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A Review Paper on PG Recommendation System

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Abstract: ***Day by day world population is growing rapidly and a huge amount of people shifting to large cities and new places for work, education or job purpose, or a better life. That is why the housing demand is increasing and house renting becoming an elemental part of our society. As a result, I realized the importance of an online house renting website and come up with a decision to implement a such web application. In this paper rental website development is discussed. Through this website, tenants can rent properties and landlords can upload their property details for rent. This website will help users to give or take rent houses without dealing with flat brokers to finally reach an agreement that suits the interests of all parties. The packaging and shifting services facility will help users to shift valuable things safely to destinations. To implement, and testing of the proposed system, this application interface has been developed using HTML, CSS, JavaScript, Bootstrap, PHP, and MySQL database server that allows for making web pages interactive and responsive. This system was developed in such a manner so that it can provide a maximum user-friendly interface, and users can use it more efficiently.***
Keywords: House Renting Website, Web Application, Security, Shifting, Movers, Rent.

I. INTRODUCTION

We are living in the modern age of technology when we really want is just stuff that works for us. Technology becoming more powerful and already involved in every sector, still, the housing sector remains watchful to face the challenges of change by employing a new strategy that facilitates easy management of rental houses, paying guests, hostels, and flats. This proposed project "The Rental Zone" deals with online house/pg./hostel/flat rent for all the tenants. Nowadays this is so tough for tenants to find suitable accommodation for living if they search it physically. In our modern society, the house rental management has become a very useful factor. This "The Rental Zone" can provide the facilities from any place to find a suitable living area according to their choice. The main foundation of the system is based on the owners and the renters and main purpose was to make an easy way to find the desired house with the desired location for the tenants. Everyone can search for their desired option from anywhere through location, type, and city. Users can log in as an owner or a tenant. He/she can contact the administrator or the buyer to rent his house to him. House owners and landlords will have to be registered users then they can easily post a property with photos, price range, other details, and a short description but it will be added and shown on the website after verifying by admin only or it may be rejected. And this will be informed to the owner or businessman through email whether his post is approved or rejected.

Unregistered or general access users of this website can view the rent details and can contact a landlord. In this case, it will save valuable time as well as reduce distress and save unwanted money waste.

This system is best applicable for the above reasons making house renting an easy process. Students or employees after coming to a new city who are facing issues like 'Where to stay in a big city?', this website will help them to easily find boys or girls PG at an affordable price and get the owner's contact number. They don't have to deal with flat brokers to finally reach an agreement that suits the interests of all parties. As a result, our motive was to simplify these people's lives easier and hassle-free by simply clicking sitting their place, especially those single people or bachelors who face many problems while getting rent as most of the owner doesn't want to rent them. Users can also take packing and shifting service which facility will help to reach their furniture and valuable things safely in destinations.

Our website provides every detail about pg and pricing and the features of the pg and also it tells about the availability of rooms.

II. LITERATURE REVIEWS

I have reviewed so many research papers and visited various websites regarding the house rental management system. There are several existing systems for house renting web applications and I tend to induce knowledge regarding existing systems and learn their weakness hence developing a new system to cater to the challenges the local and world domains face when dealing with house rental issues. The existing house rental website has a few drawbacks are there which make it less interactive. I have corrected and improved them and added some extra features and facilities which make it easy and more interactive.

Some of the reviewed research papers are listed here:

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Gommans, Henry Peter, et al. (2014) researched how rental houses are currently being managed and realized during this modern age of technology all work was done manually with plenty of paperwork involved which may be a long-time process, risky, expensive, and really difficult task. Taking into consideration those facts, they decided and developed a property rental management system that may solve all the problems experienced with this present manual system. Although their system was developed in such a way that it provides a maximum user-friendly interface, but the system isn't scalable.

Prasetyo, Septian Eko, et al. (2018) proposed within their research to develop an information system using the waterfall development method which will be helpful for the people to search out the boarding house in the outside area. The purpose of their research is to develop a geographic data system that will find the boarding house in keeping with the standards of user wishes.

