



REVOLUTIONIZING REAL ESTATE: A WEB-BASED PORTAL FOR PROPERTY MANAGEMENT AND TRANSACTIONS

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Abstract: In today's digital age, real estate portals have become key platforms for property seekers and sellers alike, revolutionizing the way transactions are done in the real estate industry. This abstract presents a comprehensive analysis of the role and impact of real estate portals in increasing the accessibility of properties. This study examines the evolution of these portals by examining their emergence as indispensable tools for property discovery, investment and management.

Abstract explores key features and functionalities offered by leading real estate portals, including advanced search filters, virtual tours and personalized recommendations, which significantly streamline the property search process. Additionally, it examines the integration of advanced technologies such as artificial intelligence, augmented reality and blockchain and their transformative effects on the efficiency and transparency of real estate transactions.

Index Terms - Web-based Application, Online Real Estate Portal.

I. INTRODUCTION

In recent years, the real estate industry has undergone significant changes due to technological advances and changes in consumer behavior. One of the most important developments in this evolution has been the emergence of real estate portals, which have revolutionized the way of buying, selling and renting properties. These portals act as digital marketplaces and connect buyers, sellers, landlords and tenants in a seamless and efficient manner. The purpose of this project report is to provide a comprehensive analysis of real estate portals and examine its features, impact on the industry, and future prospects. By delving into the different aspects of these platforms, we aim to gain insight into their role in shaping the modern real estate landscape and their potential impact on stakeholders.

The report covers several key areas including: Overview of real estate portals: We begin by providing an overview of real estate portals, examining their evolution, business models, and key players in the market. This section provides a basic understanding of the role these portals play in the real estate ecosystem. Features and characteristics: In the following, we will discuss the features and characteristics that the real estate portal offers. From property listings and search capabilities to interactive maps and virtual tours, these platforms use technology to improve the user experience and simplify the real estate transaction process.

II. FRAMEWORK OF THE STUDY

Figure 1 explains the structure of the study. It describes how information is processed to achieve the desired output of the system. The proposed system aims to improve real estate portals, from on-site processing to web based processing.

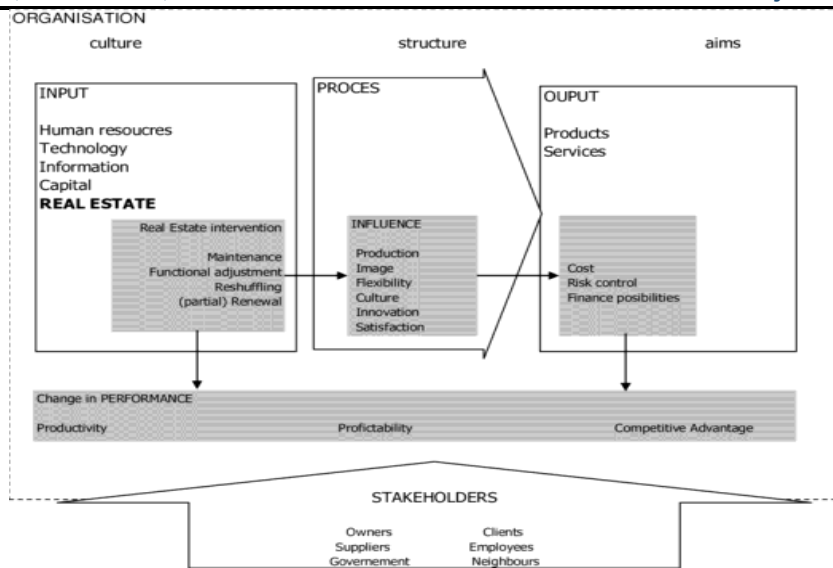


Fig 1. The Framework of the Study.

III. RESEARCH OBJECTIVES

The purpose of this study is to develop a web-based real estate portal. The system allowed the user to process their property through web-based technology. Specifically, this study aims to:

1. Investigate user engagement patterns and preferences to enhance efficiency and user experience on real estate portals.
2. Investigate technological innovations in data analysis and visualization to optimize property discovery and decision-making processes.
3. Explore strategies to expand the portal's market reach and increase user acquisition through targeted marketing and partnerships.

IV. TECHNICAL BACKGROUD

This section introduces various literature and studies of previous researchers. We introduce you to the resources and frameworks available to develop your overall research.

A. Web-based Application System

Online or web-based applications can deliver information and services to users or other information systems using Internet web technology. Nowadays, many companies use web-based application systems. Web-based apps [3] allow companies to expand their geographic reach beyond their current physical location. It can reduce the time and effort of a person using an online or web-based application. Some web-based applications must be used to fully understand their usefulness. This type of application should be user-friendly, interactive and responsive [4].

