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# REAL ESTATE AGENCY SYSTEM (REAS)

SHAI POH YING

This report is submitted in partial fulfillment of the requirements for the Bachelor of Information and Communication Technology (Software Development).

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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## ABSTRACT

The developed project is the evidence of the success to achieve the objectives and goals. My project is develops Real Estate Agency System (REAS). This system is designed for real estate agency industry, which is the primary link between owner and potential buyer about property. This project aims at help the real estate agency build a desk system and online system. It provided a powerful database to store all the useful information. This project is taken up with the intention to improve the day-to-day management of real estate and to establish the procedure for the continuous analysis of monthly sales, that consumer buying trends and evaluate the property marketing value. Nowadays, most of the real estate agency already is using the computer to store their property information. But the existing system still not decreases their work due to its obsolete functionality. Currently, there is lack of the functionality to help the owner in estimate their property. The other problems identified include wastage of space storage to keep the data with paper, time consuming and inefficient in salary calculation and analyze the agent performance done manually. So, this project is planning to settle these problems with enhance the existing system's functionality. The modules inside REAS include search engine, property's marketing analysis, sales report, payroll system and data manipulation. The development of this project is referred to the Waterfall Model methodology for its simplicity and backward function. The 6 phases involve are preliminary investigation, analysis, design, implementation, testing and maintenance.

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# ABSTRAK

Projek yang dibangunkan ini adalah berdasarkan kejayaan untuk mencapai objektif dan sasaran. Projek yang dibangunkan adalah Sistem Hartanah (REAS). Sistem ini adalah direka khusus untuk industri hartanah agensi, yang mana ia beraksi sebagai orang tengah antara pemilik hartanah dan pembeli yang potensi. Projek ini bertujuan untuk membantu agensi hartanah membangunkan satu sistem yang merupakan gabungan antara *internal system* dan *online system*. Sistem membekalkan satu database yang hebat untuk menyimpan segala maklumat yang berguna. Projek ini dibangunkan bertujuan untuk membaiki pengurusan harian bagi hartanah serta menwujudkan prosedur untuk menganalisa jualan bulanan untuk mengetahui aliran pembeli. Pada masa kini, kebanyakan agensi hartanah sudah menggunakan komputer untuk menyimpan maklumat. Tetapi, sistem lama masih tidak dapat mengurangkan kerja mereka kerana fungsi sistem sudah tertinggal lama. Sistem lama kekurangan fungsi untuk membantu pemilik hartanah menganalisa hartanah mereka dalam pasaran. Masalah lain yang muncul termasuk membazir ruang untuk menyimpan data dalam kertas, memakan tenaga dalam mengira gaji dan agen pertunjukan kena dianalisa sendiri. Oleh itu, projek ini diharap dapat menyelesaikan masalah-masalah dengan meningkatkan fungsi bagi sistem lama. REAS terdiri daripada beberapa modul iaitu enjin carian, analisa hartanah, jualan laporan, sistem gaji dan mengendalikan data. Pembangunan projek ini adalah berdasarkan *Waterfall Model* kerana keringkasan dan fungsi tukar balik. Enam fasa yang terlibat adalah maklumat carian, analisa, rekabentuk, pelaksanaan, pengujian dan pembaikian.

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# TABLE OF CONTENTS


| TITLE | PAGE |
|---|---|
| **PROJECT TITLE** | |
| **ACKNOWLEDGEMENT** | **iii** |
| **ABSTRACT** | **iv** |
| **TABLE OF CONTENT** | **vi** |
| **LIST OF TABLES** | **ix** |
| **LIST OF FIGURES** | **xi** |
| **LIST OF ABBREVIATE** | **xiii** |
| **LIST OF APPENDIX** | **xiv** |
| **CHAPTER I INTRODUCTION** | **1** |
| 1.1 Preamble/Overview | 1 |
| 1.2 Problem Statement(s) | 2 |
| 1.3 Objective | 3 |
| 1.4 Scopes | 4 |
| 1.5 Contributions | 5 |
| 1.6 Expected Output | 6 |
| **CHAPTER II LITERATURE REVIEW** | **7** |
| 2.1 Introduction | 7 |
| 2.2 Fact And Finding | 8 |
| 2.2.1 Theory | 8 |
| 2.2.1.1 System Architecture | 8 |
| 2.2.1.2 Web Design Concept | 11 |
| 2.2.1.3 Data Access Technology | 13 |
| 2.2.1.4 Human Computer Interaction | 15 |
| 2.2.2 Review Example | 15 |
| 2.2.2.1 Property Search Engine | 15 |
| 2.2.2.2 Home Analysis | 17 |
| 2.3 Conclusion | 19 |
| **CHAPTER III PROJECT PLANNING AND METHODOLOGY** | **21** |
| 3.1 Introduction | 21 |
| 3.2 High-Level Project Requirements | 22 |