Ganiyu, S. O., et al. (2018) investigated the challenges faced by stakeholders in rental housing within the Minna metropolis of Niger State and discovered the method of advertising and securing accommodation isn't convenient for tenants as well as agents are grappling with impersonation, financial crime, etc. The results of this study revealed that most of the tenants and landlords still engaged with the conventional approach of seeking apartments by going through posters prepared by agents. That's why they aim of that research is to probe the likelihood of deploying ICT to problems of managing rental units within the Minna metropolis.

Hasnat, I., et al. (2019) Stated that nowadays this is very tough for bachelors to find their desired room for living. Because sometimes house owners feel insecure to rent a house to the bachelors. That's why the authors proposed a project named Bachelor House Rental Management System to alleviate the suffering of bachelors while they're trying to seek out an appropriate living area according to their choice. The purpose of this research was to make an easy way to find the required house with the desired location for the bachelor.

Voumick, Dipta, et al. (2021) designed and developed an online-based smart house renting web application for both tenants and house owners. This research paper proposed a system for the people of Bangladesh where tenants can rent houses via sophisticated contact with the householders. The purpose of this study is to develop a typical web-based online platform for both tenants and house owners so that both will benefit from the system.

Ikuomola, A. J., & Asefon, M. P. designed a secured mobile cloud-based house rental management system to reduce the problem of house rental agents and landlords in maintaining their tenants and their own records which become difficult due to data growth, data security, and lack of computerized system.

Rathore, K., et al. (2021) Stated that finding a desired rental property and looking for tenants is a difficult task for both factions. That's why there's a necessity to develop a web rental house management system that may solve all the issues experienced with the present manual system. The focus of this scientific research is managing affordable housing.

The purpose of this research is to develop an online platform for people to search out an ideal match for their liking, but the proposed system isn't well managed.

Setyarsih, E., (2017) stated that not having enough information about boarding houses is commonly an obstacle and an opportunity for boarding house brokers. This research result showed that has a mutually beneficial effect both between the homecoming seeker, the owner of the homestayer, and the realtor itself. Besides that, the boarding houses must be able to use technology to promote their boarding houses (Gommans, 2014). So, it's necessary to develop a data system that is ready to facilitate the users to search out the perfect boarding house in accordance with user wishes (Suleiman et al., 2012).Compared to other Apps or Website such as Google or other Search engines we provide a specific address or location to the reader where the website focuses on providing information about (s), but there is more in-depth information about PG (s). Our website, "PG ACCOMANDATION" is an educational website that provides information based on your city. It will provide information to those people living in our city as a paying visitor. It will provide a list of available rental housing in their required budget. This website provides detailed information about all PGs around Delhi and all geographically organized, to make the search easier. Thus, it allows users to search accordingly for their need, there is no specific website on this domain. But there are some websites that do not provide a detailed description of this domain. When users look at different houses, instead of booking the house directly they can add to their favourites. Then from this fixed list of houses users can book a house later. On our website, we will provide various services such as Tiffin service, laundry service, library etc. In the Tiffin service, users will be given the option to choose from a variety of menus such as veg n non veg meals monthly or weekly. Foundation etc. Users will also be provided with space to use the nearest washing service, gym etc.

III. PROPOSED METHODOLOGY

1) Search by preferred location, currency, distance etc.
2) We provide all hostels, PG, Rental Room etc.
3) Students can hire a teacher close to their studies.

4) Daily, weekly, and monthly visit justice.
5) Provides quality Tiffin daily, weekly, and monthly service.

