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COLLEGE OF ENGINEERING
(AUTONOMOUS)

REALESTIMATE

20INMCA509 - Mini Project 2

Scrum Master

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SYSTEM STUDY

1.1 INTRODUCTION

A system study is a comprehensive and methodical examination of an existing system aimed at understanding its functionality and identifying areas for improvement. This involves detailed data collection and analysis of current procedures, systems, and workflows. By thoroughly examining how a system operates, a system study seeks to uncover inefficiencies, bottlenecks, and pain points that hinder optimal performance. The insights gained provide a foundation for proposing modifications or new systems that better meet user needs and operational goals.

The system study process begins by understanding the current state of the system through detailed documentation, observations, and stakeholder interviews. This ensures a comprehensive evaluation of every aspect of the system, from user interactions to backend processes. Benchmarking against industry standards and best practices helps identify gaps and areas for improvement. Involving various stakeholders, including end-users, management, and technical staff, ensures a holistic view of the system's strengths and weaknesses.

In the context of this project, the system study focuses on existing processes used by homeowners, real estate agents, and property investors for managing real estate assets and predicting property prices. This includes both traditional methods and advanced online platforms. The goal is to analyze these systems to identify inefficiencies, such as inaccurate property price predictions, and propose a more streamlined and efficient solution.

The project aims to develop RealEstiMate, a comprehensive online system that provides accurate property price predictions and efficient management of real estate assets. The new system will feature modules for property price prediction, market trend analysis, property management, and user account management, thereby improving operational efficiency and user satisfaction. This system study will provide the necessary insights and groundwork to design and implement an improved system that meets the needs of all stakeholders involved.

1.2 EXISTING SYSTEM

The existing system under study includes natural and designed systems by homeowners, real estate agents, and property investors. These entities use various methods for managing real estate assets and predicting property prices.

1.2.1 NATURAL SYSTEM STUDIED

- The natural system involves various entities such as homeowners, real estate agents, and property investors who follow specific processes for managing and predicting property prices.
- **Homeowners and Property Investors**: They often rely on traditional methods and personal experience for property price predictions and management.
- **Real Estate Agents**: They use their market knowledge and basic software tools to manage property listings and provide price predictions to clients.

1.2.2 DESIGNED SYSTEM STUDIED

The designed system currently in use by some entities includes:

1. **Property Management Software**: Basic software tools to manage property listings, financial performance, and inquiries between buyers and sellers.
2. **Manual Processes**: Many entities still rely on manual processes for property price predictions and market trend analysis.
3. **Supplier Management**: Relationships with clients and suppliers are maintained through phone calls, emails, and manual record-keeping.

1.3 DRAWBACKS OF THE EXISTING SYSTEM

- **Inefficiency**: Manual processes are time-consuming and prone to errors, causing delays and inaccuracies in property price predictions and management.
- **Inaccurate Property Price Predictions**: Difficulty in accurately predicting property prices leads to poor decision-making for buying, selling, or managing properties.
- **Market Trend Analysis Issues**: Ineffective analysis of market trends results in missed opportunities for investment and property improvement.
- **Customer Service**: Limited ability to offer detailed information and support to users due to the lack of real-time data hampers customer satisfaction and service quality.

1.4 PROPOSED SYSTEM

The proposed RealEstiMate system aims to address the drawbacks of the existing system by providing a comprehensive solution for managing real estate assets, predicting property prices, and analyzing market trends. The system will include the following features:

- **Centralized Property Management**: Real-time tracking of property listings, financial performance, and inquiries between buyers and sellers.
- **Property Price Prediction**: Accurate property price forecasts using advanced machine learning techniques.
- **Market Trend Analysis**: Powerful tools for visualizing and predicting market trends and property prices.
- **Customer Interaction**: Online platform for users to manage property listings, track financial performance, and handle inquiries.
- **Security and Compliance**: Ensuring data protection and compliance with regulatory standards through data encryption, user authentication, and access control.
- **User-Friendly Interface**: Intuitive and easy-to-use interface with mobile accessibility.

1.4.1 DETAILED OVERVIEW

For Homeowners and Property Investors

- **Property Management**: Ability to manage property listings, track financial performance, and handle inquiries.
- **Property Price Prediction**: Accurate property price forecasts using machine learning techniques.
- **Market Trend Analysis**: Tools for visualizing and predicting market trends and property prices.

For Real Estate Agents

- **Property Management**: Ability to manage property listings, track financial performance, and handle inquiries.
- **Customer Interaction**: Online platform for managing client interactions and providing property price predictions.
- **Market Trend Analysis**: Tools for visualizing and predicting market trends and property prices.

