

**TOURISM INFORMATION SYSTEM**

**AIDA ZURAINA BT MIR AHMAD TALAAT**

**A report submitted in partial fulfilment  
of the requirements for the award  
of the degree of  
Bachelor of Computer Science ( Software Engineering )**

**Faculty of Computer Systems & Software Engineering  
University College of Engineering & Technology Malaysia**

**NOVEMBER 2005**

## **ABSTRACT**

Tourist Information Centre (TIC) is an information centre for tourist either from Malaysia or other country. TIC still implementing the manual system to store data. All the data were kept either in the log book, template or brochure. This manual system will encounter many problems to the TIC staffs such as in updating and searching the data. It will become a big problem where some of the data might be loss during the operation. The exact data and information could not be delivered to the tourist because of the problems that occurred. Therefore, the Tourism Information System (TIS) is suggested to solve the problem. TIS consists of three (3) modules. The modules are location module, accommodation module and transportation module. The Searching Technique which is Concept Mapping will be applied in order to search and retrieve the data in the database. At the end of the project, a prototype of TIS is developed where it will be able to keep and save all Tourist Information Centre (TIC) data in the database. This will makes the data more manageable and systematic.

## **ABSTRAK**

Pusat Maklumat Pelancongan (TIC) merupakan satu tempat rujukan bagi semua pelancong yang melawat Malaysia samada dari dalam atau luar negara. Namun demikian, kaedah penyimpanan data di TIC adalah secara manual di mana semua maklumat disimpan di dalam buku log, templet ataupun risalah. Kaedah secara manual ini telah menyebabkan kesukaran kepada staff TIC sewaktu melakukan proses pengemaskinian atau mendapatkan semula data. Keadaan menjadi bertambah kritikal apabila data yang disimpan hilang. Ini menyebabkan pelbagai kesilapan berlaku sewaktu proses pemberian maklumat kepada para pelancong. Bagi mengatasi masalah yang dihadapi, Sistem Maklumat Pelancongan (TIS) berasaskan web telah dicadangkan. Pembangunan sistem ini melibatkan tiga (3) modul, iaitu modul lokasi, modul penginapan dan modul pengangkutan. Setiap modul ini dibangun menggunakan Teknik Pencarian secara Pemetaan Konsep. Teknik ini digunakan untuk mendapatkan semula data yang disimpan di dalam pangkalan data. Hasil dari projek ini, satu prototaip Sistem Maklumat Pelancongan (TIS) berasaskan web telah dibangunkan di mana ia mampu untuk menyimpan maklumat dengan lebih teratur dan sistematik.

## TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	<b>DECLARATION</b>	ii
	<b>DEDICATION</b>	iii
	<b>ACKNOWLEDGEMENT</b>	iv
	<b>ABSTRACT</b>	v
	<b>ABSTRAK</b>	vi
	<b>TABLE OF CONTENTS</b>	vii
	<b>LIST OF TABLES</b>	xi
	<b>LIST OF FIGURES</b>	xii
	<b>LIST OF ABBREVIATIONS</b>	xv
	<b>LIST OF APPENDICES</b>	vii
<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
	1.1 Introduction	1
	1.2 Problem Statement	2
	1.3 Objective	3
	1.4 Scope	3
<b>2</b>	<b>LITERATURE REVIEW</b>	<b>5</b>
	2.1 Introduction	5
	2.2 Tourism Information System (TIS)	6
	2.2.1 Case study on manual system in Tourist Pahang Information Centre (TIC)	6
	2.2.2 Case study on web based application	9

2.2.2.1	Virtual Malaysia Tourism Portal	9
2.2.2.2	Assam Tourism	11
2.2.2.3	Tourism Chilliwack	15
2.2.2.4	UNCTAD'S E-Tourism Initiative	17
2.2.2.5	Web Based Information System for Tourism Resorts; A Case Study for Side/Manavgat	18
2.3	Characteristic on Tourism Information System	20
2.3.1	Characteristics on effective TIS	21
2.3.2	Searching Technique – Concept Mapping	21
2.3.2.1	Keyword Searching	21
2.3.2.2	Boolean Searching	22
2.3.2.3	Nesting Searching	23
2.3.2.4	Field Searching	24
2.4	Development Elements	24
2.4.1	Methods	24
2.4.1.1	Spiral Model	25
2.4.1.2	Waterfall Model	26
2.4.1.3	Rapid Software Development Life Cycle (RSDLC)	29
2.4.2	Tools	30
2.4.2.1	Hypertext Preprocessor (PHP)	31
2.4.2.2	JavaServer Pages (JSP)	32
2.4.3	Web Server	33
2.4.3.1	Apache Web Server	34
2.4.4	Database	36
2.4.4.1	MySQL	36
2.4.5	Interface Design	37
2.4.5.1	Macromedia Dreamweaver MX	38
2.5	Discussion	38

