Realtor

By

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Under the Guidance of

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A project report submitted in partial fulfilment of the requirements for the Degree of Bachelor of Computer Applications

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1 INTRODUCTION

This chapter contains the background of the project, objectives, scope and applicability.

1.1 BACKGROUND OF THE PROJECT

In India real estate is a common but a consistent hot topic, though dealings are done offline well but when it comes to online it is a total chaos, and given that most people don't know how to use internet in India they ask someone else to upload the photo of their home on internet and they don't realize the trouble of not taking the listing down from any platform after selling them in such cases common problem arises like online people can still see the homes and waste their time on it while researching more on it.

1.2 OBJECTIVES

a. Primary Objective

Primary objective of this Project is to provide a platform for Realtors to post their property and buyers to browse these properties and show their interest and also, prediction of future price of the property.

b. Secondary Objectives

The consequent objective is to provide features which allow buyers to show interest in collaborative purchase of the property. Displaying the property sorted by popularity depending on the clicks received on the property posting. Predict future price of the property based on data collected from different sources.

1.3 PURPOSE, SCOPE AND APPLICABILITY

The purpose of the *realtor* project is to introduce a system of website where common problems like lack of modernisation problems can be eliminated from the root of their causes, also the project brings an informative outlook for the users, telling them the upside of buying the house in an area, to help them take a critical and logical decision when they sign up for a legal lease. The scope of this project is limited to listing the property and allowing the buyer to connect with the seller. The project is applicable to all realtors and property owners that are willing to sell their property and any person looking to buy a property solely or in collaboration.

1.4 OVERVIEW OF THE PROJECT

The overview of the project *realtor* is being implemented in different modules, the differences between the existing system and the proposed system. This report guides the overall implementation of the project as well the constraints or limitations of the project. The first chapter introduces the objectives, purpose and scope of the project. The second chapter elaborates on the existing system with a similar structure and goes into the details of what this project will bring into the picture.

2 SYSTEM ANALYSIS AND REQUIREMENTS

This chapter contains the description of the existing system, it's limitations, proposed system, it's benefits, features, software and hardware requirements, user characteristics, functional, non-functional requirements and block diagram.

2.1 EXISTING SYSTEM

The existing systems in the field of Real Estate include websites like Magic Bricks, QuikrHomes and 99Acres. These websites all have features allowing users to post their property for sale or even rent, which can be viewed by anyone entering the website. They also include user account creation and authentication. The websites have also implemented Various search filters allowing users to filter a property based on the location, price, requirement, number of bedrooms, furnished, semi-furnished and more.

2.2 LIMITATIONS OF THE EXISTING SYSTEM

Existing systems do not include an option for any property to be bought in collaboration. They do not connect users who wish to collaborate with each other. They do not have a price prediction implemented. The price is often outdated and has not been changed with market trends. They do not take liabilities for any fraud that might occur.

2.3 PROPOSED SYSTEM

The Proposed system for this project is to implement the Product page, the user authentication, Property listing, Realtor Dashboard, Buyer Dashboard, Machine Learning to predict the property prices. There will be map integration to highlight the property and the property price will be predicted according to its location and width of the road in front of the property. Data for properties in nearby areas from other top websites, and other databases will be fetched to help in predicting the price of the properties. There will be more modules to fulfil and support these basic functionalities. The Realtor will post his property which will also require the modules to be supporting the database manipulation functionality. The project is recommended to realtors and the user who either wants to buy or sell or rent a property.

2.4 BENEFITS OF THE PROPOSED SYSTEM

The major objective of the project is to help to remove outdated listed properties and this eliminates the pricing issue when a listing is too old , the project is implemented with machine learning so that it can specify the future prices of a property users can buy properties in shares and map locations are included for better understanding of property location. The highlight of this project is the feature for selling a property in shares.

2.5 FEATURES OF THE PROPOSED SYSTEM

The Project *Realtor* is an application to buy/sell real estate online. Registration is free on the website, realtors can post houses on our website as well as an owner can post directly. The project will take commission of the transactions from the owner. Users who need to buy can see the listing available on our website and can choose between them without any kind of pressure. Users don’t have to pay a penny unless the deal is finalized between owner and user, in such case a 5 percentage from rent will be taken as commission from the user. Whole transaction will take place on the website. This project is intended for Realtor, Sellers and Buyers of Real Estate.

2.6 SYSTEM REQUIREMENT SPECIFICATION

2.6.1 USER CHARACTERISTICS

The users for this project are property owners and realtors who are looking to sell their property. Investors and buyers for all types of properties.

2.6.2 SOFTWARE AND HARDWARE REQUIREMENTS

Software requirements

Operating System	Windows 7 Mac OS X 10.8 Ubuntu or Fedora
Software Selection	Sublime text / VS Studio Code NodeJS MongoDB Python
Programming Languages	HTML CSS JavaScript Python3
Web Browser	Google Chrome Mozilla Firefox Internet Explorer Safari Microsoft Edge

Hardware requirements

All the hardware requirements that are necessary in developing and deploying the proposed system is listed below.

Processor	I3
Hard Disk	20GB
Ram	4GB
Internet Connection	Internet Connection with a speed of minimum 2 mbps or more
Display Unit	Monitor with HD-Ready Resolution or more

2.6.3 CONSTRAINTS

The constraints of the project *realtor* are as follows:

- The constraints of this project are that this project is dependent on automatic data retrieval for properties that were sold in nearby areas which will be fetched from various sources like magic bricks.
- This project is also limited to connecting buyers to sellers and buyers to buyers for collaboration, this project does not host the transaction and takes no liability for any conflicts thereafter.
- The prices predicted by this project are not absolute, any fall or raise in price predicted by this project is applicable only on the seller's discretion.

2.6.4 FUNCTIONAL REQUIREMENTS

Requirement ID	Requirements	Description
FR1	Creation	User Account and Profile creation, storage as well as updating for investor and seller
FR2	Posting	Posting of Property by seller on publicly accessible platform with details stored in database
FR3	Searching	search and display properties characterized by popularity
FR4	Price Tracking	Tracking Price of different property from different websites.
FR5	Purchasing Property	Collaboration Purchase posting
FR6	Communication	Communication in the form of messages
FR7	Machine Learning	Machine learning applied on the property prices to predict increase or decrease

2.6.5 NON-FUNCTIONAL REQUIREMENTS

Non-Functional requirements of the project Realtor are as follows

Requirement ID	Requirements	Description
NFR1	Usability	The interface should use terms and concepts, which are drawn from the experience of the people who will make most of the system.
NFR2	Efficiency	The system must provide easy and fast access without consuming more cost.
NFR3	Reliability	User should never be surprised by the behaviour of the system and it's easy to use to

