A

Project Synopsis

on

“REAL ESTATE APPLICATION”

IN

COMPUTER SCIENCE AND ENGINEERING

BY

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1. Introduction

In the contemporary real estate landscape, the need for efficient management systems has become paramount. This “Real Estate Management System” project aims to develop a web-based application designed to streamline the processes involved in buying, selling, and renting properties. The increasing complexity of real estate transactions necessitates a robust platform that can handle various tasks such as property listings, user registrations, and financial calculations, including loan EMI assessments.

The significance of this project lies in its potential to reduce manual errors and improve efficiency in the real estate market. The application will incorporate advanced features such as interactive search tools and customizable listings, addressing common issues found in existing systems that often lack interactivity and user engagement.

This application is designed to address the challenges faced by buyers, sellers, and tenants alike. By providing a centralized platform that offers features such as property listings, user registrations, and transaction management, we aim to reduce the manual workload that often leads to errors and inefficiencies.

Real Estate Management system project is developed forthose who are searching property according to their criteria or near bylocation. Seller can post ad of their property on the website withcomplete details about property and contact information. Buyers visit thiswebsite, search property and contact seller. All the messages send bythe buyers are forwarded to the seller of that property. Seller can read allthese massages from their inbox and respond to the buyer. This is anonline web application so it is available 24×7 to both buyers and sellers.This latest system computerizes the entire work of property buying andselling.

2. Literature Survey:

- The purpose of creating this Real Estate Web Application is to outcast the discrepancies in hundreds of such existing systems on the World Wide Web. One of the basic problems with the existing systems is the non-interactive environment they provide to the users. Most of the applications involved in real estate business use a web template to put content specific to their company and communicate it with the database to search the listings.
- **Deepika S., Jeyabharathi G., & Mrs. S.Kulandai Teresa. (2022). REAL ESTATE MANAGEMENT SYSTEM. Galaxy International Interdisciplinary Research Journal, 10(6), 108–112: Image Analysis:** There is a large amount of visual data these days that contains rich and valuable information about real estate. Based on our literature research we have identified four main types of images that are particularly relevant and useful for applications in the real estate sector. These sources are (i) outdoor/street view images, (ii) indoor images, (iii) floor plans, and (iv) aerial and satellite images. In the following, we review the state-of-the-art in real estate image analysis organized by these four complementary data sources. This classification provides a first basic categorization of different approaches with few overlaps. That said, overlaps do exist in the form of multimodal approaches which combine different types of images, e.g. floor plans and indoor images. Multimodal approaches will be discussed in the section corresponding to their predominant data source.
- **"A Real Estate Web Application" by Rashi Chopra (2008): Property evaluation:** Traditionally, after buyers find a property of interest, an agent often arranges for a walk-through showing or has access to a house through alock-box. Now, it is possible to conduct a ‘‘virtual’’ walk-through online. Furthermore, websites can provide prospective buyers the option to examine the surrounding neighborhood and environment, including shops, schools, parks, entertainment, transportation, weather conditions and even crime statistics. As a result, the number of properties that need to be physically inspected by a buyer can be substantially reduced. In reality though, no current real estate website can make most buyers confident enough to decide to buy without any actual physical inspection.
- **Negotiation and agreement:** Negotiating the purchase agreement successfully can be considered as the most challenging task for a real estate agent. It involves advice regarding price, offers and counteroffers, and contract contingencies. It also requires dealings with other real estate professionals, such as lenders, appraisers, title companies and attorneys. Nevertheless, this stage has also been changed significantly by information technology. Now a buyer can identify their own appraisers, lenders, title companies and attorneys, and negotiate with these parties directly through the Internet (Aalberts and Townsend, 2002). In addition to the use of email, software is also available that can support multi-party meetings on the Internet, such as NetMeeting. Capabilities like that offered by NetMeeting allow for virtual negotiation instead of relying on the physical presence of the different parties.

