 2 – HiP Project Work Plan,* which indicates the tasks/activities involved in every phases and the project progress as to date.

3.2 WATERFALL MODEL

3.2.1 HiP Project Definition and Planning

Initially, the Hotels in Pocket (HiP) topic have been proposed to the Final Year Project Committee member. When approved and get some advice, the information for research elements has been identified and gathered. The research elements include the supporting information which has been used to show the importance of the HiP development. Then, preliminary report submission has been submitted to report the introduction of the project at the earlier stage. Next, project work plan is identified by creating the Gantt chart in a Microsoft Project to plan the task or activities involved in every phases and the project progress as to date.

3.2.2 HiP Analysis and design

In this phase, questionnaires and distributing it to some of the telecommuting staff in PETRONAS Gas Berhad (PGB) have been created. The questionnaire contains few types of close-ended questions that can guide the user to answer the questions. The questionnaires have been done to survey on the needs and importance of accessing hotel's information through Personal Digital Assistants (PDA). Answers and feedback is used to make analysis so that the project is developed according to user's requirement. Names of hotels in Malaysia that usually choose by telecommuting staff in PETRONAS Gas Berhad (PGB) gathered from clerks are also used for analysis. Some of the hotels are Nikko, Shangri-La, and Mandarin Oriental in Kuala Lumpur. Please refer to *Appendix 3 - HiP Sample Questionnaire*

Besides, research on the existing hotel websites and Personal Digital Assistants (PDA) interface from internet, books and magazines has been done. From these too,

information, pictures and anything that is useful for developing the Hotel in Pocket project has been gathered.

In addition, during this phase, all requirements that have been gathered above are transformed into a set of technical design for construction. The application architecture has been completed by designing the flow chart of the system. The flow chart show on how the project is functioning. Please refer *Appendix 5 – HiP Flowchart.* A story board for the Hotels in Pocket project is drawing to help the understanding of navigation map of the project. (Please refer Appendix 4 – HiP Storyboard). Furthermore, it is able to explain on how the page is link to each other and how the elements in the page function.

3.2.3 HiP development

The development of the new system will start in this phase. The purpose of this phase is to develop a functional system that fulfills the design requirement. The development of the Hotels in Pocket (HiP) has been started by creating the interface using the eMbedded Visual Basic (eVB). The development consists of several tasks which are inserting the pictures such as rooms, and facilities. The picture has been decreased to 256 –color and use the bitmap format as it is a requirement in eVB.

Besides, information such as about location of hotels and promotions rate that can be viewed when user click on the name of room has been inserted into the project. Then, codes for command button such as Back Page, Combo Box and loading pictures have been done to run the application.

3.2.4 System Testing

System testing has been completed to run the application on front of the real user, telecommuting staff in PETRONAS Gas Berhad (PGB). But, because of time

limitation, the system was conducted in front of the respected Final Year Project (FYP) Supervisor only.

3.2.5 Project implementation and Project Close-out

The system has completed in this phase and successfully developed as planned. Then, the final draft documentation has been finalized.

3.3 TOOLS/EQUIPMENT

The tools and equipment used throughout the development of the system are as follows:

3.3.1 Template: eMbedded Visual Basic 3.0 and Jasc Paint Shop Pro 8

Template is used to place all the elements needed in the application on it such as button, information and pictures. With Microsoft eMbedded Visual Basic 3.0, applications for Windows CE–based mobile and embedded devices can be developed. The product is selected due to the software specification for building mobile application which following the PDA size. Meanwhile, Jasc Paint Shop Pro 8 is used to capture and edit images.

3.3.2 Hardware

1. Computer
2. Personal Digital Assistants (PDA)

CHAPTER 4

RESULTS AND DISCUSSION

CHAPTER 4

RESULTS AND DISCUSSION

Hotels in Pocket (HiP) is a hotel website that usually invited by telecommuting staff in PGB that display data in mobile devices, Personal Digital Assistants (PDA). Data will be displayed according to user preferences which are grouped into hotels names and types of information that user wish to access. The application is primarily meant to provide user with well arranged and categorized hotels' information. In addition, simple navigation and interactive interface and button will be provided to help user navigate easily and quickly.

In order to understand the system requirements, user requirement analysis was initially completed among a group of target users. As per the system, the target users are telecommuting staff in PETRONAS Gas Berhad (PGB).

Several clerks in PGB were firstly interviewed to gather list of hotels that usually invited by telecommuting staff in PGB. Then, a group of telecommuting staff in PETRONAS Gas Berhad (PGB) was given a set of questionnaire as to define their needs, requirements towards the application. Please refer to *Appendix 3 – HiP sample questionnaire.* The findings from this analysis have been evaluated and justified and discussed as below.

4.1 Results of Findings – Questionnaire

A research to find out whether the Hotels in Pocket (HiP) should implement as an application in Personal Digital Assistants (PDA) had been conducted in the HiP Analysis and Design phase. Based on the questionnaires distributed, the following results have been obtained.

4.1.1 The Relevance of Developing the Hotels in Pocket (HiP)

Data Gathered:

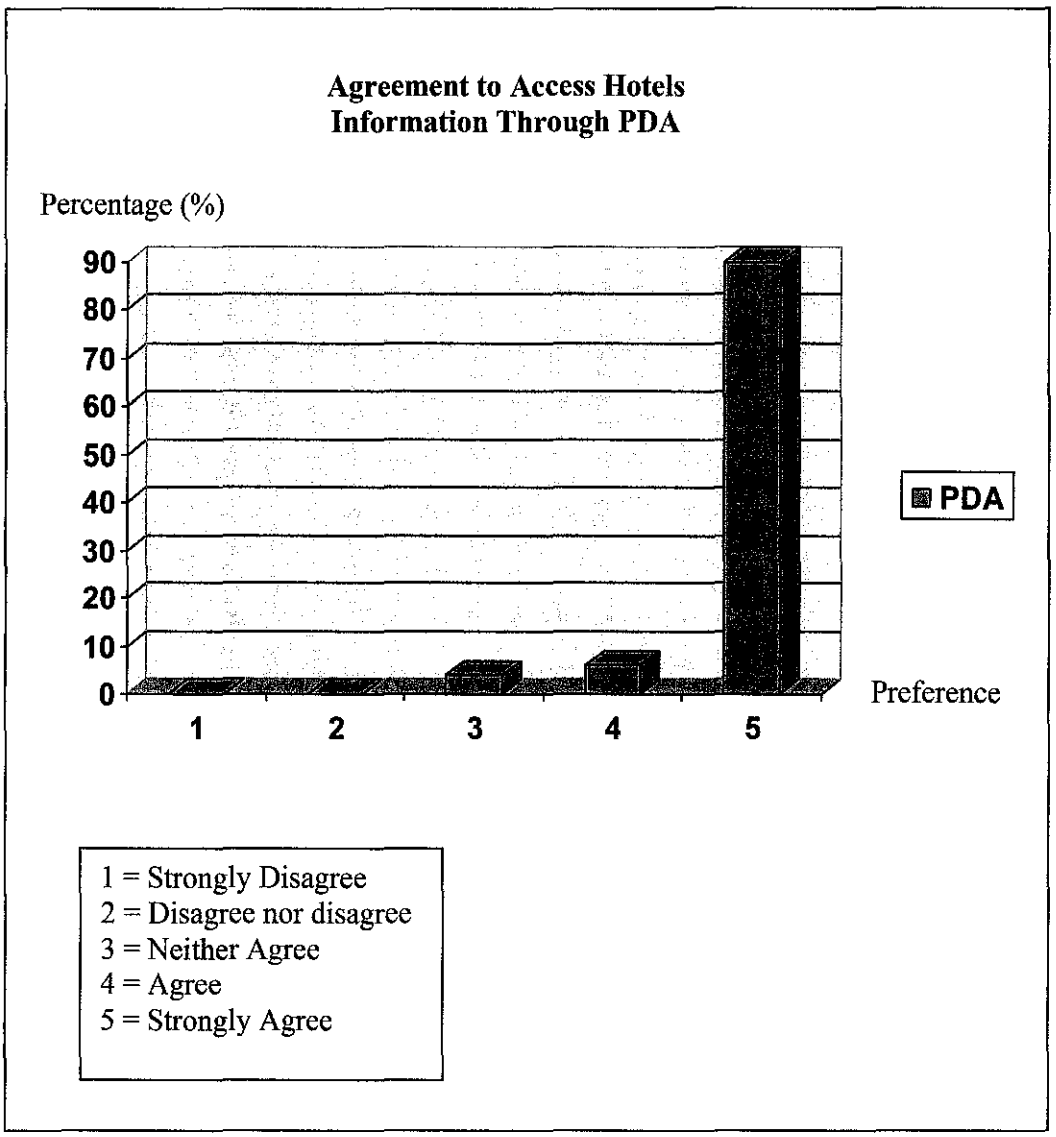

Figure 4.1

Discussion:

Figure 4.1 shows that 90% from survey Strongly Agree that it is important have Personal Digital Assistants (PDA) to get information about hotel. Meanwhile, 6% from the survey agree and 4% is neither agrees to have PDA as a device to access hotels' information.

Data Rationale:

From the result gained, there is enough evidence to say big portion from the survey agree that it is important to have a Personal Digital Assistants (PDA) as a device to gather information about hotel. In addition, through observation, in PGB, the staff is given chances to request a PDA for their job purpose. Due to good offer, it is a good implementation to have a website application in PDA especially when they are on the move.

Besides, among the factors that contribute to the PDA is chosen is the features that offered to the users. Benefits as a mobile device that gain from the PDA make it as the demand device compares to other sources.

Data Gathered:

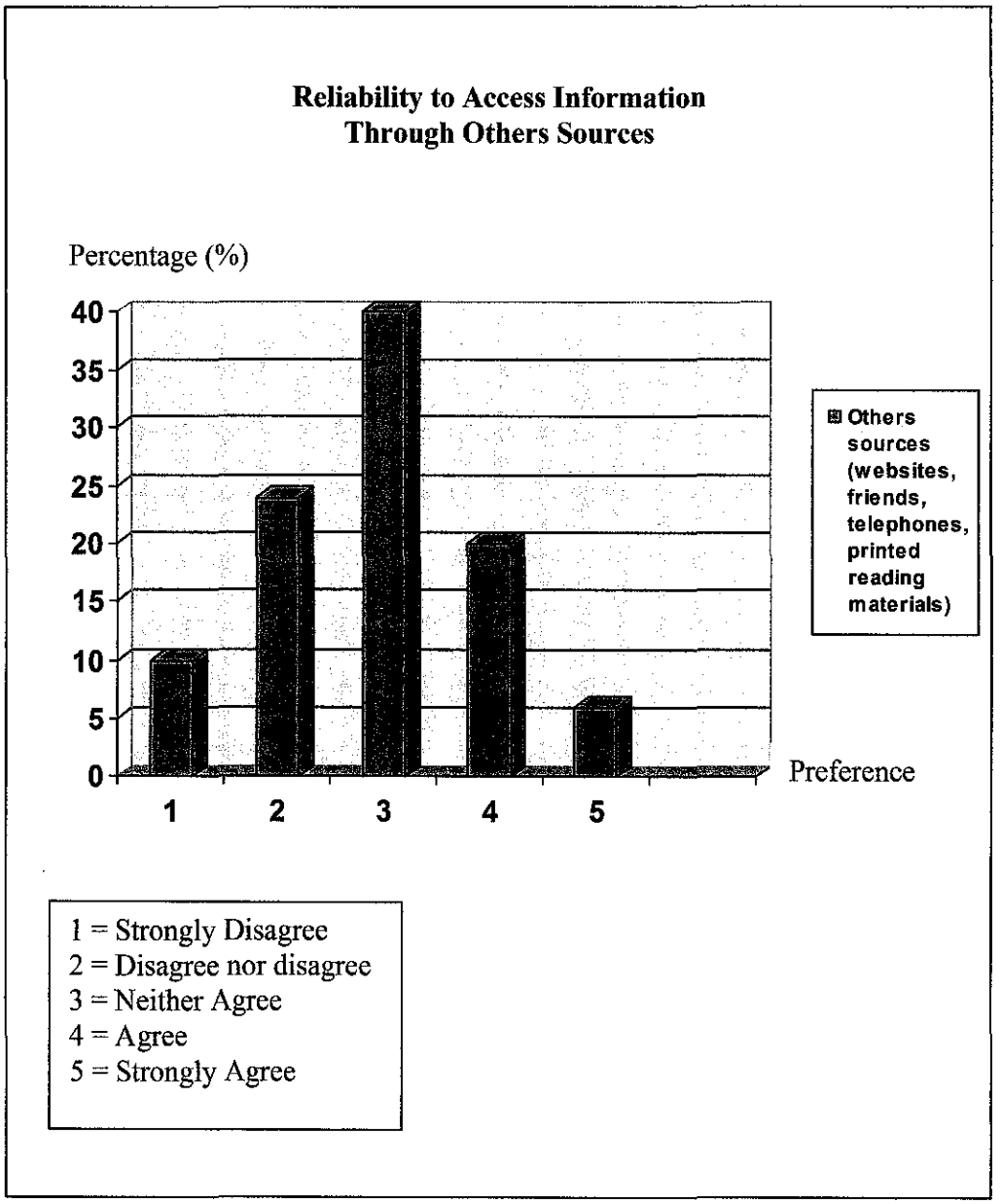

Figure 4.2

Discussion:

Figure 4.2 shows that on the survey of Reliability to Access Information Through Other Sources which is from websites, friends and printed reading materials.
From the graph, it shows that the Other Sources has a little percentage as the Like Most preference. It means, there is only a little portion with 6% of respondents Strongly Agree that Other sources are reliable to gather hotels' information. Besides, 20% of respondents in questionnaires agree that the Other Sources are reliable to provide hotels' information.

However, Other Sources is chosen as the average preferences for hotels' information devices. It shows in graph with 40%. In addition, the percentage shows that it is not totally unreliable as in the graph, the percentage for Strongly Disagree and Neither Disagree is small, which is 10% and 24% respectively.

Data Rationale:

From the result gained, it can be concluded that Other Sources is not a reliable sources enough to gather information about hotels for telecommuting workers. The factors which result the small percentage of preference is because the information and design it provided.

Some respondents said that they can not dependent with the Other Source as sometimes, the information is not updated and some information are not well presented that might give other problems such as the accuracy of the information.

4.1.2 The Acceptance Comparison between Websites and Personal Digital Assistants (PDA) for Gathering Hotels' Information

Data Gathered:

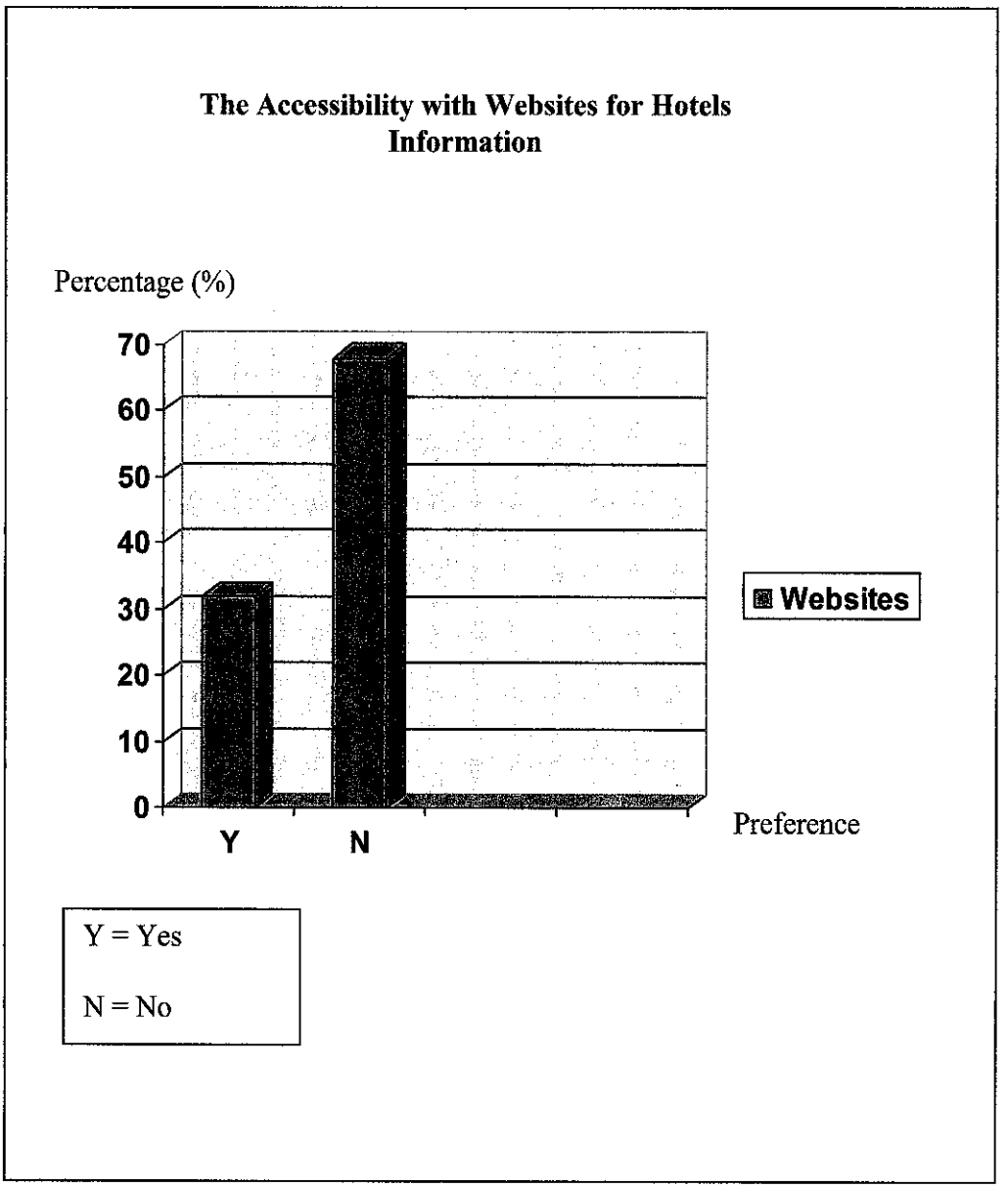

Figure 4.3

Discussion:

Figure 4.3 shows that on the survey of The Accessibility with Websites for Hotels Information. From the graph, it shows that more that three-quarter respondents disagree that websites have a good accessibility to gain information on hotels. The percentage shows that 67% disagree with the statement. Meanwhile, there are 33% of respondents agree that websites has accessibility features to gain information on hotels

Data Rationale:

From the result gained, it can be concluded that the there are a big portion of telecommuting workers agree that website is not accessible for them to search information on hotels. They faced some problems in order to reach the information easily and faster.