2.7 BLOCK DIAGRAM

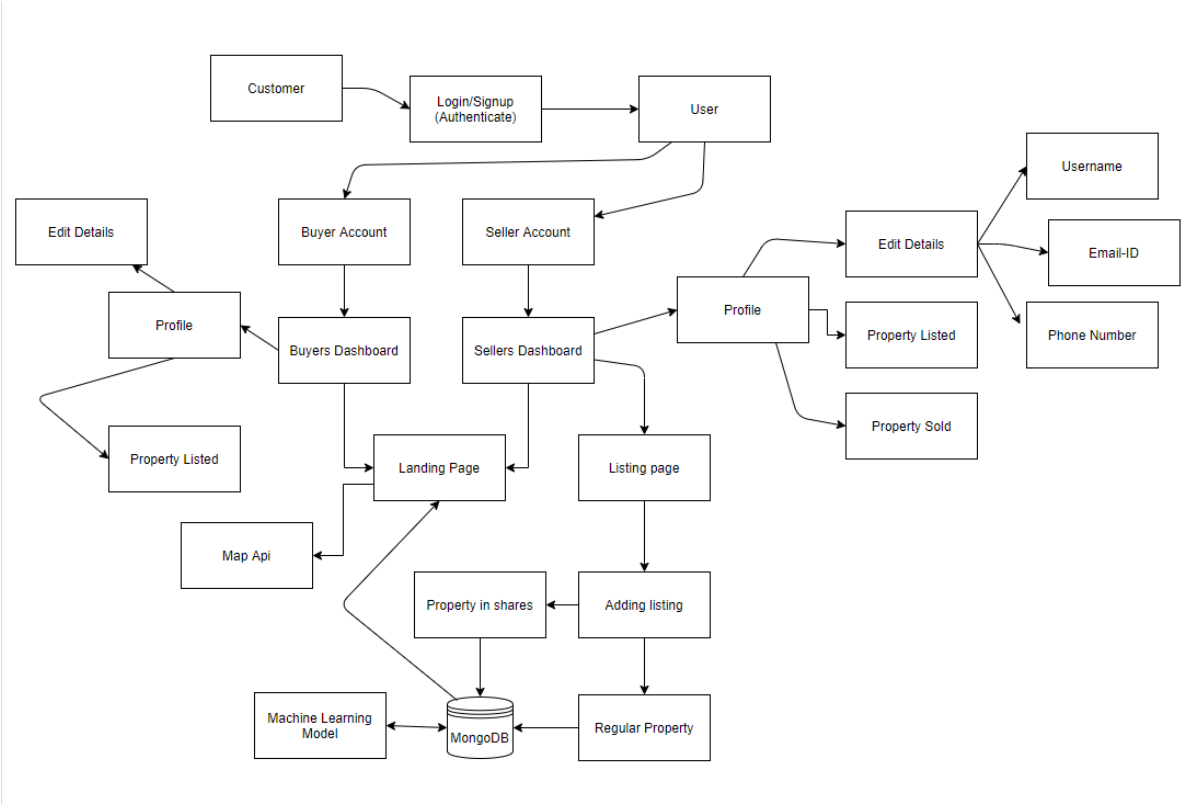


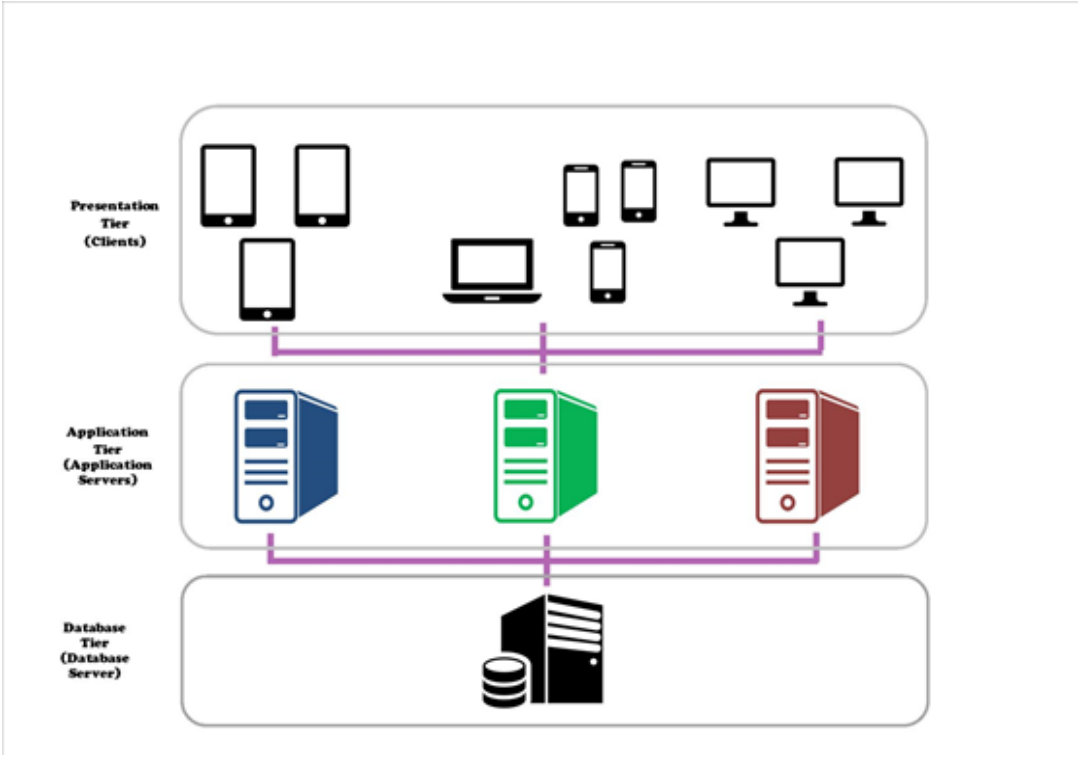
Figure 2.1

The above diagram represents different components of Realtor and their relation with each other.

3 SYSTEM DESIGN

The chapter system design will cover the design aspects of the project realtor and technically describe the functioning of the web application