<b>3.</b>	<b>METHODOLOGY</b>	<b>42</b>
3.1	Introduction	42
3.2	Rapid Software Development Life Cycle (RSDLC)	43
3.3	Phase 1 : Requirement and Analysis	43
3.4	Phase 2 : Design	45
3.4.1	System Flow	45
3.4.2	Object-Modeling Technique	47
3.4.2.1	Use Case Diagram	48
3.4.2.2	Sequence Diagram	49
3.4.3	Database Design	51
3.4.3.1	Data Dictionary	52
3.5	Phase 3 : Implementation and Integration	58
3.6	Phase 4 : Testing	59
3.7	Phase 5 : Deployment	59
3.8	Software and Hardware Specification	59
3.8.1	Software Specification	60
3.8.2	Hardware Specification	60
<b>4.</b>	<b>RESULT AND DISCUSSION</b>	<b>62</b>
4.1	Introduction	62
4.2	Front-End System for TIS	62
4.2.1	Location Module	63
4.2.2	Accommodation Module	66
4.2.3	Transportation Module	75
4.3	Back-End System for TIS	78
4.3.1	Location Module	78
4.3.2	Accommodation Module	82
4.3.3	Transportation Module	87
4.4	User Guide Manual	90
4.5	Discussion	90

4.5.1	Source Management	90
4.5.2	Time	90
4.6	Assumption	91
<b>5.</b>	<b>CONCLUSION</b>	<b>92</b>
5.1	Introduction	92
5.2	Future Research	94
	<b>REFERENCES</b>	<b>95</b>
	Appendices A - B	98 - 99

**LIST OF TABLES**

<b>TABLE NO</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Description of Stages in Waterfall Model	27
3.1	Data Dictionary of Table accom_desc	53
3.2	Data Dictionary of Table accom_location	53
3.3	Data Dictionary of Table accom_type	54
3.4	Data Dictionary of Table accom_place	54
3.5	Data Dictionary of Table accom_price	55
3.6	Data Dictionary of Table air_desc	55
3.7	Data Dictionary of Table air_place	55
3.8	Data Dictionary of Table bus_desc	56
3.9	Data Dictionary of Table carental	56
3.10	Data Dictionary of Table beach	57
3.11	Data Dictionary of Table highlands	57
3.12	Data Dictionary of Table nature	58
3.13	Software Specification	60
3.14	Hardware Specification	61



## LIST OF FIGURES

FIGURE NO	TITLE	PAGE
2.1	Process flow for the manual system of TIS	8
2.2	Main Page of Accommodation feature [23]	10
2.3	Page of Accommodation Information [23]	10
2.4	Page of Accommodation Information edit [23]	11
2.5	Page of the Accommodation link [20]	12
2.6	Page of the Hotels in Assam in Accommodation link [20]	13
2.7	Page of the Transport link [20]	13
2.8	Page of the flights in the Transport link [20]	14
2.9	Page of the Destination link [20]	14
2.10	Main page of Tourism Chilliwac [21]	16
2.11	Page of the Accommodation link [21]	16
2.12	Page of the Transportation link [21]	17
2.13	Picture of Boolean operators for <b>AND</b> [17]	23
2.14	Picture of Boolean operators for <b>OR</b> [17]	23
2.15	Picture of Boolean operators for <b>NOT</b> [17]	23
2.16	Spiral Model [26]	25
2.17	Stages in Waterfall Model [27]	27
3.1	Rapid Software Development Life Cycle Model	43
3.2	Workflow of back-end user	46
3.3	Workflow of front-end user	47
3.4	The actors and use cases of TIS	49
3.5	Sequence Diagram of back-end user	50
3.6	Sequence Diagram of front-end user	51