B. Web Tools and Application

Hypertext Preprocessor or Java and MySQL technologies were used in the development of this project. Java is a programming language used to design webpages java was a server-side scripting language designed specifically for the web. Within the HTML page, Java was the embedded code that would be executed each time the page was visited [5]. On the other hand, MySQL is a database used to store data and information. MySQL is very fast, robust, and relational. Web-based application systems are constantly improving. This can provide many opportunities for researchers. Based on the data collected from the reviewed literature and studies, the researchers used the information in the development of a web-based real estate portal.

V. RESEARCH METHOD

In this chapter, the setting and design of the study was presented in this section..

A. Research Setting

This study was conducted in Nagpur University in the academic year 2023-2024. TCC is a community-based educational institution established in July 2001. Currently, 5000 students are active.

B. Research Design

Software Development Life Cycle (SDLC) is a methodology for planning, designing, building and maintaining information systems. There are many SDLC models proposed by various researchers [6]. A waterfall model is an SDLC sequential model

that consists of five phases. Figure 2 shows the waterfall model starting from analysis to maintenance phases. It allows rollback when the need arises but this provision should be used with caution.

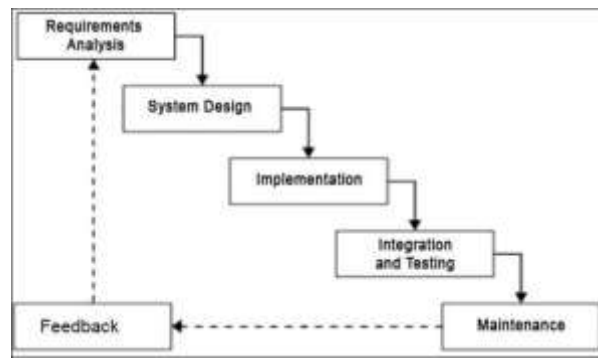


Fig 2. The Waterfall Model

C. Requirements Analysis

The first phase involves gathering data from available resources and understanding the essentials in designing. This also includes the function and purpose of the newly developed system. Algorithms used in the system are also identified and studied during this phase and specifications of input and output or end product are studied and marked. In collecting data, an overall objective can be drawn based on the data collected. The researcher intensively researched what are the tools available in the open-source community for the development of web-based real estate portals. The data collected from this phase will be used as a basis for designing the system in the next phase.

D. System Design

In this phase the requirements of the first phase are being studied. This is where the system design is formulated. System design direction helps identify hardware specifications and system requirements and also helps define the overall system architecture. After all the designs are ready, the coding of the software will follow. In designing the system, the first objective of this study is initially achieved. The results are based on the interviews used to develop the system. In this phase, the researcher prepared some diagrams to visualize the development of the system. Programming tools were determined at this stage in the development of a web-based real estate portal.

E. Implementation

Based on system design, first the system is developed in small programs called units and all units are integrated in the next phase. All units are developed and tested for their functionality before being implemented and tested as a complete system. During this phase, the researchers coded the system on their local machine and continued to debug the system. The application system is based on the proposed design presented in the design phase of the web-based real estate portal system. At this stage, the first objective of this study is also achieved.

F. Integration and Testing

In the integration and testing phase, all the units developed in the implementation phase are integrated into the system after testing each unit. A designed system needs to go through a series of software testing to find faults or errors. The web-based application was deployed to a cloud server and ready for initial use. The system was first tested on a limited number of users to determine the bugs in the system. Once the system is bug free after initial deployment, the official launch is done. This phase also involved briefing and orientation of the software system to the actual pilot users. Pilot users were taught how to use the system and the benefits of using the system.

G. Maintenance

In the maintenance phase, the system was monitored and monitored. It involves making changes to a system or individual component to change features or improve performance.

H. System Evaluation Procedures

The researchers conducted a survey from 30 randomly selected students who served as pilot users. Using the International Standards Organization (ISO) 9126 questionnaire. ISO 9126 determines the efficiency, reliability, usability, functionality and portability of newly developed systems [7]. The questionnaire has a 4-way Likert scale to indicate the degree of agreement (eg, 4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree). A simple mathematical calculation was used to find the mean as shown in Figure 3.

$$\text{Weighted Mean} = \frac{\sum_{i=1}^n (xi \cdot wi)}{\sum_{i=1}^n wi}$$

where:

Σ = the sum
 w = weights and
 x = value

Fig 3. Weighted Mean Formula

VI. RESULT AND DISCUSSION

The researchers used an online transaction processing (OTP) model. Figure 4 shows that students used their personally owned or borrowed devices that have internet browsers and access to the world-wide-web. The role of the system administrator is to monitor the flow of transactions.

