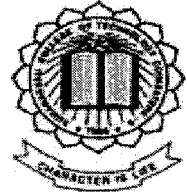
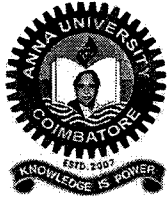


P-3228



ONLINE REAL ESTATE MANAGEMENT

PROJECT REPORT

Submitted By

R.GOWTHAMAN

Register No: 0720300011

*in partial fulfillment for the award of the degree
of*

MASTER OF COMPUTER APPLICATIONS

in

COMPUTER APPLICATIONS

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Coimbatore)

May 2010

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Coimbatore)

COIMBATORE – 641 006.

Department of Computer Applications

PROJECT WORK

MAY 2010

This is to certify that the project entitled

ONLINE REAL ESTATE MANAGEMENT

is the bonafide record of project work done by

R.GOWTHAMAN

Register No: 0720300011

of MCA (Computer Applications) during the year 2009-2010.

N. Jeyaraman

Project Guide

[Signature]

Head of the Department

Submitted for the Project Viva-Voce examination held on 17. 05. 10.

[Signature] 17/5/10

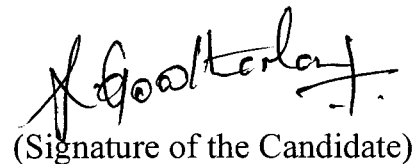
Internal Examiner

[Signature] 17/05/2010

External Examiner

DECLARATION

I affirm that the project work titled **ONLINE REALESTATE MANAGEMENT** being submitted in partial fulfilment for the award of **MASTER OF COMPUTER APPLICATIONS** is the original work carried out by me. It has not formed the part of any other project work submitted for award of any degree or diploma, either in this or any other University.

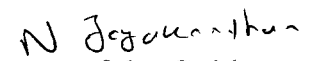


(Signature of the Candidate)

R.GOWTHAMAN

0720300011

I certify that the declaration made above by the candidate is true



Signature of the Guide,

Mr. N. JAYAKANTHAN

Senior Lecturer, MCA



The Majestic People

MAJESTIC PEOPLE INFOTECH PVT. LTD.,

We make software affordable to all

151, N.S.R. Road, Saibaba Colony, Coimbatore - 641 011.

Phone : 91-422-3912902, Telefax : 91-422-4385890

Email: info@themajesticpeople.com

www.majesticpeopleinfotech.com

10 .05.2010

TO WHOMSOEVER IT MAY CONCERN

This is to inform that **Mr.Gowthaman.R (Reg. No:0720300011)** of **Kumaraguru College of Technology**, studying **Final year MCA** has successfully completed the assigned tasks in the project "**Online Real Estate Management**" in **ASP .NET** as and **MS SQL Server** as **Back End** for our Majestic people infotech Pvt Ltd from **December 2009 to May 2010**

During this tenure, he adhered to the professional code of conduct/ethics of **MAJESTIC PEOPLE**.

For Majestic People Infotech Pvt Ltd

[Handwritten signature]
10/05/10

VijayaKrishnan.S

HR Manager



ACKNOWLEDGEMENT

I wish to express sincerest thanks to **Dr. J. Shanmugam** , Director-Kumaraguru College of Technology, **Dr. S. Ramachandran**, Principal-Kumaraguru College of technology and **Dr. S. Thangasamy** – Dean , Department of Computer Applications for providing necessary facilities in carrying out my project work

I am very glad to express a special word of thanks to **Dr.A.Muthukumar**, Course Co-ordinator , Department of Computer Applications, Kumaraguru College of Technology, Coimbatore for encouraging me to do this work.

I wish to thank my Project Co-ordinator **Ms.V.GEETHA**, **Senior Lecturer** Department of Computer Applications, Kumaraguru College of Technology, for his sincere advice, thought provoking discussions and immense help throughout the project and encouragement given by him.

I wish to thank my Project guide **Mr. N. Jayakanthan**, **Senior Lecturer** Department of Computer Applications, Kumaraguru College of Technology, for his sincere advice, thought provoking discussions and immense help throughout the project and encouragement given by him.

It is my pleasure to express my profound gratitude to **Magestic People Infotech, Coimbatore** for admitting into this project. I am thankful to (**Ms.G.Ramya**) of Magestic People Infotech, Coimbatore, for her excellent guidance, timely suggestions and constant support in all my endeavors.

I wish to thank all my staff members for their timely help and guidance to complete the project successfully.

Also I would like to thank my parents, friends, and all those who helped me in this project and whose names are leftover.

TABLE OF CONTENTS

CHAPTER	PAGE NO
Abstract	
List of Tables	
List of Figures	
1. Introduction	01
1.1 Project Overview	01
1.2 Organization profile	02
2. System Analysis	04
2.1 Existing System	04
2.1.1 Drawbacks of the existing system	04
2.2 Proposed System	05
2.2.1 Advantages of Proposed System	05
3. System Requirements Specification	06
3.1 Hardware requirements	06
3.2 Software requirements	06
3.3 Software overview	07
4. System Design	10
4.1 Module design	10
4.2 Dataflow design	11
4.3 Database design	15
4.4 Input design	20
4.5 Output design	20
5. System testing	21
5.1 Types of testing	21
5.1.1 Unit Testing	21
5.1.2 Integration Testing	21
5.1.3 Validation testing	22
5.1.4 Output testing	22
5.1.5 Black box testing	23

6. Conclusion	24
7. Future Enhancement	25
Bibliography	26
Appendix	27
Screen Shots	27

LIST OF TABLES

S.NO	Table No.	Title	Page No.
1	4.3.1	LOCATION TABLE	15
2	4.3.2	MARKET TABLE	15
3	4.3.3	PRICE TYPE TABLE	15
4	4.3.4	PROPERTY IMAGES TABLE	15
5	4.3.5	SERVICES TABLE	16
6	4.3.6	STATUS TABLE	16
7	4.3.7	AGE TABLE	16

LIST OF FIGURES

S.NO	Figure No.	Title	Page No.
1	3.1	LEVEL-0 DFD	11
2	4.1	LEVEL-1.1 DFD	12
3	5.2.1	LEVEL-1.2 DFD	13
4	5.2.2	LEVEL-1.3 DFD	14

ABSTRACT

This project is being developed for the real estate agent who wants a website where he can manage their properties and list their available properties to his website. It is an internet portal dedicated to meet every aspect of the consumers needs in the real estate industry.

It is a forum where buyers, sellers and brokers can exchange information, quickly, effectively and inexpensively.

Primarily Real estate management system's is seeking to become the primary tool for Landlords and Tenants to rent property in the local area. The Portal's unique free service offerings will provide self-serve listings for Landlords/Agents and provide a one-stop shop for tenants looking to rent a property.

Online Real Estate Management is the perfect solution for real estate professionals. The Home page will clearly enable these target individuals to spot themselves instantly.

This application is work under the Microsoft Visual Studio 2005 and MS SQL Server 2005.

1. INTRODUCTION

1.1 PROJECT OVERVIEW

This project is being developed for the real estate agent who wants a website where he can manage their properties and list their available properties to his website. It is an internet portal dedicated to meet every aspect of the consumers needs in the real estate industry. It is a forum where buyers, sellers and brokers can exchange information, quickly, effectively and inexpensively.

Primarily Real estate management system's is seeking to become the primary tool for Landlords and Tenants to rent property in the local area. The Portal's unique free service offerings will provide self-serve listings for Landlords/Agents and provide a one-stop shop for tenants looking to rent a property.

The Home page will clearly enable these target individuals to spot themselves instantly and vector off to the section of the site that speaks directly to their problems, pain, wants and desires. The goals of the first release of the new site are to:

Online Real Estate Management is the perfect solution for real estate professionals. The Home page will clearly enable these target individuals to spot themselves instantly.

1.2 ORGANIZATION PROFILE

Majestic People Infotech (P) Ltd.

Majestic People Infotech (MPI), founded in 2001 is a rapidly growing software development company specialised in Web Application development, Enterprise solutions, SCM Methodology and RFID with its headquarters in Jacksonville, Florida.

MPI has a wide range of website design, development and programming services ranging from simple HTML based website design to complex AJAX based web development and programming, multimedia and secure e-commerce web applications. We work with your company to define objectives and develop graphic design for your website and interactive tools to achieve them.

The benefits with MPI are Access to new technology, Accelerate cost savings, Improved focus on core responsibilities, Flexibility, Rapid implementation , Reduced risk , Achieving the highest quality standards, Reduce operational expenses , Maximize return on existing e-procurement assets, Provide total spend visibility.

Corporations worldwide are looking towards high quality and reduced cost of IT services. We, in our mission to offer Quality solutions at a competitive price, have our state-of-the-art, SEI CMMI level 5 assessed Offshore Development Centre (ODC) located in Coimbatore, India. MPI is currently aligning its processes to SEI CMMI Level Here's what makes us your ideal offshore partner: ODC your ideal offshore partner

- Using our unique minimum-code technology we can build your software application two to three times quicker than any other traditional offshore development company and can reduce your total cost of ownership of IT assets by up to 40%.
- We specialize in developing applications using any software platforms and make sure the applications built confirm to software industry standards.

- We work as your extended development arm. In addition, we bring all the traditional offshore advantages including cost, 24X7 support, quality process, state-of-art infrastructure including VPN and VOIP support, domain, technical and project management expertise.
- SGS has implemented many software development projects across geographies including USA, Europe, Singapore and India.
- SGS Offshore development Centre (ODC) is strategically located at Coimbatore, India and provides organizations access to its state-of-the-art facility giving considerable savings on cost and time.

