INDIRA GANDHI NATIONAL OPEN UNIVERSITY

BACHELOR OF COMPUTER APPLICATIONS

Synopsis

HOME RENTAL

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HOME RENTAL

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INTRODUCTION

Welcome to the launch of our groundbreaking **Home Rental Project**, a revolutionary initiative aimed at redefining the way people find and experience rental homes. In today's fast-paced world, finding a place to call home can often feel like navigating a maze. With our Home Rental Project, we aim to simplify this process, offering a seamless and hassle-free experience for both tenants and landlords alike.

But our commitment to excellence doesn't stop there. We understand that renting a home is more than just finding four walls and a roof—it's about finding a place where you feel safe, comfortable, and truly at home. That's why our project prioritizes not only the quality of the properties we list but also the overall experience for our users.

From comprehensive property listings with detailed descriptions and high-resolution images to streamlined communication channels between tenants and landlords, our platform offers everything you need to make informed decisions and secure your dream rental home with ease.

So whether you're a tenant in search of the perfect place to live or a landlord looking to maximize the potential of your property, we invite you to join us on this exciting journey. Together, let's redefine the future of home rental and create a world where finding your ideal living space is as simple as a few clicks away. Welcome to the Home Rental Project—where your dream home awaits.

OBJECTIVES

The primary objective of our Home Rental project is to streamline and enhance the process of finding, securing, and managing rental properties for both tenants and landlords. Our project aims to achieve the following key objectives:

- **Efficiency**: We strive to make the rental search process more efficient by leveraging technology to match tenants with suitable properties quickly and accurately. Through advanced search algorithms and personalized recommendations, we aim to minimize the time and effort required to find the perfect rental home.

- **Transparency**: Our project prioritizes transparency in all interactions between tenants and landlords. We aim to provide comprehensive property listings with detailed descriptions, accurate photos, and transparent rental terms to ensure that tenants have all the information they need to make informed decisions.

- **Convenience**: We understand the importance of convenience in the rental process. Our platform offers user-friendly interfaces, seamless communication channels, and online rental applications to streamline the entire rental journey—from browsing listings to signing the lease agreement.

- **Quality**: We are committed to maintaining high standards of quality for the properties listed on our platform. By conducting thorough vetting processes and providing landlord support and resources, we aim to ensure that tenants have access to well-maintained, safe, and comfortable rental homes.

- **Customer Satisfaction**: Ultimately, our goal is to enhance the overall experience for both tenants and landlords and to foster positive relationships between them. We prioritize customer satisfaction by providing responsive customer support, addressing concerns promptly, and continuously seeking feedback to improve our services.

PROJECT CATEGORY

The "**HOME RENTAL"** project falls under the category of real estate and property management. It encompasses various aspects related to renting residential properties, including property listings, tenant screening, lease agreements, rent collection, maintenance, and communication between tenants and landlords.

Within the broader category of real estate and property management, the Home Rental project may also include elements of technology, such as online platforms and mobile applications, to streamline the rental process and enhance user experience. Additionally, it may involve aspects of data analytics and machine learning to optimize property matching and improve decision-making for both tenants and landlords.

Overall, the Home Rental project aims to address the needs and challenges of individuals seeking rental accommodations while also providing value-added services to property owners and managers in the real estate industry.

SYSTEM REQUIREMENTS

HARDWARE:

- Processor : Intel i3/i5
- Speed : 1.1 Ghz or above
- Hard Disk : 20 GB or above
- RAM : 4 GB or above
- Monitor : 15 VGA Color
- Keyboard : Standard Windows Keyboard

SOFTWARE:

- Operating System : Windows 8/10 for Better Performance
- Front End : HTML/XML/CSS
- Back End : Python (DJANGO)
- Database : MySQL
- Tools : Pycharm

PROPOSED SYSTEM

The proposed **Home Rental Project** aims to streamline the process of renting residential properties by leveraging digital platforms and innovative technologies. The system will offer a user-friendly interface accessible via web and mobile applications, allowing both landlords and tenants to interact efficiently. Landlords will be able to list their properties with detailed descriptions, photos, and rental terms, while tenants can easily search and filter through available listings based on their preferences. The platform will incorporate features such as online rental payments, document signing, and communication tools to facilitate seamless transactions between landlords and tenants. Additionally, the system will include functionalities for property management, maintenance requests, and tenant screening to ensure a smooth rental experience for all parties involved. With its comprehensive suite of tools and services, the proposed system aims to revolutionize the home rental market, making it more convenient, transparent, and secure for both landlords and tenants alike.