A. Admin Module

1) *Dashboard:* In this section, the administrator can see all the details briefly like country total, city total, total owner, and PG theme.
2) *Region / City:* In this section, the administrator can manage status (add / update).
3) *Record Owner:* In this section, the administrator can view and edit the registered owner

B. PG Owner Module

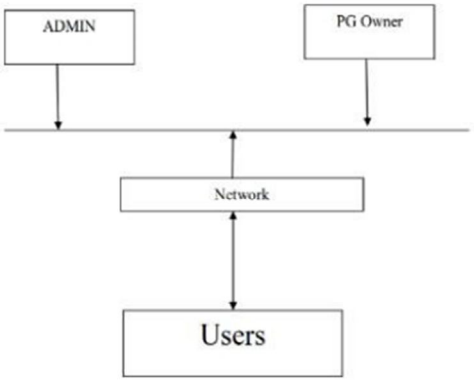
A. Dashboard: In this section, the owner can view all the details briefly like pg. listed list, complete booking, new booking, total guaranteed booking and total cancelled booking.
B. List Your PG: In this section, the owner can list their page.
C. Received Request Booking: At this stage the administrator may view the new booking and is entitled to a guaranteed booking.

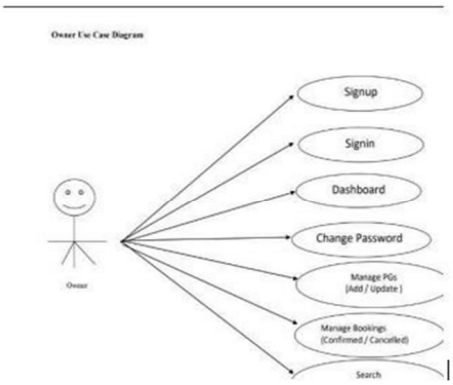
C. User module

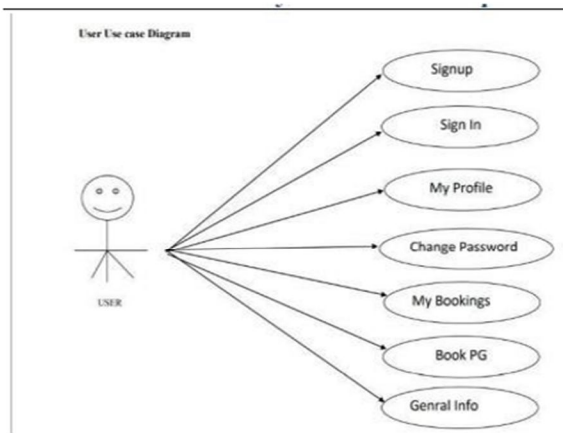
Registered users can do the following work

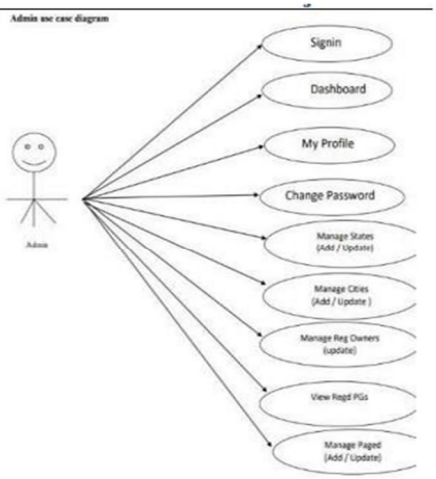
1) Book a page
2) Update his profile.
3) Change the password.
4) The registered user can regain his or her password.

In this module there are two types of guest user and registered user. Visitor User: In this visitor user can only see general information about us, PG details, search PG and contact details.









D. Technology Use

There is a total of two major parts of the project plan, which are frontend and backend parts. In this scientific research project HTML, CSS, JavaScript, and Bootstrap are used for the frontend design of the system. PHP and MySQL are used for creating and designing the database and Backend part. For writingall the codes Sublime text editor is used.

1) HTML

HTML stands for Hypertext Markup Language which allows the user to make and structure sections, paragraphs, headings, titles, line breaks, add media, links, blockquotes, etc. for
websites and applications.

2) CSS

CSS Stands for Cascading Style Sheets which is a simple design language intended to simplify the method of constructing this website presentable. It's designed to enable the separation of presentation and content, including layout, colors, spacing, padding, fonts, and so on.

3) JAVASCRIPT

JavaScript is a scripting or dynamic computer programming language that allows to implementation of complex features on web pages and client-side scripts to interact with the user and make dynamic web pages.