Some respondents said that sometimes, Other Sources is not updated and the information is not well arranged. As the users are always on the move, the sources must always be updated and make it easy and faster to be accessed.

Data gathered:

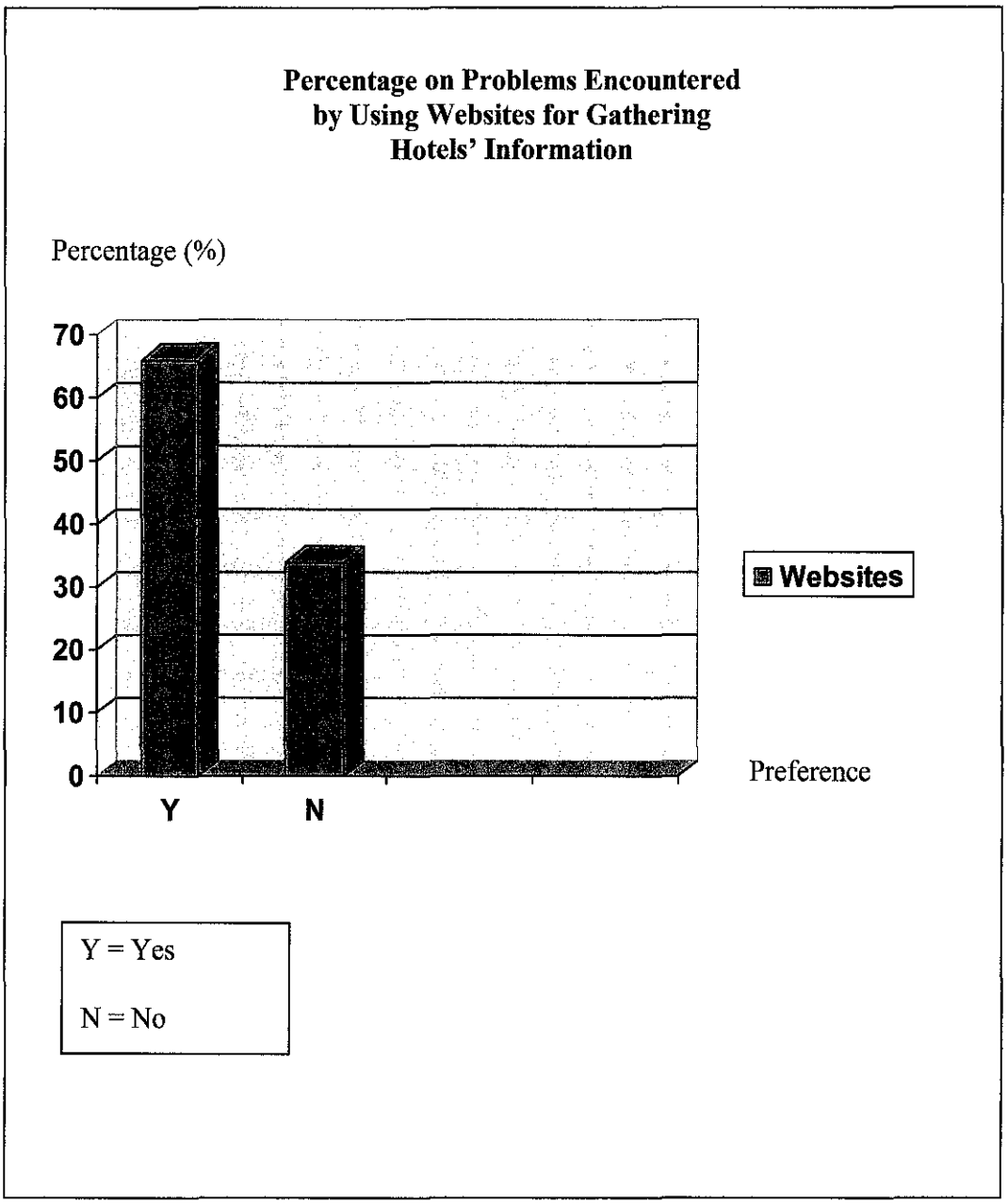

Figure 4.4

Discussion:

Figure 4.4 shows that on the survey of Percentage on Problems Encountered by Using Websites for Gathering Hotels' Information. From the graph shown, 66% of respondents agree that the Websites give some problems to them when searching information about hotel. Meanwhile, about 34% of respondents disagree that they encounter problem when using the websites.

Data Rationale:

From the result gained, it can be concluded even though Websites are widely used around the world, telecommuting staff still encounter problem in accessing the hotels' information. The problem involved from the devices itself and from the data presented in the devices.

Some respondents said sometimes they do not know the addresses of the hotels' websites and this give problems to them as require them to take some steps before reach the websites. As they are telecommuting workers, they do not want to spend too much many times to gather the information.

Data Gathered:

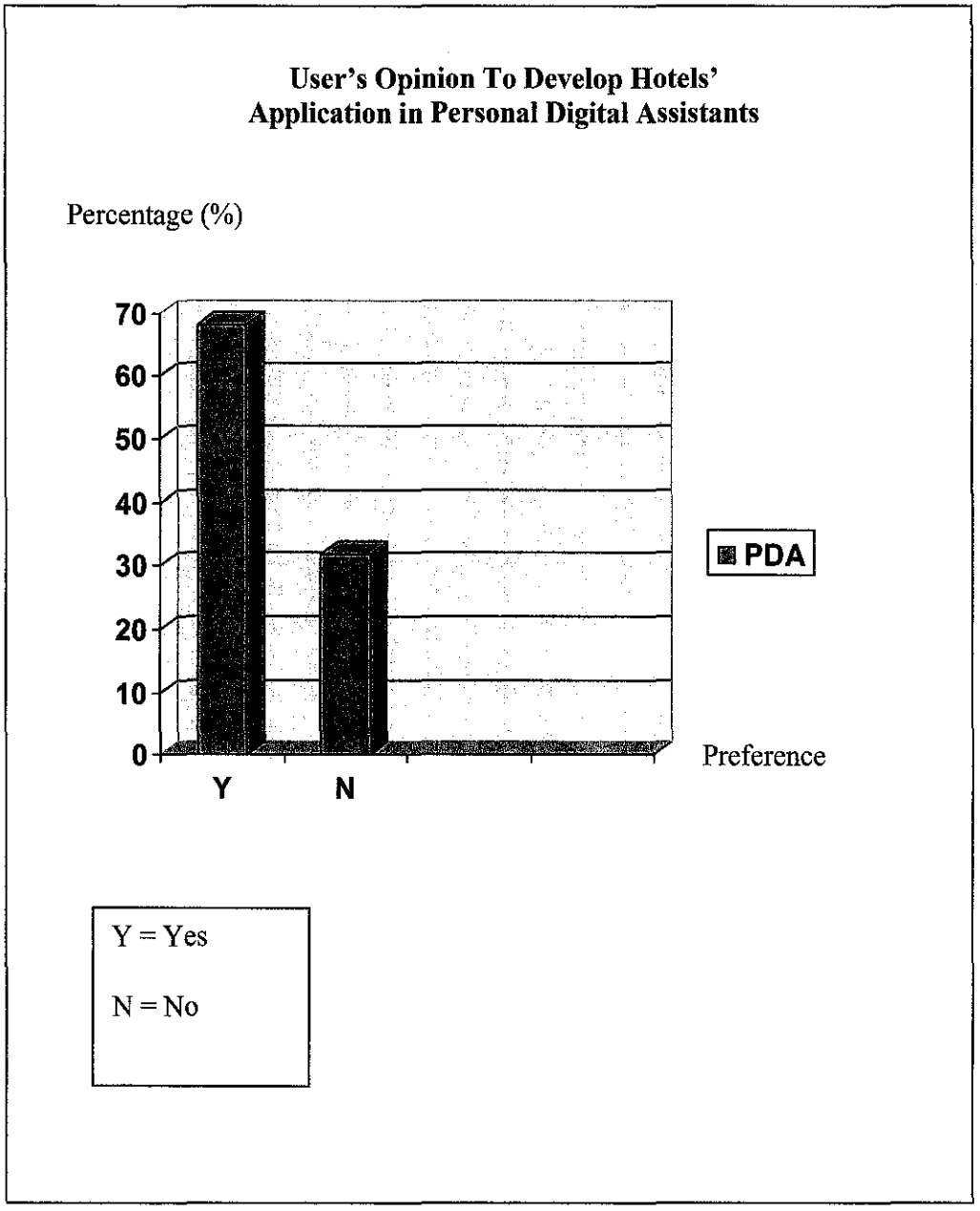

Figure 4.5

Discussion:

Figure 4.5 shows that on the survey of User's Opinion To Develop Hotels' application in Personal Digital Assistants (PDA). From the graph, it shows that 68% of respondents agree that hotels websites is a good suggestion to be developed in the PDA. Meanwhile, only a small amount of respondents said that they are disagree with the development, with 32%.

Data Rationale:

From the result gained, it can be concluded that telecommuting staff in PETRONAS Gas Berhad (PGB) agree if the hotels application is developed in the PDA. They found that the mobility of the PDA give a lot of beneficial to them at anytime and anywhere they are.

Besides, some respondents said PDA is a good choice to develop the application as PGB offer to their staff to have a PDA for their work purpose. So, they do not have to spend their money to buy the PDA.

Data Gathered:

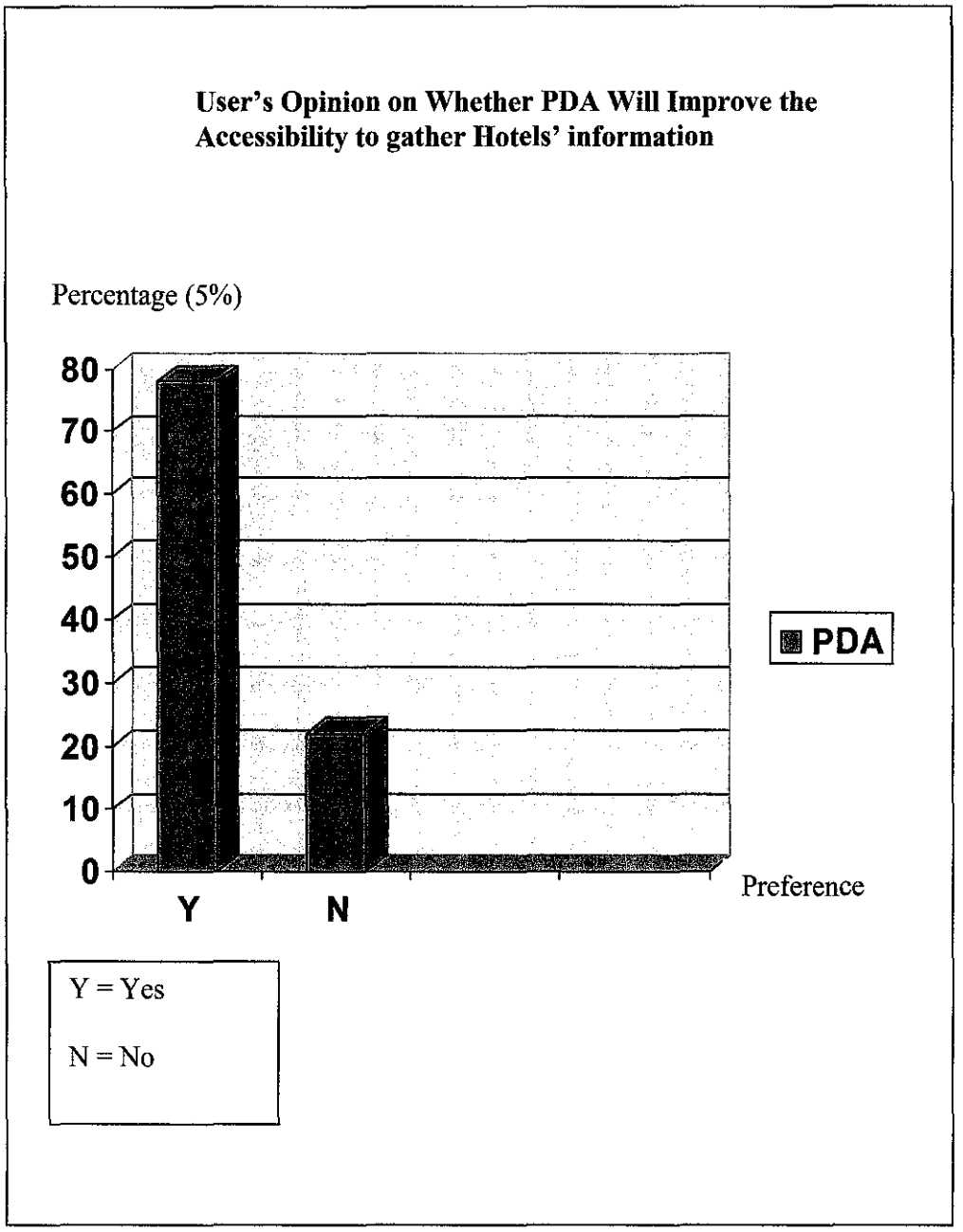

Figure 4.6

Discussion:

From the Figure 4.6, it seems that 78% from the survey who participated in the questionnaires agreed that Hotels in Pocket (HiP) proposed would improve the accessibility to gather on the hotels' information, while 22% disagreed.

Those who disagreed that the HiP might not improve the accessibility to gather hotels information believe that they are more preferred to call the hotel's receptionist directly. Besides, they opinioned that the information that they will get from the sources faster.

Data Rationale:

The result shows that more than three-quarter of the respondents in the questionnaires believes that the development of website in Personal Digital Assistants (PDA) will give benefits for them. Benefits here means that the mobile device able to help and assist users in their work.

The factors that contribute to this result are PDA is a mobile device that will be very useful for them when work out from their workplace. As for telecommuting staff in PETRONAS Gas Berhad (PGB), they still can access the hotels' information without having any limitation such as distance or time.

For time concerning, the telecommuting staff in PGB will only spend plenty time to find the information that they searched for. Meanwhile, for the distance matter, the telecommuting staff in PGB will be able to search the hotels' information without concerning the places they are located at that time.

