

RENTAL HOUSE MANAGEMENT SYSTEM

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ABSTRACT

This paper presents the design and implementation of the rental house management system. The system uses the Django framework that implements the separation layer and the logical layer, can complete the rental information browsing, query, input, modify, management, and other functions, the system improves the effectiveness of housing rental. With the current perception shift in the technological field, there is a vital necessity to involve and value the power of technology. The housing segment remains wary to face the trials of change by engaging a new strategy that facilitates easy management of rental houses. Hence there is a need to develop a rental house management system that can simplify work for the users so that all their work like searching for a rental house and house owner's property deals can be efficient and effective. To get information about how the process for people who are searching the house for rent and how owners of rental property manage currently, I prepared questionnaires and asked around my fellow students from other cities and other peoples and the information I assembled I comprehended all work was done manually with a lot of difficulties. So the searching for rental property and searching for tenants is a difficult task for both factions. Contemplating those figures, I resolved to develop a rental house management system that can solve all the problems experienced with the current manual system. The system was developed in such a means that it provides the utmost user-friendly interface. When the user checks in the application they are required to sign-up and log in for interaction with the house owner and the owner need to sign-up as an owner to post their property on the application. Each form is specifically designed so that user can effortlessly go through validation and search for property and house owner can effortlessly post their property details through submit the form and check activities if any interested tenant wants to contact they can post one or more property through their account and change the property status (i.e. Active/Inactive) as per their choices.

Keywords: House, Rent, Web-application, Security.

I. INTRODUCTION

Rent a house has become an important factor in modern-day civilization henceforth the need to have a rental house management system. Encourage a range of affordable, accessible, and decent rental housing options throughout the society. The focus of this research project is managing to house low-income, medium, and high incomes households or what is commonly known as affordable housing. 'Affordable' is a term used to describe an individual's capability to pay for certain products or services because their income is enough to do so. Although the term "affordable housing" is often applied to rental housing; that is within the financial means of those in the lower-income ranges of a geographical area, the concept applies to both middle to high-income individuals. Over the year's landlords had a problem searching for tenants and vice versa. There is no properly allocate home and the system is not easily arranged according to their user interest. And also, the home management system is almost done through the manual system. Students and people from other cities if planned for renting a room in Indore, it'll require a lot of time, money and human power for finding a perfect match as they expected. The main objectives of our project are to develop a system that'll, benefit both tenants and house owners and making the process of searching households and renting more efficient. A virtual system for house owners for their rental purpose property where they can easily find tenants and vice versa also with the pre-determined agreement. Sorted graphical locations of houses including maps around it are easy for tenants to find a place in a specific locality. The main aim is to develop a virtual platform for peoples to find a perfect match for their liking. there are not many rental sites available and if it is, then it has not properly managed anything. The available sites for renting a house are 99 acres, Magic Bricks, and many more but they

are not so popular because they are not well managed. Our web application provides various facilities for both tenants as well as for landlords or house owners. We also provide feature to rent electronic gadget as per tenant’s requirements which is unique among those websites which are available.

II. LITERATURE REVIEW

Various websites, research papers, and policies regarding the rental house and in housing sector we reviewed, and some of them are listed here:

CURRENT SCENARIO OF RENTAL HOUSING IN INDIA

Rental housing comprises 30.4 per of all housing in urban India as per the National Sample Survey Organisation's (NSSO's) 65th Round of data of 2008-09 (NSSO, 2010) (See Table 1). There is a marginal increase in renting from 28.1 percent in the 48th Round (1993) to 29.0 percent in the 58th Round (2002). This means that in the last 20 years, which coincide with the two decades of reforms, there has not been any significant change in renting in urban India. In comparison, the proportions of households owning the dwellings have increased from 57.3 percent in 1993 to 61.6 percent in 2008-09. The shift to ownership has taken place from employer housing as well as other types of housing and not rental housing. Industrialization shifting to the private sector has resulted in the share of employer housing declining over time.