2. SYSTEM ANALYSIS

System analysis is a problem-solving activity that requires intensive communication between the system users and system developers. The detailed investigation of the present system is the focal point of system analysis. The system is studied in the minutest detail and analyzed. The main aim of the system is to provide the organization with efficient and user-friendly automation. The system analyst plays the role of an interrogator and dwells deep into the working of the present system. The system is viewed as a whole and inputs to the system are identified. The outputs from the organization are traced through various phases of the processing of inputs. The study of the existing organization provides background knowledge of the problem environment.

2.1. EXISTING SYSTEM

The Existing system is a manual processing system, which is even though best very difficult to maintain in all situations. In the online real estate management system so many records and contact information have to be stored. So with the manual process it is too difficult to maintain all those information's which takes more time to search for a particular property or tenant details. Manual Process leads errors and omissions of data or records and maintenance of records is also costly.

2.1.1 DRAWBACK

Without an automated way to deal with integration of data and business process, costs Amount and business opportunities are put at risk.

- The processes are man dependent.
- Manual Process leads errors and omissions of data or records.
- Maintenance of records is costly.
- Time consuming and frustrating to tenants.
- Earning more profit

2.2 PROPOSED SYSTEM

Real Estate Management is the perfect real estate management solution for Real Estate professionals in this system images regarding properties can be uploaded which makes the user to identify or select the property they are looking. This also has facility to identify the property using landmarks nearby the property. Online real estate is developed with ASP.NET as Front-End and SQL Server as Back -End.

2.2.1 ADVANTAGES OF PROPOSED SYSTEM

The proposed system will reduce all the demerits of the Existing system. The main merits of the proposed system are:

- Customers can communicate directly to the Landlord's for the site which they targeted.
- Tenants can find suitable accommodation through online.
- Fully menu driven
- User friendly
- Maintaining records are easy.
- The proposed system will reduce a lot of paper work there by saving time and money. Managing of data that are stored in various tables is quietly easy.
- Data redundancy is avoided to some extent.
- A lot of errors that may occur during manual interaction can be avoided (i.e., high standard of accuracy can be maintained).
- Storage of data can be done in a consistent manner.

3. SYSTEM SPECIFICATION

System requirement specification forms the foundation on which the architecture, design, and implementation of a system is built. Documents containing system specifications are critical because major expenses come along with having to fix the implementation of incorrect requirements as a result of not having a specification document on hand. System specification documents can thus be defined as the requirements documentation that formally specifies the system-level requirements of a single application.

3.1 HARDWARE REQUIREMENTS

Operating System	: Windows 2000 or Above
Processor	: Pentium IV
Speed	: Above 1.5GHz
Memory Size	: 256 MB or Above

3.2 SOFTWARE REQUIREMENTS

Front End	: ASP.NET
Back End	: Microsoft SQL Server 2000

3.3 SOFTWARE OVERVIEW

Microsoft.NET Framework

The .NET Framework is a run-time environment that makes it much easier for programmers to write good, robust code quickly and to manage, deploy and revise the code. The programs and components that you write execute inside this environment. It provides programmers with cool run-time features such as garbage collection and easier access to all system services. It adds many utility features such as easy internet and database access. It also provides a new mechanism for code reuse – easier to use and at the same time more powerful and flexible than COM. The .NET Framework is easier to deploy because it doesn't require registry settings.

FRONT-END:ASP.NET

ASP.NET is more than the next version of Active Server Pages (ASP); it is a unified web development platform that provides the services necessary for developers to build enterprise-class Web applications. While ASP.NET is largely syntax compatible with ASP, it also provides a new programming model and infrastructure for more secure, scalable and stable applications. You can feel free to augment your existing ASP application by incrementally adding ASP.NET functionality to them.

ASP.NET is a compiled, .NET-based environment; you can author applications in any .NET compatible language, including Visual Basic .NET, and Jscript .NET. Additionally, the entire .NET Framework is available to any ASP.NET application. Developers can easily access the benefits of these technologies, which include the managed common language runtime environment, type safety, inheritance, and so on.

ASP.NET has been designed to work seamlessly with WYSIWYG HTML editors and other programming tools, including Microsoft Visual Studio .NET. Not only does this make Web development easier, but it is also provides all the benefits that these tools have to offer, including a GUI that developers can use to drop server controls onto a Web page and fully integrated debugging support.

Developers can use Web Forms or XML Web services when creating an ASP.NET application, or combine these in any way they see fit. Each is supported by the same

infrastructure that allows you to use authentication schemes, cache frequently used data, or customize your application's configuration, to name only a few possibilities.

Web Forms allow you to build powerful forms-based Web pages. When building these pages, you can use ASP.NET server controls to create common UI elements, and program them for common tasks. These controls allow you to rapidly build a Web Form out of reusable built-in or custom components, simplifying the code of a page. An XML Web service provides the means to access server functionality remotely. Using XML Web services, businesses can expose programmatic interfaces to their data or business logic, which in turn can be obtained and manipulated by client and server applications. XML Web services enable the exchange of data in client-server or server-server scenarios, using standards like HTTP and XML messaging to move data across firewalls. XML Web services are not tied to a particular component technology or object-calling convention.

BACK END: SQL SERVER

The general objective of database design is to make the data access easy, inexpensive and flexible to the user. With new tools approaches and available, the applications can be built that more closely match the needs and work habits of the business. SQL stores each data item in its own field. For example a person's first name, date of birth and their postal code are each stored in separate fields. The name of the field usually reflects its contents. It stores all records relating to each other in the form of table. A table is easily visualized as tabular arrangement of data.

The biggest advantages of a computerized database system over manual filing system are speed, accuracy and accessibility. Each Management system is having its own rules for naming the data fields. A field has little meaning unless it is seen within the context of other fields. In SQL the fields relating to a particular person, thing or event are bundled together to form a single, complete unit of data called a record. No fields in records can have the same field name.

The strengths of SQL provide benefits for all types of users, including application programmers, database administrators, managers and end users. To communicate with databases, SQL supports the following commands,

Advantages of SQL Server:

- SQL Server is very useful for accessing the database to create the records, delete, and modify and also for listing records.
- DB server is the key for solving problems of information.
- A server must relate & manage a large data in multi user entry.
- DB server must also prevent unauthorized access.
- The distributed database system allows application to access database from local and remote systems.
- The encryption option makes the database more secured to transfer information to remote systems.

4. SYSTEM DESIGN

4.1 MODULE DESIGN

➤ **Admin Details:**

Admin module controls the user name and password details. Here the admin has rights to change the password, updating property details like type of the property, property name, landmark, area, property owner details, property features, image of the properties and sale details.

➤ **Seller Details**

Allow the users to register their property for selling through online.

➤ **Buyer Details**

This module allows users to search the property according to their needs.

➤ **Inspector Details**

Displays the list the completed inspections and the Surveyors should be able to download reports of the inspection.

4.2 DATA FLOW DIAGRAM

LEVEL: 0

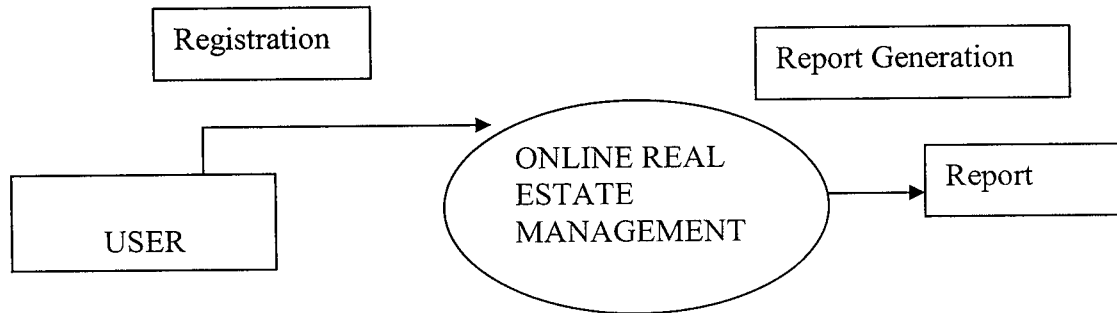
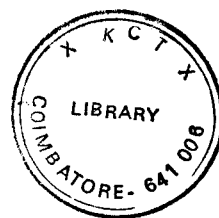