3.1 SYSTEM ARCHITECTURE



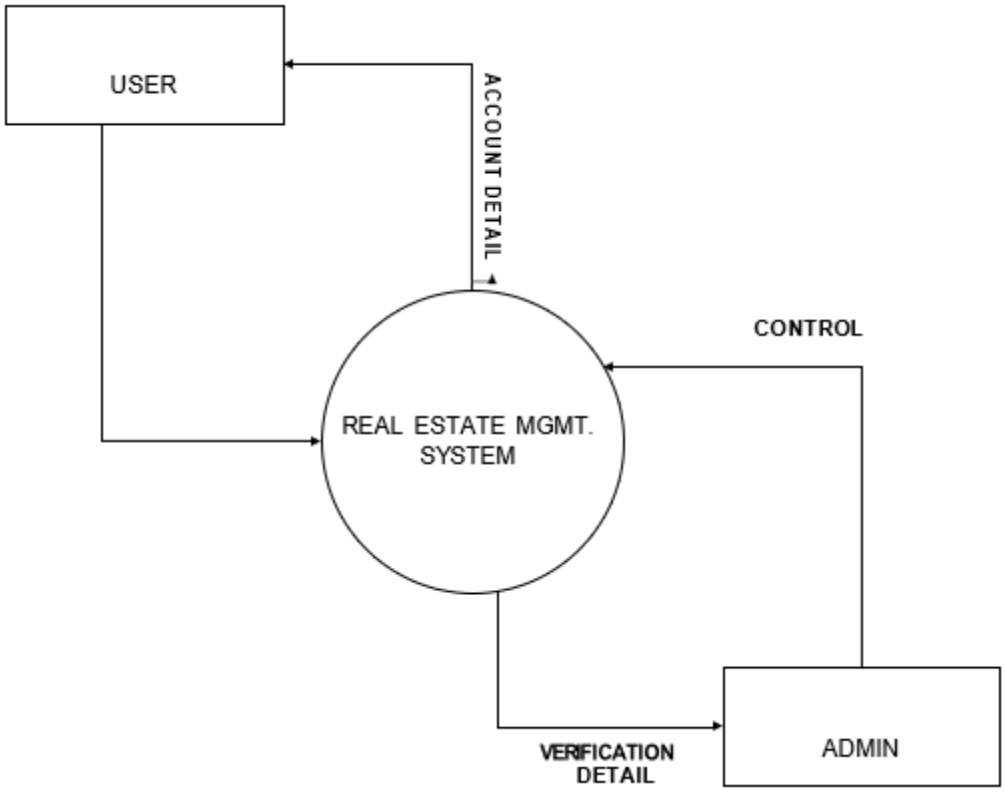
The project realtor, as seen in the above depiction will have a three-tier system architecture where the end user will access the web application hosted on the application server and the application servers will in-turn access the database for the user

3.2 MODULE DESIGN

- User authentication - Authentication is a necessary part of an application, it gives different users access based upon their account status. *Realtor* have three different kinds of users, buyers, sellers and admin. Each has their own level of access to information present on the website.
- Landing Page - This is the landing page of our website where users can see bestselling and attractive properties. Reviews of the owners who have bought property on our website.
- Property listing - Listing properties is not an easy task but we try to make it as easy as possible. Properties will be listed by the sellers on our platform. Buyers are provided with listing features such that they can add different properties with different attributes. After successful listing of the property the verification of the property will take place.
- Seller Dashboard - Seller has the ability to post listings on the platform. In a case where more than one listing are there on the website it makes it difficult to manage them. To solve this problem *Realtor* have a seller dashboard to help sellers manage their listings easily.
- Buyer Dashboard - Buyer has the ability or power to purchase property from our platform. When a buyer has selected many properties and wants to add only a few to the shortlist or add it to its wish list in such case dashboard comes handy where he can quickly view his favourite property after he/she logs in into their account or even in some other person's computer.
- Machine Learning - Price of a property can increase based on multiple factors and in some cases they might depreciate also. To find as estimate on such factors *Realtor* takes into consideration different parameters like distance from main public transport or whether a property is located inside or outside lanes and so on. These factors help users think about the future aspects while buying properties.
- Buying property in shares - Large property, might be possible for some people to buy alone or, people want them to be shared with their friends or family member in such case we help them to identify such property and help them to buy property in shares.
- Verifying property details - Verification of details of a property has never been an easy job, but it is a hassle and endless pain of searching about the property. *Realtor* post only those properties which paper works have been up to date and have no disagreements over it of any kind and each of the details are fresh and up-to-date.
- Map to locate property - Some people may want to check out the location themselves before buying the property, for such people who want to study the locals can have a look at the location or for those who might need to calculate distances between metros or their office and so on.

3.3 DATA FLOW DIAGRAM

Level 0:



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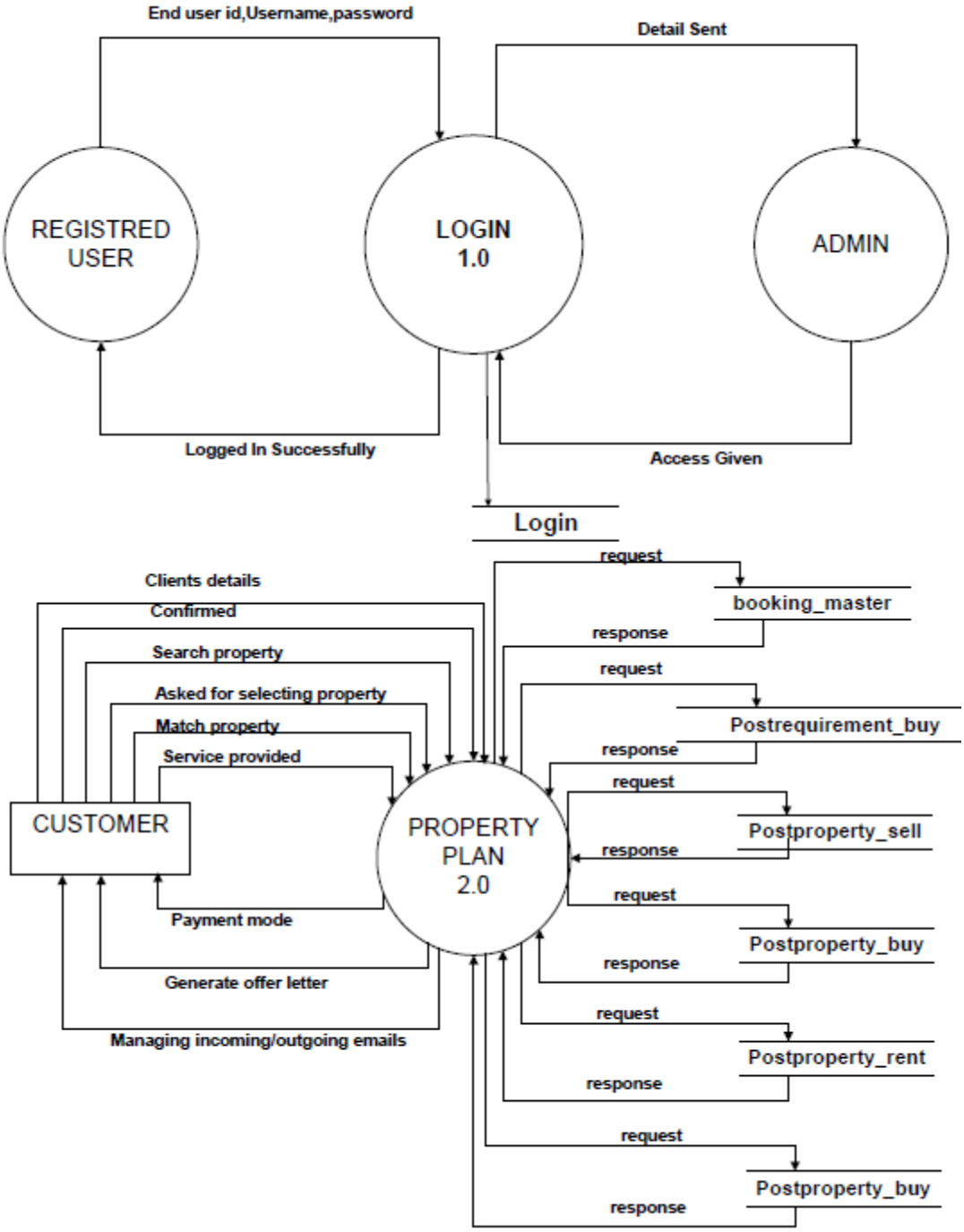
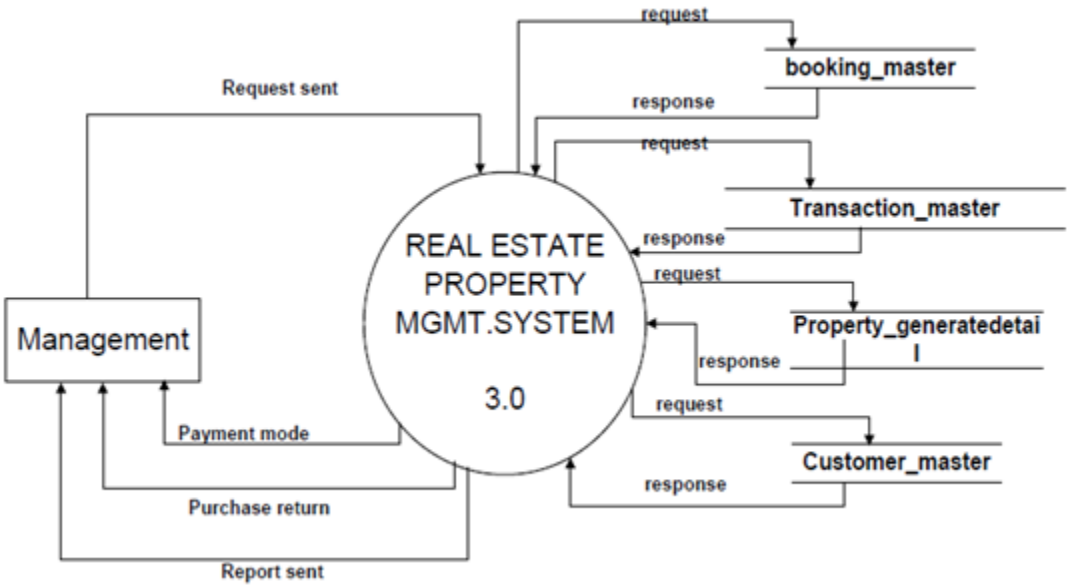