3. Proposed System

Everyone needs a house to live. As the majority of us live in cities were searching for your dream home has become a hectic task. With the help of this application people will search their home in a very simple and effective manner. Moreover, it will help the landlords and the property owner to sell or rent their apartments or houses in a very easy manner. Only genuine customers will be able to contact the owner which will save them a lot of time.

The proposed system aims to develop a system of improved facilities the proposed system can overcome all the limitations of the existing System. The system provides proper security and reduces manual work.

- Security of data.
- Ensure data accuracy.
- Proper control of the higher officials.
- Minimize manual data entry.
- Minimum time needed for the various processing period
- Greater efficiency.
- Better service.

The proposed system has better both Input/output capabilities of each the user activities while interacting with the system.

The search/retrieval of the properties/flats is much faster than the present system. Hence it causes to saving time for the further work.

The user can have fast interaction with the system by inserting keywords at the respective places, by clicking on the buttons or links etc. Because not only the front end provides the faster interaction with the records but with back end also provides the proper interaction with the records and gives or prompts the information to the end user if he is making error during work.

Searching feature is quite faster than current system. Because it searches directly from system that is from the front end.

The most important feature of this system is online exhibiting the properties, This saves time to visit at the actual place where the property is located.

Feedback feature is included which will helps in keeping attention on customers' needs and requirements. The customer can have user friendliness with the system by allowing him to leave his response, advice or opinion about this system, comments on services provided by the system.

4. Hardware / Software requirements

4.1 Software Requirements

- Front-end Development: React.js
- Back-end Development: Node.js with Express.js, MongoDB

4.2 Hardware Requirements

- Processor: Intel Pentium or equivalent
- RAM: 512 MB
- Hard Disk Space: 50 MB
- Graphics: Any graphics card with DirectX 9.0 or higher.

5. Objective

- Streamlining Property Transactions: The main goal of real estate apps is to simplify and optimize property-related transactions. This includes facilitating searches for properties, managing listings, and enabling communication between buyers, sellers, and agents. By providing a platform that connects these parties directly, apps can significantly reduce the time and effort involved in real estate dealings.
- Enhancing User Experience: Real estate applications are designed to offer a user-friendly experience. They allow users to create personalized profiles, save preferences, and receive tailored property recommendations. This customization helps users navigate the often-overwhelming real estate market more efficiently.
- Providing Comprehensive Information: These apps aim to deliver maximum information about properties, including detailed listings with specifications such as size, price, location, and amenities. This transparency helps users make informed decisions
- The objectives of real estate applications revolve around enhancing user experience, streamlining transactions, providing comprehensive property information, expanding market reach, facilitating virtual engagement, automating tasks, and collecting valuable user feedback. These features collectively contribute to a more efficient real estate market that meets the demands of modern consumers.

6. System Design and Implementation
   6.1 DFD
      6.1.1 Zero Level DFD:

➢ Level 0:

Fig. 6.1.1 Zero Level DFD- Real Estate Application

6.1.2 First Level DFD:

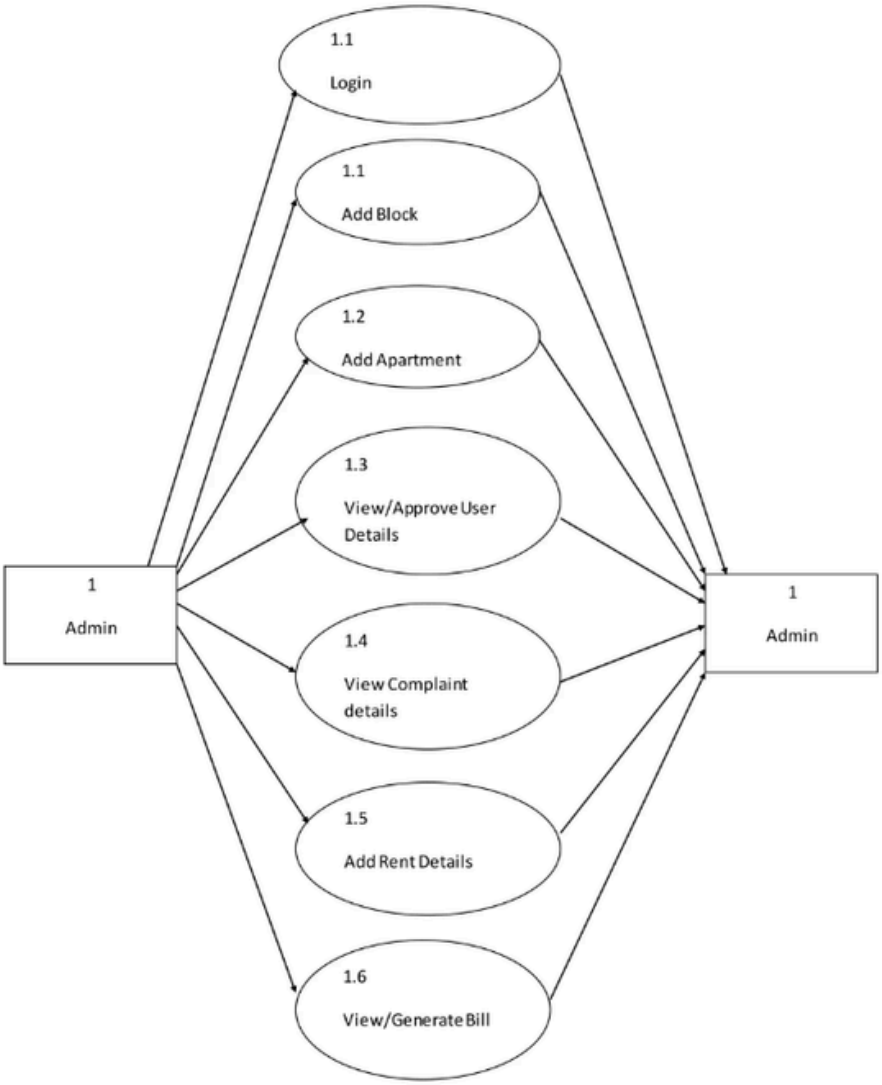


Fig. 6.1.2 First Level