Fig 4.2.1 LEVEL-0 DFD



P-3228

LEVEL 1.1

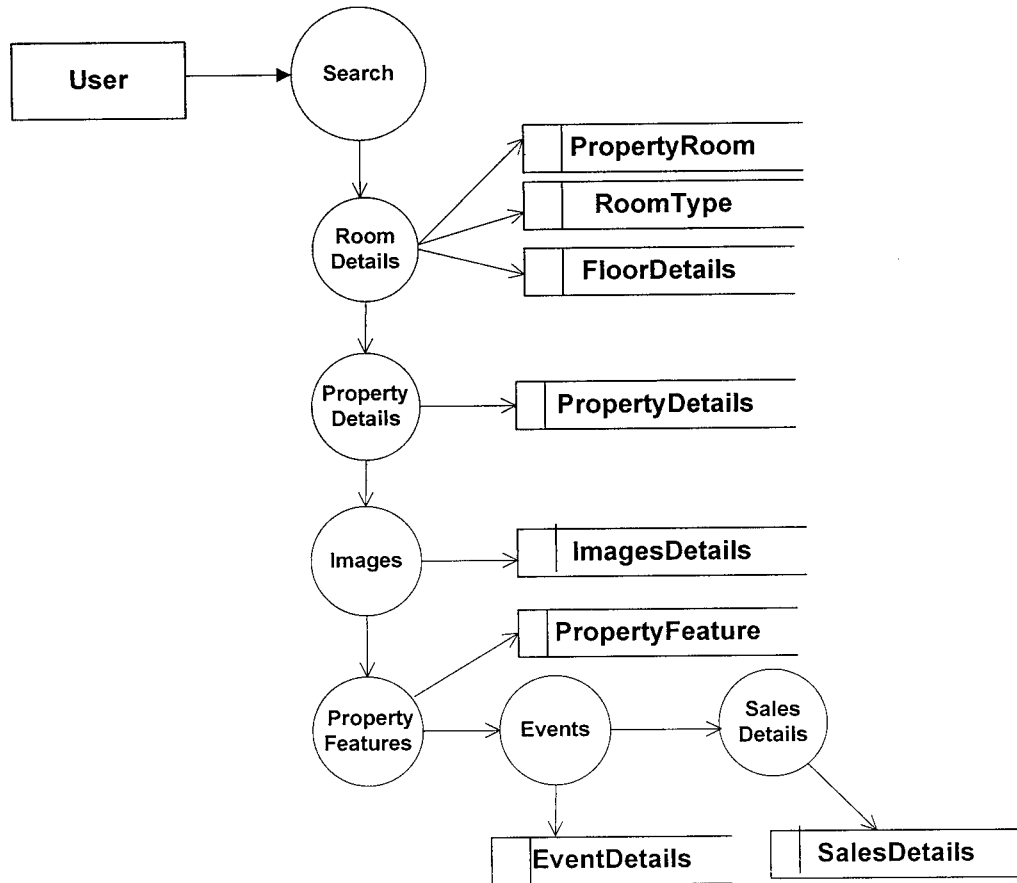


FIG 4.2.2 LEVEL 1.1 DFD

LEVEL 1.2

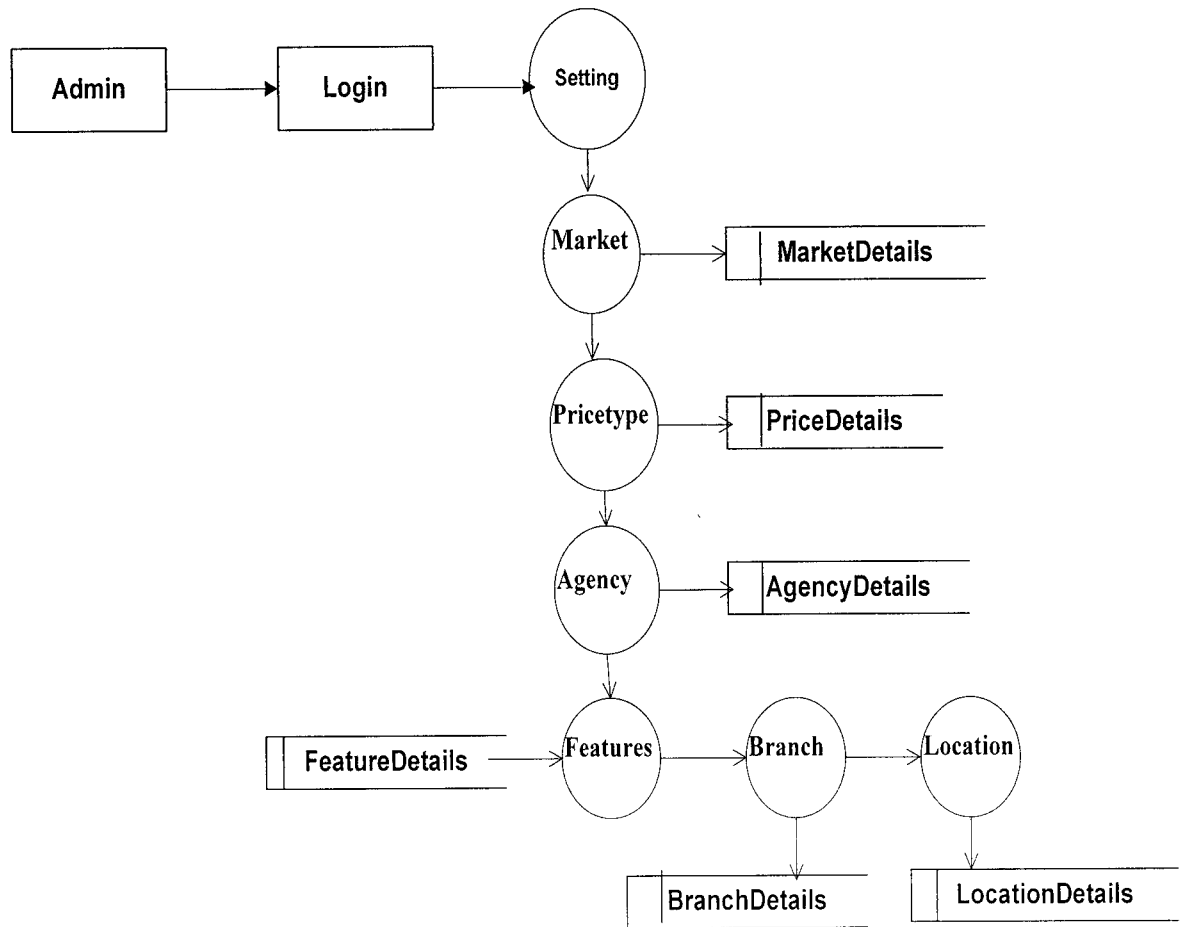


FIG 4.2.3 LEVEL 1.2 DFD

LEVEL 1.3

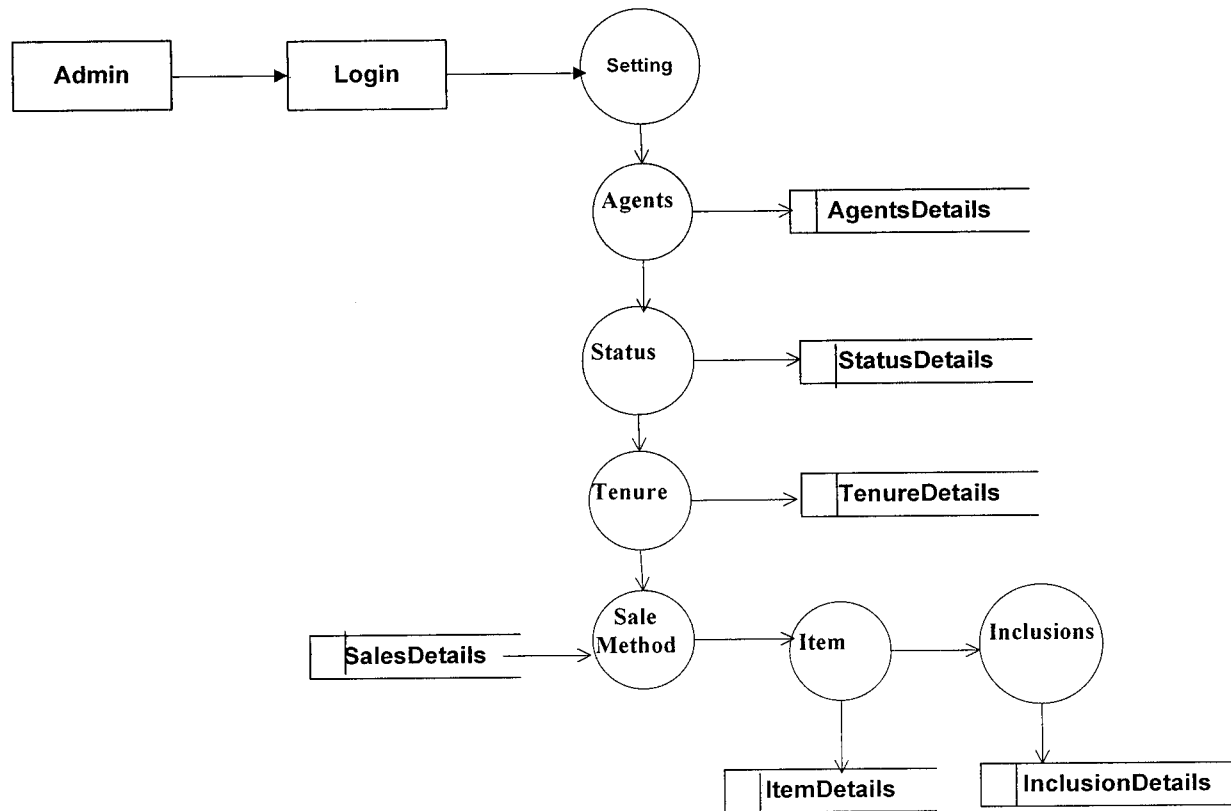


FIG 4.2.4 LEVEL 1.3 DFD

4.3 DATABASE DESIGN

Location:

Field name	Field type	Size	Description
ID	Varchar	5	Location
Location	Varchar	15	TypeOfLocation
IDate	Date/time	8	Date Time
Iby	Varchar	15	CreatedBy Admin\User

FIG 4.3.1 LOCATION TABLE

Market:

Field name	Field type	Size	Description
ID	Varchar	5	MarketID
Market	Varchar	15	PropertyType
IDate	Date/time	8	Date&Time
Iby	Varchar	15	Created To Admin/User

FIG 4.3.2 MARKET TABLE

Price Type

Field name	Field type	Size	Description
ID	Varchar	5	PriceID
Type	Varchar	15	Price
IDate	Date/time	8	Date&Time
Iby	Varchar	15	Created ByAdmin/User

FIG 4.3.3 PRICE TYPE TABLE

Property images

Field name	Field type	Size	Description
PropertyID	Integer	8	PropertyID
Caption	Varchar	15	Image Name
Images	Image	16	ImageIteam
Iby	Varchar	25	Created ByAdmin/User
Idate	Date/time	8	Date&Time

FIG 4.4.4 PROPERTY IMAGES TABLE

Services

Field name	Field type	Size	Description
ID	Integer	8	ServiceID
Services	Varchar	8	Type Of Service
Iby	Varchar	25	Created ByAdmin/User
Idate	Date/time	8	Date&Time

FIG 4.4.5 SERVICES TABLE

Status

Field name	Field type	Size	Description
ID	integer	8	StatusID
Status	varchar	8	Status
Iby	varchar	25	Created ByAdmin/User
Idate	Date/time	8	Date&Time

FIG 4.4.6 STATUS TABLE

Age Table

Field name	Field type	Size	Description
ID	Varchar	5	AgeID
Age	Varchar	25	TypeOfProperty
Idate	Date/time	8	Date&Time
Iby	Varchar	8	Created ByAdmin/User

FIG 4.4.7 AGE TABLE

4.4 INPUT DESIGN

Input design is the link between the information system and the users and those steps that are necessary to put transaction data in to a usable form for processing data entry. The activity of putting data into the computer for processing can be activated by instructing the computer to read data from a written printed document or it can occur by keying data directly into the system. The designs of input focusing on controlling the amount of input required controlling the errors, avoid delay extra steps, and keeping the process simple. This system has individual form for administrator and customer. Input design is a part of overall system design. The main objective during the input designs is as given below:

- To produce a cost-effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is acceptable and understood by the user.