4.1.3 The Preference Sources to Gather Hotels' Information

Data Gathered:

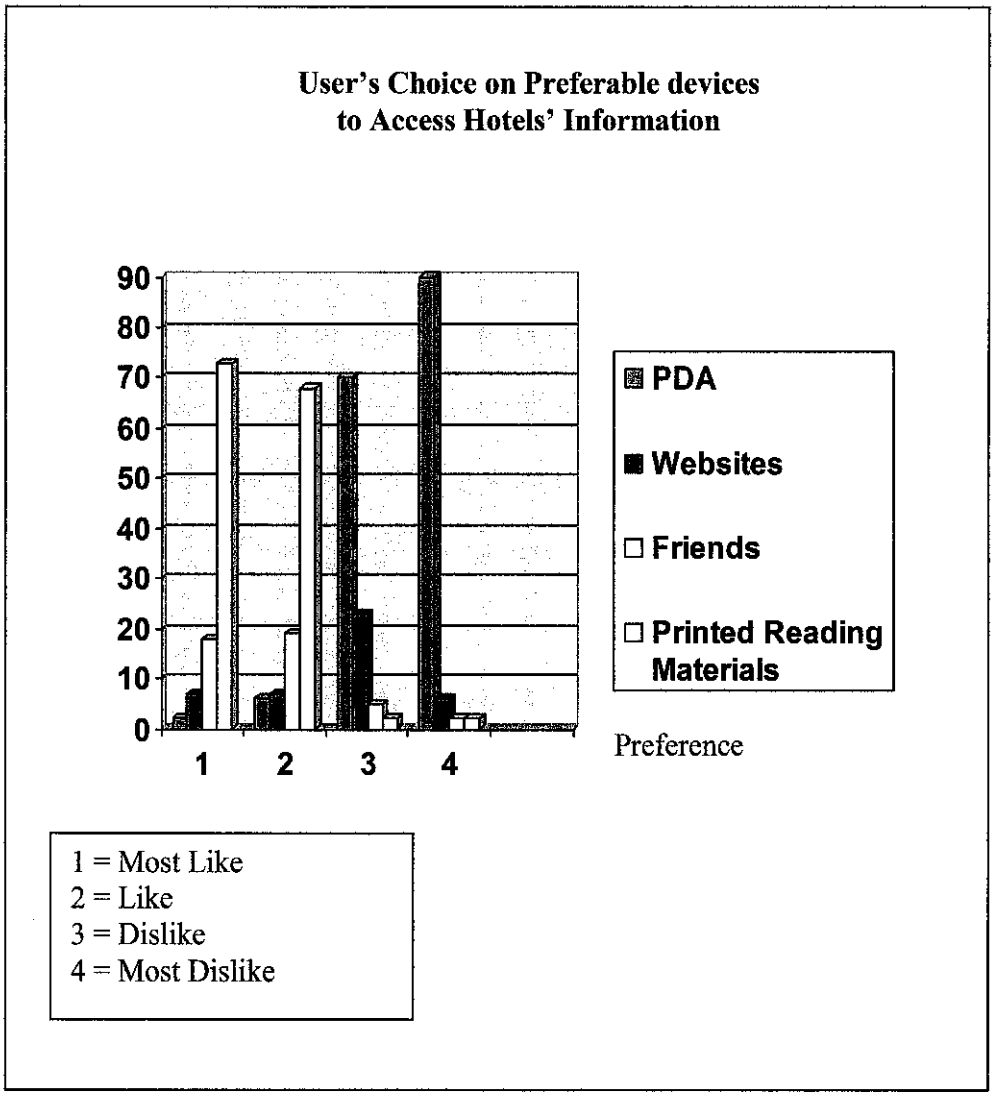

Figure 4.7

Discussion:

From the Figure 4.7 shows that on the survey of User's preferences on the preferable device to gather information about hotels. PDA has the highest preferences as 90% of respondents choose that they like to access the hotels' information through it at the Like Most rank preferences. The rank of the most preferable keep maintain in the Like preference with 70%. Then, the graph still shows that PDA is not at the main preference to be chosen as the Dislike and Most Dislike choices of devices to gather information. It is shown by the percentage of 6% and 2% respectively.

As for the Websites, it is the second choices from the respondents of questionnaires at the Like Most and Like rank with percentage of 6% and 23%. In addition, it is also not the favorite choice as Dislike and Dislike Most devices in the survey done. It is shown in the graph as 7% and 7% respectively.

For the Printed materials sources, it is the first choice for the devices that are not prefer among the telecommuting staffs in PETRONAS Gas Berhad (PGB). From the graph given, it shows that the percentage for Dislike and Dislike Most is 68% and 73%. Meanwhile, in the preference of Like Most and Like the Printed Materials is the last choice among other sources given, with the percentage of 2% and 2% respectively.

Friends are located at the third rank of Like Most preference with the percentage of 5% and same rank with percentage of 2% with the printed materials at the Like preference. Meanwhile, it is the second choice after printed materials that are not

preferred as a device to gather information on hotels. The graph shows that the percentages are 19% and 18% for Dislike and Dislike most preference.

Data Rationale:

From the result gained, it can be concluded that the PDA give better advantages, offers and benefits for telecommuting staffs in PGB. It always is the first choice at the positive preference and the last choice at the negative preference. The factors that make the other sources is not preferred is less features of mobility for telecommuting workers.

4.2 RESEARCH ELEMENTS

Research has been done before developing the Hotels in Pocket (HiP) system. The research involves three main topics which are Basic Guidelines to Develop application in Personal Digital Assistants (PDA), Accuracy on Data Collection methods, and Accessibility of application in PDA.

4.2.1 Basic Guidelines to Develop application in Personal Digital Assistants (PDA)

Hotels in Pocket (HiP) are developed by using embedded Visual Basic (eVB). eVB is chosen due to the reason that a Palm-size PC is a compact device that utilizes the Microsoft® Windows® CE operating system. Among the languages that developers can use to create applications for the Palm-size PC is Microsoft embedded Visual Basic® version 6.0, a popular software development tool that provides rapid application development and is easy to use. Applications created with the embedded Visual Basic 6.0 development system can range in size and scope from prototypes and small but very effective applications to extremely large, scalable applications. Below are some guidelines that have been followed when developing the HiP.

- Choose a ***style*** and ***maintain*** it throughout application, even if it means redesigning some features.
- ***Simplicity*** is important keywords when designing the interface
- Consider ***size*** and ***suitability*** of PDA screen size when design the interface
- Good interface ***do not require user to scroll the page***
- Use ***list box*** preloaded with choices
- The use of ***white space*** (blank space between and around controls on a form) in user interface can help to emphasize elements and improve usability. Too many controls on a form can lead to a cluttered interface, making it difficult to find an individual field or control. White space incorporated in your design emphasizes your design elements.
- The use of ***color*** in your interface can add visual appeal, but be careful not to overuse it. Color, like the other basic design principles, can be problematic if not carefully considered in initial design.
- Be ***conservative, using softer, more neutral colors***. Small amounts of bright color can be used effectively to emphasize or draw attention to an important area. As a general rule, limit the number of colors in an application, and keep your color scheme consistent.
- ***Picture***- In designing your own icons and images, keep them simple. In designing toolbar icons, look at other applications to see what standards are already established.
- As a general rule, limit the number of colors in an application, and keep your color scheme consistent. Stick to a standard ***16-color palette*** if possible.
- ***Pictures and icons*** can also add visual interest to your application, but again, careful design is essential. Images can convey information compactly without the need for text, but images are often perceived differently by different people.

- Select ***fonts*** that are easily readable at different resolutions on different types of displays. Use simple sans serif or serif fonts where possible. Too many fonts can leave your application looking confused and chaotic.
- ***Avoid using a horizontal layout for forms.*** Instead, display content vertically to match the orientation of the screen.
- In most interface designs, elements are of ***differing*** importance. Careful design is necessary to ensure that the more important elements are readily apparent to the user. Give important or frequently accessed elements a position of prominence; relegate less important elements to less prominent locations. For example, if the information on a form is related to a customer, the name field should be displayed where it will be seen first. Buttons, such as OK or Next, should be placed in the lower right portion of the screen; the user normally won't access these until she has finished working with the form.
- The wide variety of ***controls*** available for use in eMbedded Visual Basic make it tempting to use them all; avoid this temptation. Also, use controls appropriately. Be consistent in the setting of properties for your controls.
- For visual ***consistency***, establish a design strategy and style conventions before begin development. Design elements such as the types of controls, standards for size and grouping of controls, and font choices, should be established in advance.
- ***Consistency*** among forms in your application is important to usability. Choose a style and maintain it throughout your application, even if it means redesigning some features.
- ***Affordances*** are visual clues to the function of an object. It means, what user think or act is same with what system' think or act. As for example, users expect that a box with a border and a white background will contain editable text. A text box with no border (BorderStyle=0),looks like a label, and it is not obvious to the user that it is editable.

4.2.2 Accuracy on Data Collection methods

Basically, the research is on the collection data of hotels' information which are about the location, room types and rate, services, facilities and promotions. The data is gathered from the current websites available on the internet and only necessary information is chosen. Necessary means only information which is needed for telecommuting workers is provided in the application.

Besides, the data is always kept updated as the information keep changing from time to time. As for example, the rate of room will be changed on special season or occasion.

4.2.3 Accessibility of application in PDA

Accessibility in the third research means the easy navigation, adequate and sufficient information, affordance of application. In the same meaning, this research has been done to eliminate problems that encountered when accessing hotels information using websites.

4.3 TECHNICAL DESIGN

After analyzing the user requirement, the system work flow has been defined. The purpose of the diagrammatic process flow is to understand and clarify how the system work, system input, and user interaction. Please refer to *Appendix 5 – HiP Flow chart* which illustrates process flow of the Hotels in Pocket (HiP).

In brief, the process works are as follows:

1. When the Hotels in Pocket (HiP) application is opened, a welcome page will appear as an introduction of the application.
2. Main menu will appear to show the Malaysia Map and user is to make selection from the 14 states.
3. Next page as called Home, acquire user to make selection from two different preferences which are through Hotel Name preference or through Information preference.
4. If choose Hotel preference, user get information according to the hotels that is selected. When they get the information, they can execute, otherwise, continue searching the information from previous page.
5. If choose Information preference, user get information by making a selection from the types of information listed. When, respected hotels name displayed, user is to make selection form the list to get the information. When they get the information, they can execute, otherwise, continue searching the information from previous page.

Next, the design of interface involve in the Hotels in Pocket (HiP) project is designed.
Please refer to *Appendix 4- HiP Story Board*

4.4 FRONT END SYSTEM DESIGN

The main entities of the application is its data display mechanism which is how data is presented when user make their choices

The user interface does display the significant role in the system as per user ease-of-use of the system function. It is design with the simplest and easiest method for user to navigate and get information.

4.4.1 Welcome page

User launches the Hotels in Pocket application in the Personal Digital Assistants (PDA). Welcome page will appear. Description about the Hotels in Pocket (HiP) will be shown as introducing the application. It has a link with Main Menu for user's next navigation.

Please refer to *Figure 4.8 – Welcome page.*

Welcome page

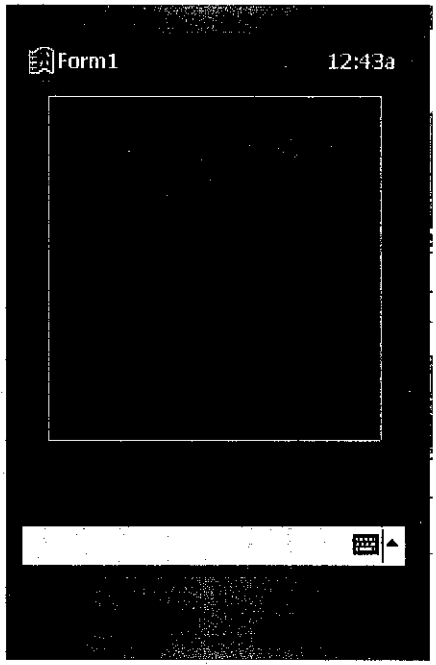

Figure 4.8

4.4.2 Main Menu

The main menu screen appears, given the users to start navigating the Hotels in Pocket (HiP) application. User need to select the states from the Malaysia Map showed. Please refer to *Figure 4.9 – Main Menu*

Main Menu

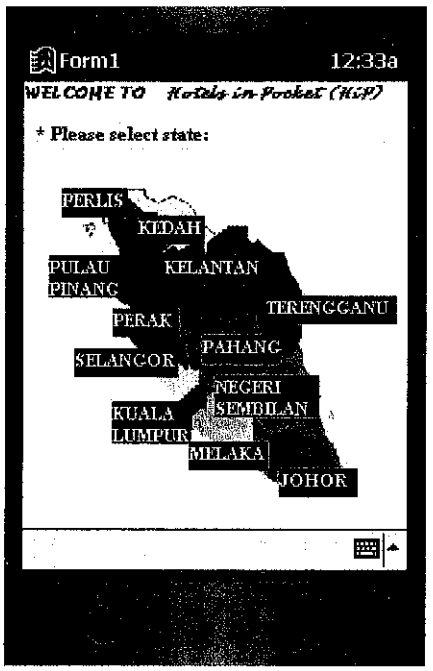

Figure 4.9

4.4.3 Home

User is given options to get information about hotel from two different preferences. Please refer to *Figure 4.10 - Home*.

1. Hotel name preference - The first preference is through list hotels name according to its respected state for user to get information about hotel.
2. Information preference - The second preference is through lists of types of information for user to get information about hotel.

Home

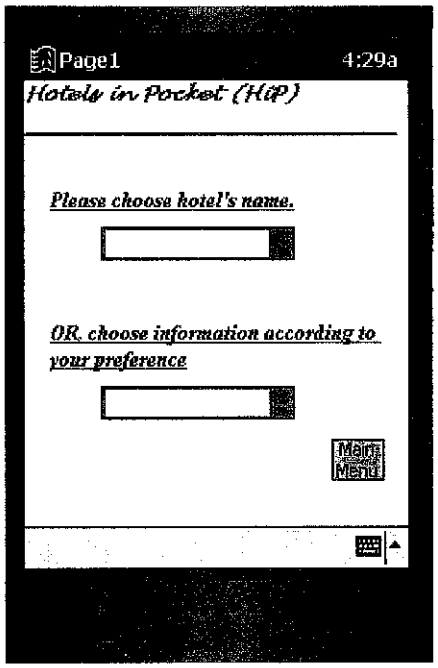

Figure 4.10

4.4.4 Hotel name preference

Through this first preference, user is to get information through list hotels name according to its respected state chose before. A list of hotel name that usually invited by telecommuting staff in PETRONAS Gas Berhad (PGB) is displayed. *Figure 4.11 – HiP Hotel Name Preference* illustrates the interface of the first choice

HiP Hotel Name Preference

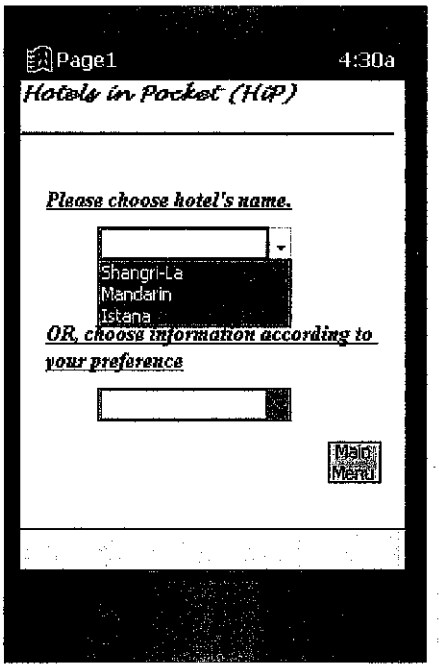

Figure 4.11

Information

User is given option to choose types of information following the hotels name chose before. The types of information are as below:

1. Location
2. Room (Type/Rate)
3. Services
4. Facilities
5. Promotions

Figure 4.12 – HiP Information below illustrates the interface of types of information

HiP Information

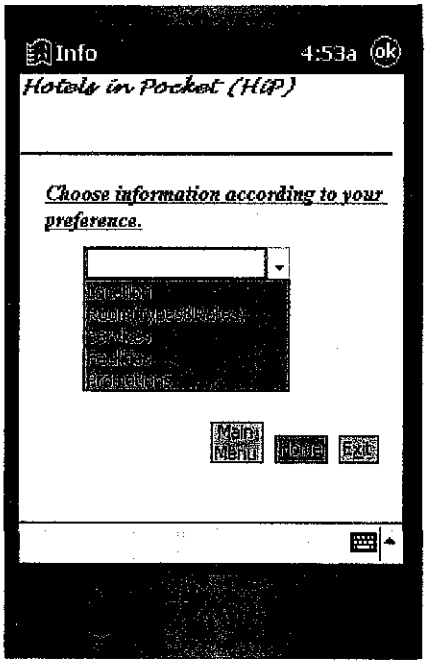

Figure 4.12

Info - Location/ Room/ Service/ Facility/ Promotion Page

Information is displayed according to the choice selected before. *Figure 4.13 – HiP Location Page* in the next page illustrates one of the interfaces of types of information and *Figure 4.14 – HiP Payment Calculation* show the page to calculate the payment according to room and days of staying in a hotel.