End user id,Username,password
Detail Sent
REGISTRED USER
LOGIN 1.0
ADMIN
Logged In Successfully
Access Given
Login
request
booking_master
response
request
Postrequirement_buy
response
request
Postproperty_sell
response
request
Postproperty_buy
response
request
Postproperty_rent
response
request
Postproperty_buy
response
Clients details
Confirmed
Search property
Asked for selecting property
Match property
Service provided
CUSTOMER
PROPERTY PLAN 2.0
Payment mode
Generate offer letter
Managing incoming/outgoing emails

Level 1(B):



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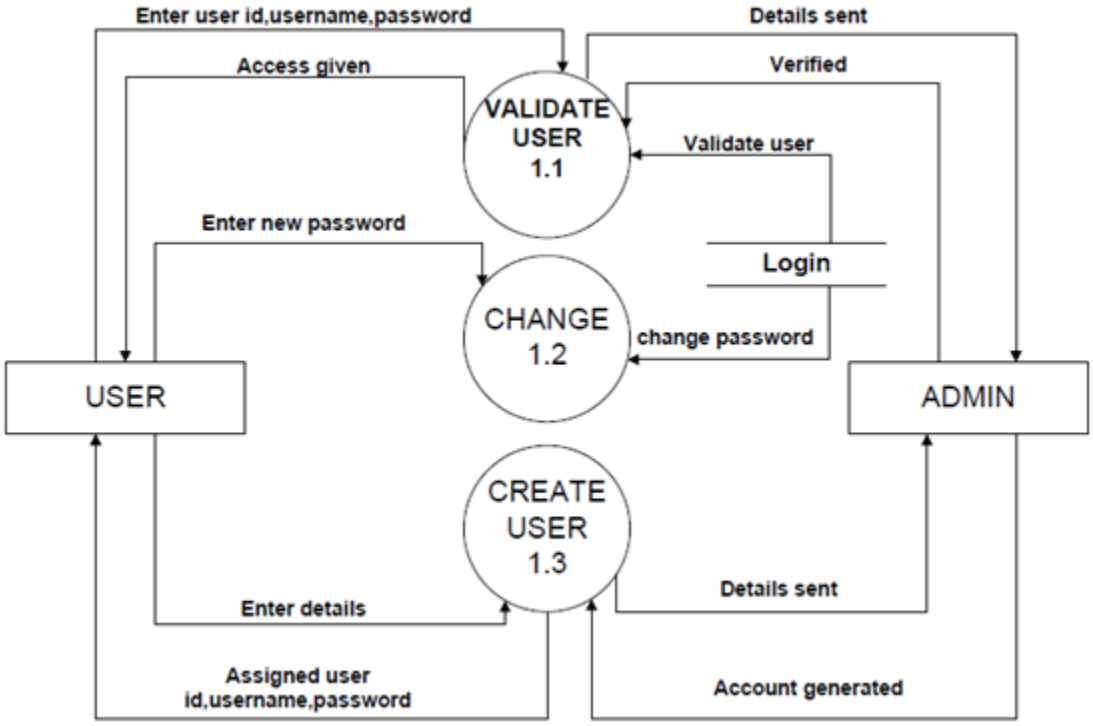