4.5 OUTPUT DESIGN

Designing computer should proceed in well thought out manner. The term output means any information produced by the information system whether printed or displayed. When analyst design computer out put they identified the specific output that is needed to meet the requirement. Computer is the most important source of information to the users. Output design is a process that involves designing necessary outputs that have to be used by various users according to requirements. Efficient intelligent output design should improve the system relationship with the user and help in decision making. Since the reports are directly required by the management for taking decision and to draw the conclusion must be simple, descriptive and clear to the user. Options for outputs and forms are given in the system menus.

5. SYSTEM TESTING

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding. The administrator tests the developed system and changes are made according to their needs. The testing phase involves the testing of developed system using various kinds of data.

System testing is the stage of implementation that is aimed at assuring that the system works accurately and efficiently before live operation commences. Testing is vital to the success of the system. System testing makes a logical assumption that if all the parts of the system are correct, the goal will be successfully achieved. A series of testing is performed for the proposed system before the system is ready for user acceptance testing.

PURPOSE OF TESTING

The real goal of testing should be to find errors. This will result in cleaning up of errors-you cannot reach a situation where software has no errors. There is no way to find out if there are no errors left in the system.

Testing can only show the presence of an error-it can never show the absence of an error. Another common statement made by quality analysts is the more you test, the more error you are likely to find thus, it looks we need to test software forever. This is not practical.

5.1 TYPES OF TESTING

5.1.1 UNIT TESTING

In unit testing, sample data were taken and applied on each module of the system independently to ensure that they perform the required task effectively. Both valid and invalid data were taken as sample data to check whether the system displays the error message when it is given invalid data.

5.1.2 INTEGRATION TESTING

The integration testing was performed to check whether the whole system works perfectly. The following cases are done under Integration Testing.

- The way the system stores the data
- The way the system retrieves data from the database
- The way the system transfers data from one module to another module

5.1.3 VALIDATION TESTING

At the culmination of integration testing, software is completely assembled as a package, interfacing errors have been uncovered and corrected and final series of software tests-validation testing begins. Validation Testing can be defined in many ways, but a simple definition is that validation succeeds when the software functions in a manner that can be reasonably expected by the customer. The proposed system under consideration has been tested by using validation testing and found to be working satisfactorily.

5.1.4 OUTPUT TESTING

After performing the validation testing, the next step is output testing of the proposed system since no system would be termed as useful until it does produce the required output in the specified format. Output format is considered in two ways, the screen format and the printer format

5.1.5 BLACK BOX TESTING

Black box testing, also called behavioral testing, focuses on the functional requirements of the software. That is, black testing enables the software engineer to derive sets of input conditions that will fully exercise all functional requirements for a program. Black box testing is not alternative to white box techniques. Rather it is a complementary approach that is likely to uncover a different class of errors than white box methods. Black box testing attempts to find errors in the following categories.

6. CONCLUSION

The “**Online Real Estate Management**” is successfully designed and developed to fulfilling the necessary requirements, as identified in the requirements analysis phase, such as the system is very much user friendly, form level validation and field level validation are performing very efficiently.

The new computerized system was found to be much faster and reliable and user friendly then the existing system, the system has been designed and developed step-by-step and tested successfully. It eliminates the human errors that are likely to creep in the kind of working in which a bulk quantity of data and calculations has to be processed.

The system results in quick retrieval of information that is very vital for the progress any organization. Cost is minimized in case of stationary. Burden of manual work is reduced as whenever transaction takes place, there is a no need to record it in many places manually.

The system has been developed using ASP.NET with the help of SQL Server 2000, the system was able to process and update the database with more ease. It helped in developing a total integrated system.

7. FUTURE ENHANCEMENT

The software has been developed in such a way that it can accept modifications and further changes. The software is very user friendly and in the future any changes can be done easily, without affecting the software.

Software restructuring is carried out. Software restructuring modifies source code in an effort to make it amenable to future changes. In general, restructuring does not modify the over all program architecture. It tends to focus on the design details of individual modules and on local data structure defined within modules. New modules can be added to the existing system with less effort.

Future developments can be focused with online payment transaction can be included in the next stage, which provides more flexibility for the users, automated Short Message Service.

8. BIBLIOGRAPHY

1. Chris Payne, "SAMS – Teach your self ASP.Net in 21 days" , Second Edition, Sams Publications, June 2006.
2. Miruthulal Eh Parihar, "ASP.Net Bible", First Edition, Wriley Publications, January 2006.
3. Stephen Walther, "ASP.net Unleashed", Second Edition, Sams Publisher, April 2006
4. James .R. Groff & Paul N. Weinberg, "*The Complete Reference SQL*", Tata McGraw -Hill
5. Ian Sommervilli, "Software Engineering" , Addition wisely Publication , 5th Edition 1996

WEBSITE REFERENCES

1. Reading on "ASP.NET web controls"
<http://startvbdotnet.com>
2. Reading on "Windows Services"
<http://msdn.microsoft.com/msdnmag/issues/01/12/NETServer>
3. Reading on "SQL Server"
[www.wikipedia.org/wiki/sql server](http://www.wikipedia.org/wiki/sql_server)