Table 1: Tenure Status of Dwelling Units in Urban India over Time

	Tenure status	49 th Round	58 th Round	65 th Round
1	No dwelling	0.3	0.1	0.0
2	Own dwelling	57.3	59.9	61.6
3	Employer’s quarters	7.7	5.8	4.7
4	Rented	28.1	29.0	30.4
5	Others	6.6	5.3	3.3
	Total	100.0	100.0	100.0

Source: NSSO (2010: 35) *Others include all other types of possession of the dwelling unit such as encroached one.

State-wise comparison in Table 2 on tenure types puts Andhra Pradesh (47 percent), Tamil Nadu (46.7 percent), Karnataka (44.2 percent) as the top three states in terms of rental households. Other than these, Delhi (36.4 percent) and Himachal Pradesh (31.6 percent) are the other two states which have rental housing above the national average, which is around 30 percent. On the contrary, Bihar, Jammu & Kashmir, Uttar Pradesh (UP), and Madhya Pradesh (MP) have the least occurrence of rental housing, all below 20 percent. Except for Gujarat and Maharashtra, other states with higher than the national average of urbanization have a large proportion of rental housing. In some special states such as Himachal Pradesh, Orissa, Chhattisgarh, Jharkhand, and Chandigarh, employers' housing is quite significant in proportion, all this housing is likely to be government housing.

Table 2: Tenure Status of Dwelling Units in Urban India by States

State/U.T./all-India	Owned	Employer’s quarter	Rented	Others	All
Andhra Pradesh	40.9	3.0	47.0	9.1	100.0
Assam	64.1	10.4	23.2	2.2	100.0
Bihar	78.5	3.4	13.0	5.1	100.0
Chhattisgarh	53.9	13.0	27.6	5.4	100.0
Delhi	51.7	6.5	36.4	5.3	100.0
Gujarat	69.1	3.4	23.5	4.0	100.0
Haryana	73.7	4.6	20.7	1.1	100.0
Himachal Pradesh	39.9	24.9	31.6	3.5	100.0

Jammu & Kashmir	79.1	4.8	14.4	1.8	100.0
Jharkhand	58.0	13.2	23.8	4.9	100.0
Karnataka	51.6	2.8	44.2	1.3	100.0
Kerala	74.8	5.6	16.9	2.6	100.0
Madhya Pradesh	71.3	7.2	18.9	2.6	100.0
Maharashtra	65.3	3.4	28.5	2.8	100.0
Orissa	60.7	14.1	23.0	2.2	100.0
Punjab	62.9	6.5	29.1	1.6	100.0
Rajasthan	72.9	2.8	21.2	3.1	100.0
Tamil Nadu	48.2	3.6	46.7	1.4	100.0
Uttarakhand	66.9	8.0	23.3	1.9	100.0
Uttar Pradesh	75.3	3.6	18.8	2.3	100.0
West Bengal	65.2	5.5	26.7	2.6	100.0
Chandigarh	42.7	15.7	30.0	11.6	100.0
All-India	61.5	4.7	30.4	3.3	100.0

Source: NSSO (2010: 58)

The tenure status by the Monthly Per Capita Expenditure (MPCE) (Table 3) shows that the renting increases with an increase in MPCE. In other words, the lower MPCE classes tend to live in self-owned housing as they cannot afford to even pay rent and would instead prefer to squat. While only 18.3 percent of households lived in rented housing in the lowest quintile, in the highest quintile, the proportion was nearly 38 percent. Rental housing is not feasible for the urban poor, as it does not allow them to save and spend on other aspects of their well-being such as health and education.

INDIAN ASPECT OF AFFORDABLE HOUSING

The 'Confederation of Real Estate Developers' Associations of India (CREDAI), provides a much broader definition for affordable housing: Affordable housing is provided for usually three sections of society: the economically weaker, lower-income, and middle-income segment.

- EWS can afford homes of area 30 square meters with income less than INR 3, 00000 per year 3, 00001-6, 00000 per year income people fall in LIG. They can afford dwellings up to 60 square meters.
- 6, 00001- 12,00000 rupees per year income people fall in the MIG-1 band, with affordable apartments up to 90 square meters.
- INR 12, 00001, 18,00000 per year people fall into MIG-II band and can get accommodations of carpet area up to 110 square meters.