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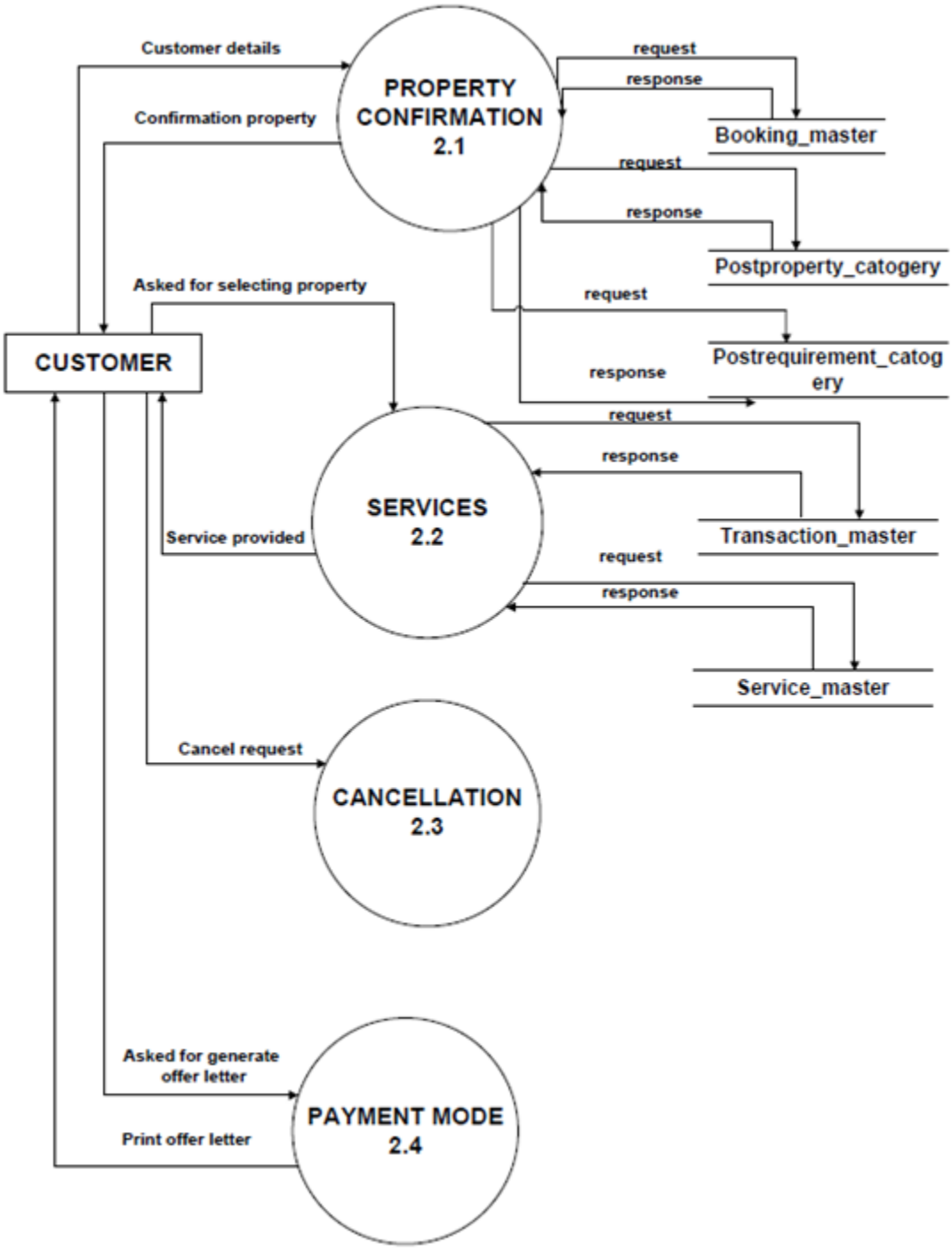
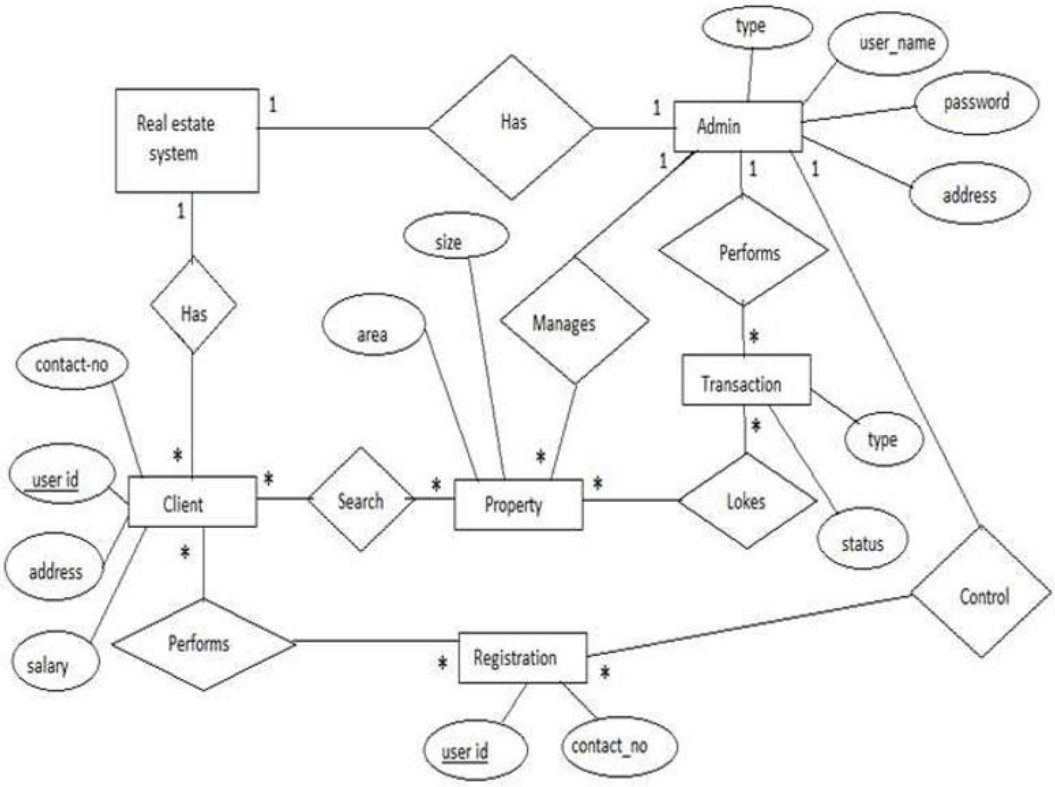

Customer details
Confirmation property
PROPERTY CONFIRMATION 2.1
request
response
Booking_master
request
response
Postproperty_catogery
request
response
Postrequirement_catog ery
Asked for selecting property
CUSTOMER
request
response
SERVICES 2.2
Service provided
Transaction_master
request
response
Service_master
Cancel request
CANCELLATION 2.3
Asked for generate offer letter
PAYMENT MODE 2.4
Print offer letter

3.4 ER DIAGRAM



3.5 DATABASE DESIGN

Database design are an integral component of analysis, since a data flow diagram by him or her does not fully describe the subjects of the investigation. A database design is a catalog of the element in a system. This element centers on data and the way it is structured to meet user‘s requirements and needs. The major elements are dataflow, data stores and processes. Database design stores details and description of these elements.

It is developed during data analysis and assists analysis involved in determining the system. Four main reasons of analysis are:

- To manage the details in a large system.
- To communicate a common meaning for all system elements.
- To document the features of the system.
- To locate the errors and omissions in the system.