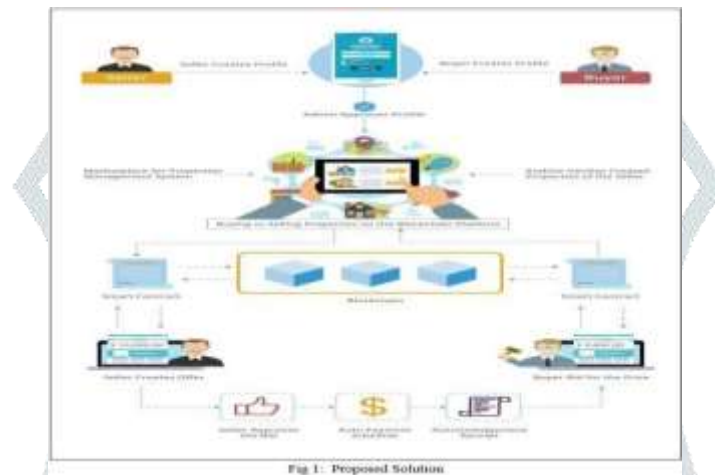


Fig 4. Online Transaction Processing of Real Estate Portal

The process includes three (3) phases. These phases are the following:

- Real Estate* At this stage, a student was required to log into the student portal to apply for an ID card.
- Real estate approval. In this phase, the system administrator monitors and approves those students who have completed the application. Additionally, the system administrator can print the real estate portal and it will be ready for release *Real Estate Portal Notification for Release*. At this stage, the student will be notified (via email) that their requested ID is ready to be released.

A. To identify the tools and resources in the development of the system.

The development of the system required some tools and resources. Some of these were considered open source. This includes the following:

Software:

- Java
- MySQL
- Code Igniter
- Bootstrap

Hardware:

- Any CPU (Intel i5/ i7/ Xeon recommended for web- hosting)
- 1 GB of RAM (at least 8GB for recommended for web- hosting)
- 40 GB HDD Free Space

B. To design and develop a Web-based ID card processing system.

Designing a database for an application is important. This used storage of data to store more information and keep it available for future use. In this study, the researchers used Entity Relationship Diagram (ERD) to illustrate the database design used in this study. Figure 5 illustrates the database of the system.

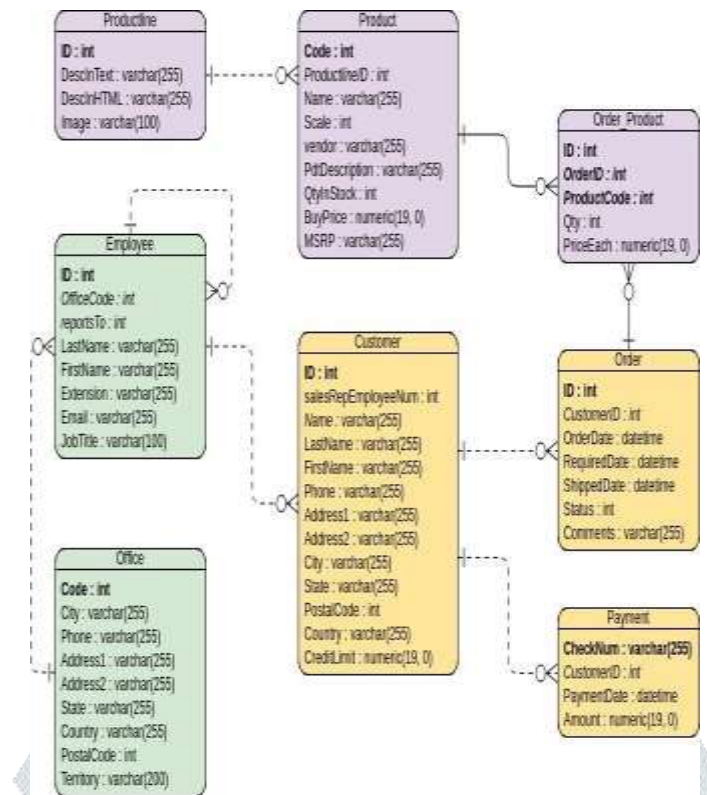


Fig 5. Web-based ID card processing system ERD

➤ Objective 3: To design a friendly user-interface for the system.

A user-interface is an important component of a computer application. It allows the end user to interact with the computer system. In this study, the researchers developed a friendly web-based user interface using HTML, CSS and JavaScript with Angular Framework technologies.

Figure 6 shows the log-in pages of the system. This allows the client to log into their accounts.