MODULES

MODULE DESCRIPTION:

- **Admin**
- **User**

ADMIN:

- **LOGIN:** admin can login by using username and password.
- **VIEW HOME AND VERYFY:** admin can view home and verify.
- **VIEW COMPLAINT AND SEND REPLY:** admin can view user complaint and send reply.
- **VIEW USERS:** admin can view registered users.
- **BLOCK/UNBLOCK USERS:** admin can block and unblock users.
- **CHANGE PASSWORD:** admin can change password.

USER:

- **LOGIN:** user can login by using username and password.
- **REGISTER:** registration form of user.
- **CHANGE PASSWORD:** user updates their account passwords within the system.
- **HOME MANAGEMENT:** user can add,view,edit,delete home details.
- **VIEW REQUEST AND VERIFY:** user can view request and verify.
- **VIEW APPROVED REQUEST:** user can approve the request.

- **UPLOAD PROPERTY DOCUMENTS:** user can upload property document.
- **VIEW PAYMENT:** user can view payment.
- **SEND REQUEST:** user sent request.
- **VIEW DOCUMENT:** user can view document.
- **BUY HOME DO PAYMENT:** make payment to buy home
- **SEND COMPLAINT AND REPLY:** user send complaint and view reply from admin side.

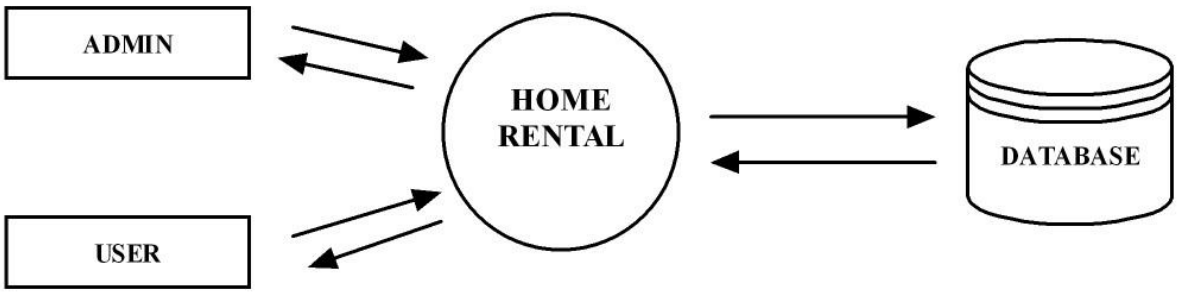
DATA MODELLING

Data modeling defines primary data objects, composition of each data object, and attributes of the object, relationships between each object and other objects and between objects and the process.

DATAFLOW DIAGRAM

Level 0 DFD:

Level 1 DFD:



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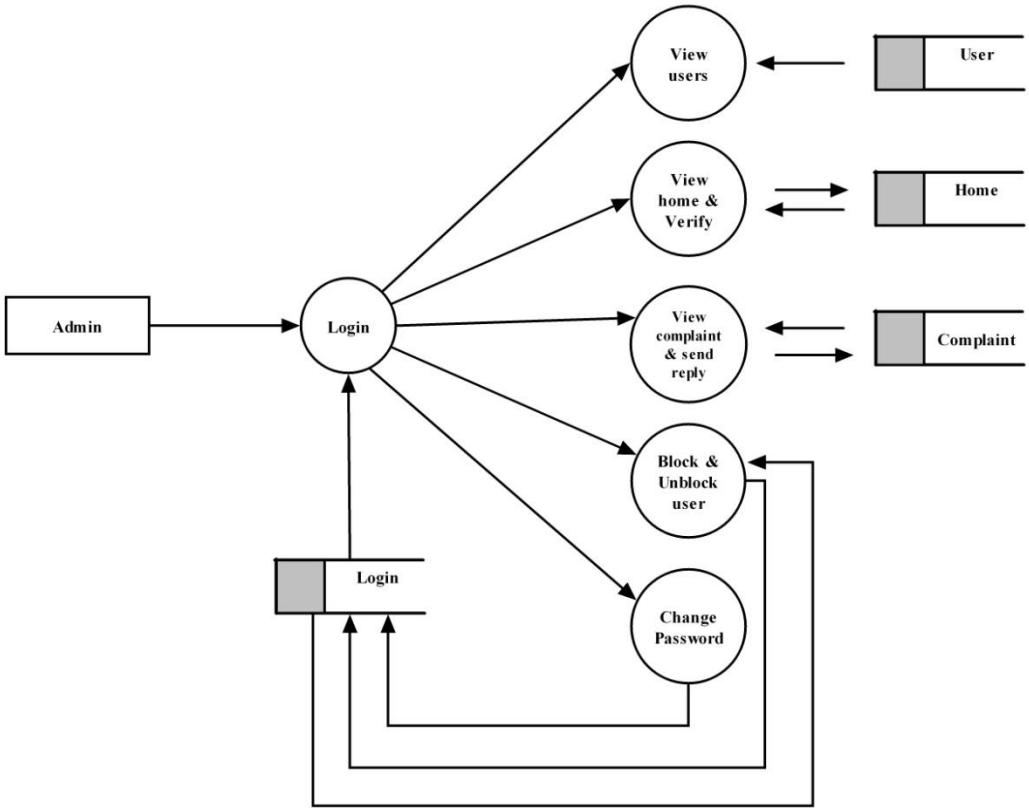
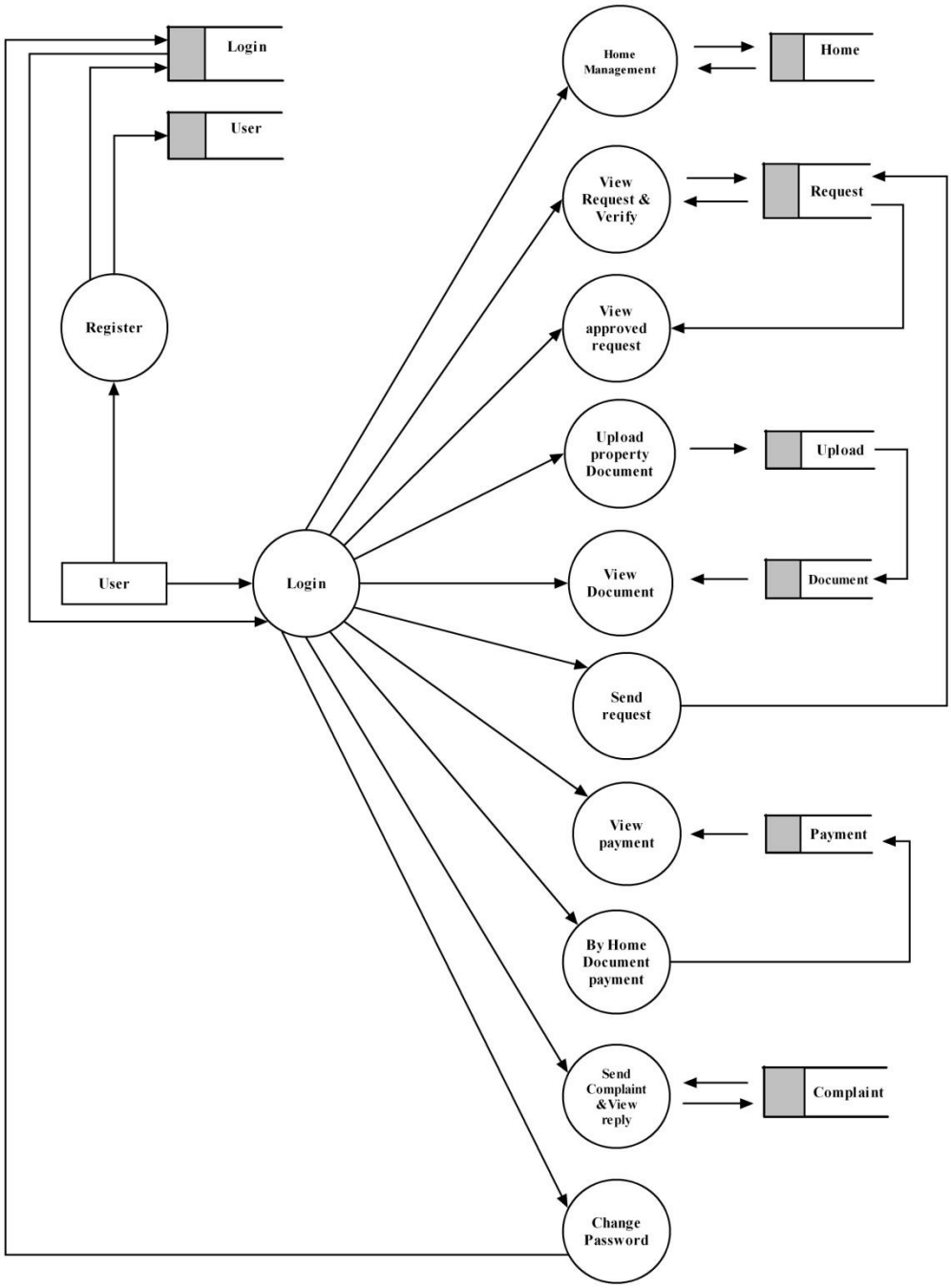