9. APPENDICES

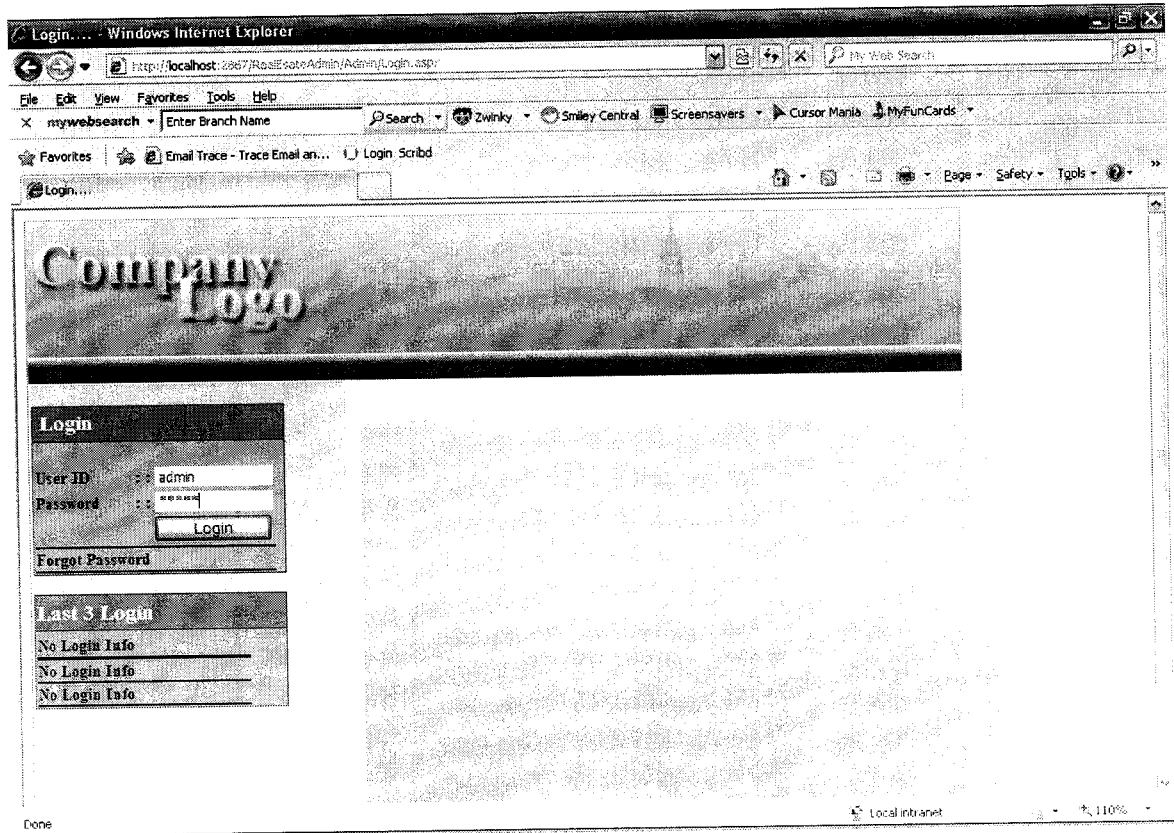


Fig A.1 LOGIN PAGE

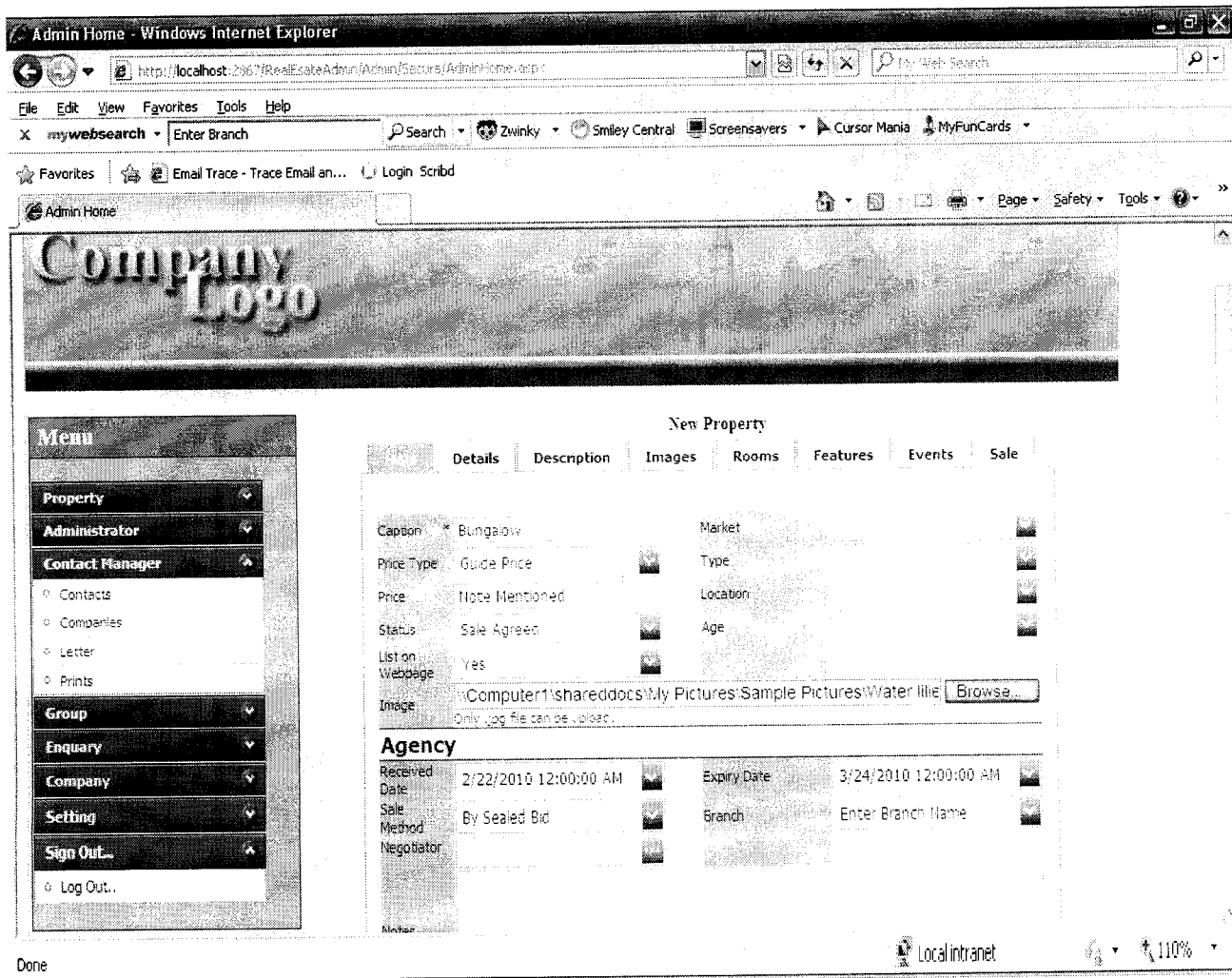


Fig A.2 MAIN PAGE

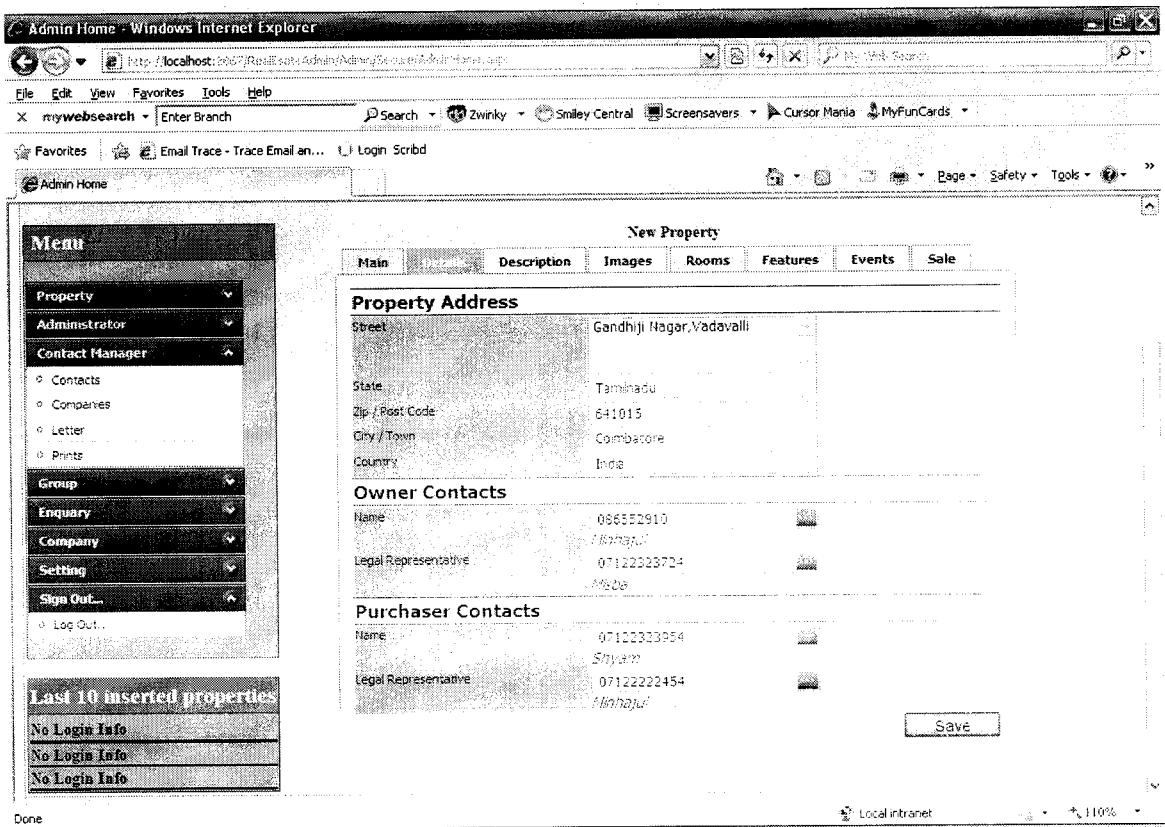


Fig A.3 PROPERTY DETAILS