Fig 6. Log-in page of the system

Figure 7 shows the terms and agreements of the system. This page allows the client to read the terms, agreements, and rules in using the newly developed system.

The screenshot shows a web form titled "Property Details" on the PROPERTEASE website. The form has the following fields: Name, Description, Price, Property Type, Status, City, Location, Carpet Area, and Your ID. A green "Submit" button is located at the bottom of the form. The website header includes "HOME", "ABOUT", "PROPERTY", "SERVICE", and a "Sign Up" button.

Fig 7. Property listing form

Figure 8 shows the real estate portal. On this page, the student will update their information such as the latest ID photo, contact person in case of emergency, and other important information.

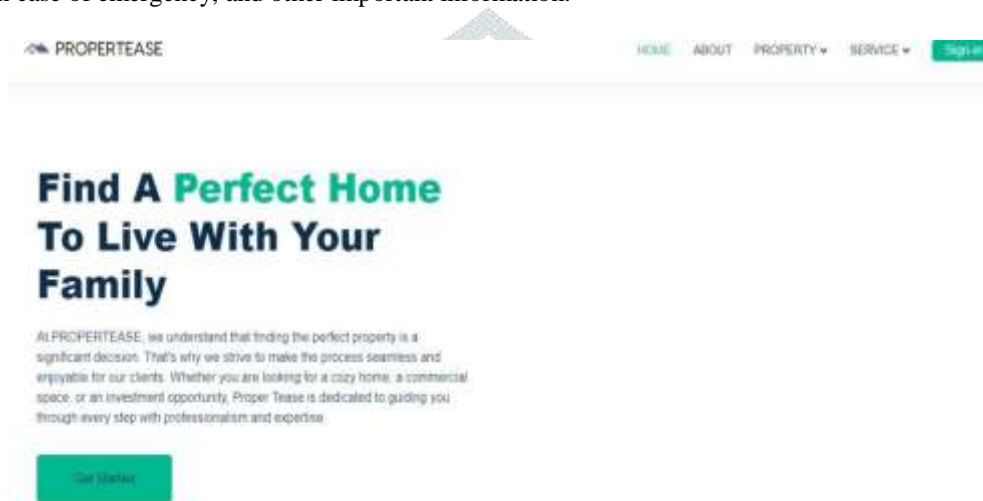


Fig 8. Website Front Application

C. Evaluating the newly developed system in terms of efficiency, reliability, usability, functionality and portability.

Using ISO 9126, researchers float a set of questionnaires to a group of students. Table 1 shows that majority of the students are male

VII. SUMMARY

The purpose of this study is to develop a system application that allows students to process their real estate portal using a web-based application. The newly developed system served as an alternative way to request and process real estate portals. By using this application students will no longer visit the school site office to process their real estate portal. The app also helped students save time and effort in processing their property. The newly developed system is deployed on the web and can be accessed by many devices with an internet browser and is connected to the world-wide web.

VIII. IMPLEMENTATION AND MAINTENANCE

Implementation

The implementation phase primarily includes user training, site preparation and file conversion. It also includes the final system test. In implementation, the components built during development go into production. A simple reference of points to consider during implementation:

- Writing, testing, debugging and documenting programs.
- Converting data from old to new system.
- Training the user on how to operate the system.
- Develop operating procedures for computer centre staff.
- Establishment of maintenance procedures for system repair and enhancement.
- Completion of system documentation.
- Reviewing administrative plan, personnel requirement plan and hardware plan.

IX. FUTURE SCOPE AND ENHANCEMENT

The future scope of employee real estate portals in Django is very promising. Django is a powerful web framework that makes it easy to develop and deploy web applications. With Django, you can quickly and easily create a real estate portal that meets the needs of your organization.

Here are some specific examples of how employee real estate portals could be used in the future:

- Real estate portals can be used to improve security by making it more difficult for unauthorized persons to access secure areas.
- Real estate portals can be used to improve efficiency by automating functions such as time monitoring and access control.
- Real estate portals can be used to improve communication by providing employees with a way to quickly and easily identify themselves.
- Real estate portals can be used to improve compliance by providing a way to track employee attendance and working hours.

Overall, employee real estate portals have the potential to improve the efficiency, security and communication of businesses. As technology continues to evolve, we can expect to see more innovative and beneficial uses for employee ID card generators in the future

X. CONCLUSIONS

This research has developed a system that can be an alternative to real estate portals. This will allow students to process their real estate using internet technology. The system can be used by the user to reduce their time and effort in requesting their real estate portal. This system cannot be used only during the Kovid-19 pandemic. This system can save time and resources for the industry.

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