HiP information - Location

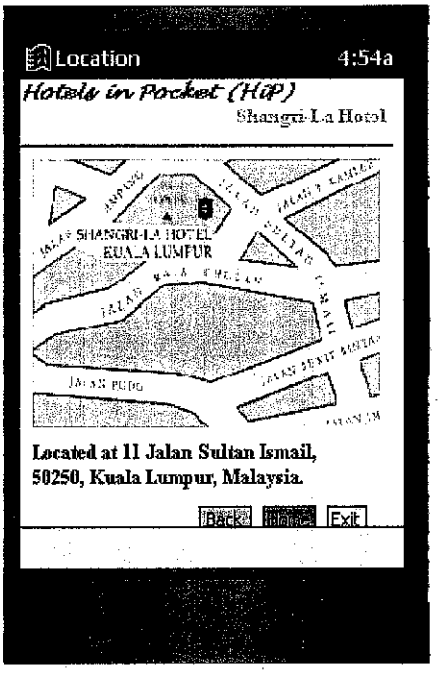

Figure 4.13

HiP Payment Calculation

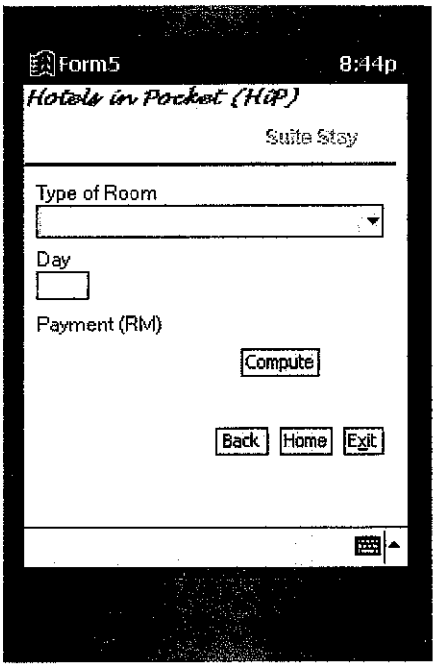

Figure 4.14

4.4.5 Information Preference

Through this second preference, user is to get information through list of types of information according to its respected state chose before. The types of information listed are as below:

1. Room (Type/Rate)
2. Promotions

Figure 4.15 – HiP Info II illustrates interface of the second choice

HiP Info II

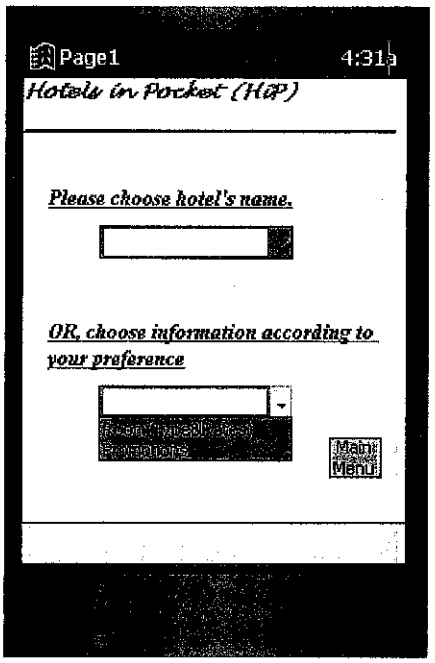

Figure 4.15

HiP name preference II

User is given opportunity to choose the hotels name, that usually invited by telecommuting staff in PETRONAS Gas Berhad (PGB) from the list provided. The hotel name is listed according to the information they chose before.

Figure 4.16 – HiP Hotel Name Preference II in the next page illustrates the interface of list of hotels name

HiP Hotel Name Preference II

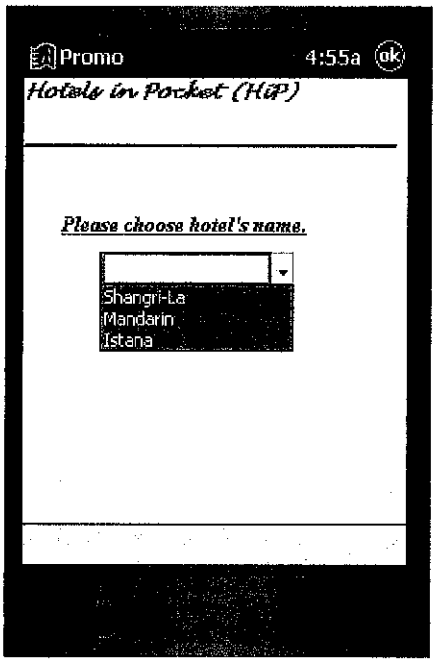

Figure 4.16

Info II - Room / Promotion Page

Information is displayed according to the choice and hotel name selected before. *Figure 4.17 – HiP Info II - Room* below illustrates one of the interfaces of types of information

HiP info II - Room

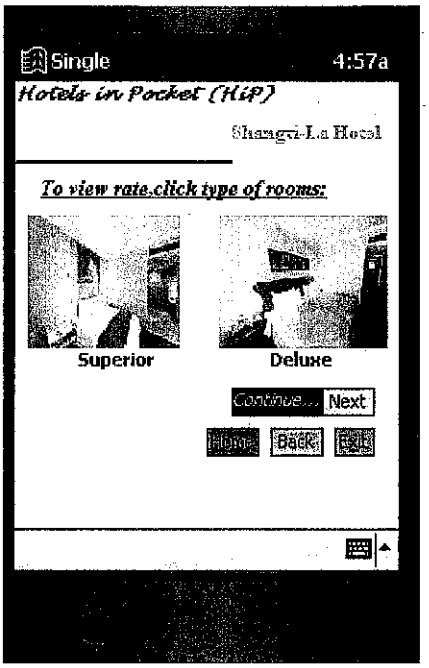

Figure 4.17

4.5 PROBLEM ENCOUNTERED

Microsoft eMbedded Visual Basic 3.0, is software to develop an applications for Windows CE–based mobile and embedded devices. The product is selected due to the software specification for building mobile application. The layout is already following the Personal Digital Assistants (PDA) size. However, there are some problems occurred when developing the Hotels in Pocket (HiP) which I have spent

a lot times to solve the problems. However, I gained new knowledge for me when all the problems have been successfully solved.

The first problem is on the picture. In eMbedded Visual Basic, format only can be used is bitmap. In addition, the picture must be decreased into 256. Otherwise, the picture can not be uploaded in the application. If there are more than one pictures in a page, a function called "appPath" is used so that all the pictures in save in the same location.

Second, scroll bar can not be used. As for the solution, pictures and information is arranged nicely so that suite with the size of PDA. Besides, if there is no enough space to put data and pictures in the same page, several pages is used. The affordance guideline is follows so that the system runs parallel with user's action or expectation and the page has the continuity.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

CHAPTER 5

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5.1 CONCLUSION

According to the problem statements findings, there is a requirement of mobile device to provide hotels' information for telecommuting staff in PETRONAS Gas Berhad (PGB). PGB is increasing and becomes very important. Hotels in Pocket (HiP) project will be a good solution for the requirement.

Although the system is developed within a small scope, yet it really benefits telecommuting staff in PETRONAS Gas Berhad (PGB). This project, Hotels in Pocket (HiP) provide beneficial information for the telecommuting staff in PETRONAS Gas Berhad (PGB). The information they required is provided in the project. Personal Digital Assistants (PDA) installed with HiP can give easy and quick access at hotel information to staff of PGB. Besides, special interface design is developed so the information is arranged nicely for easy navigation to suite the PDA specifications.

The information gains from research conducted are used in deciding whether the system is worth to be developed. Furthermore, as this project involves a small scope, it is feasible to be completed within four month period. As a conclusion, this project is will hope to see the first step for other Final Year Project (FYP) to continue develop PDA application in future.

5.2 RECOMMENDATIONS

In order to make this Hotel in Pocket (HiP) project more beneficial as day goes on, some recommendations have been made. This will help the future enhancement of the system. The recommendations for future project are as follows:

5.2.1 Online Booking Hotel

As Hotels in Pocket (HiP) is an application in mobile devices, it will be more helpful with booking system through online. As per the current system, user will be only displayed by information on the hotels with pictures. For future, perhaps the user can make the bookings anywhere, and anytime without any limitation.

The recommended features can be done by integrating with the hotels involved. This will require the agreement from hotels management to give cooperation by allowing accessing their database. In addition, it is a way to promote the hotels to the user and give more benefits to them.

5.2.2 Provide more information

For this current system in HiP, the information provided is locations, type of rooms offered, services, facilities and promotions. The information offered is information that usually acquired by the user. Other information can be added so that the application usage will be more useful and helpful

Interesting places, management of the hotel are such a good examples of information that might be useful for the user. It will be able to provide telecommuting staffs with information to fulfill their free time.

5.2.3 Interactive Design

The Hotels in Pocket (HiP) Project will be more interesting with interactive design. It will attract user attention as they might enjoy when navigating the application and gathering the information. In addition, user will be able to understand the contents in the application better.

For future enhancement development, perhaps user can feel the surrounding of room in a hotel by exploring it. As for example, when user clicks the picture, he or she can see the room's environment virtually. The user can experience the surrounding of the place and encourage them to choose the hotel.

5.2.4 Audio

Navigate with ears is also assist the eyes to read the information. Audio elements in the application also can help user in order to explore with more exciting navigation. It will support the text elements in the application by giving sounds in every action done by the user.

As for example, when user click into a picture of a room, there will be a sound that saying the type, rate, and services provided in the room. Besides, the explanation using the audio elements will reduce the usage of the text in a page.

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APPENDICES

APPENDIX 1

PDA SELLING GROWTH BETWEEN DIFFERENT COMPANIES

7 APPENDICES

Appendix 1

PDA selling growth between different companies

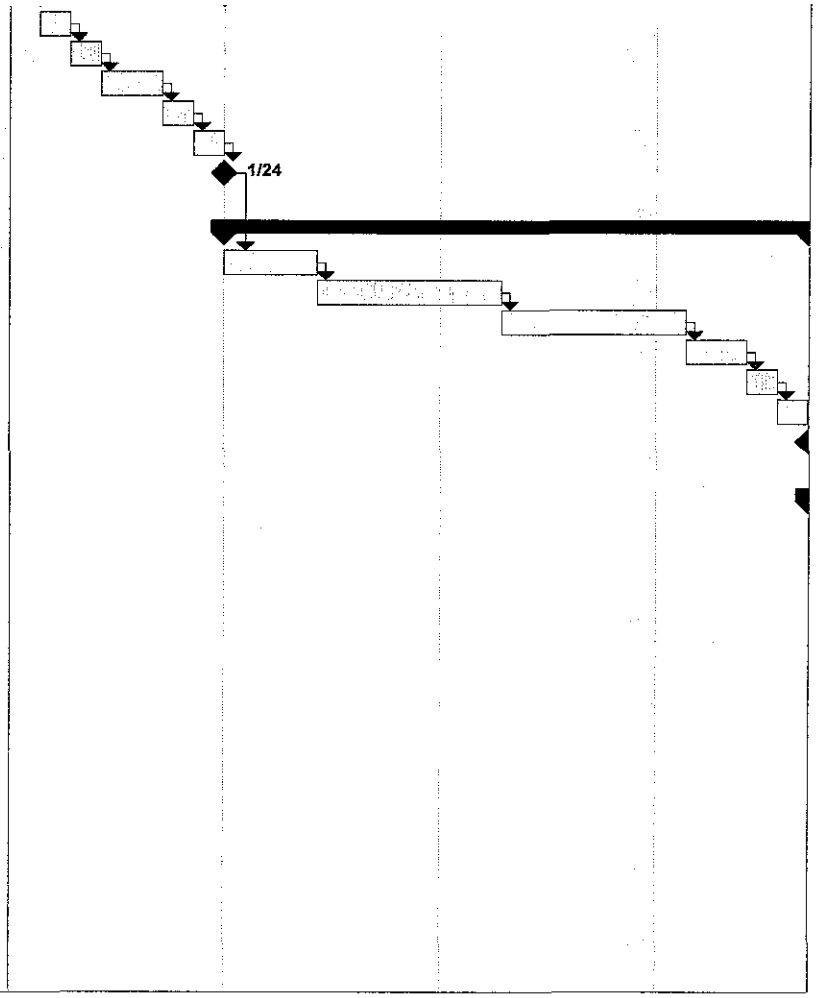
Company	3Q02 Shipments	3Q02 Market Share (%)	3Q01 Shipments	3Q01 Market Share (%)	Growth (%)
Palm	808,805	30.6	754,810	28.8	7.2
Hewlett-Packard	381,910	14.4	317,890	12.1	20.1
Sony	344,963	13.0	90,690	3.5	280.0
Toshiba	144,391	5.5	8,000	0.3	1,705.0
Handspring	100,100	3.8	353,642	13.5	-71.7
Others	863,523	32.7	1,093,786	41.8	-21.0
Total Market	2,643,692	100.0	2,618,818	100.0	0.9