The other parameter is used to define affordable housing in India is the possibility of getting home. To buy a home, all the 3 above-mentioned bands shouldn't spend more than thirty to forty percent of their income as EMI. In addition, affordable housing definition is not limited to the above entered three bands; instead, it applies to people across the country.

III. METHODOLOGY

The Project is developed via multiple steps. The major steps are enlisted here:

Installing Python

Firstly we needed to install python and adding it to the windows path.

Virtual environment

Created a virtual environment for the Django project.

Installing Django

pip install Django

Installation of Django and then to destination place where the project to be kept, using the cd command.

Create Django project and app

Then creation of a project and in project app created.

Setup of Django

In Setting add the app name under "INSTALLED_APPS" and into project URLs import the path and include apps URLs.

Creating views

Views.py in-app is a view function or view for short, is a Python function that takes a Web requests of a project and returns a Web response. This response can be the HTML contents of a Web page, or a redirect, or a 404 error. The view itself contains whatever arbitrary logic is necessary to return that response.

Templates and static

The templates folder was created in apps for Html files and in a static folder all CSS, javascript, fonts, and image folders all part of the frontend of the project. Django templating is done via templating engines, there are multiple templating engines (Jinja templating) although the one which Django ships in is Django template as in projects settings.py file.

MySQL API drivers

Django requires MySQLclient according to windows and latest.

MySQL and Django connection

- Install Xampp: Xampp is a free open-source tool that provides the Apache server and phpMyAdmin which is the best source to work with MySQL.
- Run xampp control: After installation runs xampp control panel and we used the specific two services apache server and MySQL.

Creating MySQL database: On-webpage of phpMyAdmin we created the database for our project

Database Connection to the application

Connection settings are used in this order:

- Options
- NAME, USER, PASSWORD, HOST, PORT
- MySQL option files.

Creating a models

A model is a link between the server and the database. Now, whenever we need the data or any operation is performed where data from the server is needed which is essentially just retrieving data from the database, it will need some middleware or bridge which can convert that data in a transmittable/HTTP response or more generally a web-transmittable format. There, the Model does this important work in the project. Classes in models have lots of methods for fields corresponding to web input. We are using text fields, char field, date field, integer field, image field e.t.c here as they are easier to implement and takes in any input.

Make migration and migrate

Commands:

- Python manage.py makemigrations

When the database has been created these commands are used to make all the changes in the database creating new migrations based on the models.py file of the system.

- Python manage.py migrate

After command 1 we use migrate which is responsible for applying migrations, as well as unapplying and listing their status.

Creating superuser

We created a superuser for the administration panel. It is for the admin to have access to the admin section accessing the admin panel from the web browser.

Create a superuser using the following command in your terminal:

Python manage.py createsuperuser

Run server (Localhost:8000)

Python manage.py run server

<http://127.0.0.1:8000/admin> Enter your superuser's username and password to log in to the admin page. And specific URLs can redirect in the project.

IV. RESULTS AND DISCUSSION

- The project outcome is that we developed a web application that makes it convenient for both factions to find housing as their liking.
- A virtual system for house owners for their rental purpose property where they can easily find tenants and vice versa also with the pre-determined agreement.
- Sorted graphical locations of houses including maps around it are easy for tenants to find a place in a specific locality.
- The main aim is to develop a virtual platform for peoples to find a perfect match for their liking.