DFD- Real Estate Application

6.1.3 Second Level DFD:

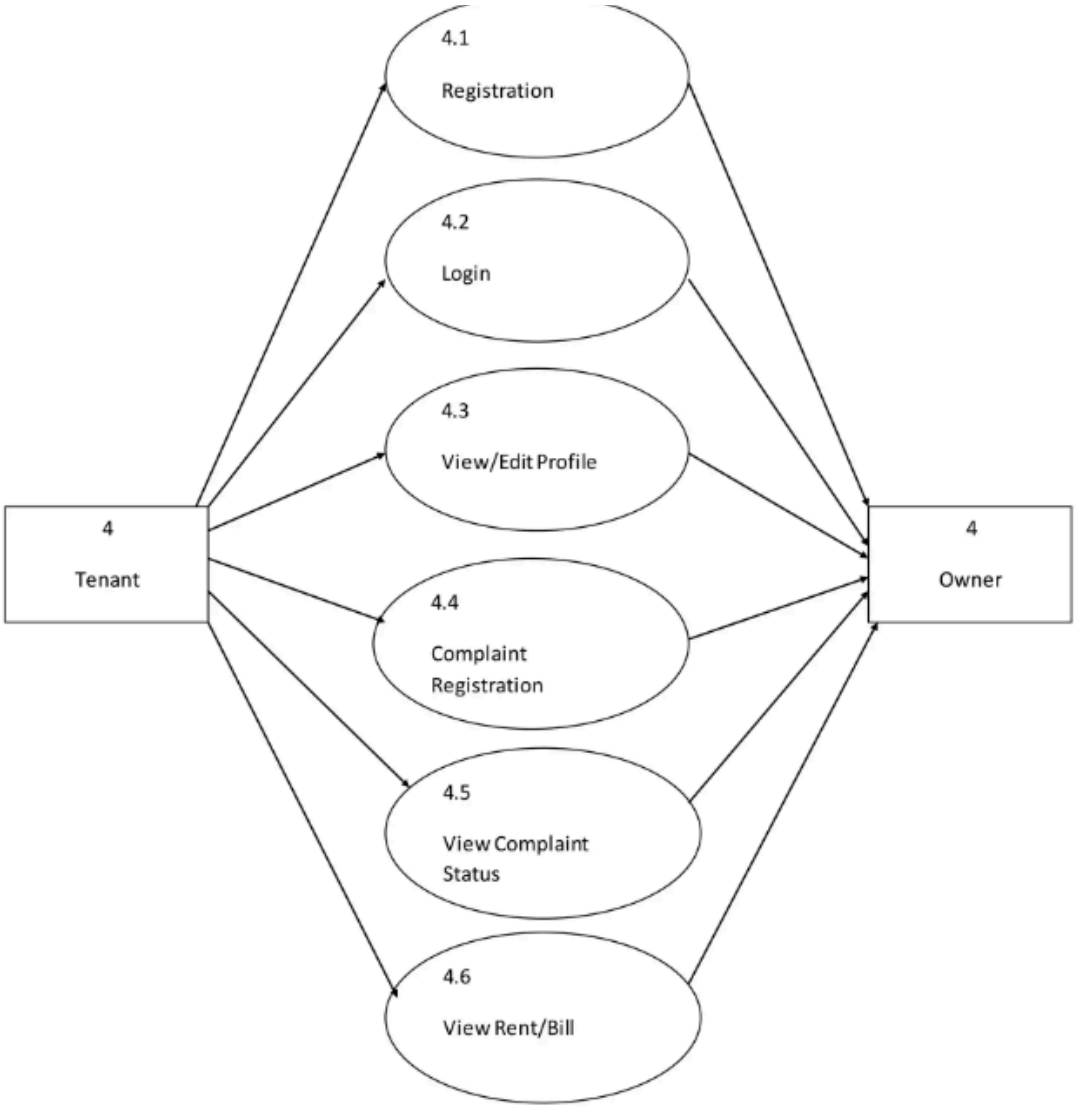
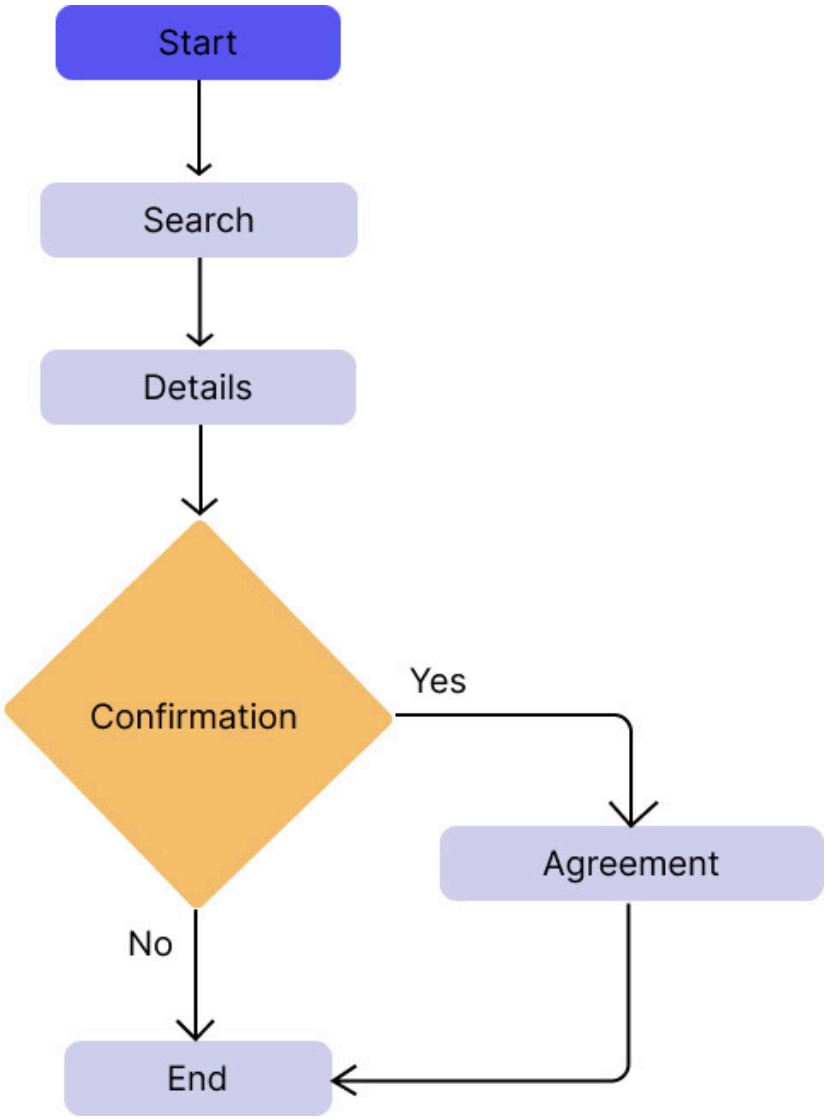