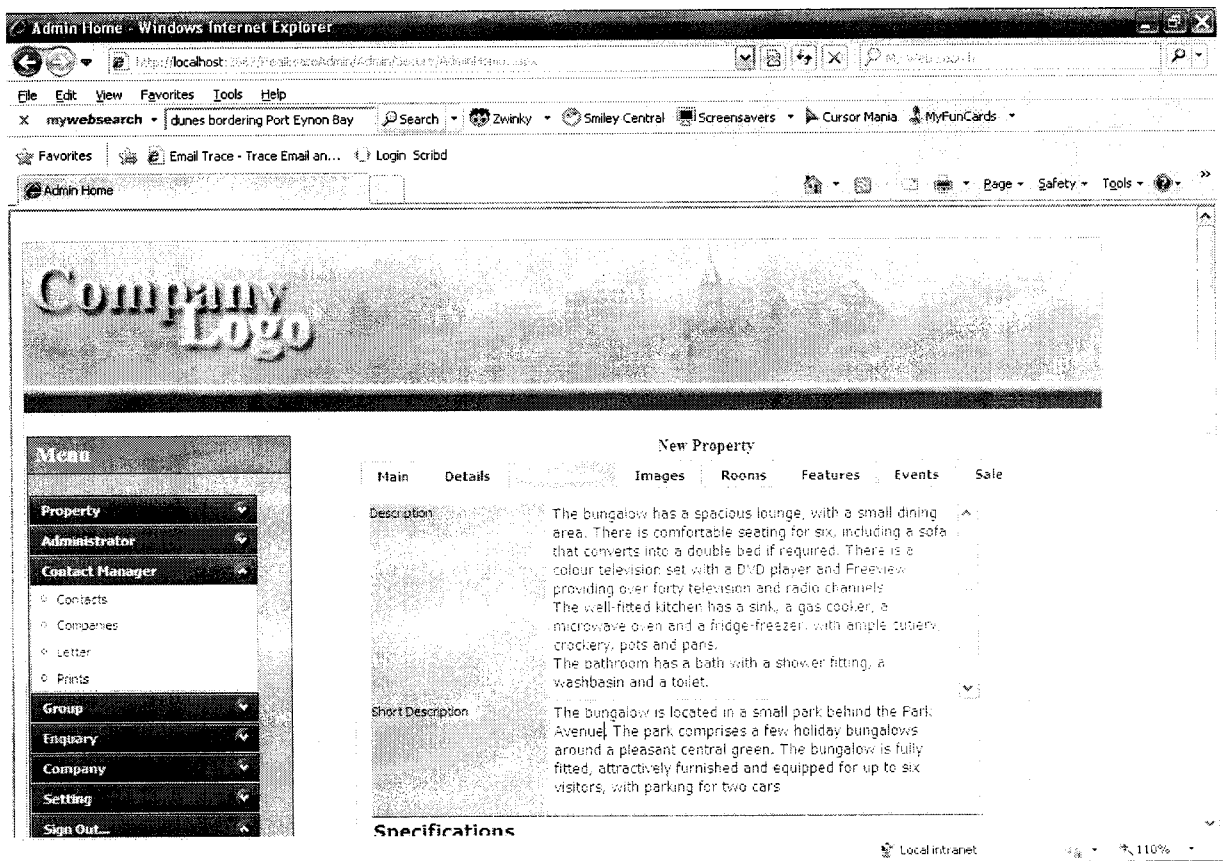


Fig A.4 PROPERTY DESCRIPTION

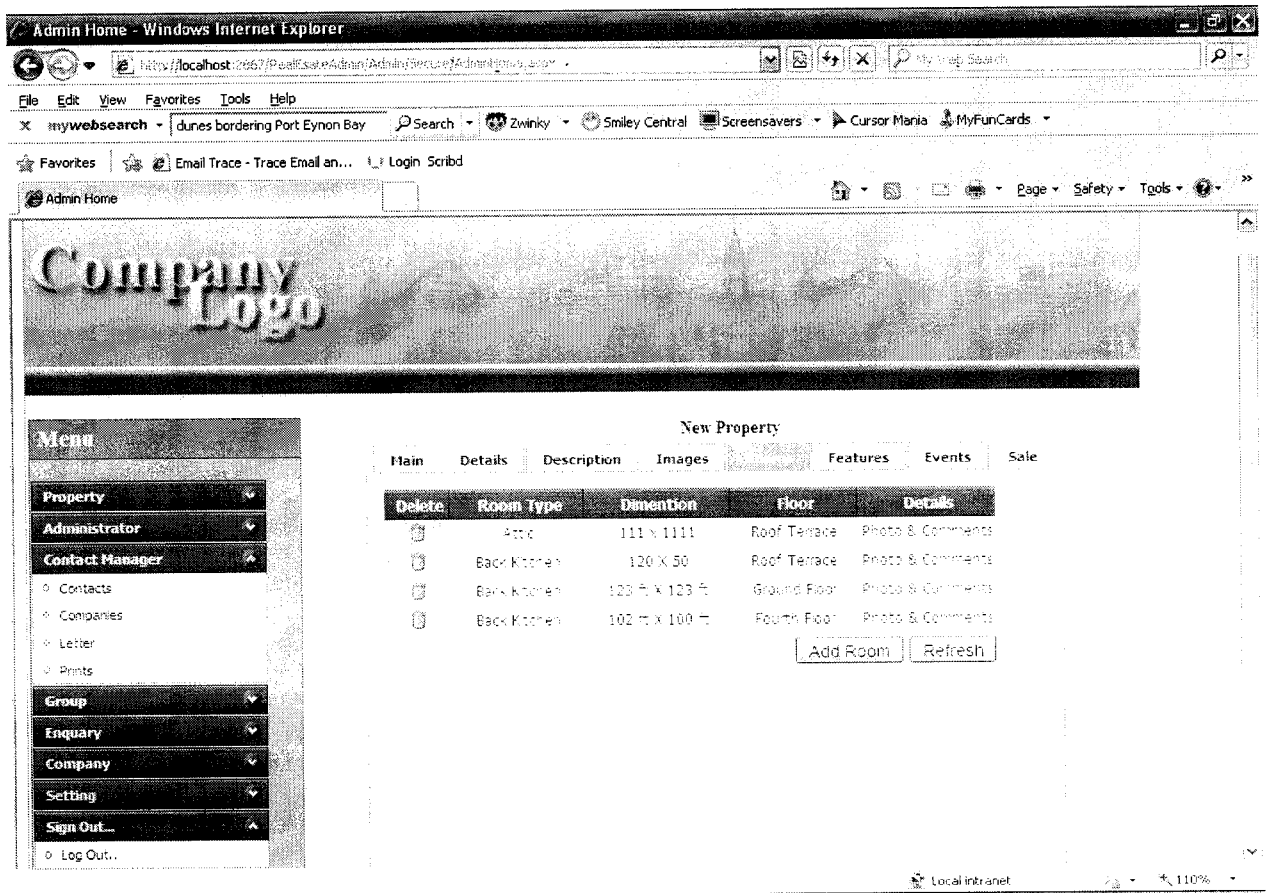


Fig A.5 ROOM DETAILS

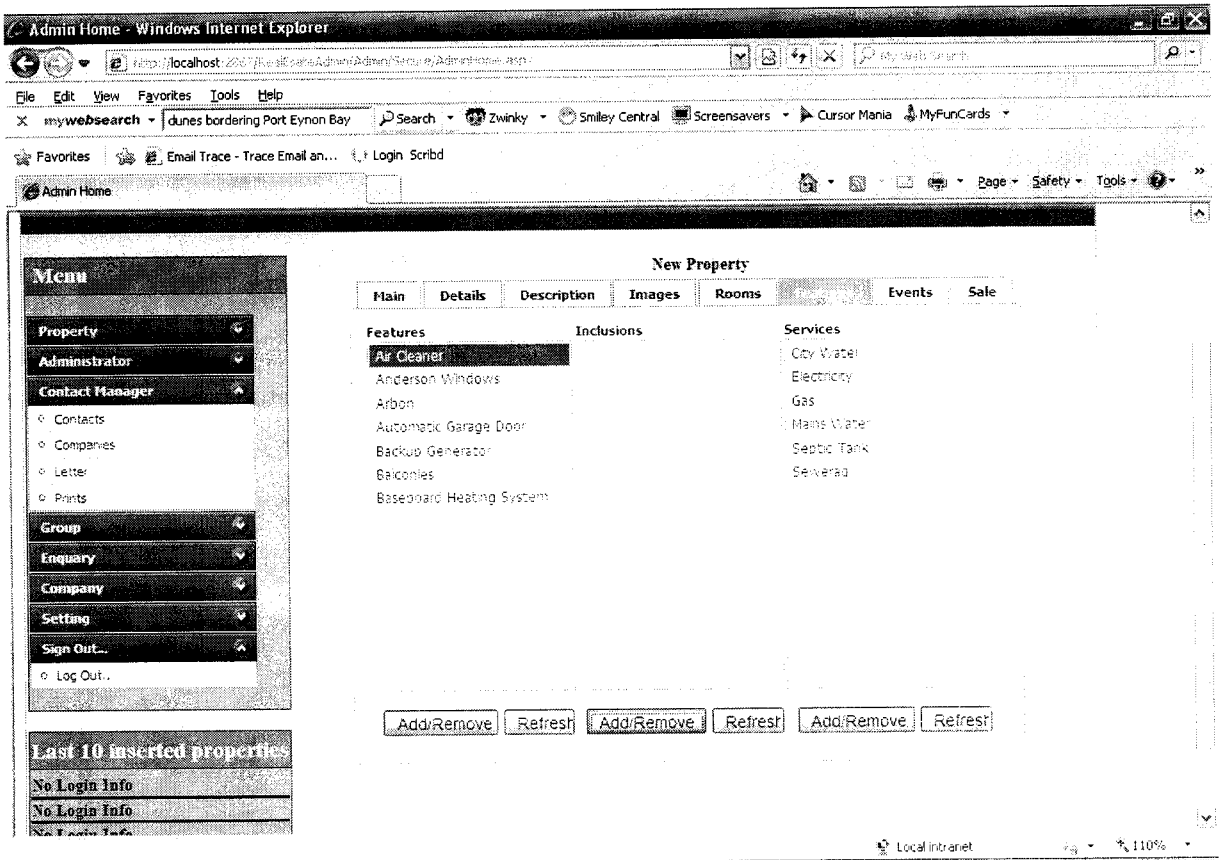


Fig A.6 PROPERTY FEATURES