4) Bootstrap

Bootstrap is a responsive, mobile-first, free, and open-source front-end framework that is used to create modern websites and web apps. This CSS framework also supports JavaScript extensions and helps to design websites faster and easier.

5) PHP

Hypertext Pre-processor commonly known as PHP is a general-purpose programming language that is used in combination with various web template systems, web frameworks, and web content management systems. PHP code can execute with a command-line interface (CLI), embedded into HTMLcode.

6) DATABASES

A database is a collection of inter-link data stored with minimum redundancy to serve many users fast and efficiently and it's an organized collection of structured data, or information, typically stored electronically in a computer system so that data can be easily accessed, managed, modified, updated, controlled, and arranged. The general objective is to make details access easy, fast, and flexible for the user.

IV. IMPLEMENTATION

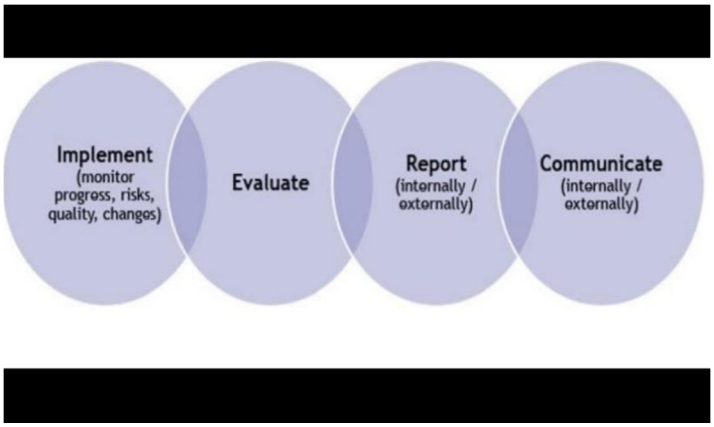
For renting a house, implementation, and testing of the proposed system, a web application interface has been developed using HTML, CSS, JavaScript, PHP, and Bootstrap that allows us to make web pages interactive and responsive. Whenever someone wants to rent a house, he needs to search it manually by visiting door to door which kills his time and money also. What to do if someone wants to do this easily and hassle-free by simply clicking sitting their place? This "The Rental Zone" website will increase customer retention and simplify house and staff management. This is an online tool through which tenants can book available houses/pg./hostel/flats online prior to their date of using the property insteadof walking around and asking for a vacant house.

Software Components will be made up of different processing phases. In the database, the information isorganized logically so that it can be retrieved easily, and it would be used to save data from the hardware layer. The server can use a cron job to clean and process the unprocessed data before analysing it. The processed data will be saved in a separate database and used for user registration and login and house renting. The processed data will then be submitted to the DB for analysis, and it will reflect in the front- end. For data monitoring, enhancing, implementing, and validating the controller will be responsible and he will pass the model to the database after validation. The data that has been processed and analysed can now be visualized. The server will show the processed data via a GET Request. The server will encrypt the information sent over this channel. End devices will receive encrypted data and will be required to decrypt it to ensure data security.

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Data that has been decrypted and received on end devices can then be visualized. Frontend design must be simple and easy so that every user can access it hassle-free or without any trouble. In this modern age of technology, we are having many devices like smartphones, laptops, notebooks, and tablets from where everyone is using the internet that's why we intended to make our house rental website responsive so that the user has not faced any difficulties browsing from anywhere anytime. I took help from HTML, CSS, JavaScript, Bootstrap, PHP, and jQuery technologies to make this website's frontend part means user interface. To implement the front-end design some factors were followed such as users must enter the password for safety so that they can update their profile.

Every landlord must be a registered user to add their post and user can log in using their registeredaccount.