Fig. 6.1.3 Second Level DFD- Real Estate Application

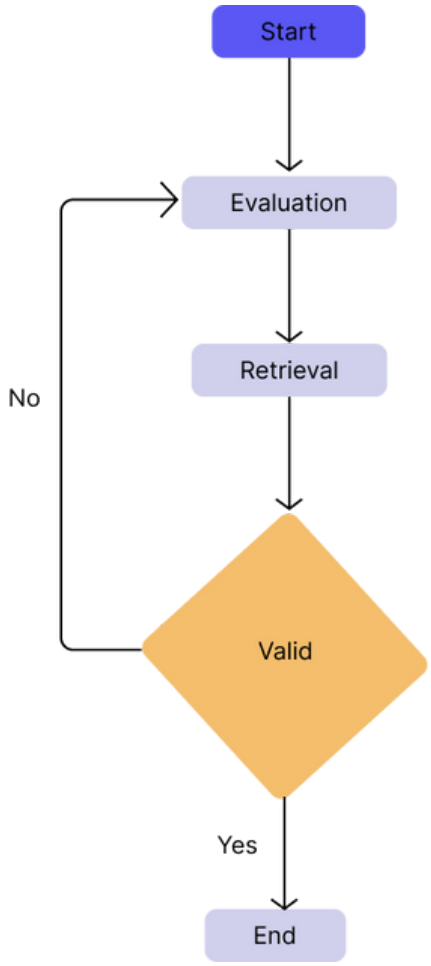
6.2 Flowchart



6.3 Algorithms

- Linear or Sequential Search

Start with the first property listing in the database. Compare the current property's attributes (e.g., price, location, number of bedrooms) with the user's search criteria.If all the property's attributes match the user's criteria, return the property details as a search result. If no match is found, move to the next property listing in the database. Repeat steps 2-4 until all property listings have been checked. If no property matches the user's criteria after checking all listings, display a message indicating that no suitable properties were found.