Table 1

APPENDIX 2

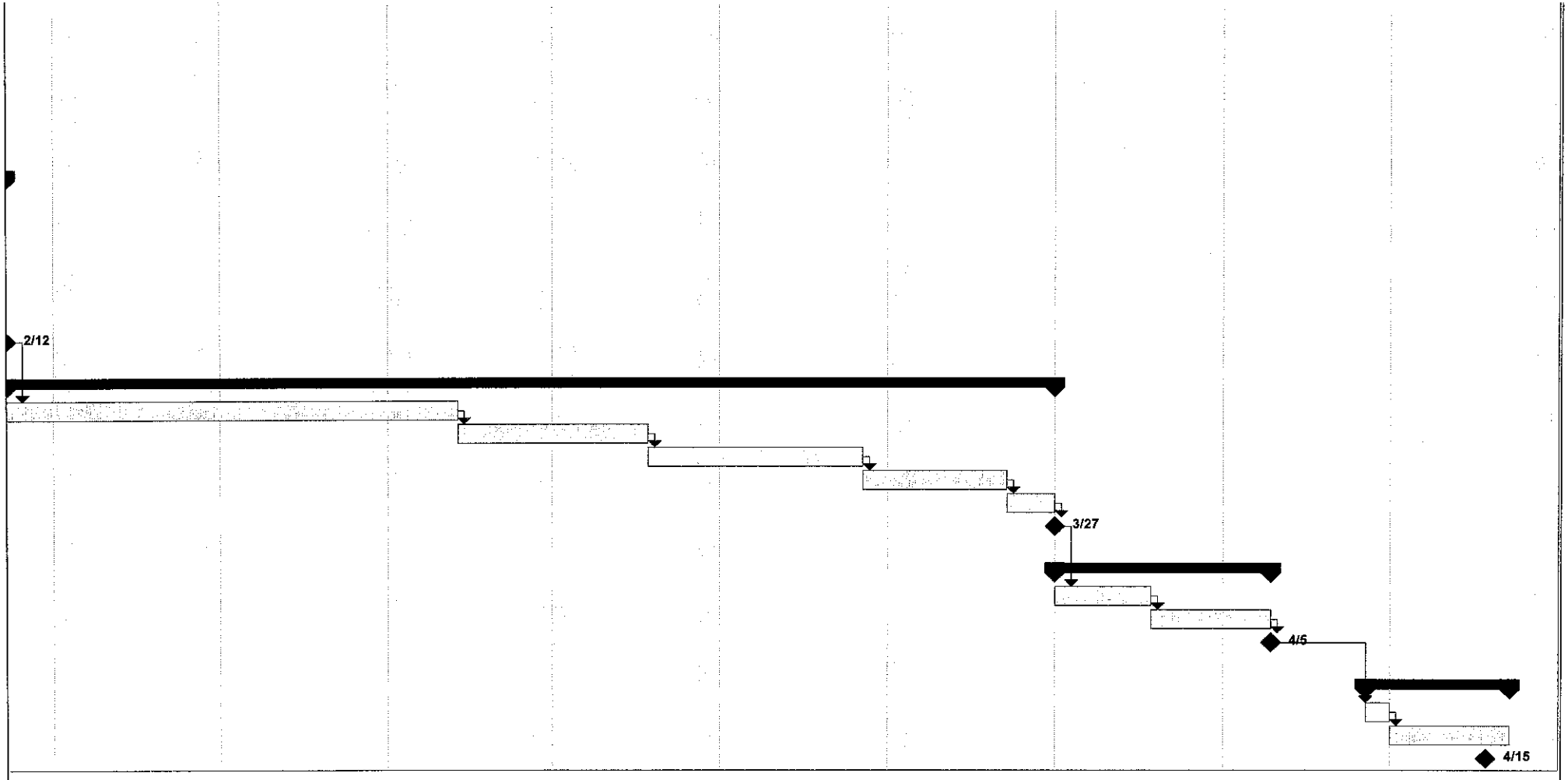
HiP PROJECT WORKPLAN

		Task Name	Duration	Start	Finish	Predecessors
3		Initiate project and proposal	1 day	Mon 1/19/04	Mon 1/19/04	
4		Obtain supervisor' approvals and advisory	1 day	Tue 1/20/04	Tue 1/20/04	3
5		Identify information for research elements	2 days	Wed 1/21/04	Thu 1/22/04	4
6		Preliminary Report submission	1 day	Fri 1/23/04	Fri 1/23/04	5
7		Finalize project workplan	1 day	Sat 1/24/04	Sat 1/24/04	6
8		*Project proposal completed*	0 days	Sat 1/24/04	Sat 1/24/04	7
9						
10		**HiP Analysis and design**	**18 days**	**Sun 1/25/04**	**Thu 2/12/04**	
11		Identify user requirements	3 days	Sun 1/25/04	Tue 1/27/04	8
12		Research on existing hotel websites	6 days	Wed 1/28/04	Mon 2/2/04	11
13		Research on Personal Digital Assistants(PDA) interface	5 days	Tue 2/3/04	Sun 2/8/04	12
14		Define application architecture	2 days	Mon 2/9/04	Tue 2/10/04	13
15		Develop database structure for the system	1 day	Wed 2/11/04	Wed 2/11/04	14
16		Design the Navigation Map for the system(StoryBoard)	1 day	Thu 2/12/04	Thu 2/12/04	15
17		*Problem statement completed*	0 days	Thu 2/12/04	Thu 2/12/04	16
18						
19		**HiP development**	**34 days**	**Fri 2/13/04**	**Sat 3/27/04**	
20		Develop interface for website in PDA	14 days	Fri 2/13/04	Tue 3/2/04	17
21		Develop Database system	6 days	Wed 3/3/04	Wed 3/10/04	20
22		Coding	7 days	Thu 3/11/04	Fri 3/19/04	21
23		Create animation	5 days	Sat 3/20/04	Thu 3/25/04	22
24		Synchronization between PDA and computer	2 days	Fri 3/26/04	Sat 3/27/04	23
25		*System development completed*	0 days	Sat 3/27/04	Sat 3/27/04	24
26						
27		**System Testing**	**9 days**	**Sun 3/28/04**	**Mon 4/5/04**	
28		Plan system test	4 days	Sun 3/28/04	Wed 3/31/04	25
29		Conduct system test	5 days	Thu 4/1/04	Mon 4/5/04	28
30		*System testing completed*	0 days	Mon 4/5/04	Mon 4/5/04	29
31						
32		**Project implementation and Project Close-out**	**6 days**	**Sat 4/10/04**	**Thu 4/15/04**	
33		Conduct the system roll-out	1 day	Sat 4/10/04	Sat 4/10/04	30
34		Finalize final draft documentation	5 days	Sun 4/11/04	Thu 4/15/04	33
35		*Project implementation completed*	0 days	Thu 4/15/04	Thu 4/15/04	



Project: HP PROJECT WORK PLAN
Date: 28/1/04

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline



Project: HP PROJECT WORK PLAN
Date: 28/1/04

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

APPENDIX 3

HiP SAMPLE QUESTIONNAIRE

Appendix 3

HiP Sample Questionnaire

Dear all,
I am 5th year students, IT, and doing my FYP (Final Year Project) this semester. This questionnaire is designed to gather on the user requirement for my FYP project. Because you are the one who can give the information as input, I request you to respond to the questions frankly and honestly.
Basically, my FYP project is called "Hotels in Pocket" (HP). It will be a hotel website in Personal Digital Assistance (PDA). The hotels listed are only that usually visited by PETRONAS staff. The purpose is to help commuting (who always not in the office and on the move) PETRONAS staff to get information easily and quickly. So, as one of the users, your opinion and idea will be a good input to provide only the necessary information about the hotel and interactive interface that suite the size of PDA.
Thank you very much for your time and cooperation. I greatly appreciate your help in furthering this research endeavor.

Name: .....

Department:.....

Position:.....

State the extent to which you agree with each of the following statements:

Q1: It is important to have Personal Digital Assistants (PDA) to get information about hotel?	1	2	3	4	5
Q2: It is reliable enough to get hotels' information from the current sources (e.g. Websites, friends, printed reading materials)	1	2	3	4	5

Please circle "Y", if you agree with the statement and "N", if you do not agree with the statement

(A)Websites:

Q3:
The current websites is easy, provide enough and sufficient information Y N

Q4:
Existing hotel websites have no problem at all Y N

(B) Personal Digital Assistants (PDA):

Q5:
Is it a good suggestion to access hotels' information through PDA? Y N

Q6:
Do you think that development of Hotels' websites in PDA will improve the accessibility to get hotels' information Y N

State the extent to which you agree with each of the following statements:

Q7:

Mobile devices (PDA) _____

Websites _____

Friends _____

Printed reading materials _____

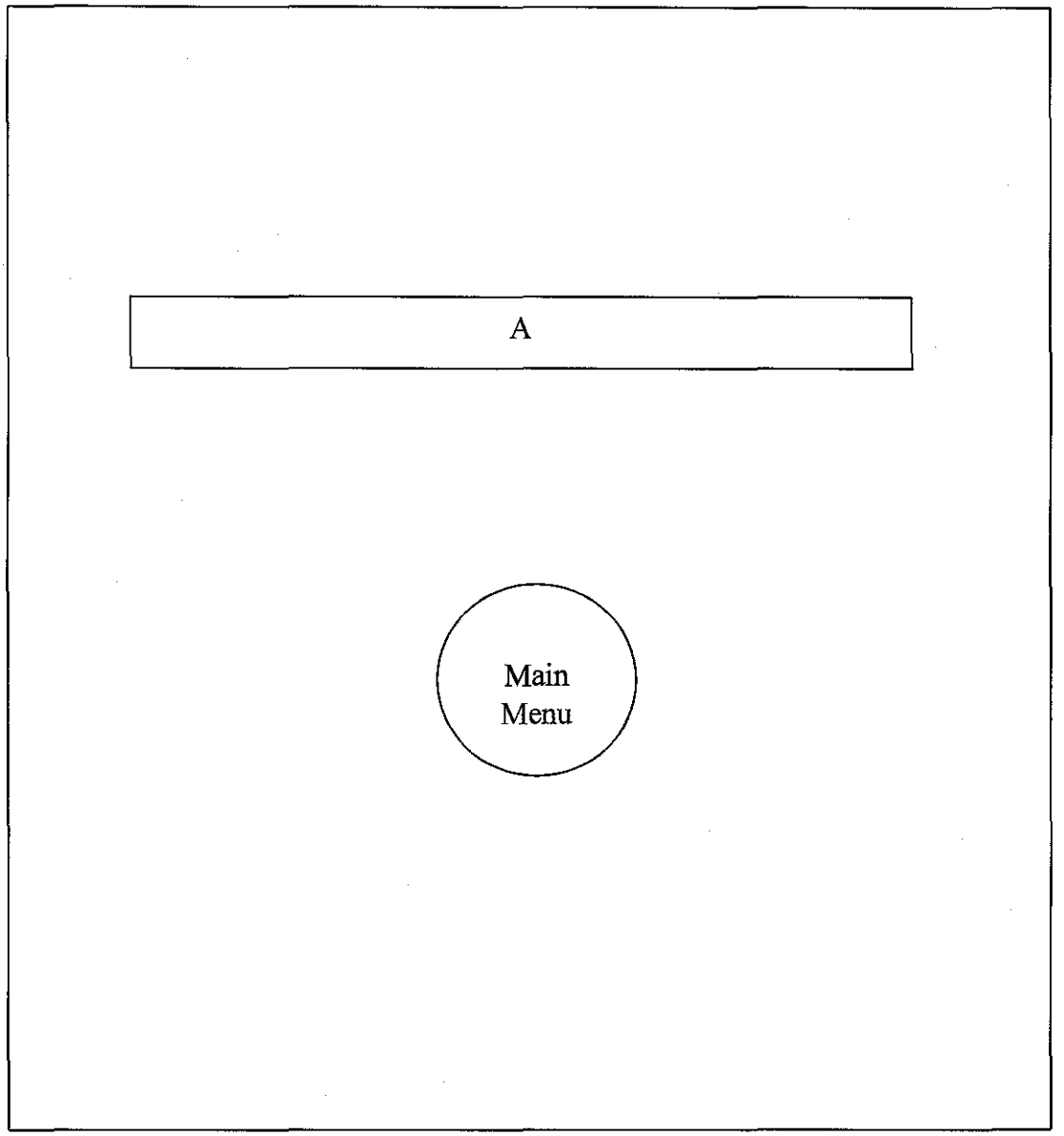
APPENDIX 4

HiP STORYBOARD

Appendix 4

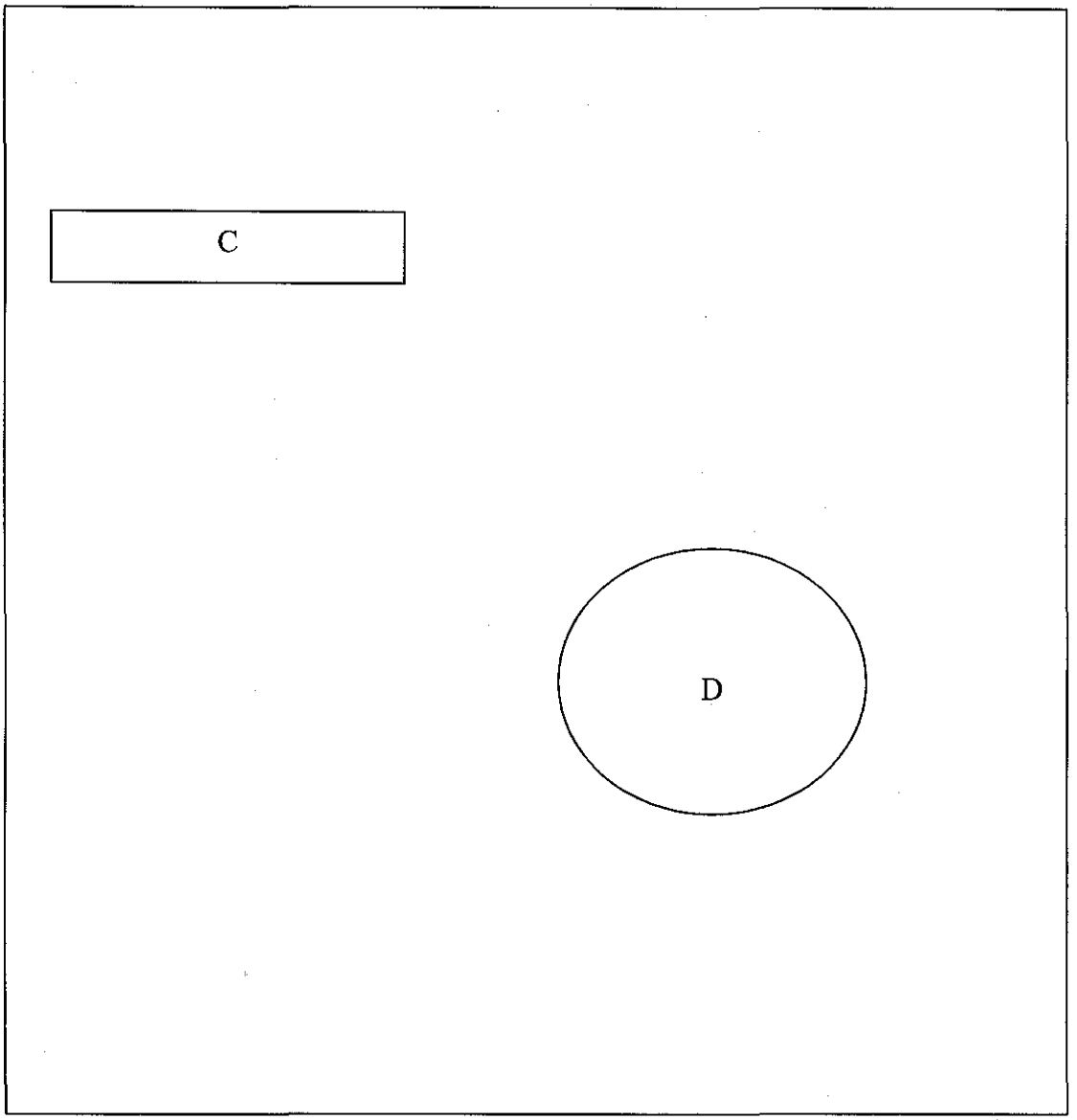
HiP Story Board

Welcome Page



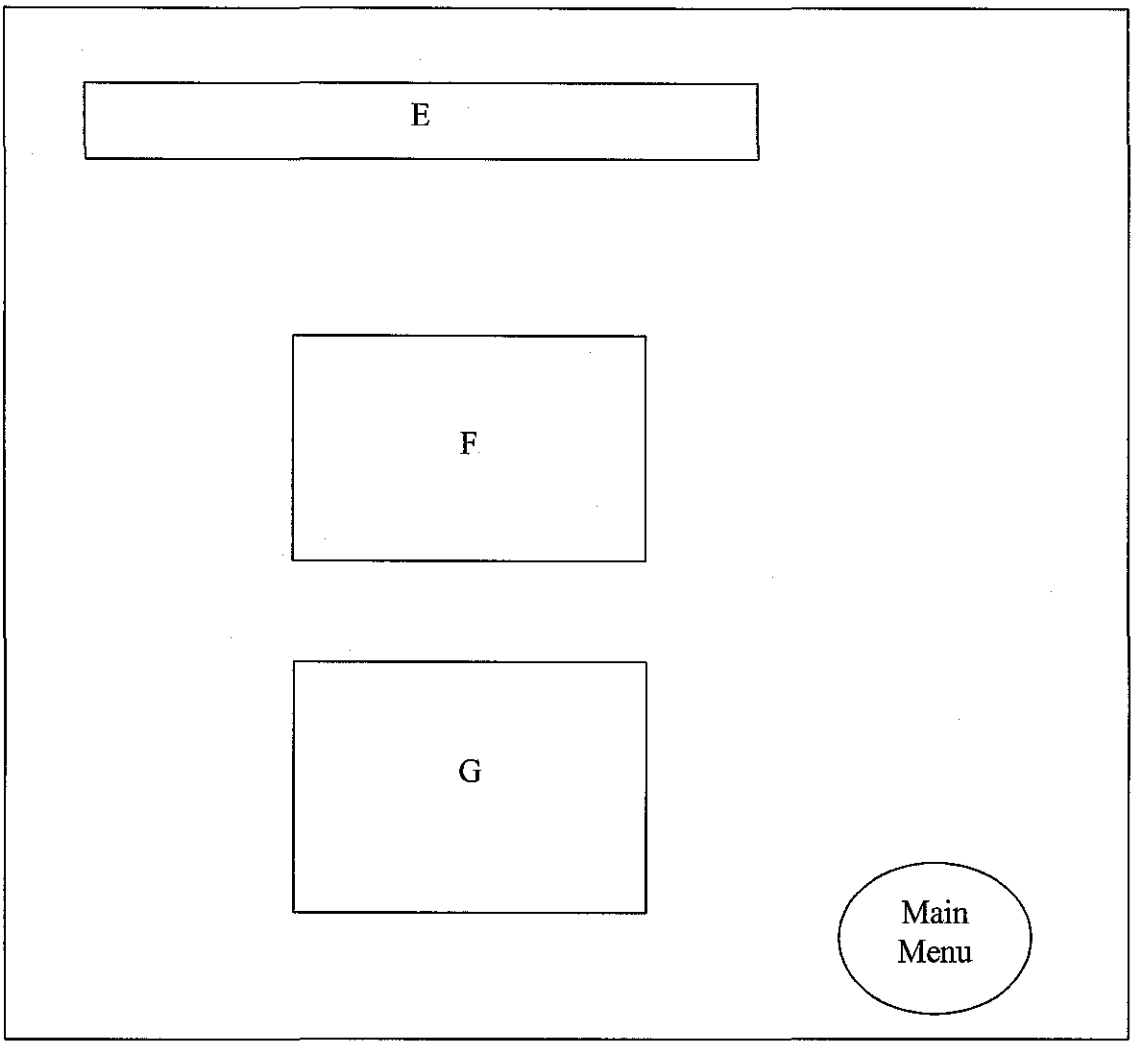
This is the 'Splash Screens' page that appears when user opens the "Hotels in Pocket" application. 'A' displays the welcome text with animation presentation. Some animation also will be displayed in that page to make the page more interactive. 'Main Menu' is a command button to go for the next page, which is Main Menu page.