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| TITLE | PAGE |
|---|---|
| 3.2.1 Project Facilities Requirement | 22 |
| 3.2.2 Software Requirement | 22 |
| 3.2.2.1 Development Tools | 23 |
| 3.2.2.2 Operating System | 24 |
| 3.2.3 Hardware Requirements | 26 |
| 3.3 System Development Approach | 26 |
| 3.4 Project Schedule and Milestones | 29 |
| 3.5 Conclusion | 31 |
| **CHAPTER IV ANALYSIS** | **33** |
| 4.1 Introduction | 33 |
| 4.2 Analysis of Current System | 34 |
| 4.2.1 Business Process | 34 |
| 4.2.2 Problem Analysis | 35 |
| 4.2.3 Problem Statements | 37 |
| 4.3 Analysis of To Be System | 38 |
| 4.3.1 Functional Requirement | 38 |
| 4.3.2 Technical Requirement | 39 |
| 4.3.2.1 Software Requirement | 39 |
| 4.3.2.2 Hardware/Firmware Requirement | 40 |
| 4.5.2.3 Implementation/Development Requirement | 41 |
| **CHAPTER V DESIGN** | **42** |
| 5.1 Introduction | 42 |
| 5.2 Preliminary/High-Level Design | 42 |
| 5.2.1 Raw Input/Data | 43 |
| 5.2.2 System Architecture | 45 |
| 5.2.3 User Interface Design | 46 |
| 5.2.3.1 Navigation Design | 46 |
| 5.2.3.2 Input Design | 49 |
| 5.2.3.3 Output Design | 58 |
| 5.2.4 Database Design | 62 |
| 5.2.4.1 Logical Database Design | 62 |
| 5.3 Detailed Design | 64 |
| 5.3.1 Software Specification | 64 |
| 5.3.2 Physical Database Design | 73 |
| **CHAPTER VI IMPLEMENTATION** | **76** |
| 6.1 Introduction | 76 |
| 6.2 Software Development Environment Setup | 77 |
| 6.3 Software Configuration Management | 78 |
| 6.3.1 Configuration Environment Setup | 78 |
| 6.3.2 Version Control Procedure | 79 |


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| TITLE | PAGE |
|---|---|
| 6.4 Implementation Status | 80 |
| **CHAPTER VII TESTING** | **82** |
| 7.1 Introduction | 82 |
| 7.2 Test Plan | 83 |
| 7.2.1 Test Organization | 83 |
| 7.2.2 Test Environment | 83 |
| 7.2.3 Test Schedule | 83 |
| 7.3 Test Strategy | 85 |
| 7.3.1 Classes of Tests | 86 |
| 7.4 Test Design | 87 |
| 7.4.1 Test Description | 87 |
| 7.4.1.1 Unit Testing | 87 |
| 7.4.1.2 Integration Testing | 90 |
| 7.4.1.3 User Acceptance Testing | 92 |
| 7.4.2 Test Data | 97 |
| 7.5 Test Case Results | 97 |
| 7. 6 Conclusion | 99 |
| **CHAPTER VIII PROJECT CONCLUSION** | **100** |
| 8.1 Observation on Weakness and Strengths | 100 |
| 8.2 Propositions for Improvement | 101 |
| 8.3 Conclusion | 102 |
| **REFERENCES** | **103** |
| **APPENDIX** | **106** |