View users
User
View home & Verify
Home
Admin
Login
View complaint & send reply
Complaint
Block & Unblock user
Login
Change Password

Level 1.2 DFD


Login
User
Register
User
Login
Home Management
Home
View Request & Verify
Request
View approved request
Upload property Document
Upload
View Document
Document
Send request
View payment
Payment
By Home Document payment
Send Complaint &View reply
Complaint
Change Password

ER DIAGRAM:

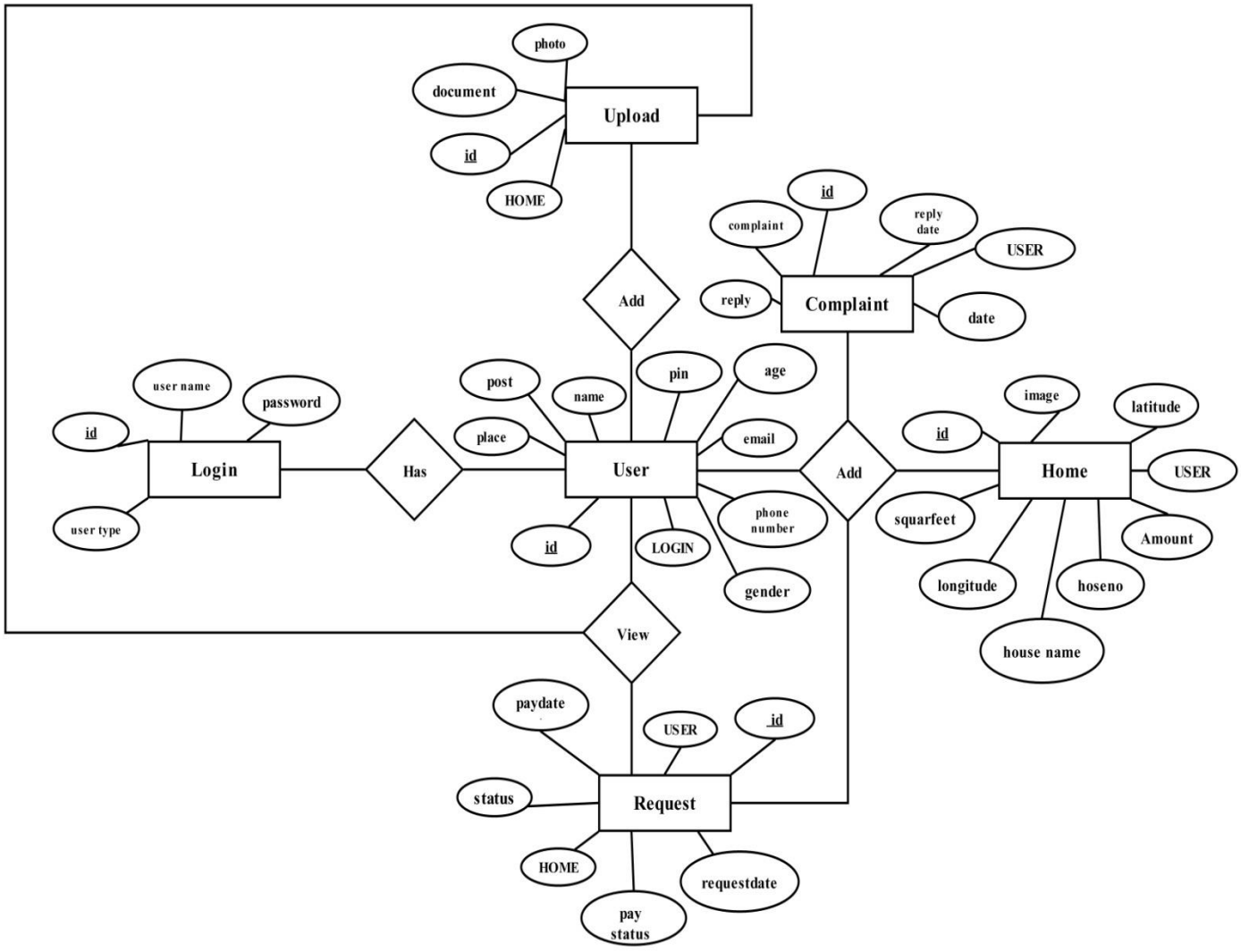


photo
document
Upload
id
HOME
id
complaint
reply date
USER
Add
reply
Complaint
date
user name
password
id
Login
user type
Has
post
name
pin
age
place
User
email
id
LOGIN
phone number
gender
Add
image
latitude
id
Home
USER
squarfeet
Amount
longitude
hoseno
house name
View
paydate
USER
id
status
Request
HOME
requestdate
pay status

TABLE OF DESIGN:

TABLE NAME: LOGIN

FIELD	TYPE	CONSTRIANS	DESCRIPTION
id	INT	primary key	login id
username	VARCHAR(50)	not null	username of admin
password	VARCHAR(50)	not null	password of admin
user type	VARCHAR(50)	not null	user type

TABLE NAME: HOME

FIELD	TYPE	CONSTRIANS	DESCRIPTION
id	INT	primary key	Home id
Square feet	INT	not null	Square feet
Latitude	VARCHAR(50)	not null	House location
Amount	VARCHAR(50)	not null	Amount of the house
House no	VARCHAR(50)	not null	For house number
Image	VARCHAR(20)	not null	Image of the house
House name	VARCHAR(50)	not null	For house name
User	INT	foreign key	User id
Longitude	VARCHAR(20)	not null	House location

TABLE NAME: UPLOAD

FIELD	TYPE	CONSTRIANS	DESCRIPTION
Id	INT	primary key	Upload id
Document	VARCHAR(20)	not null	Document id
Photo	VARCHAR(20)	not null	Proof of the document
Home	INT	foreign key	Photo of the house

TABLE NAME: USER

FIELD	TYPE	CONSTRIANS	DESCRIPTION
id	INT	primary key	user id
name	VARCHAR(50)	not null	name of the user
email	VARCHAR(50)	not null	email address of the user
phone number	INT	not null	phone number of the user
place	VARCHAR(50)	not null	place of the user
post	VARCHAR(50)	not null	post address of the user
pin	INT	not null	pin code of the user
Age	VARCHAR(20)	not null	Age of the user
Gender	VARCHAR(20)	not null	Gender of the user
login	INT	foreign key	login id