Main Menu



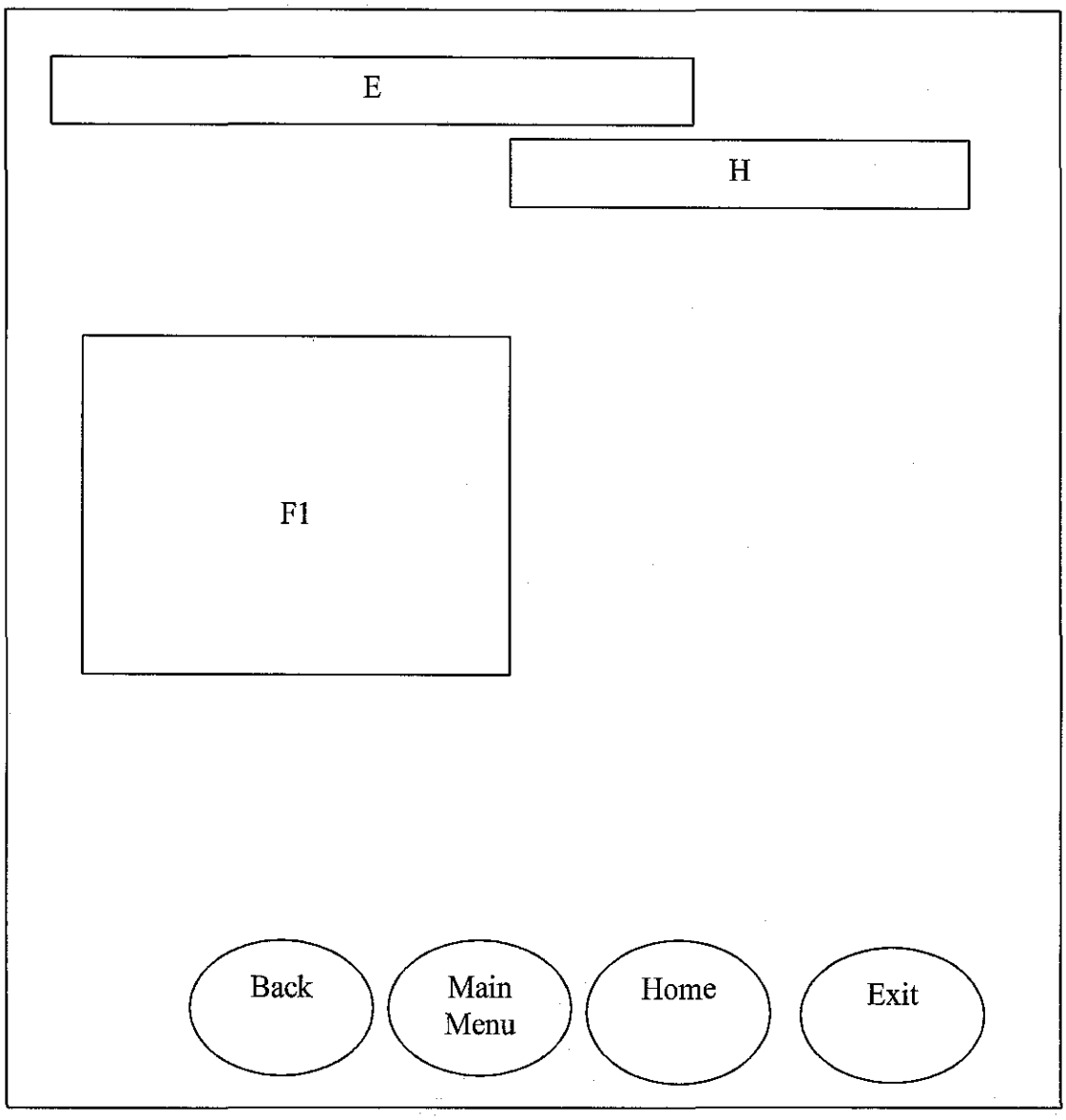
This is the Main Menu page. 'C' is a text which display title of this project called, 'Hotels in Pocket'. 'D' display Malaysia map which consists of 14 states. Each state is a hotspot that links the page to the next page, which link to one of the page of Page 1.

Home



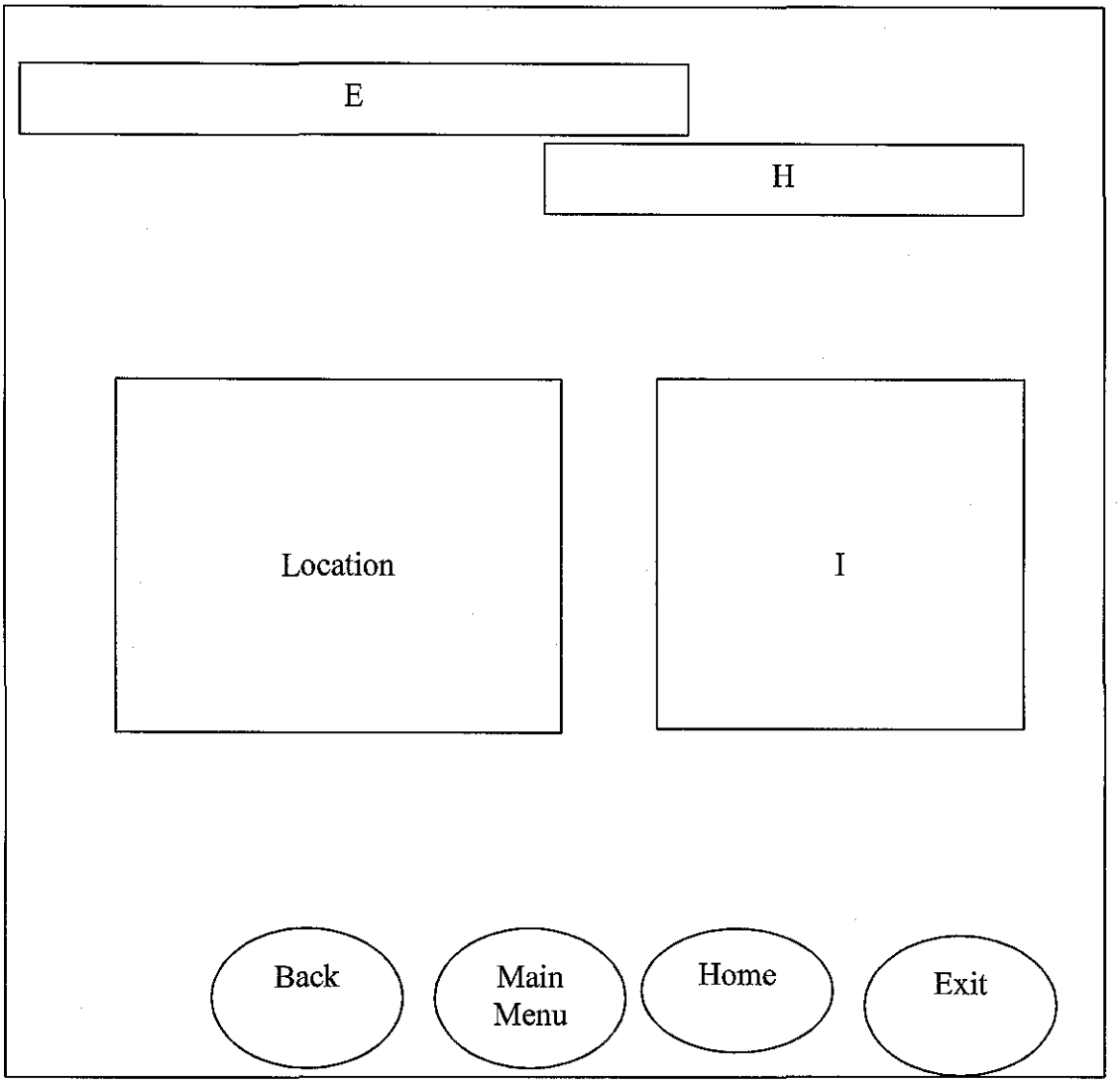
This is a page called 'Page 1', and there will be 14 pages for this page. It is because there are 14 states in Malaysia. . 'Page 1' is page for 14 states in Malaysia that give user options to get information about hotel from two different preferences. The first preference, called Hotel Preference, is through 'F', which is a combo box that list hotels name according to its respected state for user to get information about hotel. Meanwhile, the second preference, called Information Preference, is 'G', the combo box that lists the types of information for user to get information about hotel. 'E' is a text which display title of this project called, 'Hotels in Pocket'. 'Main Menu' is a command button which has link to the 'Main Menu' Page.

(a) Hotel Preference



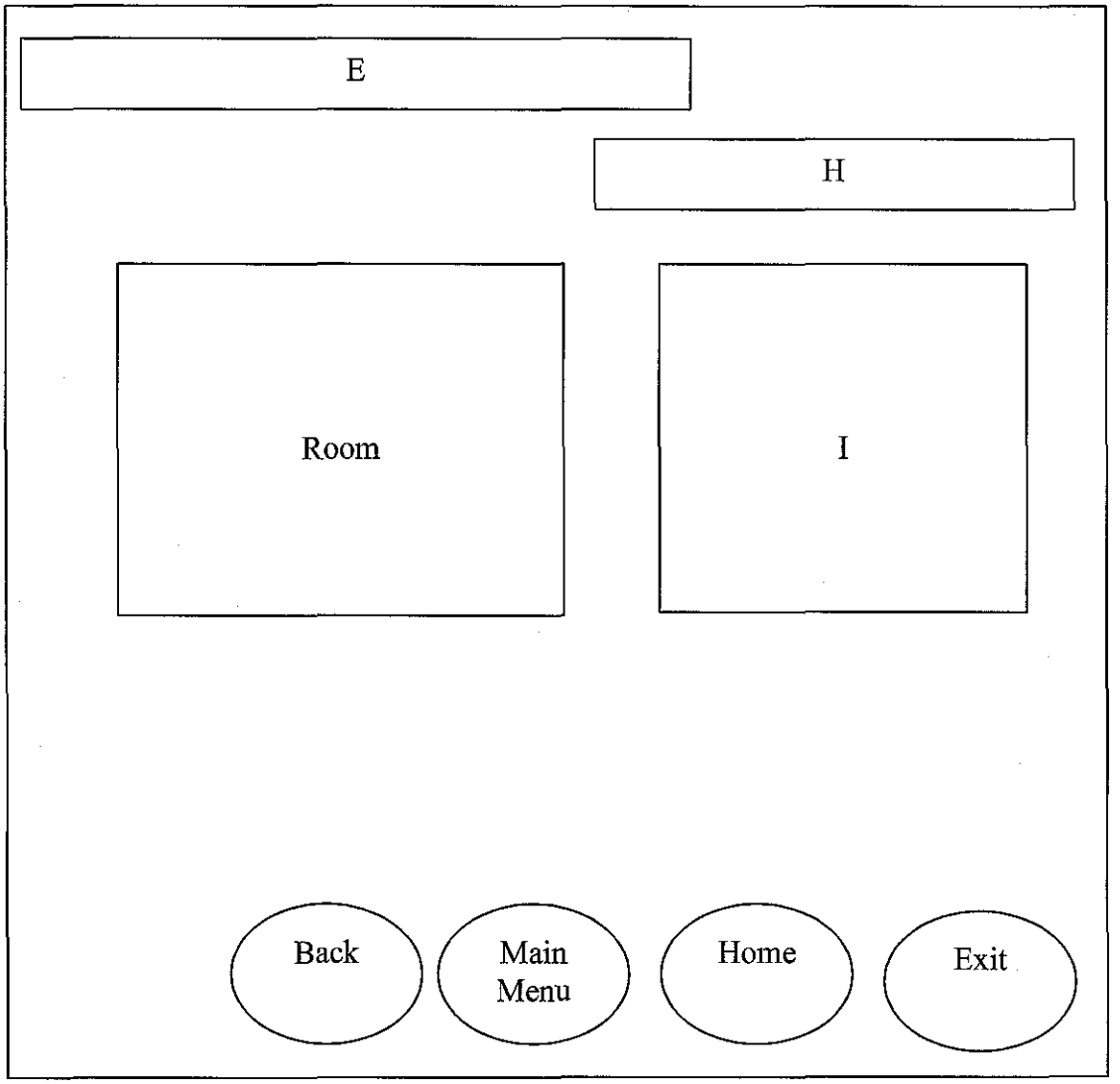
This is 'F1' page. 'E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'F1' is a combo box that lists the types of information which is Location, Room (type/rates), Services, Facilities and Promotions for user to get information according to the types listed. The 'Home' button will link the page to the home page. The 'Back' button has a link with previous page, which is Page 1. 'Main Menu' is a command button which has link to the 'Main Menu' Page. 'Exit' button will execute the page from the application.

Location Page



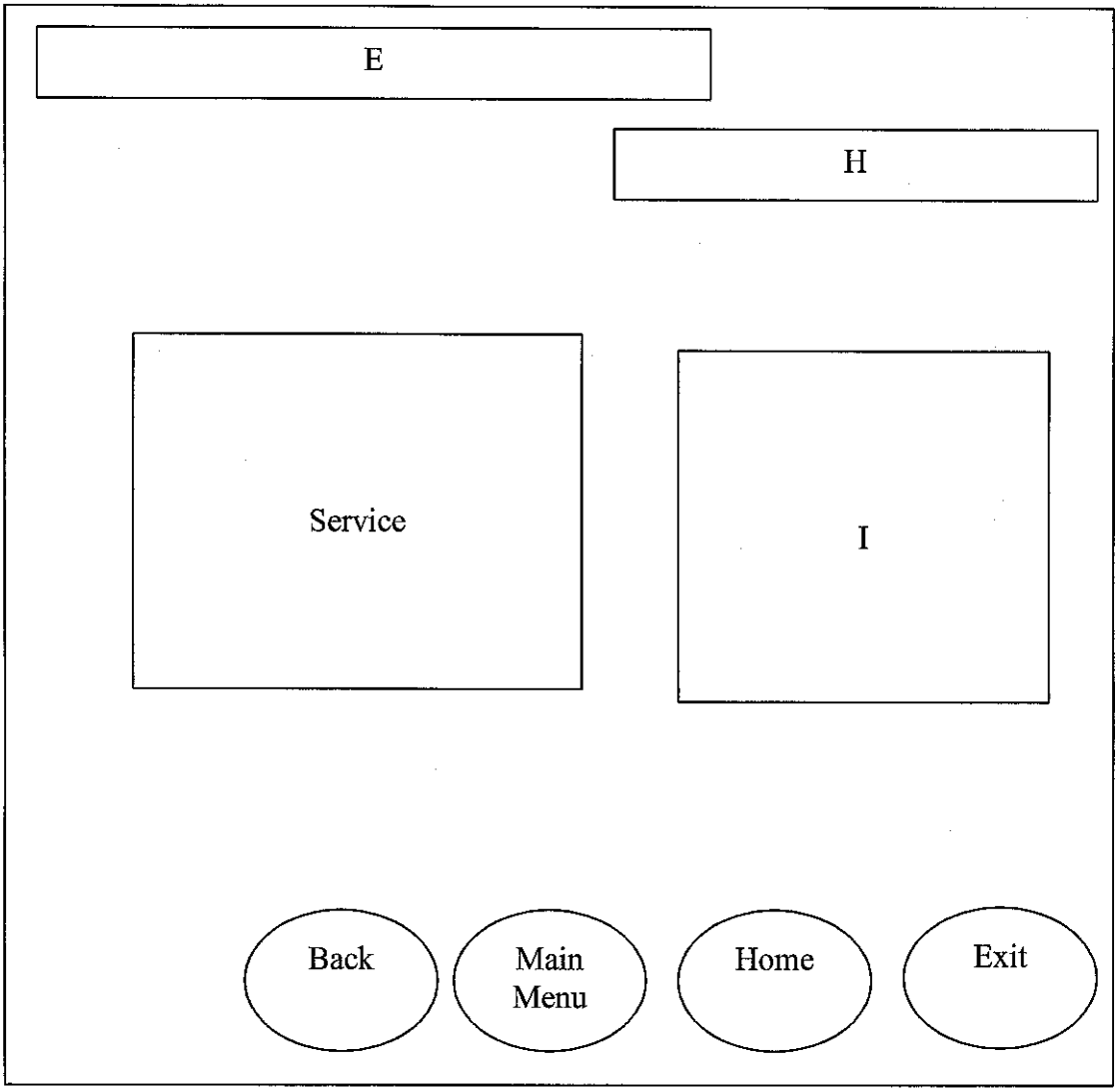
This is 'Location' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Location' display location of the hotel in a map. 'I' is a text box that explained the 'Location'. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is F1 Page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