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# LIST OF TABLES


| TABLE NO. | TITLE | PAGE |
|---|---|---|
| 2.1 | Task of Every Tier Architecture | 12 |
| 3.1 | Browser Statistics | 23 |
| 3.2 | OS Platform Statistics | 25 |
| 3.3 | Hardware Requirement Planning | 26 |
| 3.4 | Project Planning With List of Activities | 30 |
| 4.1 | Software Requirements | 39 |
| 4.2 | Hardware Requirements | 40 |
| 5.1 | Real Estate Professional Fees | 44 |
| 5.2 | Validation Rule for Login Screen | 49 |
| 5.3 | Validation Rule for Property, Owner Manipulation Screen | 51 |
| 5.4 | Validation Rule for Edit Employee Screen | 52 |
| 5.5 | Validation Rule for Transaction Manipulation Screen | 53 |
| 5.6 | Validation Rule for Change Password Screen | 54 |
| 5.7 | Validation Rule for Property Search Screen | 55 |
| 5.8 | Validation Rule for Salary Calculation Screen | 56 |
| 5.9 | Validation Rule for Report Selection Screen | 57 |
| 5.10 | Validation Rule for Property Valuation Screen | 58 |
| 5.11 | Business Rule of Two Entities | 63 |
| 5.12 | Pseudo code of Process 1 | 66 |
| 5.13 | Pseudo code of Process 2 | 66 |
| 5.14 | Pseudo Code of Process 3 | 67 |
| 5.15 | Pseudo Code of Process 4 | 68 |
| 5.16 | Pseudo Code of Process 5 | 69 |
| 5.17 | Pseudo Code of Process 6 | 70 |
| 5.18 | Pseudo Code of Process 7 | 71 |
| 5.19 | Pseudo Code of Process 8 | 72 |
| 5.20 | Description of Attribute for Owner Table | 73 |
| 5.21 | Description of Attribute for Property Table | 73 |
| 5.21 | Description of Attribute for Transaction Table | 74 |
| 5.22 | Description of Attribute for Buyer Table | 74 |
| 5.23 | Description of Attribute for Job Title Table | 107 |
| 5.24 | Description of Attribute for Owner Table | 107 |
| 5.25 | Description of Attribute for PaySlip Table | 107 |
| 5.26 | Description of Attribute for Property Status Table | 108 |


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| TABLE NO. | TITLE | PAGE |
|---|---|---|
| 5.27 | Description of Attribute for Property Type Table | 108 |
| 5.28 | Description of Attribute for Property Wanted Table | 108 |
| 5.29 | Description of Attribute for Staff Info Table | 108 |
| 5.30 | Description of Attribute for Tenure Table | 109 |
| 6.1 | REAS Implementation Status | 80 |
| 7.1 | Schedule for REAS Testing | 85 |
| 7.2 | Classes of Tests | 86 |
| 7.3 | EP Test Case for Purchase Price | 88 |
| 7.4 | EP Test Case For Postcode | 88 |
| 7.5 | Positive Testing Case for Specific Fields | 89 |
| 7.6 | Negative Testing Case | 89 |
| 7.7 | Navigation Test Case | 91 |
| 7.8 | Login Function Test Case | 93 |
| 7.9 | Add Function Test Case | 94 |
| 7.10 | Edit Function Test Case | 94 |
| 7.11 | Payroll Calculation Function Test Case | 95 |
| 7.12 | Search Function Test Case | 96 |
| 7.13 | Property Analysis Function Test Case | 96 |
| 7.14 | Sales Analysis Function Test Case | 97 |
| 7.15 | EP Test Case Result for Purchase Price | 98 |
| 7.16 | Add Function Test Case Result | 98 |
| 7.17 | EP Test Case Result For Postcode | 110 |
| 7.18 | Positive Testing Case Result for Specific Fields | 110 |
| 7.19 | Negative Testing Case Result | 110 |
| 7.20 | Navigation Test Case Result | 111 |
| 7.21 | Login Function Test Case Result | 113 |
| 7.22 | Edit Function Test Case Result | 114 |
| 7.23 | Payroll Calculation Function Test Case Result | 114 |
| 7.24 | Search Function Test Case Result | 115 |
| 7.25 | Property Analysis Function Test Case Result | 116 |
| 7.26 | Sales Analysis Function Test Case Result | 116 |
| 7.27 | Satisfaction Scale | 98 |