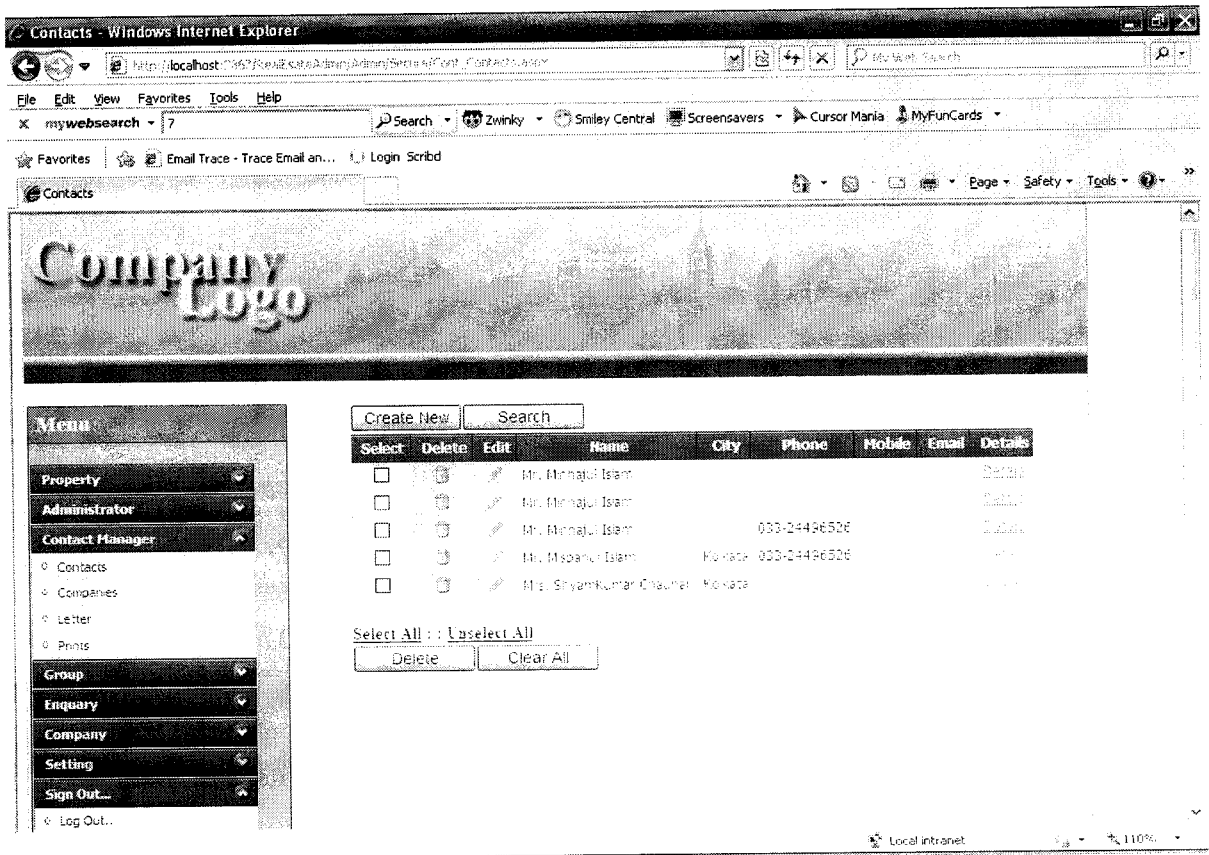


Fig A.7 CONTACTS DETAILS

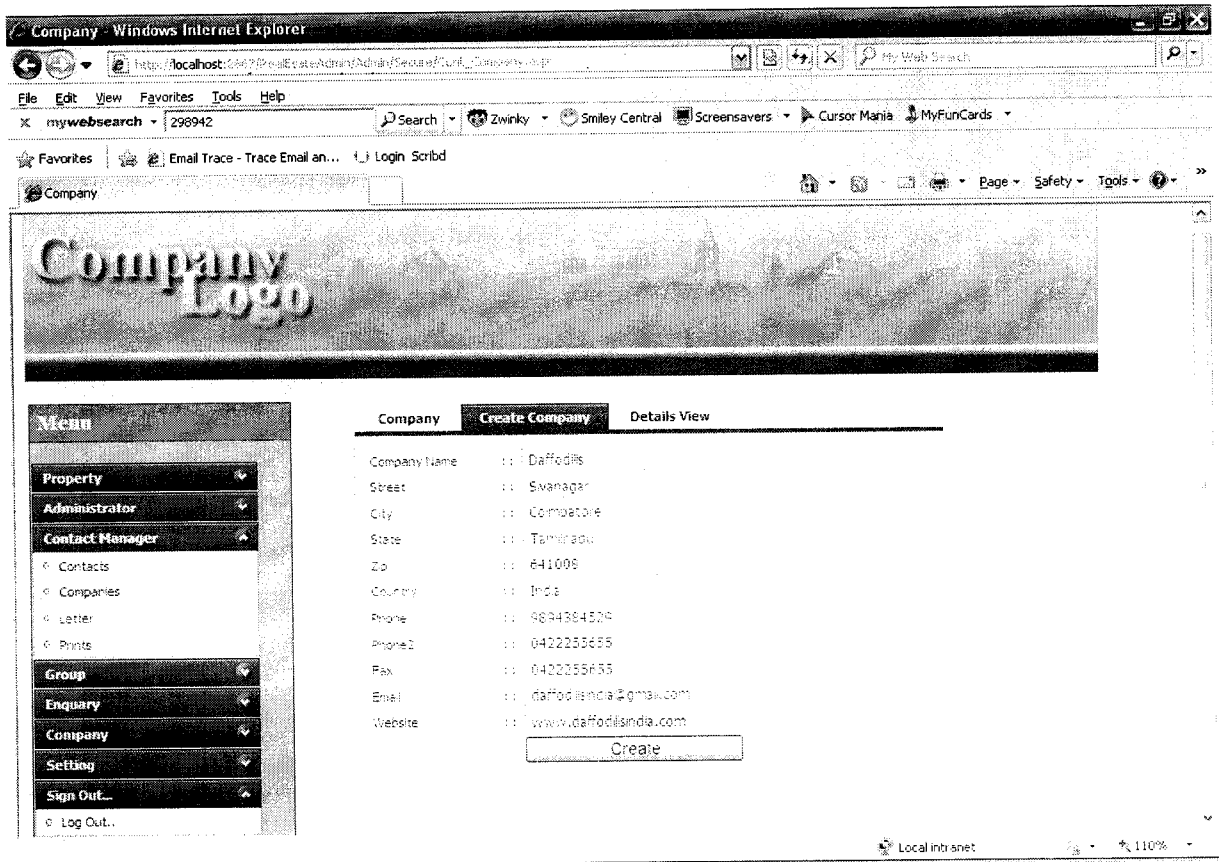


Fig A.8 COMPANY CONTACTS DETAILS

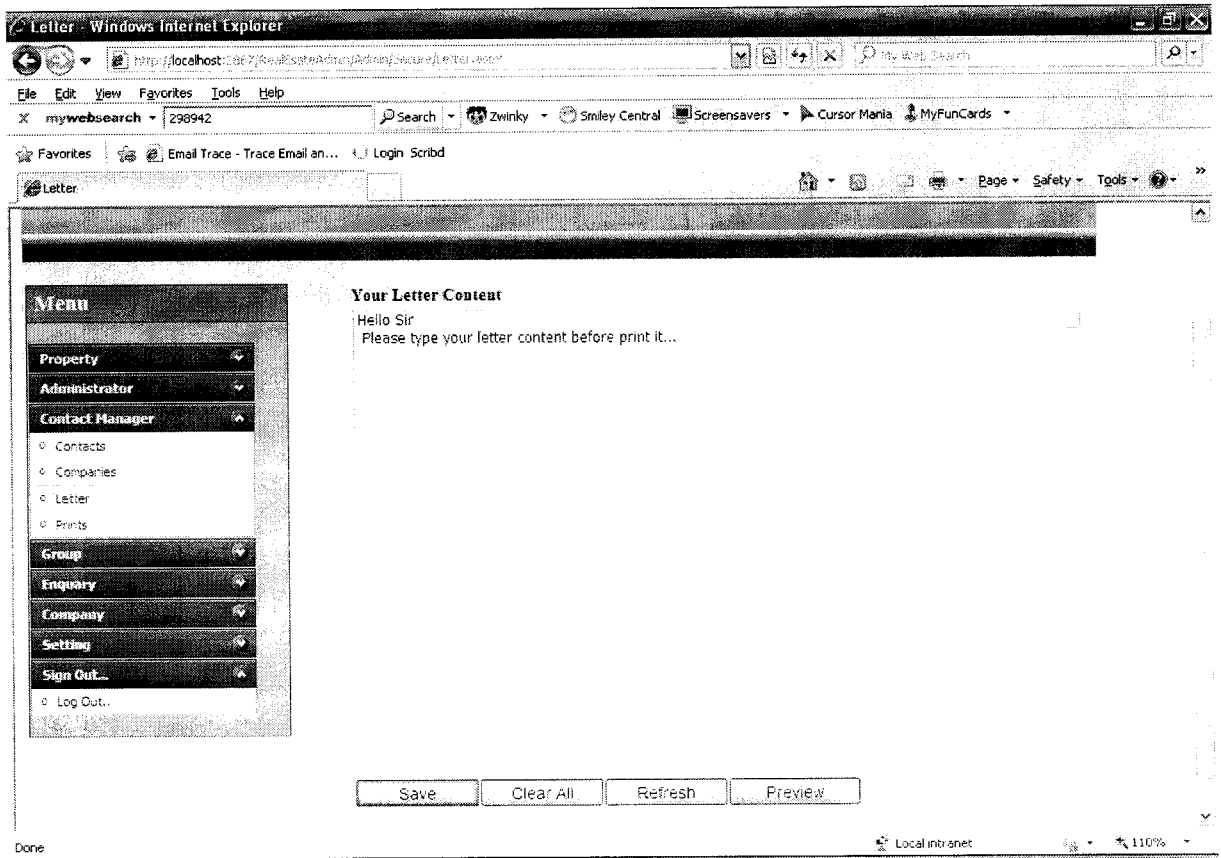


Fig A.9 LETTER DETAILS