3.7	The Relationship between Entities in TIS Database	52
4.1	Interface for Sub-menu for location module	63
4.2	Interface for Nature and Adventure	64
4.3	Interface for Description of Nature and Adventure attraction	64
4.4	Interface for Pictures of Nature and Adventure attraction	65
4.5	Interface for Island and Beach	65
4.6	Interface for Highlands	66
4.7	Interface for View List	67
4.8	Interface for view details	67
4.9	Interface for update the data	68
4.10	Interface for selection on place	69
4.11	Interface for selection on type	69
4.12	Interface for result search by Default	69
4.13	Interface for search by Place	70
4.14	Interface for result search by Place	70
4.15	Interface for view details	71
4.16	Interface for key in a character	72
4.17	Interface for key in a sentence	72
4.18	Interface for result that search by full sentence	72
4.19	Interface for result search by a character	73
4.20	Interface for view details	73
4.21	Interface for type of price range	74
4.22	Interface for search by Price and Place	74
4.23	Interface for result search by Price and Place	75
4.24	Interface for select the location and destination	75
4.25	Interface for display result	76
4.26	Interface for select the place location and destination	76
4.27	Interface for display result	77
4.28	Interface for select the place	77
4.29	Interface for display result	77
4.30	Interface for login	78

4.31	Interface for Nature and Adventure	79
4.32	Interface for view pictures Nature and Adventure attraction	79
4.33	Interface for Island and Beach	80
4.34	Interface for view details of the attraction	80
4.35	Interface for view pictures Island and Beach attraction	81
4.36	Interface for Highlands	81
4.37	Interface for view details of the attraction	82
4.38	Interface for view pictures Highlands attraction	82
4.39	Interface for view all the data	83
4.40	Interface for view details	83
4.41	Interface for edit the data	84
4.42	Interface for delete the data	84
4.43	Interface of search ID No	85
4.44	Interface of entering the ID No	85
4.45	Interface of result search by ID No	85
4.46	Interface of add new data	86
4.47	Interface of view the ID No	87
4.48	Interface for search by air	88
4.49	Interface for search result by air	88
4.50	Interface for search by bus	88
4.51	Interface for search result by bus	89
4.52	Interface for search the car rental in selected place	89
4.53	Interface for search result by car rental	89
4.54	Interface for error message	89

## LIST OF ABBREVIATIONS

TIS	-	Tourism Information System
SQL	-	Structured Query Language
ICT	-	Information, Communication and Technology
TIC	-	Tourist Information Centre
CEPCO	-	Chilliwack Economic Partners Corporation
GIS	-	Geographical Information System
MIS	-	Management Information System
IT	-	Information technology
RSDLC	-	Rapid Software Development Life Cycle
CASE	-	Computer-Assisted Software Engineering
RAD	-	Rapid Application Development
SDLC	-	Software Development Life Cycle
PHP	-	Hypertext Preprocessor
HTML	-	HyperText Markup Language
JSP	-	JavaServer Pages
ASP	-	Active Server Pages
CGI	-	Common Gateway Interface
UML	-	Unified Modeling Language
OO	-	Object-Oriented
GUI	-	Graphical User Interface
HTTP	-	Hypertext Transfer Protocol
Front-end user	-	TIC staff / Administrator / Tourists / User
Back-end user	-	TIC staff that assigned with username and password / Administrator

- CSS - Cascading Style Sheets
- FTP - File Transfer Protocol
- IIS - Internet Information Server
- HTTP - Hypertext Transfer Protocol

**LIST OF APPENDICES**

<b>APPENDIX</b>	<b>TITLE</b>	<b>PAGE</b>
A	Gantt Chart	98
B	User Guide Manual of Tourism Information System (TIS)	99

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

Malaysia is one of the best country with their own unique people, culture, traditions, foods and more. Nowadays, people from all over the world come to visit Malaysia for its best fascinating attractions. Usually, tourists who come to Malaysia visit the tourism centre as the first place to drop by. There, they will get all the information that useful to them such as about the places, accommodations and transportations. The operation of tourism centre is still being done in manual system where the records of tourism information needed to be searched either from log books, brochures or templates to answer all the questions that required by the tourist either by phone call or walk-in. For the time being, there is no computerize system to manage all the information in a proper way yet. This way always become as a big problem to them. A case study of the operation at the tourism centre is done in Kuantan. Base on the case study, tourists will go to Tourist Information Centre (TIC) to ask and get some information related to Pahang state.