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# LIST OF FIGURES


| FIGURE NO. | TITLE | PAGE |
|---|---|---|
| 2.1 | Various Routes An Application Can Take In ADO | 13 |
| 2.2 | Multi-tier Client/Server Architecture | 14 |
| 2.3 | Manual Search Screen | 16 |
| 2.4 | Property Search Engine of Kim Realty Real Estate Agency | 16 |
| 2.5 | Home Value Analysis Form of Summit County Real Estate | 17 |
| 2.6 | Property Analysis Form of Taylor Place Real Estate | 18 |
| 3.1 | The Activities in the Waterfall Model | 27 |
| 4.1 | Level-0 Data Flow Diagram (System Functionality) | 39 |
| 5.1 | Organization Chart of Dowin Real Estate Agency | 43 |
| 5.2 | Property's Registration Form | 44 |
| 5.3 | REAS Architecture | 46 |
| 5.4 | Navigation Flow of Internal REAS | 47 |
| 5.5 | Navigation Flow of Online REAS | 47 |
| 5.6 | Main Menu | 48 |
| 5.7 | List of Staff Screen | 49 |
| 5.8 | Login Screen | 49 |
| 5.9 | Owner Information Screen | 50 |
| 5.10 | Property Information Screen | 50 |
| 5.11 | Edit Personal Details Screen | 52 |
| 5.12 | Transaction Info Screen | 53 |
| 5.13 | Change Password Screen | 54 |
| 5.14(a) | Property Search Screen (Internal) | 55 |
| 5.14(b) | Property Search Screen(Online) | 55 |
| 5.15 | Calculate Monthly Salary Screen | 56 |
| 5.16 | Sale Report Selection Screen | 56 |
| 5.17(a) | Property Value Analysis Screen (Internal) | 57 |
| 5.17(b) | Property Value Analysis Screen (Online) | 57 |
| 5.18 | Message Box | 58 |
| 5.19 | Calculate Monthly Salary Screen | 59 |
| 5.20 | Sample Pay Slip | 60 |
| 5.21 | Monthly Sale Report | 60 |
| 5.22 | Search Result | 61 |
| 5.23 | Property Analysis Report | 61 |


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| FIGURE NO. | TITLE | PAGE |
|---|---|---|
| 5.24 | ERD of Real Estate Agency System | 62 |
| 5.25 | The Context Diagram of Real Estate Agency System | 64 |
| 5.26 | Level-0 Data Flow Diagram for Real Estate Agency System | 65 |
| 5.27 | Level-1 Data Flow Diagram for Process 3, Process Property Searching | 67 |
| 5.28 | Level-1 Data Flow Diagram for Process 4, Property Analysis | 68 |
| 5.29 | Level-1 Data Flow Diagram for Process 5, Conduct Transaction | 69 |
| 5.30 | Level-1 Data Flow Diagram for Process 6, Generate Sale Report | 70 |
| 5.31 | Level-1 Data Flow Diagram for Process 7, generate pay slip | 71 |
| 5.32 | Level-2 Data Flow Diagram for Process 7, generate pay slip | 71 |
| 6.1 | REAS Environment Architecture | 77 |
| 7.1 | Equivalence Partitioning for Purchase Price | 87 |
| 7.2 | Equivalence Partitioning For Postcode | 88 |


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## LIST OF ABBREVIATE

| | |
|---|---|
| **ADO** | Access Data Object |
| **ASP** | Active Server Page |
| **DAO** | Data access objects |
| **DB** | Database |
| **DFD** | Data Flow Diagram |
| **ERD** | Entity Relationship Diagram |
| **EP** | Equivalence Partitioning |
| **EPF** | Employee Provident Fund |
| **FK** | Foreign Key |
| **GB** | Gigabyte |
| **GUI** | Graphical User Interface |
| **HCI** | Human Computer Interaction |
| **IC** | Identity Card |
| **IE** | Internet Explorer |
| **IIS** | Internet Information Services |
| **LAN** | Local Area Network |
| **MB** | Megabyte |
| **ODBC** | Open Database Connectivity |
| **OS** | Operating System |
| **PC** | Personal Computer |
| **PK** | Primary Key |
| **RAM** | Random Access Memory |
| **RDO** | Remote data objects |
| **REAS** | Real Estate Agency System |
| **SDLC** | Systems Development Life Cycle |
| **TCP/IP** | Transmission Control Protocol/ Internet Protocol |
| **VB** | Visual Basic |

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# LIST OF APPENDIX


| APPENDIX | TITLE | PAGE |
|---|---|---|
| A | Gantt Chart | 106 |
| B | Physical Database Design | 107 |
| C | Test Case Result | 110 |
| D | User Manual | 117 |


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# CHAPTER I

# INTRODUCTION

## 1.1 Preamble/Overview

This Real Estate Agency System (REAS) is the combination of internal system with the online application. It divided in 2 parts, that one part is for company internal use only, and other part is web-base application. Although this system divided into 2 different parts but they will share the same database.