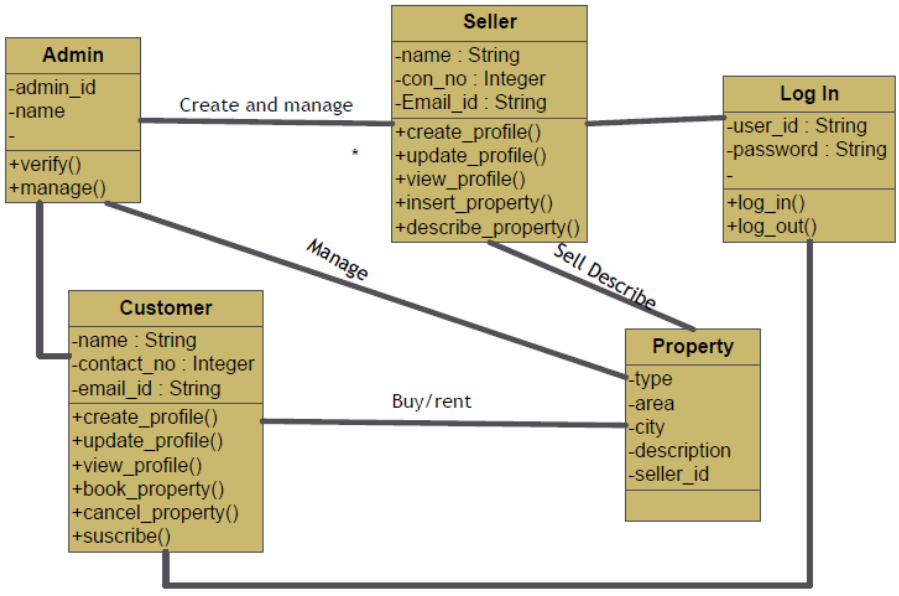
The database design contains two types of descriptions as following:

1. Data Elements: The most fundamental data level is the data element. Data element is the building block for all others in the system.

2. Data Structure: A data structure is a set of items that are related to one another that describes components in the system

3.5.1 TABLE DESIGN

MongoDB is the database that is being used for this project. It is a no-SQL database and does not have a structure specified. The structure shown below is only a depiction. MongoDB allows flexibility in data structure and supports for easy expansion of servers as and when required. Denormalization is a concept implemented for no-SQL databases.



3.5.2 DATA INTEGRITY AND CONSTRAINTS

MongoDB is a no-SQL database which provides a lot of flexibility in terms of data storage. The data structure is not fixed and will be stored in objects whose content can be varied from time to time. This data has not integrity constraints supported by MongoDB.

3.5.3 DATA DICTIONARY

Table Name: Postproperty_sell

Description: To store the details of seller or agents.

Serial No	Fields	Datatype	Description	Default	Min Value	Max Value
1	Property_type	Varchar(50)	Residential/ commercial	“None”	3	50
2	City	Varchar(50)	city name	“None”	3	50
3	Locality	Varchar(50)	Area of user	“None”	3	50
4	Address	Varchar(50)	Address of User	“None”	3	50
5	Type_of_owners	Varchar(50)	No. of bedrooms	“None”	3	50
6	Plot_area	Double	Area of land	“None”	1.0	100,000.0

Table 1: Postproperty_sell

Table Name: Postproperty_rent

Description: To store the details of the person who rent their property.

Serial No	Fields	Datatype	Description	Default	Min Value	Max Value
1	Property_type	Varchar(50)	Residential or commercial	None	3	50
2	City	Varchar(50)	User city name	None	3	50
3	Locality	Varchar(50)	Area of user	None	3	50
4	Address	Varchar(50)	Detailed address of User	None	3	50
5	Bedrooms	Integer	No. of bedrooms	None	1	-
6	Furnished	Boolean	Furnished or not	None	1	1
7	Age_of_construction	Double	Describe the building age	None	1.0	-
8	Plot_area	Double	Area of land	None	1.0	-
9	Monthly_rent	Double	Rent per month	None	1	-

Table 2: Postproperty_rent

Table Name: Postrequirement_buy

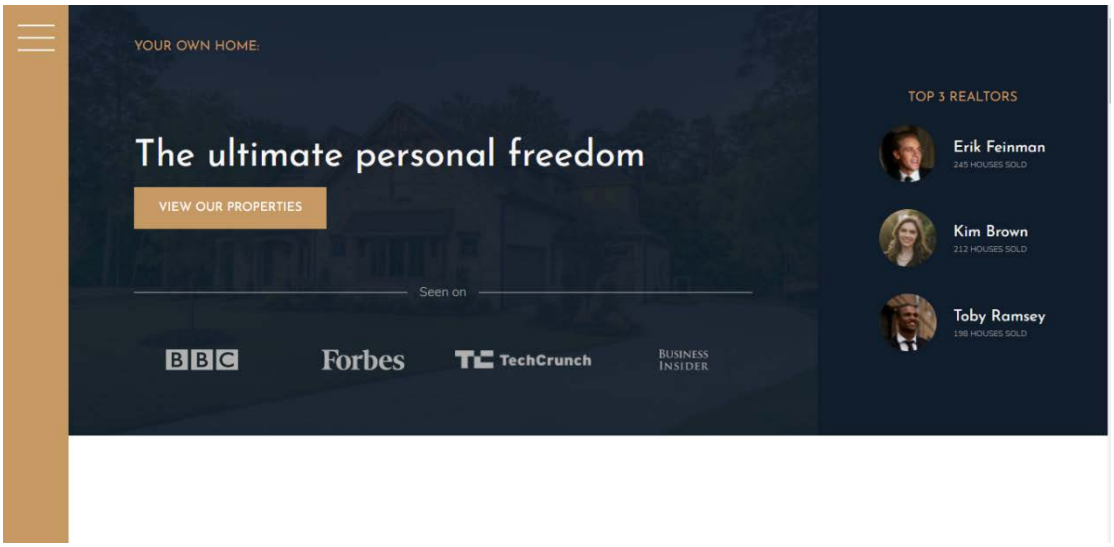
Description: To store the details of the person for requirement of property.

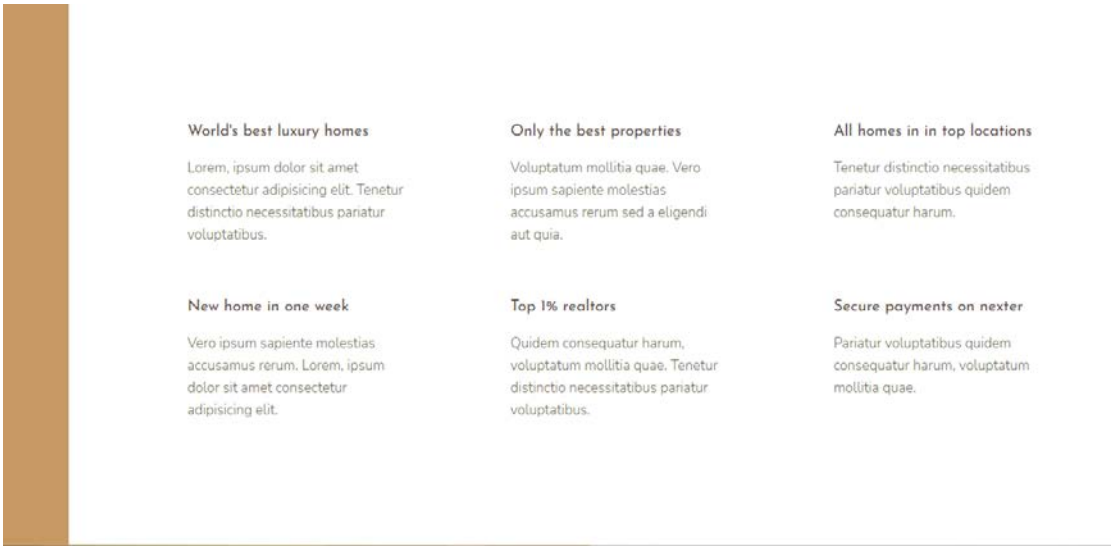
Serial No	Fields	Datatype	Description	Default	Min Value	Max Value
1	Buyer_id	Integer	Id of buyer	“None”	1	-
2	State	Varchar(50)	State of buyer	“None”	3	50
3	Bedrooms	Integer	No. of bedrooms	“None”	1	-
4	Area	Double	Area of land	“None”	1	-
5	Budget_min	Integer	Minimum amount of land	“None”	100	-
6	Budget_max	Integer	Maximum amount of land	“None”	100	-
7	Login_id	Integer	User login id	“None”	3	-