## 1.2 Problem Statement

The operation of Tourist Information Centre (TIC) which is done manually bring several problems. The current system need to be changed to computerize system because:

- (i) Through the manual system, staff needs to find the data based on the request by the tourist through the records. Normally, the tourists will ask questions about attractive places, accommodation that suitable with their budget and available available transportation. Several tourist might be asking about the lower price accommodation but comfortable to them. The problem occurs when the staff of Tourist Information Centre (TIC) needs to search for all records of the accommodations, locations and transportation that suitable with the requirement. Sometimes, the staffs have to find it through the templates and brochures because all datas are kept in different records. They have to go through one record by one record to find the result.
- (ii) All data is kept using filed based system where the staff needs to manage many files to keep data. Besides, if there is any particular information need to be changed or updated, the staff needs to fill up all the particular data in a new log book or re-write it.

The need of computerizing the system arises as a result of the sets of the problem faced. Tourism Information System (TIS) will be developed as a propose system to solve the problems that occurred. TIS is a web based application where the system is not connected to any other system. TIS uses its own database. The main purpose of developing this system is to computerize all the required information such as data information about accommodation, transportation and location. Therefore all the data can be kept systematically and efficiently. Besides, this system is able to manage and



update all the data that can be used as a reference in the future. The users of this system are TIC staffs and tourists.

### **1.3 Objective**

In developing Tourism Information System (TIS), the objectives that will be achieved are:

- (i) To computerize the manual system. The data is managed manually. By computerizing this system, it will be easier to manage the data. It will be easier to search for the data based on the tourist request without opening any entries, templates or records.
- (ii) To apply Searching Technique which is Mapping Concept in developing a prototype of Tourism Information System (TIS).

### **1.4 Scope**

The scopes of this project are:

- (i) This project is developed for Tourist Pahang Information Centre (TIC), Kuantan and it involves the front-end user and back-end user. This project will be developed as a web based application.
- (ii) There are three main modules which are accommodation, transportation and location.

- (iii) The Searching Technique which is Concept Mapping will be applied to develop this system. It consists of Keyword searching, Boolean searching, Nesting searching and Field searching.
  
- (iv) This project will be run on Windows platform only. The system will be developed using Macromedia Dreamweaver MX 6.0 as the interface design, PHP as the programming language and My SQL as the database.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The evolution of Information, Communication and Technology (ICT) changes the way of data storing and dissemination. Most of the system application have been computerized in order to manage data easily. All important data can be saved in one device and easier to be achieved. The possibility to lose data is low.

In developing Tourism Information System (TIS), research related topics about existing tourism system in the market need to be defined and studied. Software process model, methods, techniques and tools that are suitable for development are also studied.

This chapter will be divided into four (4) sections. First section explains about case study on the current TIS. Second section explains about the characteristic on TIS. Third section explains about the development elements and the last section explains on the discussion for the methods that had been studied in the three (3) sections before.

## **2.2 Tourism Information System (TIS)**

Generally, an information system consists of all ways that people communicate with others. Systems are composed of information channels. These channels may be formal or informal, personal or impersonal, and public or private. Information channels are used in different ways and combinations by different people, businesses, and communities [24].

Tourism Information System (TIS) is a specific type of information system. It consists of all information channels used in a business or community to promote itself as a tourism attraction. These information channels include commercials, advertisement, brochures, repeat visitors, employees, friends, and relatives [24].

TIS serves as a worldwide advertisement of tourist services, agencies and tourist activities. It helps attract new clients providing them all information they need to know about traveling in particular country and it saves money on marketing and advertising costs.

There are two (2) types of current system that have been studied which are manual system and web based application system.