Room Page



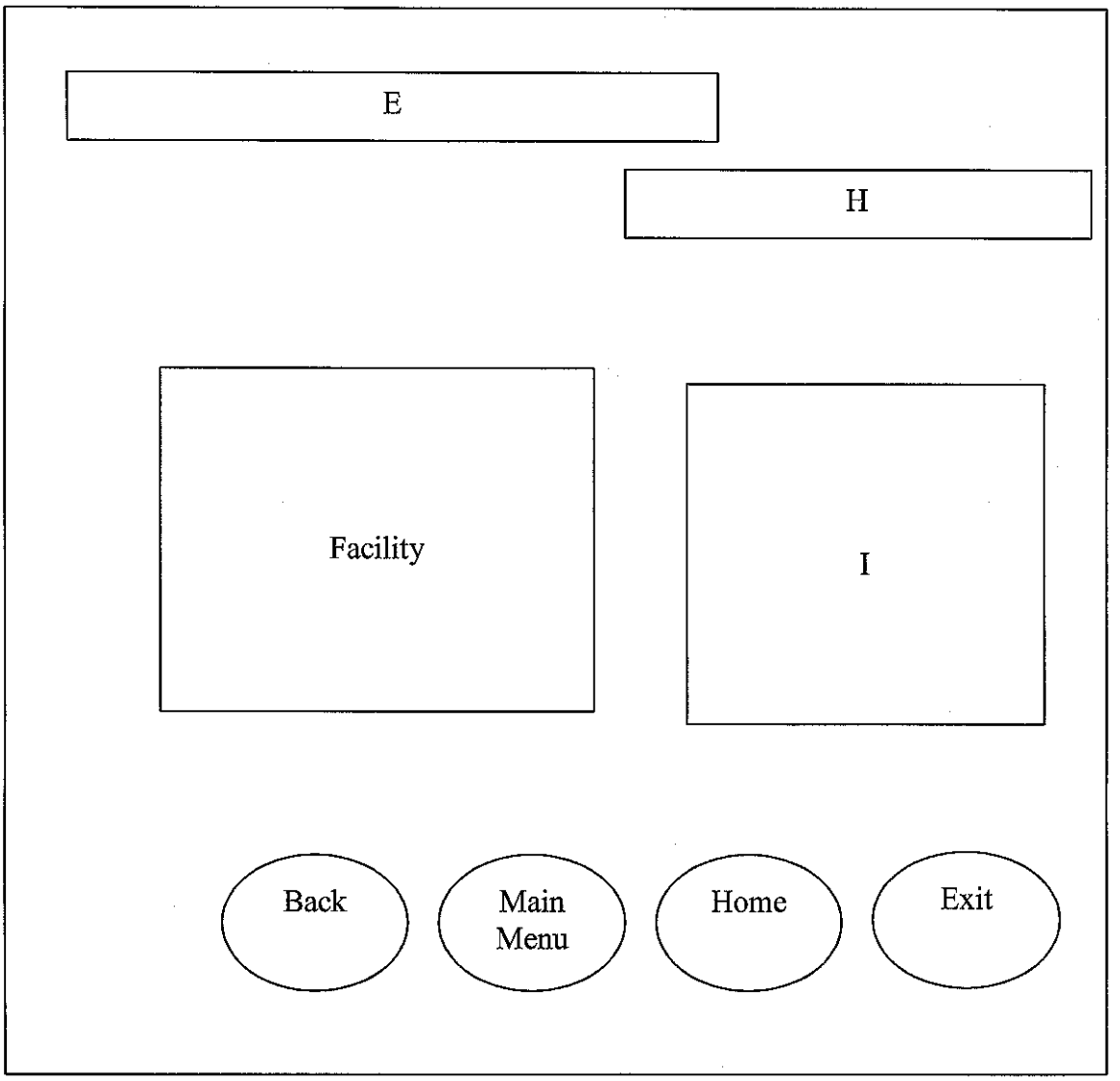
This is 'Room' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Room' contains image box that shows picture of available rooms. 'I' is a text box that explained the 'Room'. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is F1 Page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

Service Page



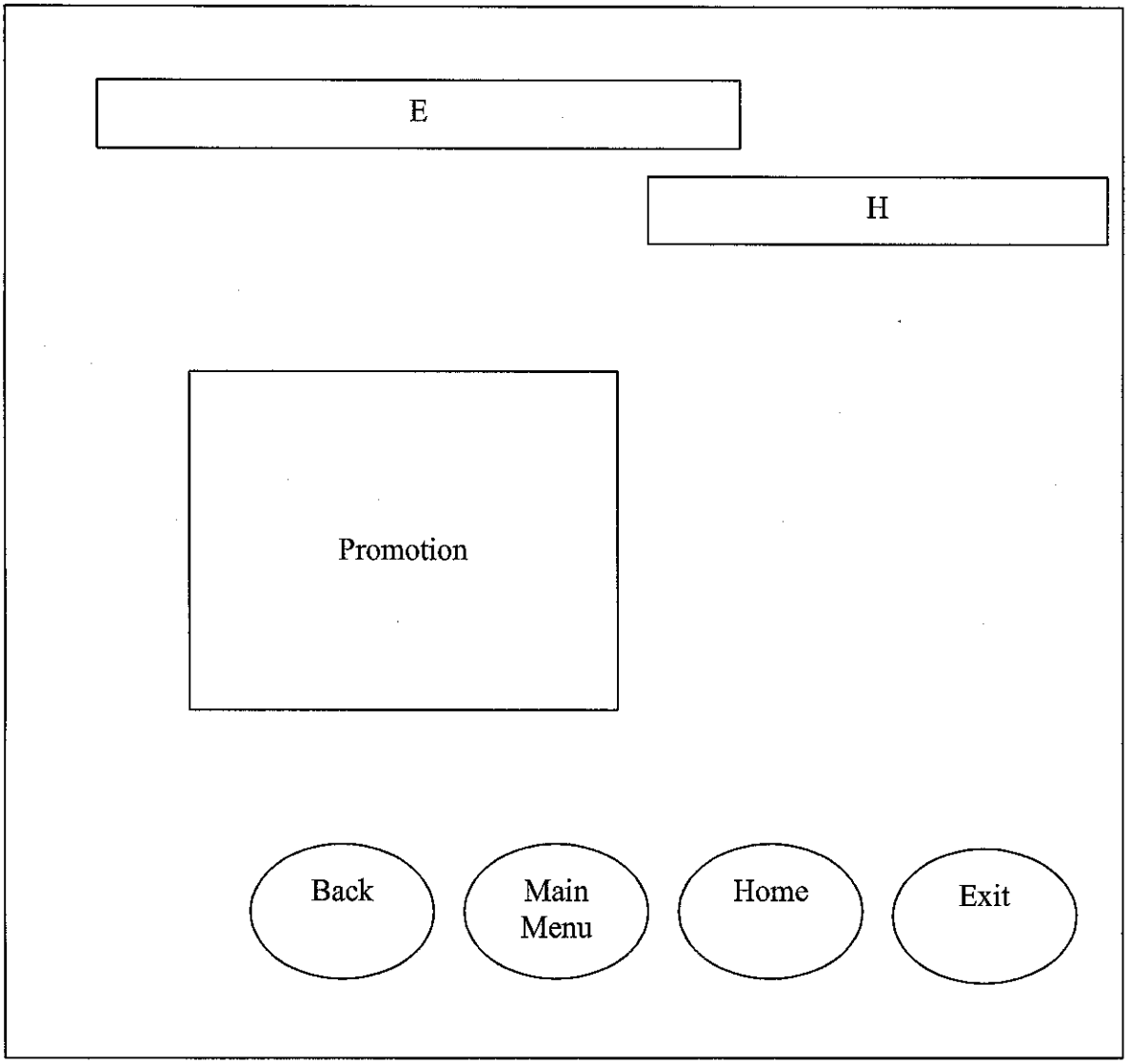
This is 'Service' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Service' contains several pictures of services in the hotel. 'I' is a text box that explained the 'Service'. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is F1 Page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

Facility Page



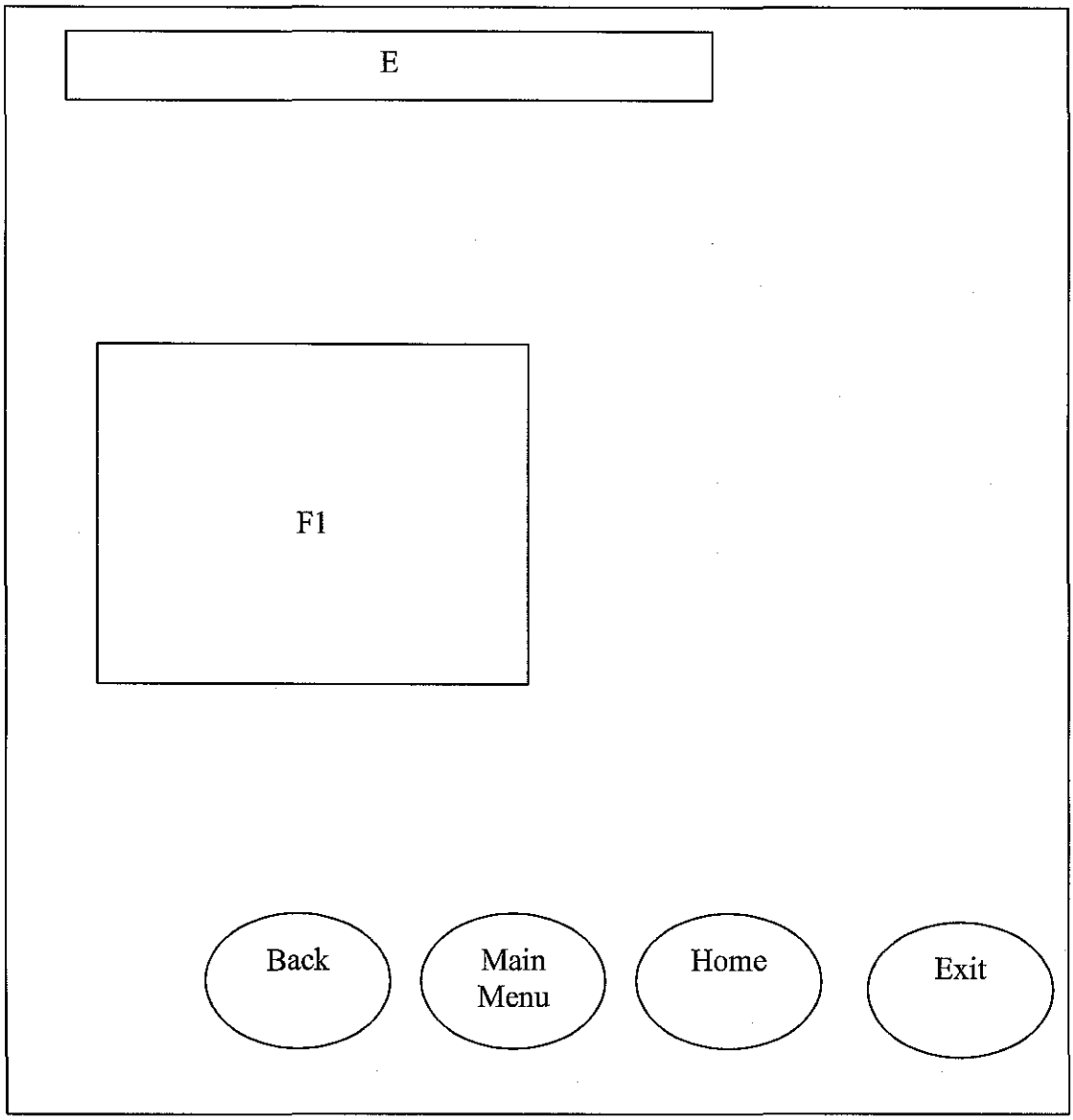
This is 'Facility' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Facility' contains several pictures of facilities in the hotel. 'I' is a text box that explained the 'Facility'. 'Back' button has a link with previous page, which is F1 page. The 'Home' button will link the page to the home page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

Promotion Page



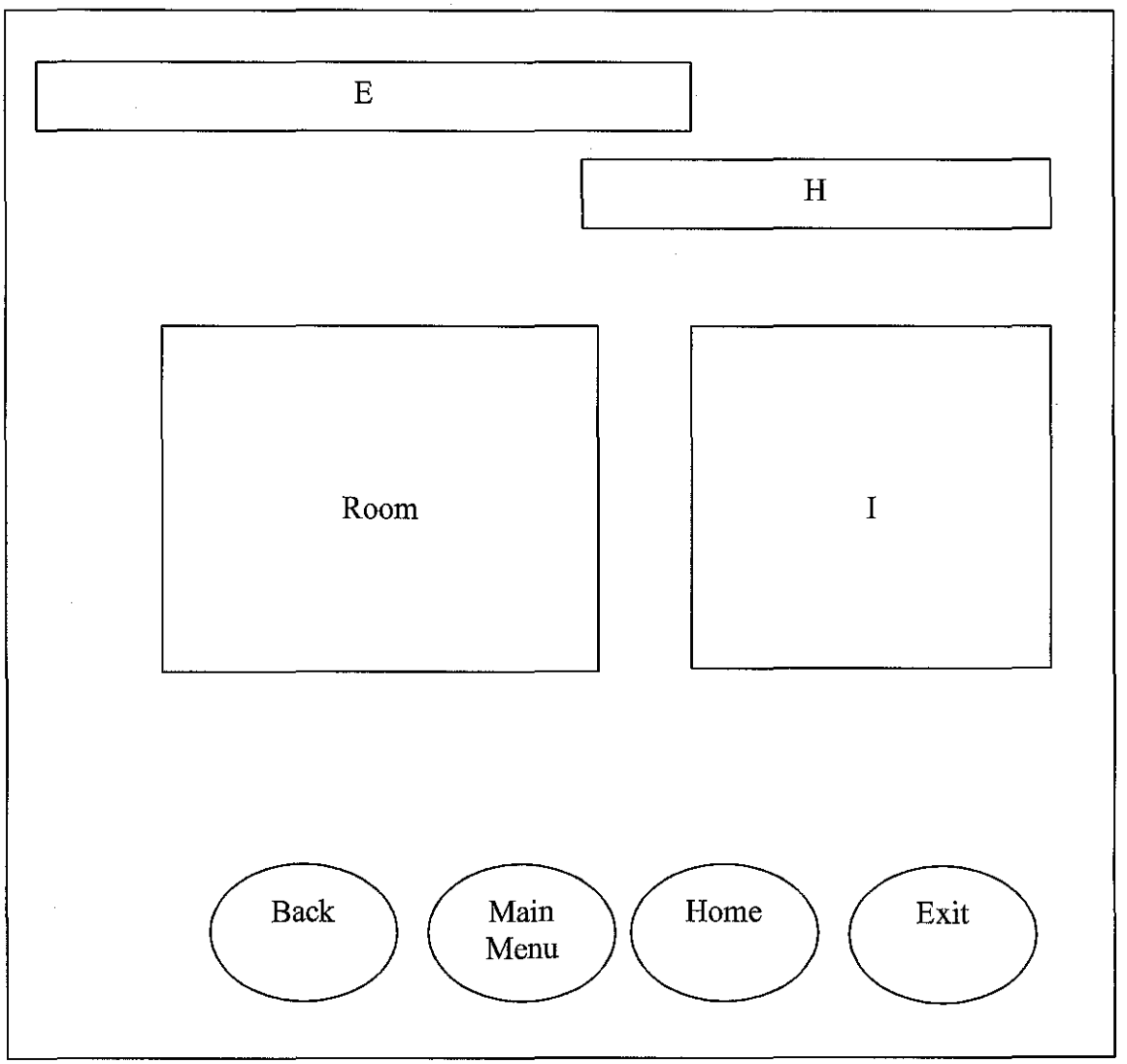
This is 'Promotion' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Promotion' display information about promotions that available in the hotel. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is F1 page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