V. RESULT & DISCUSSION

In the present paper for house rent, implementation, and testing of the proposed system, a prototype website interface has been developed and designed using various coding languages. After performing the testing phase, I found lots of bugs or errors in the web application and fixed all the bugs. I have applied many different technical aspects and dedicated 100% to every step from gathering information to getting desired output. The application performs well, and the errors in posting the reports and notes have been corrected. This website simplifies work for the tenants and rental managers so that all their work can be efficient and effective. I intend to implement artificial intelligence, add more features, and keep upgrading gradually and progressively. We are currently focusing on making the website more secure andimplementing a more attractive and interactive UI, since we don't have many users, we are working on search engine optimization.

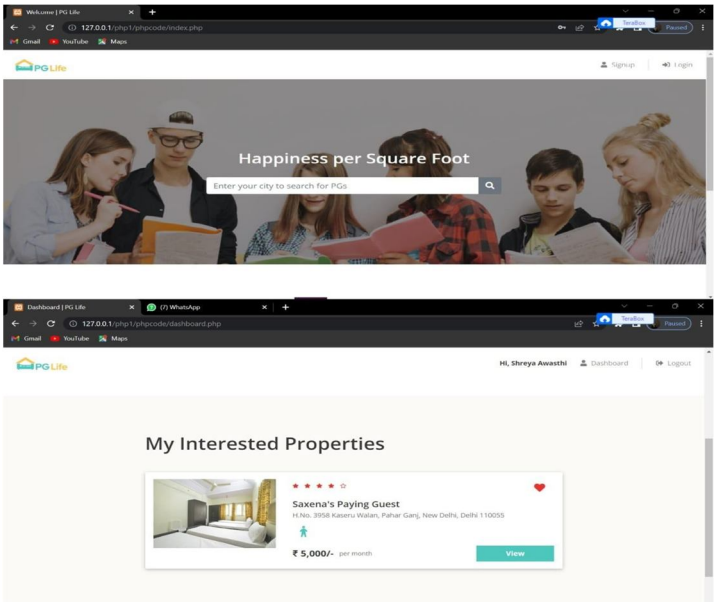


Fig 1:- Home Page & Property Listed page

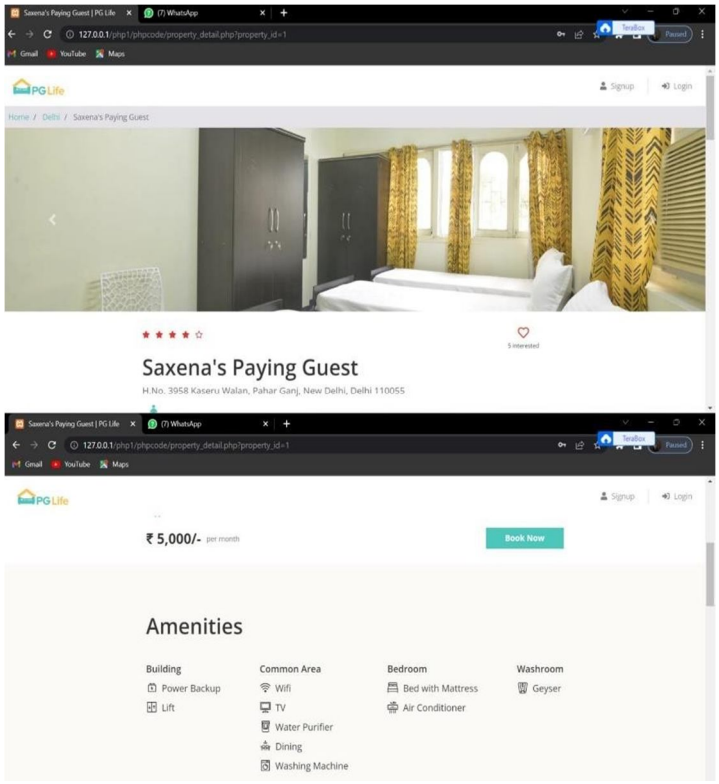


Fig 2:- Property Detail page

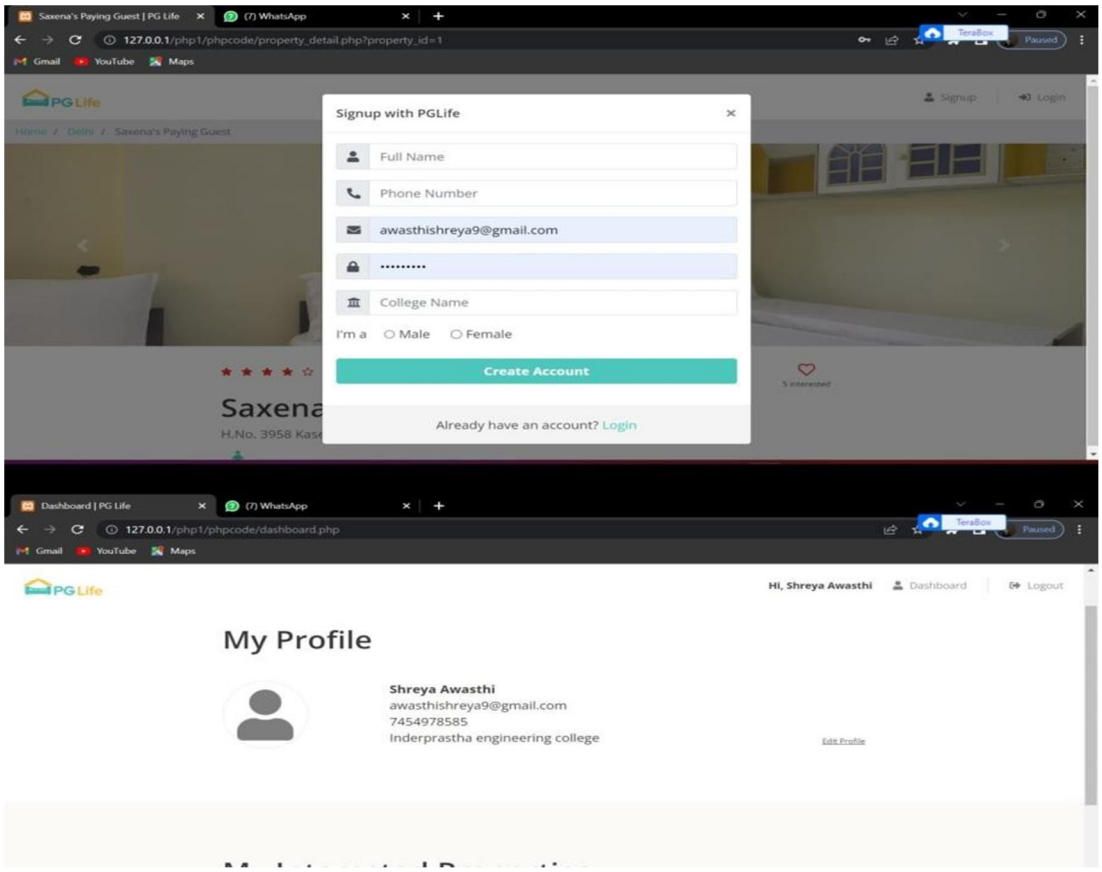


Fig 3:- Sign Up Modal & Dashboard Page

VI. CONCLUSION

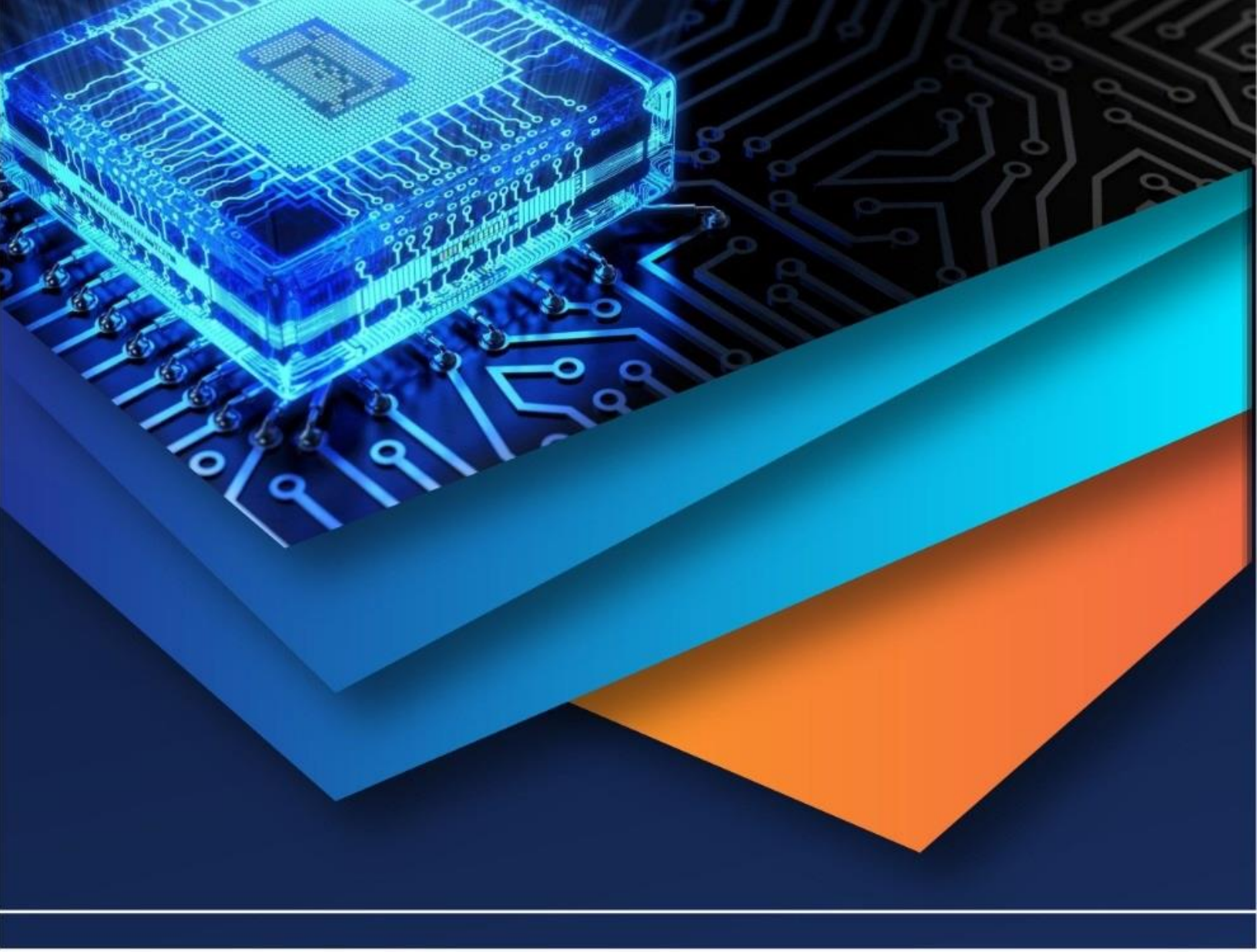
The main purpose of this house rental website is to make an easy way to find a house/pg/hotel/flat for tenants as they suffer most while getting rent. I gave effort into this website to establish a platform where owners and tenants can easily interact and believe that this rental zone website is a blessing for them and makes their life easier. This online house rental zone is very easy to use, and the best suitable for the owners as well as tenants. Because it saves tenants valuable time as well as reduce distress and save unwanted money waste. For the owner, there is no need to explain the room details on the speaker and for the renter, there is no need to go door to door. The online house rental website or system is the best way to search for a house, apartment, office, PG, or hostel, and that online system makes renting process easy and effective. General people are the main user of this Website, that's why I tried to make a more dynamic and user friendly website that will be more useful for them. Through this website, tenants can book available houses/pg/hostel/

Flats online prior to their date of using the property instead of walking around and asking for a vacant house. Finally, the goal of the project is to make an online rental system for all tenants and landlords to create a better relationship and easy interactions between them which can be achieved through this project.

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