This project aims at providing a database of existing buildings, plots, offices of the area, cost, etc for a real estate agency. The relevant information needed can be extracted easily through a user-friendly interface. Information can be modified, updated and deleted as and when required, at any stage depending upon the scenario. The internal system will help in store information, search property, calculate the agent's commission, generate the monthly sales report and analysis the property's marketing price.

The Internet is the most powerful marketing tool of today, having the properties available worldwide 7/24 with advanced features is essential in demonstrating to clients that agency is using cutting edge technology. So the other part is a dynamic database driven ASP web site application, which provides the property information and the services like search engine and property recent marketing.

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This system is designed for real estate agency industry, which provides the services for employees, owner and potential buyer about property. The development of this project will follow the Waterfall Model methodology.

## 1.2 Problem Statement(s)

Nowadays, most of the real estate agency already is using the computer to store their property information. But the current system still not decreases their work, because it not helps the agent in searching the property information quickly. Each agent will assign to handle the specific area. As an agent, he must always go outstanding. So he not will always stay at office. Sometime the owner will come in office and offer his property or client looking for the dreaming property; they lack of the knowledge and need to get professional consultation. It had been the problem if the agent in charge is not around.

So, this project is aims to settle the existing problems. The problems identified are:

i) Wastage of space storage

Information and transaction of real estate recorded in documents form need a lot of space to store.

ii) Time consuming and inefficient

Current payroll calculation is did manually where accountant will count the commission gained by agent transaction by transaction due to the commission is based on the property price. Furthermore, the current property searching is done by check the property listing one by one. It is time consuming and inefficient.

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iii) Unable to construct good marketing analysis

Without the aid of transaction trend analysis, it's hard to estimate the marketing trend.

iv) Analyze the agent performance done manually

The boss always desires to know the agents' performance under his lead. But the analysis done manually is a difficult process, which waste the time, consume the energy and can't prepare a systematic report.

To solve these problems, the functionality of existing Real Estate Agency System will be enhanced to provide more efficient search engine.

## 1.3 Objective

The objectives the REAS aim to achieve for this specific module are as following:

i) To replace manual, paper-intensive mechanisms

To create a paper-less office environment, and increase the working efficiency by store the relevant information in database. So that required information can be available on a continuing basis. System can facilitate these work activities by processing high volume of transactions within a tightly defined timeframe

ii) To reduce the human error factor, improve the accuracy in salary and professional fee calculation

Computerize system enable for error detection and reduce the possibility of wrong calculating. Besides, it can reduce the accountant's work in calculate the professional fee, agents' commission and monthly salary.

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iii) To reduce the amount of work taken up by traditionally property search
To help real estate agency manipulate their property information that decreases the time to search the client's dreaming property from the long list.

iv) To analyze the monthly sales and property current marketing
Tracking demand history illustrates the complexity of sales analysis. Provide the service to help landlord analyze his property's value by comparison with the current area marketing.

## 1.4 Scope

This system is designed for real estate agency located in Johor Bahru to manage their handled real estate and publish their own listings from any web browser. The internal system will use by staff of real estate agency for internal use where website is open for the public, but is targeted to who has interesting to own his dreaming property.

The modules involved are:

i) Search engine
This module involve search the properties by property reference no. or property detail such as category, type, location, price and other requirement. So the user can find out his dreaming property quickly anywhere.

ii) Analysis of property's current marketing
A property value will be change time by time. Most of us intuitively know that property values are influenced by many factors, with location representing the primary influence on value. So this module will compare that area recent sales marketing. The comparison result will become user references to adjust the property value.