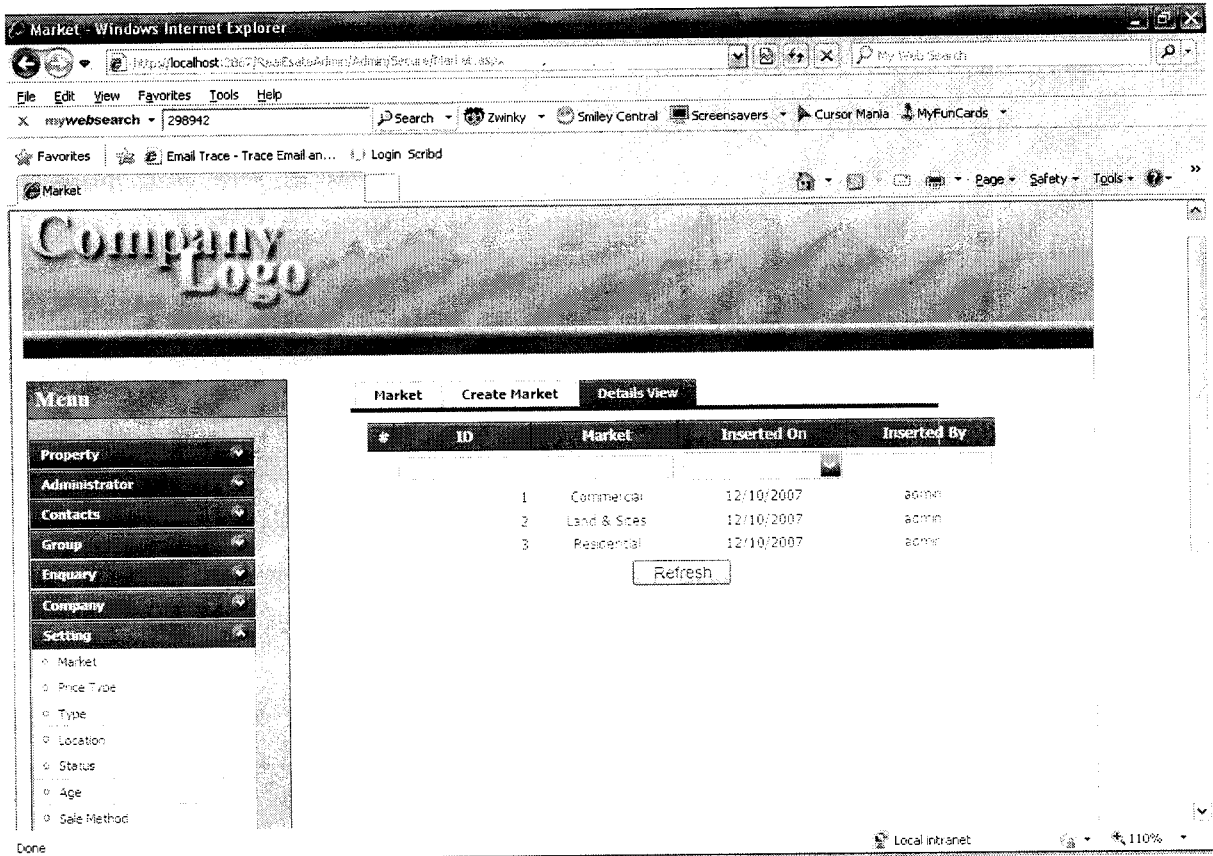


Fig A.10 SETTING MARKET

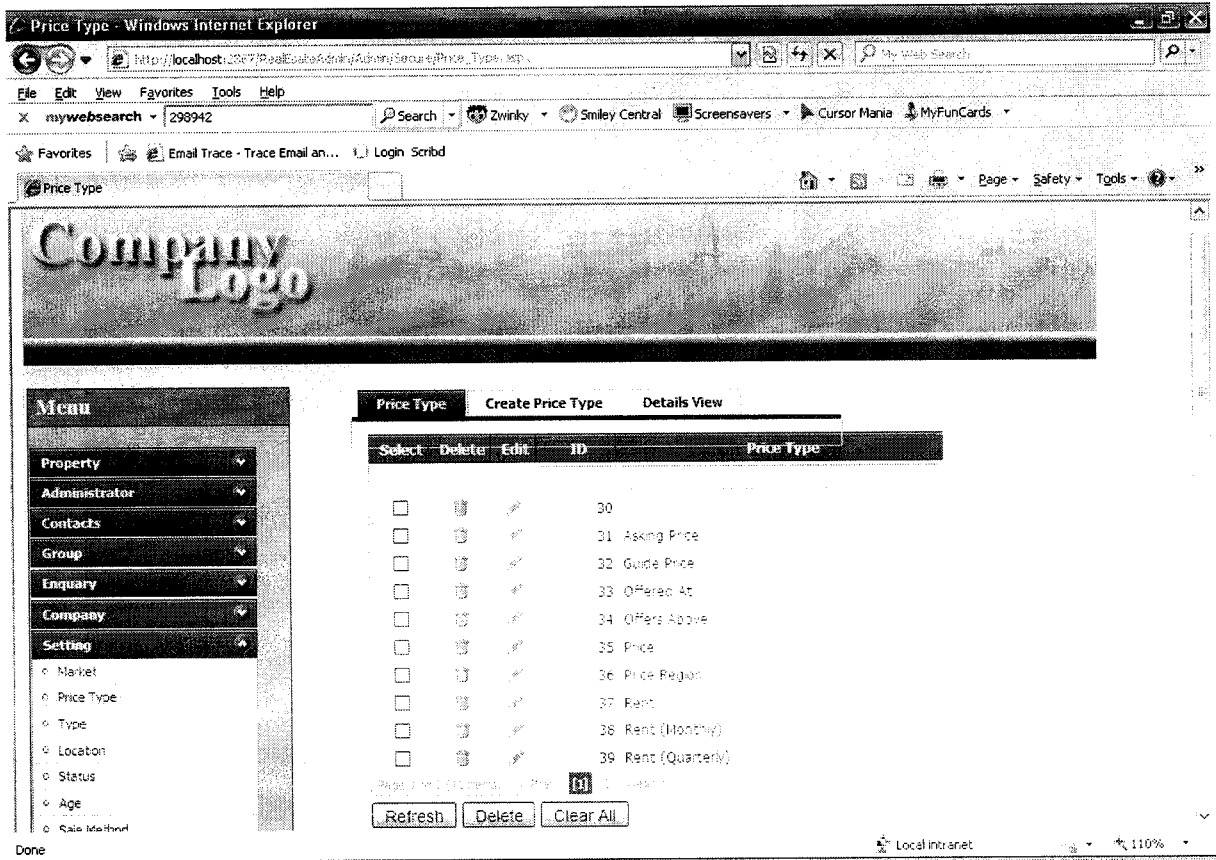


Fig A.11 SETTING PRICE TYPE

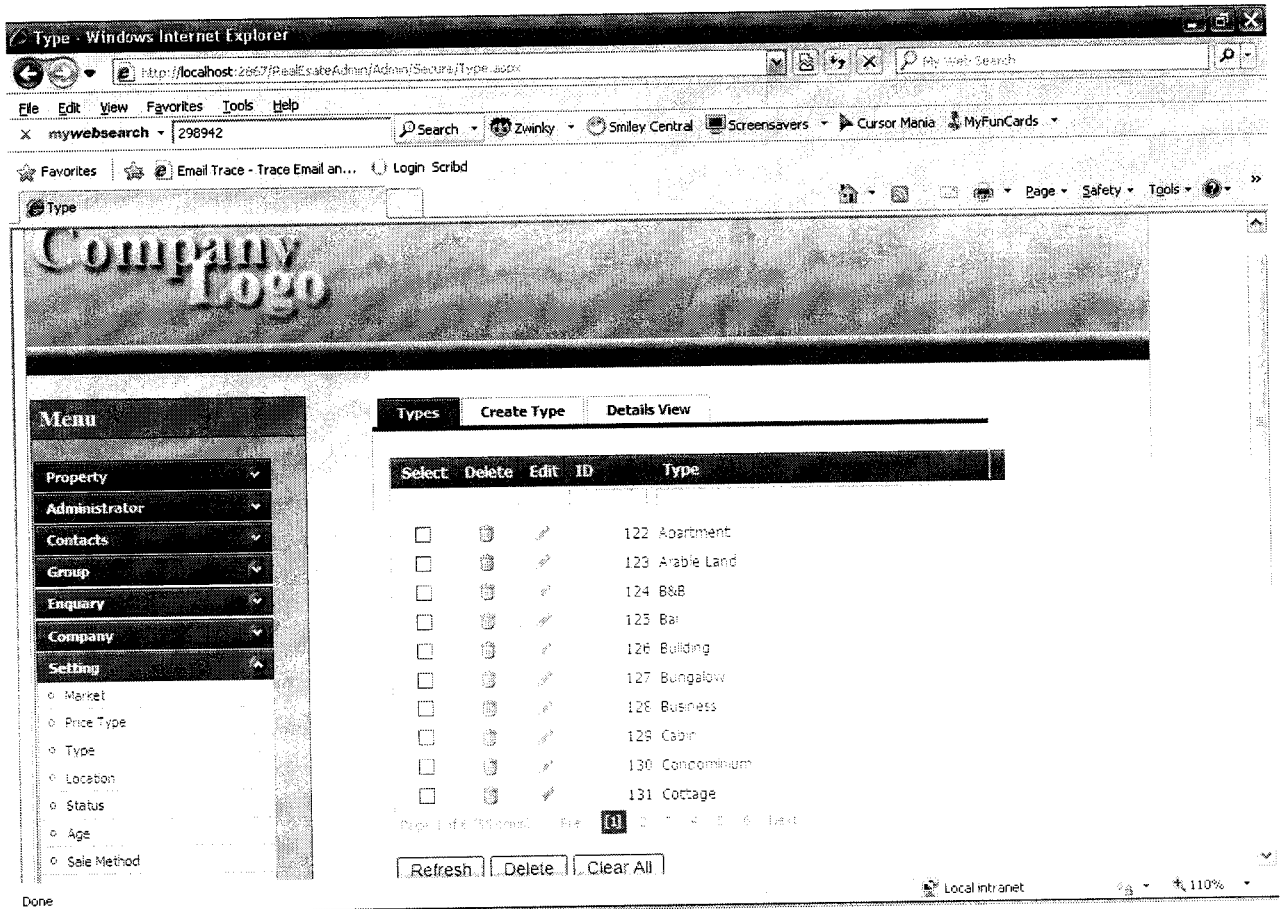


Fig A.12 SETTING PROPERTY TYPE