### **2.2.1 Case study on manual system in Tourist Pahang Information Centre (TIC)**

Tourist Pahang Information Centre (TIC) is an information centre for Pahang state that situated in Kuantan. It provides information about attractive places, accommodation that reliable, transportation, maps and any information that related with it. Normally, TIC will be the first place that tourist drop by to get some useful information before they go for travelling. In TIC, the tourist normally ask some

7

questions such as attractive places, accommodation, transportation, price and events that will be held.

Currently, TIC still does not have any computerized system. All operations are done manually and all important informations are recorded by written. All records are kept in the log book.

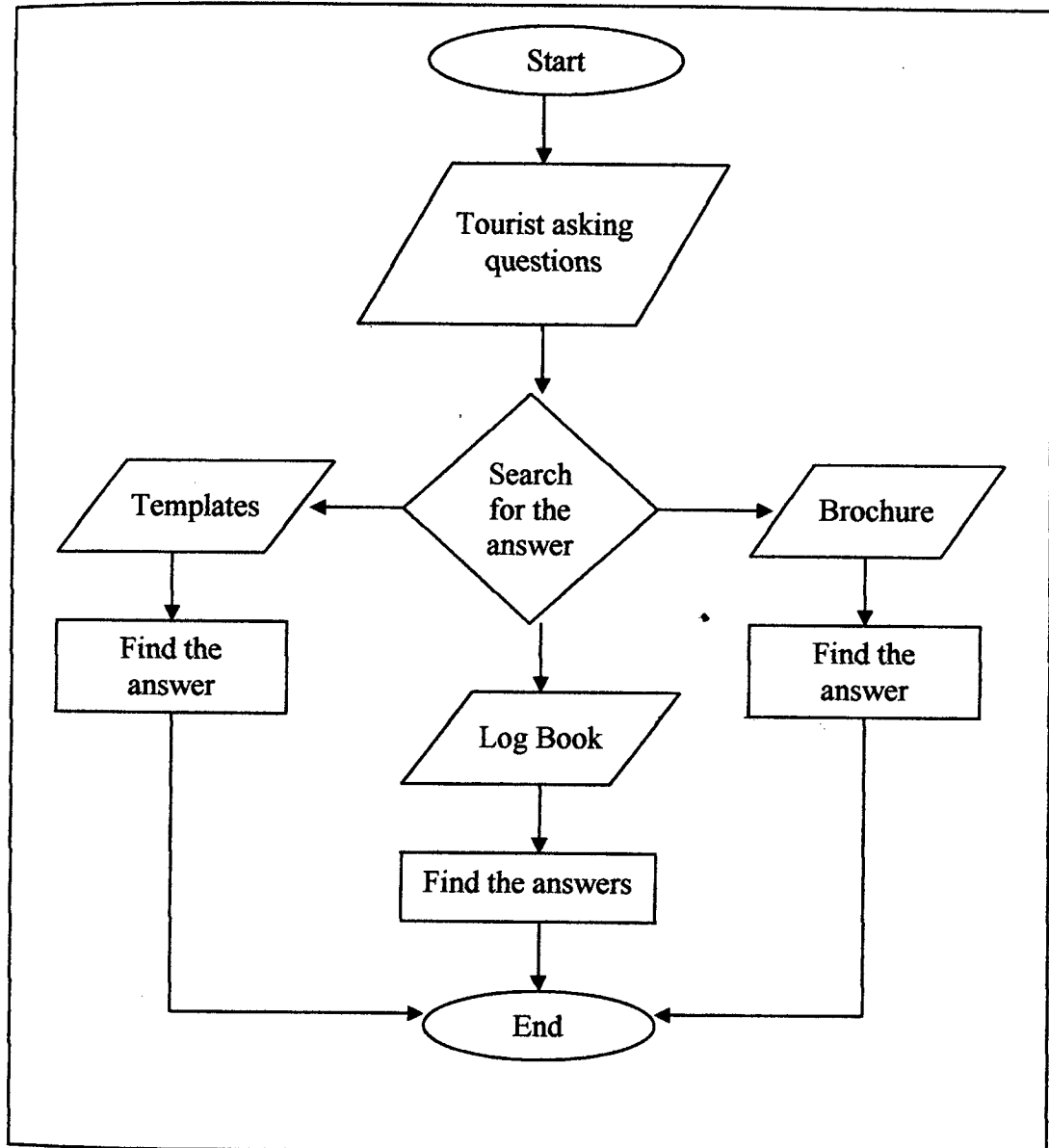
The workflow in TIC starts with tourist ask some questions about places, accommodation, prices, attraction and transportation. The records of information either from log book, brochure or templates are opened by TIC staff.