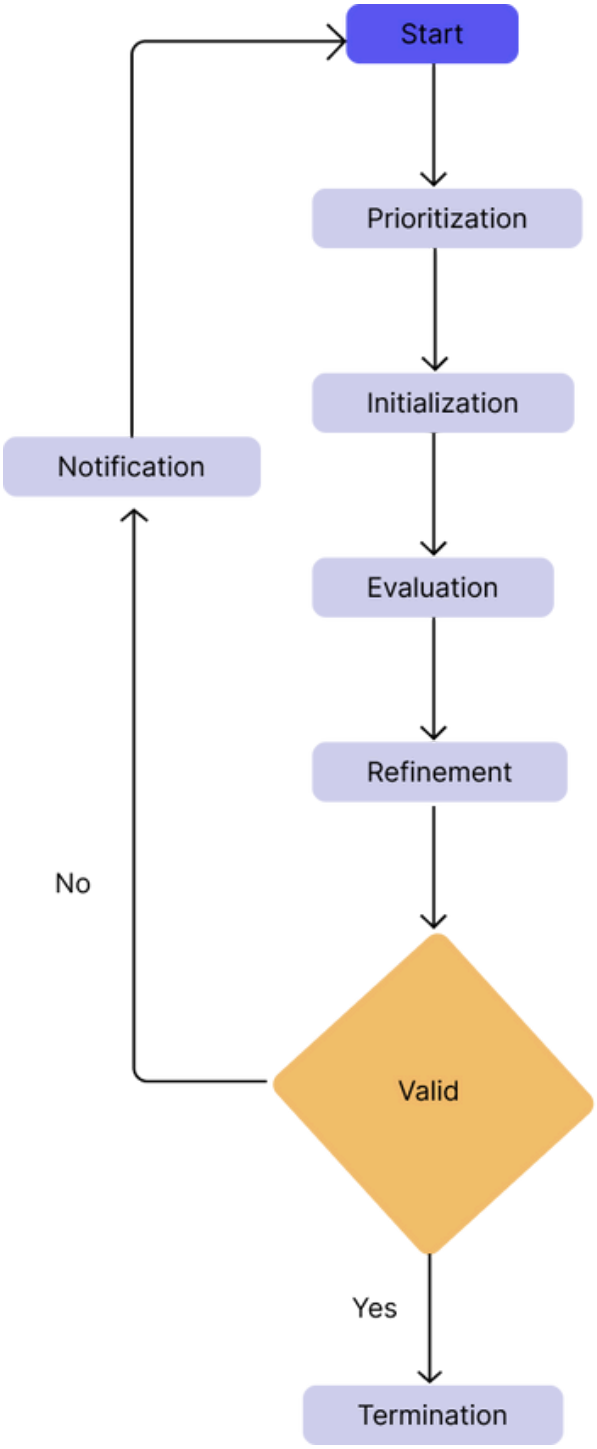


- Data processing Algorithm

Data Processing is the task of converting data from a given form to a much more usable and desired form i.e. making it more meaningful and informative. Using Machine Learning algorithms, mathematical modeling, and statistical knowledge, this entire process can be automated.

- Binary Search

Ensure that property listings are sorted by a relevant attribute, such as price or location. Set low to the first property listing and high to the last listing. Compare the middle property's attributes (e.g., price, location, number of bedrooms) with the user's. If they match, return the property details as a search result.If the target criteria are less than the middle property, adjust high to mid-1.If the target criteria are greater, adjust low to mid + 1. Continue this process until low exceeds high. If no property matches the user's criteria after exiting the loop, display a message indicating that no suitable properties were found.



7. Conclusion

In this paper we proposed “Real Estate Management System” has been developed to satisfy all proposed requirements. The process is maintained simpler and easier. The system is highly scale able and user friendly. Almost all the system objectives have been met. Our review shows that image-based analysis is already used in a variety of applications related to real estate. We have organized our overview by the four predominant types of visual data sources most relevant to real estate, i.e. (i) outdoor/street view images, (ii) indoor images, (iii) floor plans, and (iv) aerial and satellite images. For each category, we have collected research papers from the computer vision domain and have grouped them by different application scenarios.

8. References /bibliography :

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A PROJECT SYNOPSIS REPORT ON

TITLE OF THE PROJECT WORK

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