1.5 ADVANTAGES OF THE PROPOSED SYSTEM

- **Efficiency**: The proposed system introduces automated processes that significantly reduce the time and errors associated with manual tasks.
- **Accurate Property Price Predictions**: The proposed system's advanced machine learning techniques ensure accurate property price forecasts.
- **Streamlined Market Trend Analysis**: The new system offers powerful tools for visualizing and predicting market trends and property prices.
- **Enhanced Customer Experience**: Customer experience is greatly enhanced with the online platform offering convenience, detailed property information, and real-time updates.
- **Compliance and Security**: The proposed system ensures compliance and security, protecting data and adhering to industry regulations.
- **User-Friendly Interface**: The intuitive design ensures ease of use for managing properties and accessing property price predictions and market trends.

2. REQUIREMENT GATHERING

2.1 PROJECT OVERVIEW

RealEstiMate is a comprehensive web application designed to empower homeowners, real estate agents, and property investors with precise property price predictions and efficient management of real estate assets. By leveraging advanced machine learning techniques, the platform offers accurate property value forecasts and insightful analysis of market trends, enabling users to make informed decisions in buying, selling, or managing properties.

2.2 SCOPE OF THE SYSTEM

The system is proposed to cover the following functionalities:

- Streamlining the procurement and management of real estate assets.
- Providing accurate property price predictions.
- Analyzing market trends to identify investment opportunities.
- Handling inquiries between buyers and sellers.
- Providing real-time updates and automated processes.
- Ensuring regulatory compliance and data security.
- Offering a user-friendly interface for managing properties and accessing market insights.

2.3 TARGET AUDIENCE

The users involved in the system include:

- Homeowners and property investors.
- Real estate agents.
- Property buyers.

- System administrators managing user accounts and configurations.

2.4 MODULES

The system comprises the following modules:

1. **User Module**: Provides property owners and buyers with real-time price predictions, detailed property listings, and market trend analysis.
2. **Admin Module**: Manages user accounts, property data, and system configurations.
3. **Market Analysis Module**: Offers tools for visualizing and predicting market trends and property prices.
4. **Property Management Module**: Manages property listings, financial performance, and inquiries between buyers and sellers.

2.5 USER ROLES

The primary users of the RealEstiMate system include:

1. **System Administrators**: Responsible for configuring system settings, managing user accounts, and assigning roles.
2. **Homeowners and Property Investors:** Manage property listings and access property price predictions and market trends.
3. **Real Estate Agents**: Manage property listings, track financial performance, and handle inquiries between buyers and sellers.
4. **Property Buyers**: Access property listings, price predictions, and market trends.

2.6 SYSTEM OWNERSHIP

The system is owned by the development team or the real estate agency deploying the system. In the context of this student project, ownership resides with the project team and the supervising academic institution.

2.7 INDUSTRY/ DOMAIN

The RealEstiMate system is related to the real estate industry, specifically focusing on homeowners, agents, and property investors.

2.8 DATA COLLECTION CONTACTS

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Real Estate Agent

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2.9 QUESTIONNAIRE FOR DATA COLLECTION

Current Property Management Practices

- Q1: How do you keep track of your property listings?

  : We use paper records and basic spreadsheets to keep track of our property listings.

- Q2: What problems do you have with your current system for managing properties?

  : We often have errors in data entry, and it takes a lot of time to update and find information.

- Q3: How often do you update your property listings?

: We update our listings once a week or whenever there are significant changes.

Property Price Prediction

- Q4: How do you currently predict property prices?

  : We predict prices based on past sales, market trends, and the experience of our agents.

- Q5: What features would help you better predict property prices?

  : We need automated tools to forecast prices, access to current market data, and comparison tools for similar properties.

Market Trend Analysis

- Q6: What tools do you use for analyzing market trends?

  : We use industry reports and online real estate websites to analyze market trends.

- Q7: How important are real-time updates and notifications for market trend analysis?

  : Real-time updates are very important to make timely decisions and stay informed about market changes.

System Features and Functionalities

- Q8: What features do you want in a new real estate management system?

  : We want a system that can manage properties, predict prices, analyze market trends, and provide real-time updates.

- Q9: What kinds of reports and analytics would be helpful for your work?

  : We need reports on property performance, price trends, market comparisons, and client interactions.

Security and Compliance

- Q10: How do you ensure the security of sensitive property information?

  : We currently use passwords, but we need stronger security measures.

- Q11: What security features are essential in a real estate management system?

  : We need strong encryption, user access controls, and regular security checks.

User Experience and Training

- Q12: How easy should the new system be to use?

  : The new system should be very easy to use, with simple navigation and clear instructions.

- Q13: What kind of training and support would you need for a new system?

  :We need basic training sessions, user manuals, and ongoing helpdesk support.

Integration and Compatibility

- Q14: How do you connect property data with other systems, like accounting or billing?

  : We manually enter data from our records into accounting and billing systems.