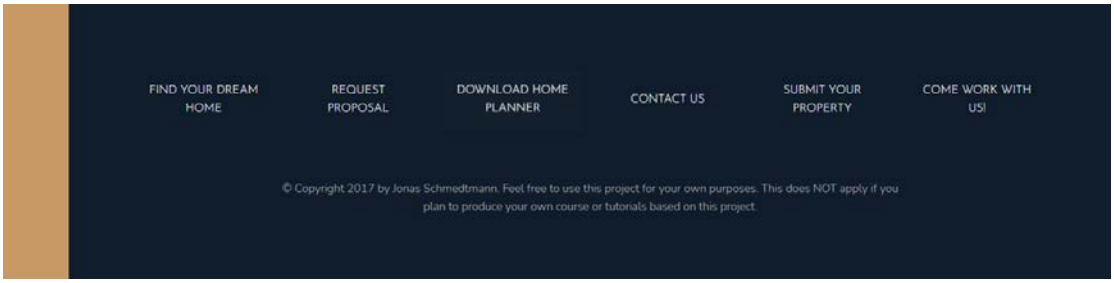
Table 3: Postrequirement_buy

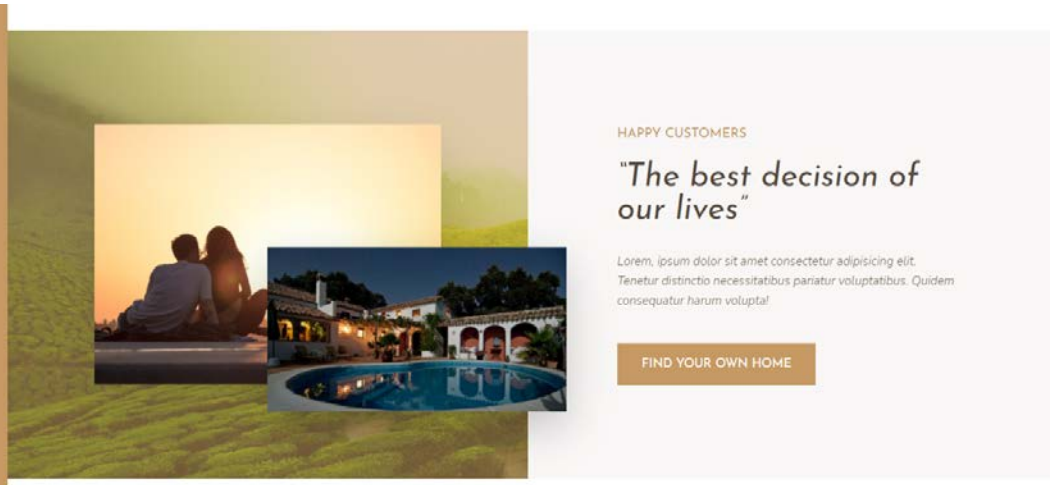
3.6 INTERFACE AND PROCEDURAL DESIGN

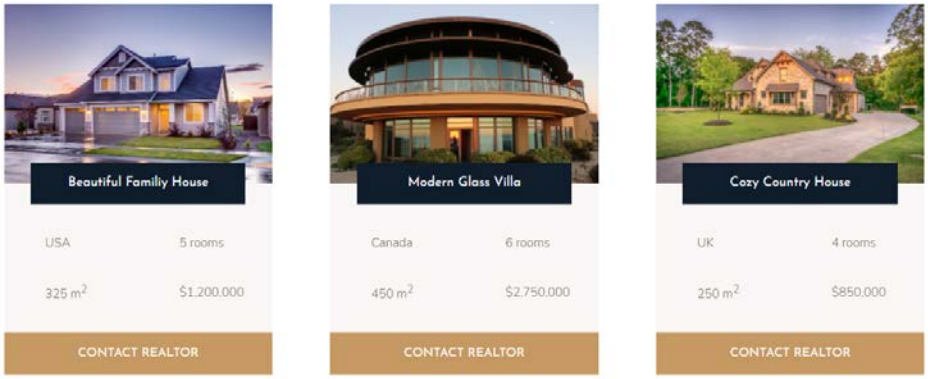
3.6.1 USER INTERFACE DESIGN





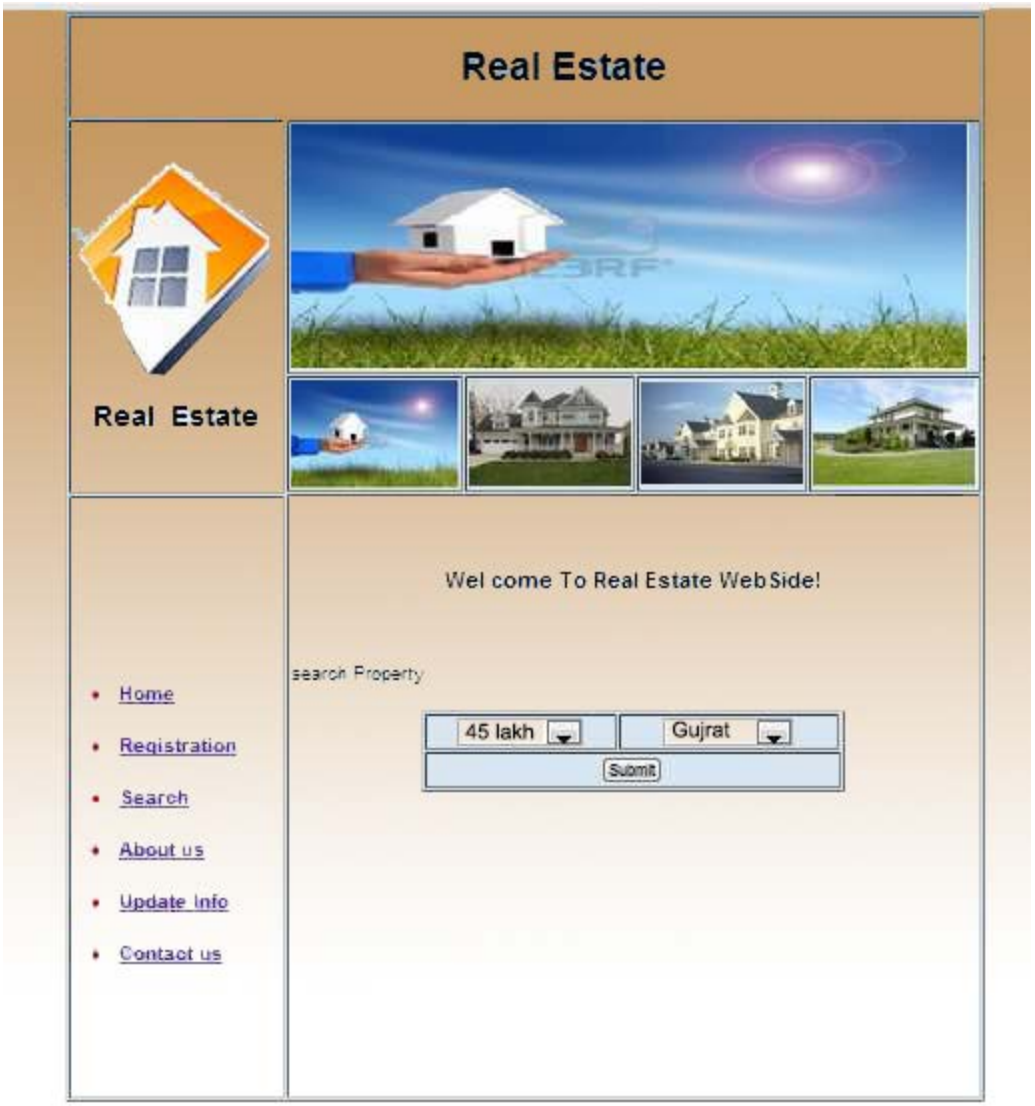



HAPPY CUSTOMERS
"The best decision of our lives"
Lorem, ipsum dolor sit amet consectetur adipisicing elit. Tenetur distinctio necessitatibus pariatur voluptatibus. Quidem consequatur harum volupta!
FIND YOUR OWN HOME


Beautiful Familiy House
USA
5 rooms
325 m2
$1.200.000
CONTACT REALTOR
Modern Glass Villa
Canada
6 rooms
450 m2
$2.750.000
CONTACT REALTOR
Cozy Country House
UK
4 rooms
250 m2
$850.000
CONTACT REALTOR

3.7 REPORTS DESIGN

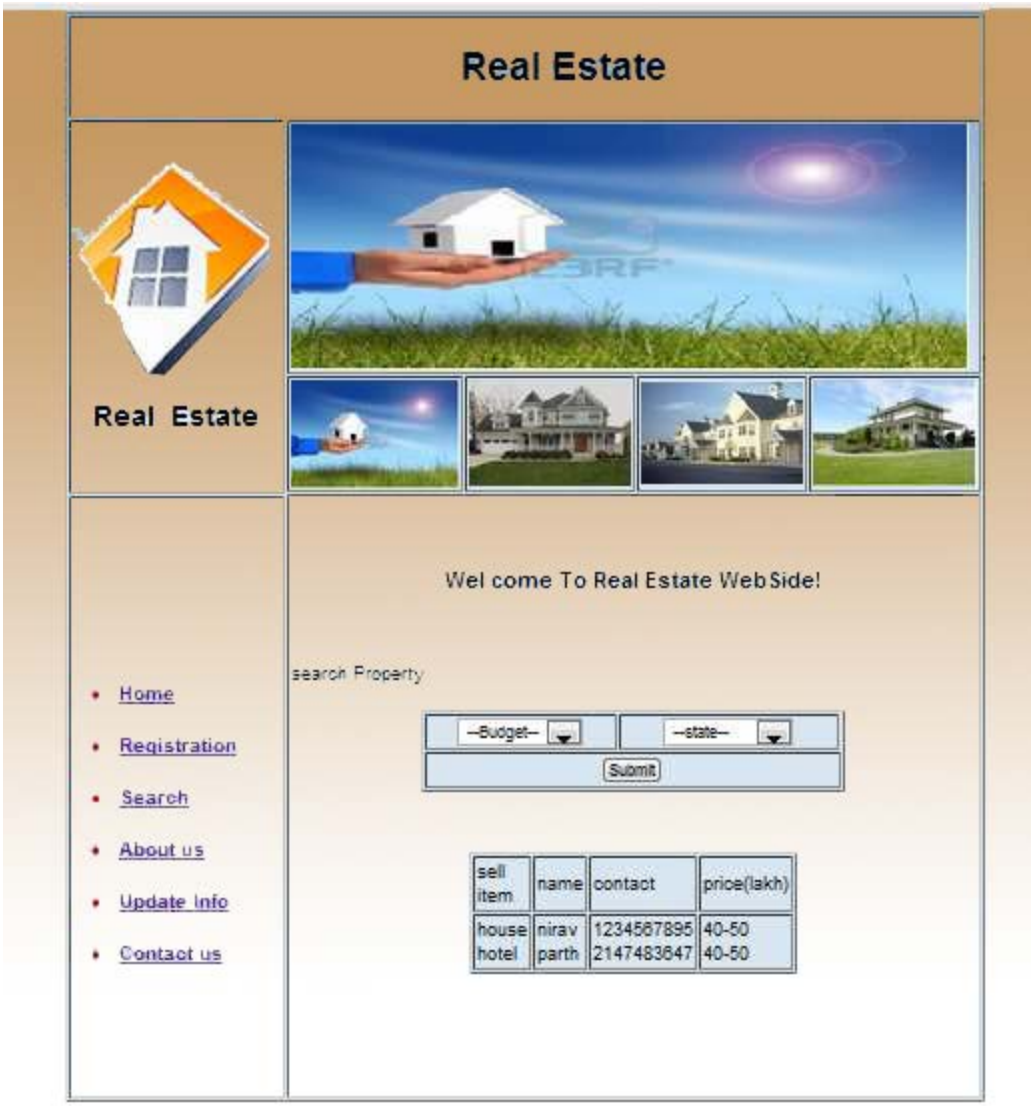
Input


Real Estate
Real Estate
Wel come To Real Estate WebSide!
search Property
45 lakh
Gujrat
Submit
Home
Registration
Search
About us
Update Info
Contact us


REALTOR
Real Estate
Home
Registration
Search
About us
Update Info
Contact us
Wel come To Real Estate WebSide!
Login
User Name
rajaram0
Password
login
New User

Outputs


Realtor
Real Estate
Wel come To Real Estate website !
Home
Registration
Search
About us
Update Info
Contact us
Registration
User name
Password
Conform-Pass
First Name
Last Name
Gender
Male
Female
Address
State
gujarat
City
ahemdabad
Pincode
phone_No
Email_Id
Account
Owner
Submit
reset
Registered Succussfully!!


Real Estate
Real Estate
Wel come To Real Estate WebSide!
search Property
--Budget--
--state--
Submit
Home
Registration
Search
About us
Update Info
Contact us
sell item
name
contact
price(lakh)
house
nirav
1234567895
40-50
hotel
parth
2147483647
40-50