If they want to add new information, they just write down in the log book. For new or additional information, example for the changes of hotel's phone number, the staff will replace the old number with the new number just beside the old number. The file based is still used to manage all the information.

Currently, the staff faces many problems using this manual system. The problem occurred when the staff needs to open all records and find the answers for the tourist requirement. Sometimes, the information needed is not included in the log books. The staff has to find it in the brochure or template. All these things take a long time. The staff could give the wrong information or misinterpreted the questions if the tourist in hurry.

The way to record the new information is not well managed. Sometimes, the staff just write down anywhere in the log books. This might be a problem to other staffs if they want to find about this new record in other time. It is a big problem if the handwriting cannot be read by other staffs. To find data through the log books are not easy, the staff needs the patience to do it.

There is no proper way to add any new additional information data. The new information will be pasted on the old number. It will make the log book looks messy. All information of the operations of the manual system are recorded in paper. The possibility for the data to be lost or damaged is very high. Old records might be already lost. Figure 2.1 pictures the process flow for the manual system of TIS.



**Figure 2.1:** Process flow for the manual system of TIS

## **2.2.2 Case study on web based application**

There are many existing Tourism Information Systems (TIS) in web based application. It is widely used in oversea. In Malaysia, the web based application are also used but only few web portals provide tourism information element. Different approaches are used by different existing systems but it is still focused on the tourism sector. Some researches are done on the existing TIS.

### **2.2.2.1 Virtual Malaysia Tourism Portal**

VirtualMalaysia.Com ([www. virtualmalaysia.com](http://www.virtualmalaysia.com)) [23] is an e-tourism web portal that provides acquaintance for discerning tourists hoping to capture a slice of Malaysia. This web portal provides features to individual person and community especially for the international tourist. Combining culture and technology, VirtualMalaysia.Com is the gateway to Malaysia's tourism and travel destinations. The portal provides information such as for event, directory, destination, map and many more.

VirtualMalaysia.Com is a platform developed with the foundation to maximize technology for the tourism industry. Its incorporation focuses on five components which are content, tourism applications, tourism infrastructure, medium and method of delivery as well as promotions [23].

Users of Virtualmalaysia.com portal can give any comments or become their members without need to register. They also can give feedbacks or queries about anything. For the accommodation feature (refer to Figure 2.2 to Figure 2.4), there has a specialty which is anybody can update the accommodation information. They try to keep accommodation directory up-to-date as much as they can by provided the

<<[update information]>> link [23]. However, this portal not provided information about any transportation within Malaysia

**SEARCH ACCOMMODATION**

Accommodation Types

<input type="checkbox"/> Bed and Breakfast	<input checked="" type="checkbox"/> Budget	<input type="checkbox"/> Camping Site	<input type="checkbox"/> Chalet
<input type="checkbox"/> Homestay	<input type="checkbox"/> Hotel	<input type="checkbox"/> Inn	<input type="checkbox"/> Lodge
<input type="checkbox"/> Motel	<input checked="" type="checkbox"/> Resort	<input type="checkbox"/> Rest House	<input type="checkbox"/> Service Apartment

Figure 2.2: Main Page of Accommodation feature [23]

**Address & Information**

**Address**  
 8KM, Jalan Beserah  
 26100Kuantan  
 Pahang, Malaysia

**Telephone**  
 +609 544 8101

**Fax**  
 +609 544 8291

**Email**  
[dutasands@tancoresorts.com](mailto:dutasands@tancoresorts.com)

The resort is located at the quiet fringe of the East Coast. With either rustic chalets or fully-equipped caravans to choose from, this resort offers you a surprising feeling of privacy.

But if you plan to relax and let the world drift by, a stroll along the palm-fringed white sandy beach would be ideal. Or just laze under the sun for a perfect tan.

Resort guest have the use of the facilities of Le Village Beach Resort, which situated nearby including the Kids SuperCub that Le Village has onsite.

Figure 2.3: Page of Accommodation Information [23]