TABLE NAME: REQUEST

FIELD	TYPE	CONSTRIANS	DESCRIPTION
id	INT	primary key	Request id
Pay date	Date	not null	Payment date
Pay status	VARCHAR(20)	not null	Payment status
Status	VARCHAR(20)	not null	For checking status
HOME	VARCHAR(20)	not null	Photo of the house
USER	INT	foreign key	User id
Request date	VARCHAR(20)	not null	Request date

TABLE NAME: COMPLAINT

FIELD	TYPE	CONSTRIANS	DESCRIPTION
id	INT	primary key	Complaint id
Complaint	VARCHAR(100)	not null	For complaining
Date	Date	not null	Complaint date
reply	VARCHAR(100)	not null	Complaint reply
Reply date	VARCHAR(20)	not null	Complaint reply date
USER	INT	Foreign key	User id

TESTING

Software testing is a critical element of software quality assurance and represents the ultimate review of the specification, design and coding. Testing ensure that the system as a whole is bug free. Testing perform a critical role for quality assurance and for ensuring the reliability of the software.

In order to find a highest possible number of errors, tests must be conducted systematically and test cases must be designed using disciplined and techniques. The objective of the software testing is to uncover errors. To fulfill these objectives, a series of testing strategies are used.

They are,

- **U**nit Testing
- **I**ntegration Testing
- **S**ystem Testing
- **A**cceptance Testing
- **V**alidation Testing

Unit Testing

Unit testing is carried out to screen wise, each screen being identified as an object. Attention is diverted to individual modules, independently to one another tolocate errors in coding and logic.

In unit testing,

- Module interface is tested to ensure that information properly flows into andout of the program under test.

- Local data structures are examined to ensure that data stored temporarily maintains its integrity during all steps in algorithm execution.
- Boundary condition is tested to ensure that the module operates properly atboundaries established to limit or restricted processing.
- All independent paths through the control structures are executed to ensurethat all statements in the module have been executed at least once.
- Error handling paths are also tested. This test focuses verification effort on the smallest unit of software design, the module. Here the module interface, boundary conditions, and all independent paths were verified by inputting false data. Each single operation is tested individually for its correct functionality.

Integration Testing:

Integration testing is a systematic technique for the constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. Unit tested module were taken and a single program structure was build that has been dictated by the design. Incremental integration has adopted here. The entire software was developed and tested in a small segment, where errors were easy to locate and rectify. Each database or table manipulation operation was writtenas a single java class files and separately tested and combined form a single program. After integration, the single program was tested again with numerous test data to check for its functionality.

The integration can be performed in two ways:

- Top-down integration
- Bottom-up integration

Here bottom-up integration is performed. This strategy is implemented with the following steps.

1. Low-level modules are combined to form clusters that perform a specific software sub function.
2. The cluster is tested.
3. Drivers are removed and cluster are combined moving upwards in the program structure.

Validation Testing:

After performing validation testing, the software was completely assembled as package, interfacing errors have been uncovered and corrected, and a final series of software validation testing began. Here we test the system function in a manner that can be reasonable expected by the customer; the system was tested against the system requirement specification.

Output Testing:

After performing validation test, the next phase is output test of the system, since no system could be useful if it is does not produce the desired output in the desired format. By considered the format is considered in to two ways: one is on thescreen and the other is on the printed form.

System Testing:

System testing mainly concerned with the software-based systems. This actually aseries of different tests whose primary purpose is to fully exercise the computer-based systems. Although each test as different purpose all work should be

verify that all system elements have been properly integrated and perform allocated functions.

Acceptance Testing:

User acceptance test of a system is the key factor for the success of the system. The system under consideration was listed for the user acceptance by keeping constant touch with the perspective user of the system was at the time design, development and making change whenever required.