(b) Information Preference



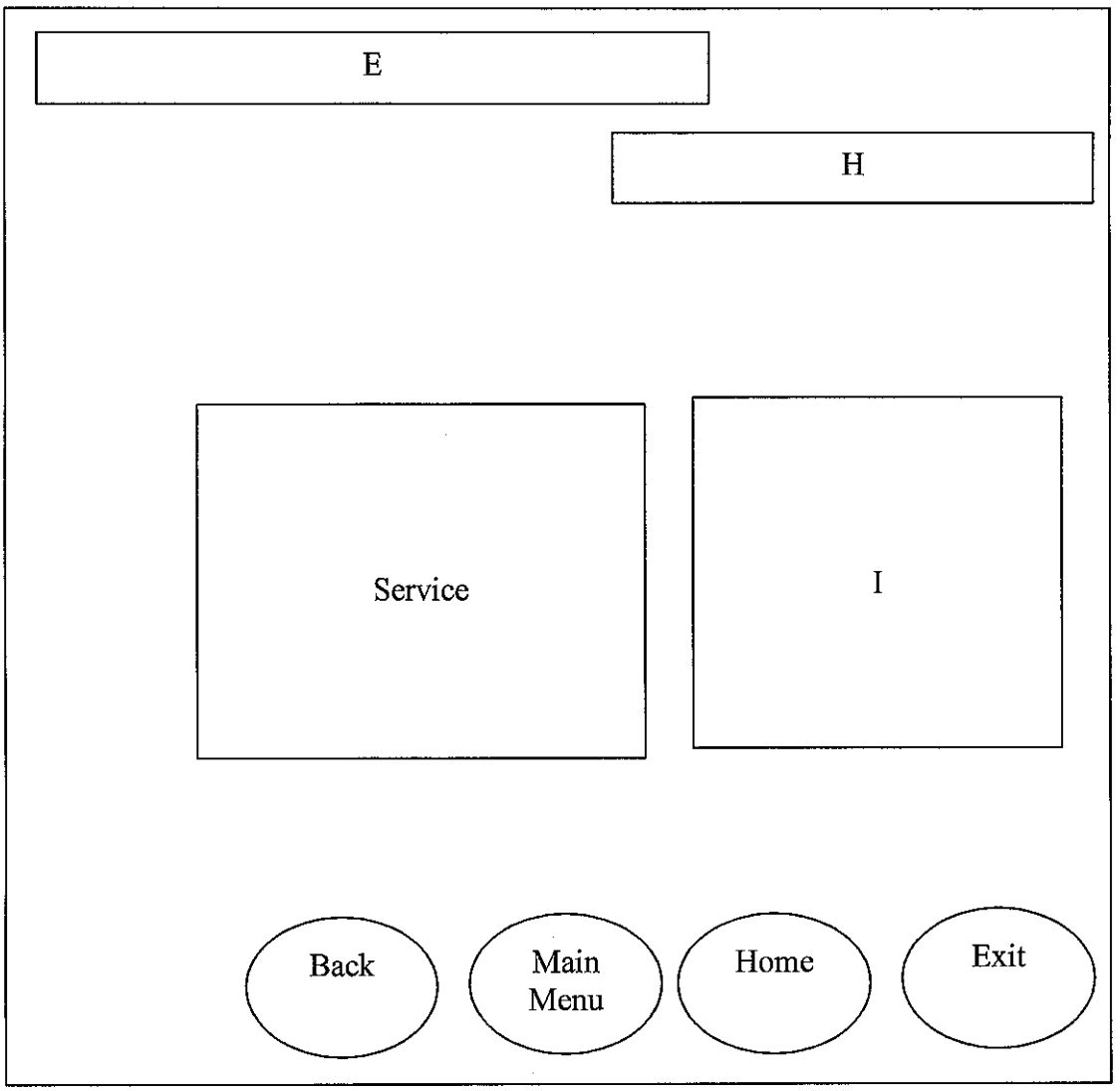
This is 'G1' page. 'E' is a text which display title of this project called, 'Hotels in Pocket'. 'G1' is a combo box that lists the name of hotel that usually invited by the target user. The 'Back' button has a link with previous page, which is Page 1. The 'Home' button will link the page to the home page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

Room Page



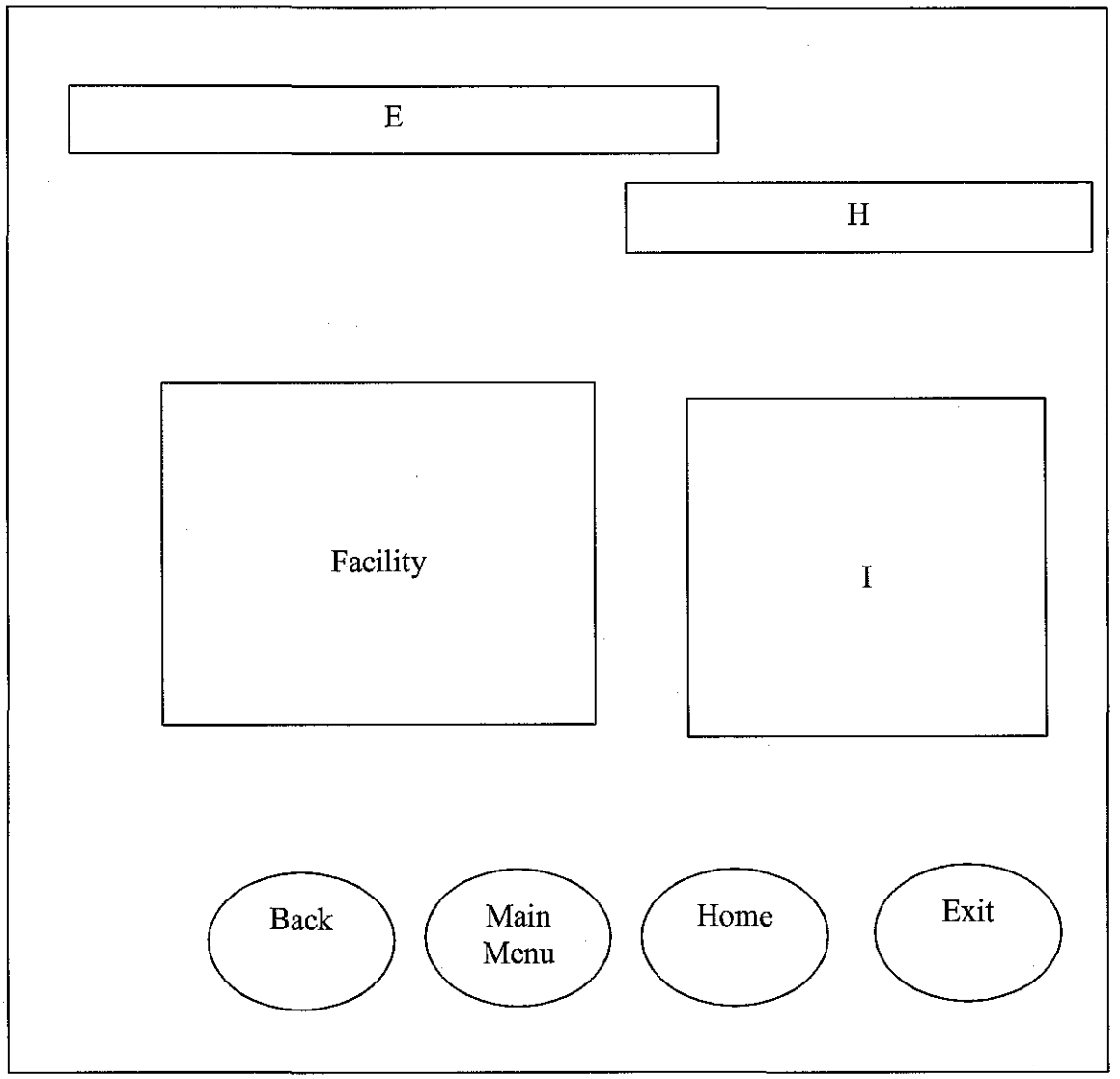
This is 'Room' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Room' contains image box that shows picture of available rooms. 'I' is a text box that explained the 'Room'. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is G1 page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

Service Page



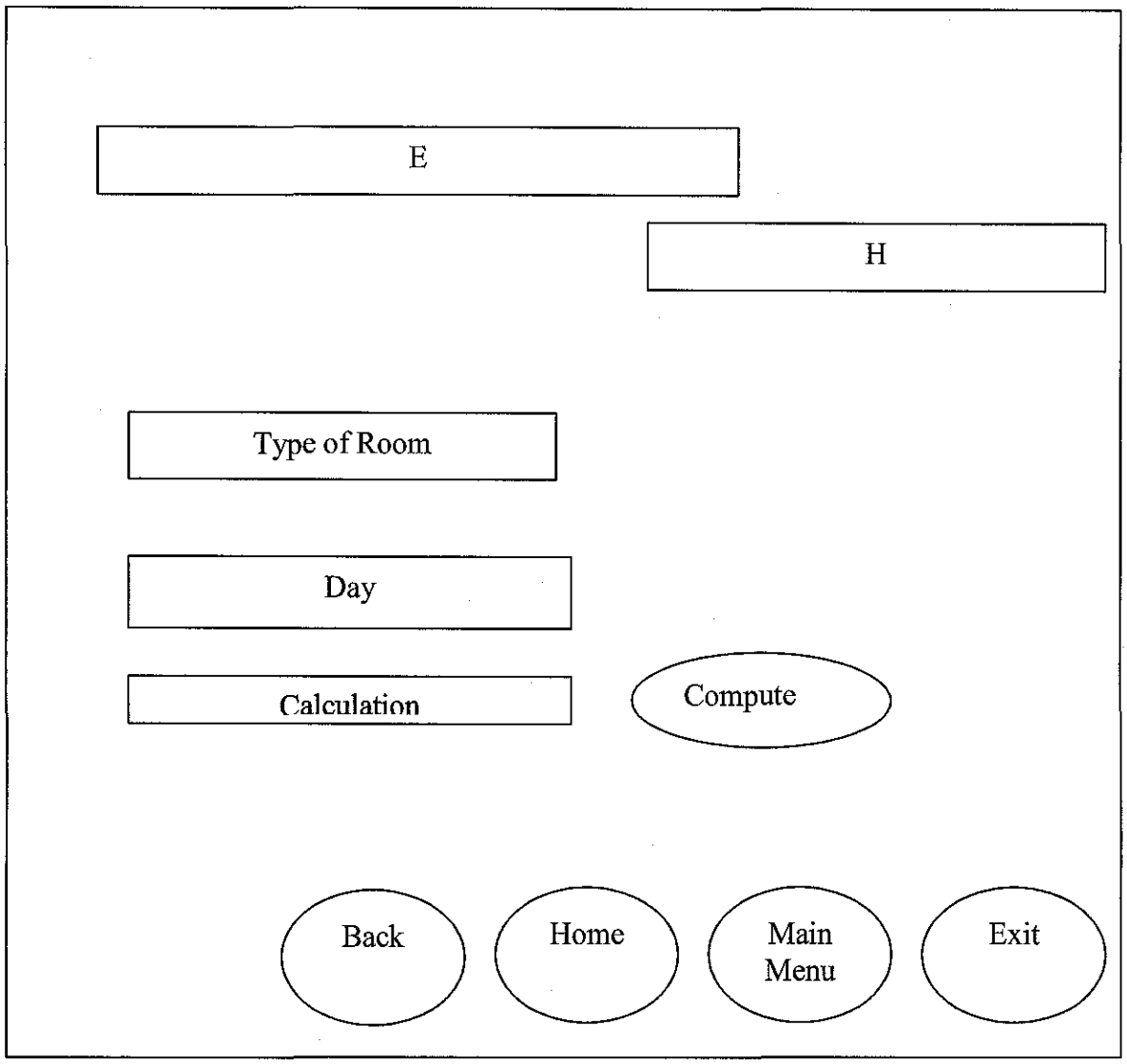
This is 'Service' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Service' contains several pictures of services in the hotel. 'I' is a text box that explained the 'Service'. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is G1 page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

Facility Page



This is 'Facility' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Facility' contains several pictures of facilities in the hotel. 'I' is a text box that explained the 'Facility'. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is G1 page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

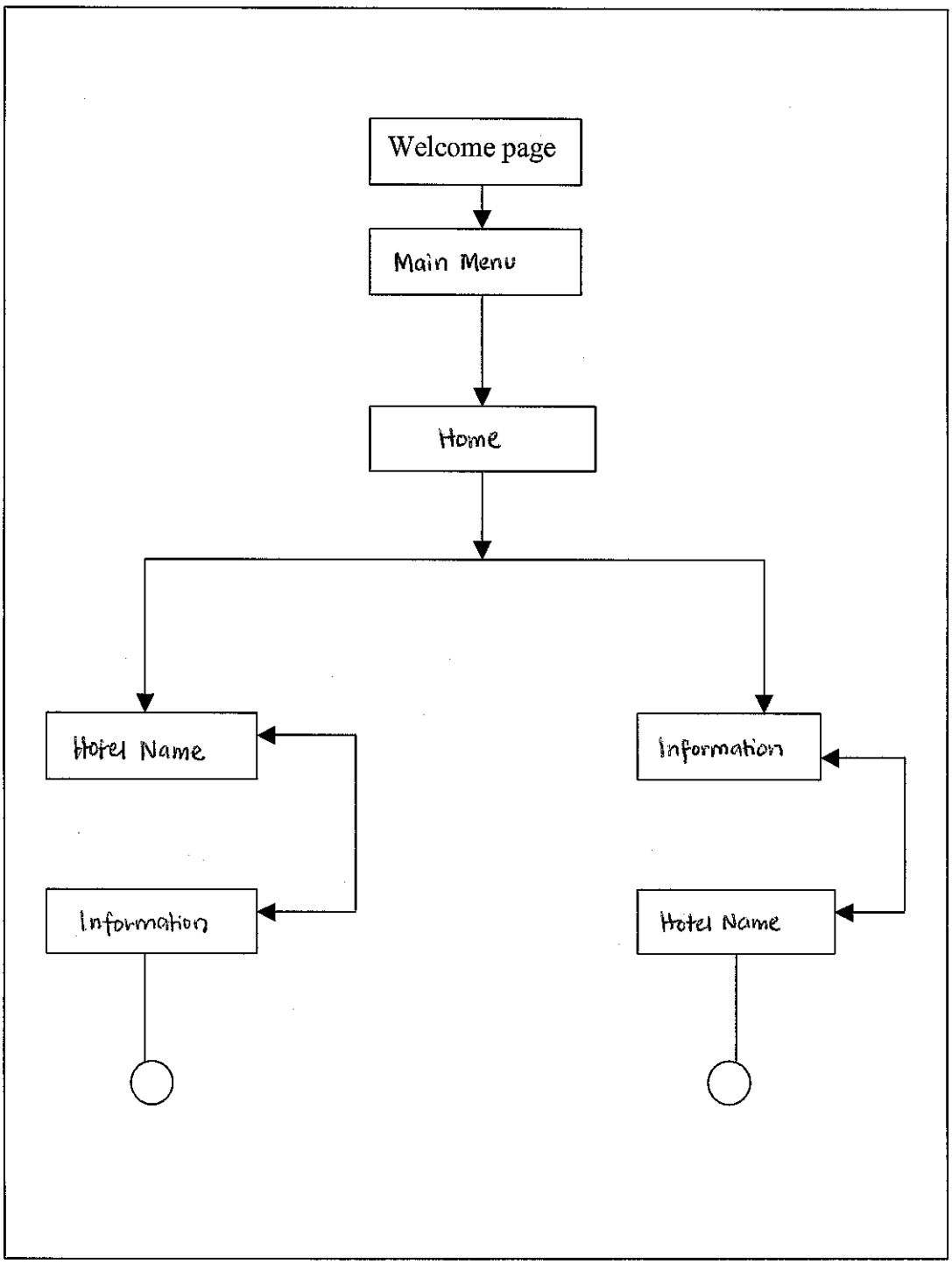
Payment Calculation Page



This is 'Payment Calculation' Page. E' is a text which display title of this project called, 'Hotels in Pocket'. 'H' is a text that displays the name of the hotels. 'Type of Room' list the room types in a hotel. 'Day' requires the user to key in the number of day of staying. 'Calculation' shows the operation of multiplication of Type of Room and Day. The 'Compute' button will calculate the payment by multiplying the Types of Room with Day. The 'Home' button will link the page to the home page. 'Back' button has a link with previous page, which is G1 page. 'Main Menu' is a command button which has link to the Main Menu Page. 'Exit' button will execute the page from the application.

APPENDIX 5

HiP FLOWCHART

Appendix 5

HiP Flow chart