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iii) Sales report

This module is cover generates the monthly sales report for agents. The report can use analyze the agent's performance and indicate which property category is welcomed.

iv) Payroll system

This module is calculates the agent salary base on basic salary and commission gained for each agent's sales.

v) Check/record the information

This module will keep track the transaction information, properties information, client information, landlord information and agent's sales and allow the authorized staff maintain the data.

## 1.5 Contributions

This REAS will be contributed to the employee of real estate agency, property owner, client, potential client and public. Employee of real estate agency can use this system to manage their daily work. It not only can reduce their work, but also make the work systematically. Manager can use REAS to analyze the agent performance and customer taste. Accountant no needs to calculate the salary, EPF and commission gained transaction by transaction manually. By help of REAS, the salary will be calculated automatically and with accuracy.

Public can get the latest property information via the online system anywhere anytime. For the potential client, they can find out their dreaming property immediately by using the search engine. Beside that, property owner can analyze their property

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marketing trend when using this system, a recent sales activity report will be generated to let user make comparison.

## 1.6 Excepted Output

The Real Estate Agency system (REAS) is expected to achieve the following outcome:

i) System can perform some basic function and meet some importance criteria such as stability, consistency, reliability and user friendly.

ii) System able to facilitate the access authentication and ensure only authorized user can access the system.

iii) A system that will be able to adapt in local business environment.

iv) Provide desirable front end for system administrator to maintain the database.

v) System can help to management the information with systematically.

vi) Online system that will be able provide latest property listing for the user.

vii) A system that's able to analyze agent performance and sales performance.

viii) The final implementation should allow for future enhancement as well as additional modules to extend the system functionality.

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# CHAPTER II

# LITERATURE REVIEW

## 2.1 Introduction

An initial literature review was performed which surveyed the field of real estate business. The review covered the theory and concept will use for REAS development.

This chapter also contains all the research has been done on the existing current system including reviews on the features, capabilities, and so on. The weaknesses on existing current system were identified in order for this project to overcome and the strengths of existing property management application were studied so that it can be adapted into this project.

The review of the existing literature is important to have a better understanding on the requirements of this project. Assessing current existing systems or web site allows identification of the weaknesses that are to be overcome in this project. Meanwhile the strengths of existing application were studies so that it can be adapted into this project.

Method of gathering information regarding REAS is necessary in order to establish understanding of the state and future requirement on the system study and provide the groundwork for the system design. As for this project, the main information

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sources for system analysis were reference books, Internet surfing, informal survey and interview and discussion with supervisor.

An interview with Dowin real estate agency conducted to identify system requirements, find facts, verify facts, clarify facts and solicit ideas and options. Discussion with supervisor has been practiced from time to time in order to get the help and advices during the writing of report.

## 2.2 Fact and Finding

### 2.2.1 Theory

Although people often talk as if theory and practice are different things, as in "that is only theoretical," nothing is more practical than a good theory (Max Kummerow). Theory helps make sense of complex situations by directing attention to key issues and by guiding methods of analysis.

#### 2.2.1.1 Real Estate Valuation

Two of the major cash flow components of small business operations are the start-up capital requirements for commercial real estate and the ongoing expense of renting and operating the space, which the business is located.

Whether a company leases space or invests in its own land and building, the value for the real estate is of concern to several parties. These parties include potential

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lenders, other partners or shareholders, the small business owners themselves and the landlords who rent space to the business. Part one of this series deals with some of the ownership value considerations of real estate, while the second part will explore some of the important areas of leasing the business location.

An American form appraisal called the Uniform Residential Appraisal Report (FANNIE MAE Form 1004) lists the following hedonic character of house that warrant price adjustments:

i) Sales or financing concessions
ii) Date of sale/time
iii) Location
iv) Leasehold/fee simple
v) Site/view
vi) Design and appeal
vii) Quality of construction
viii) Age
ix) Condition
x) Above-grade room count/gross living area
xi) Basement and finished rooms below grade
xii) Functional utility
xiii) Heating/cooling
xiv) Energy-efficient items
xv) Garage/carport
xvi) Porch, patio, deck, fireplace(s), etc.
xvii) Fence, pool, etc.

i) Determining Value

Appraisers consider real estate value from three points of view and determine an estimated of value based upon weighing the three valuation methods. These three

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