This is done with the regards of the following points

- Input screen design
- Output design
- Outline message
- Menu driven systems
- Formats of report

SCOPE OF THE PROJECT

The scope of the Home Rental project encompasses a comprehensive range of functionalities and features aimed at transforming the rental experience for tenants and landlords. Firstly, the project involves the development of a user-friendly online platform where individuals can register, create profiles, and interact seamlessly. This platform serves as the central hub for all rental-related activities, including property listings, tenant applications, lease management, and communication between parties.

Within this platform, the scope includes the creation and maintenance of an extensive database of rental properties, spanning various locations, sizes, and amenities. Each property listing is accompanied by detailed descriptions, high-quality images, and transparent rental terms, providing tenants with all the necessary information to make informed decisions. Landlords have the capability to list their properties, manage availability, and track inquiries from potential tenants.

The project also involves the implementation of advanced search and matchmaking functionalities, leveraging algorithms to facilitate efficient property discovery and tenant-property matching. Tenants can utilize search filters to narrow down their options based on specific criteria such as location, price range, and desired amenities. Additionally, machine learning algorithms enhance the platform's ability to suggest relevant properties based on user preferences and behavior.

Furthermore, the scope encompasses features related to the rental application process, lease management, and documentation. Tenants can submit rental applications online, undergo screening procedures, and sign digital lease agreements securely through the platform. Landlords can manage lease agreements, track rental payments, and communicate with tenants regarding lease-related matters.

Additionally, the project includes functionalities for rent collection, payment processing, and maintenance request management. Tenants can make rent payments conveniently online, while landlords can track payments and manage financial transactions effortlessly. Maintenance requests can be submitted and monitored through the platform, streamlining communication and resolution processes between tenants and landlords.

Overall, the scope of the Home Rental project encompasses a comprehensive set of features and functionalities designed to streamline the rental process, enhance transparency, and improve satisfaction for both tenants and landlords.

REPORT GENERATION

Report generation within the Home Rental project involves the creation of comprehensive and customizable documents to provide stakeholders with valuable insights and information regarding various aspects of the rental process. Firstly, the system enables the generation of property performance reports for landlords, detailing key metrics such as occupancy rates, rental income, and tenant turnover. These reports offer landlords visibility into the financial performance of their properties, enabling them to make informed decisions regarding rental pricing, marketing strategies, and property management.

Additionally, the system facilitates the generation of tenant screening reports, which summarize the results of background checks, credit assessments, and reference checks conducted during the rental application process. These reports provide landlords with a comprehensive overview of potential tenants' backgrounds, helping them assess the suitability of applicants and make informed decisions regarding lease agreements.

In summary, report generation within the Home Rental project enables stakeholders to access a wide range of informative documents, including property performance reports, tenant screening reports, financial reports, maintenance reports, and market analysis reports. These reports empower stakeholders with valuable insights and information to make informed decisions and optimize their rental property management strategies.

CONCLUSION

In conclusion, the "**HOME RENTAL"** project represents a significant advancement in the rental industry, offering a comprehensive and user-friendly platform that simplifies the rental process for both tenants and landlords. By leveraging cutting-edge technology and innovative features, the project aims to enhance efficiency, transparency, and satisfaction throughout every stage of the rental journey. Tenants benefit from advanced search and matchmaking functionalities, streamlined application processes, and convenient communication channels, enabling them to find their ideal rental home with ease. Likewise, landlords gain access to powerful tools for property management, including property listing, tenant screening, lease management, and maintenance request management, empowering them to maximize the performance of their rental properties while minimizing administrative burdens.

Furthermore, the project's commitment to customer satisfaction is evident in its responsive customer support, feedback mechanisms, and customizable reporting features, ensuring that stakeholders have access to the support and information they need to make informed decisions and optimize their rental strategies. Ultimately, the Home Rental project aims to redefine the rental experience, making it more efficient, transparent, and rewarding for everyone involved. As the project continues to evolve and grow, it will undoubtedly play a pivotal role in shaping the future of the rental industry, creating a world where finding the perfect rental home is as simple as a few clicks away. Welcome to the future of home rental—where your dream home awaits.

BIBLIOGRAPHY

Websites

http://www.google.com/

http://www.wikipedia.com/

Books

1 Python Cookbook: Recipes for Mastering Python 3