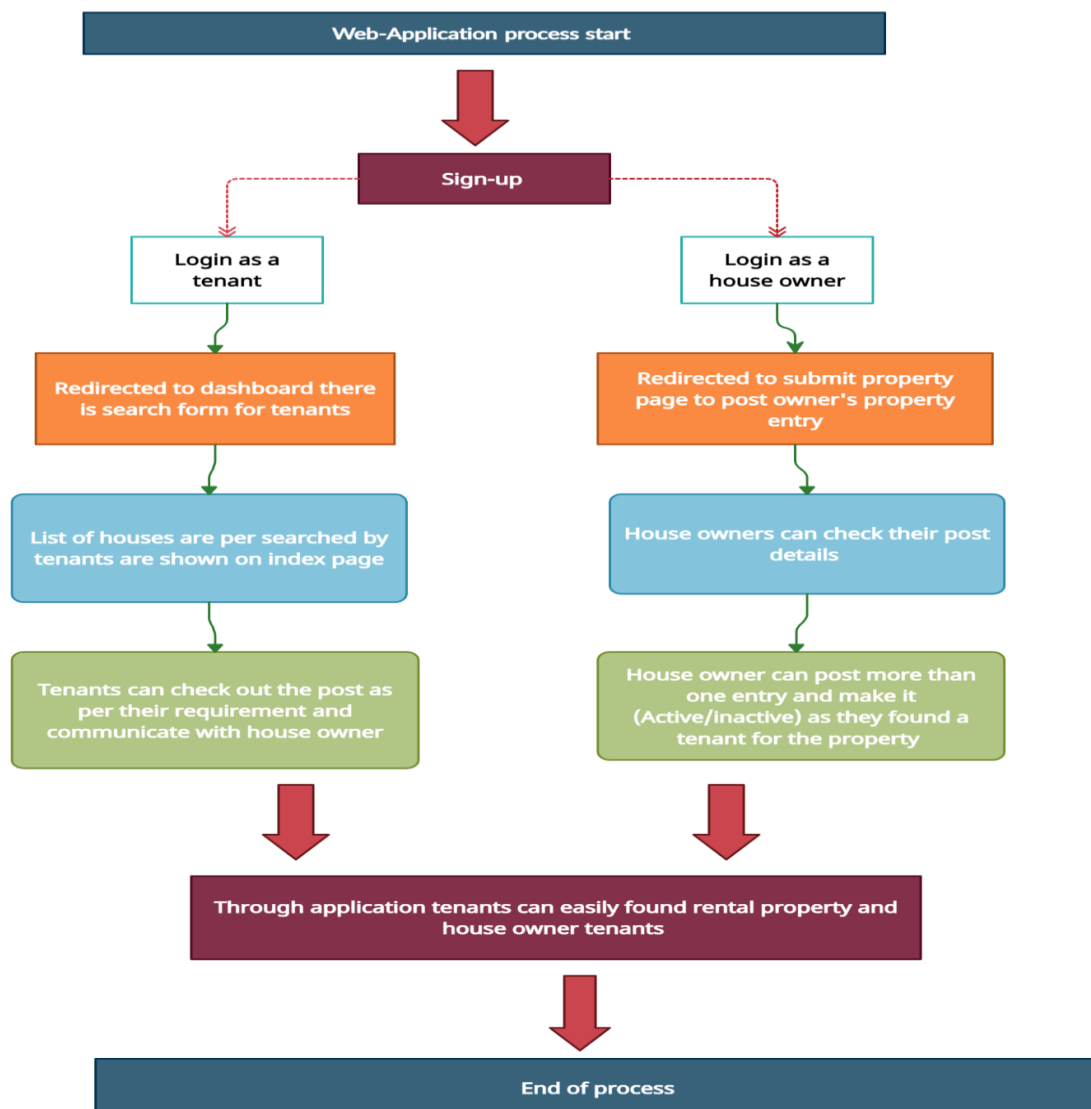


Fig- Flow of project

V. CONCLUSION

In conclusion, House Rental business has emerged with a new perk compared to the experience where every commotion concerning renting a house was limited manually and physical location only. Even though the physical location has not been eradicated; the geographical locations are also important and the nature of functions and how these functions are achieved has been reshaped by the power of technology. Nowadays, house owners can reserve book/buy/sell House online, rent House online, and have the house contracted successfully without any sweat once the customer is a registered member of the House Rental Management System.

The web application House rental system is an advantage for both faction tenants and landlords and makes this process for searching is effective and efficient.

ACKNOWLEDGEMENTS

We want to bid our thanks to Acropolis institute of technology and research and our project guide Asst. Professor. Rahul Patel sir for guiding us every step of the way and allowing us to initiate this project.

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