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Development of an Android Application for Rooms on Rent

Sneha kunwar[1], Tejaswini Domke[2], Ashu Rahangdale[3], Krunal Bahoriya[4], Mrs. Surbhi Khare[5], Shriya Samaddar[6]
[1, 2, 3, 4, 6]*UG Student,* [5]*Asst. Prof., Department of Information Technology, Priyadarshini College of Engineering Nagpur, India*

Abstract: ***We suggest that users rent an Android-powered home system. The user can look for rental homes in multiple locations, including district- and locality-level there is a pressing need to embrace and value technology given the present paradigm change in the technological industry. The housing sector continues to be alert to the difficulties of change by implementing a new approach that makes managing rental properties simple. In this article, a standard web application for smart house rentals has been created for both tenants and homeowners. The app itself is incredibly user-friendly, and effective, and it offers a lot of distinctive features that aren't provided by other property rental websites that are now available in India. Using web applications that have been built, tenants can register with their cell phones, store identifying information, look for available homes, communicate with home owners, and select a suitable home.***
Keywords: Room rentals, House rentals, Android, Java, Mobile Application, and XML Design.

I. INTRODUCTION

The growth of rental housing has grown significantly in contemporary life. This chapter will give a brief overview of the study's historical context, the work problem statement description, the project's goals, scope, justification, deliverables, budget, and timetable. Housing is crucial to the living quality and has significant economic, social, cultural, and personal implications. Even though a nation's prosperity is typically evaluated in terms of its economy, accumulating wealth loses its value unless everyone can benefit from it, and if it is not used to address escalating social problems, among which is housing.

A. Existing System

The majority of property managers today manage renters' information and property details on paper. Customers can contact the property manager by phone or email after seeing an empty home and requesting a rental of a certain size. The management company can respond by email with all the information they need on the house they are requesting. The specifics include Monthly rent; paid deposits; and terms and conditions that must be accepted. With the existing system, capturing user activity details is entirely manual and involves a tonne of paperwork. The only interface offered by the current system is text-based, which is less user-friendly than a graphical user interface. The system's manual implementation makes it extremely slow to respond.

B. Problem Statement

The above mentioned study from existing system clarifies that the system is having many disadvantages mentioned below, and a new system is to be made for the ease of use and services. The existing system is having disadvantages like:

1) Inconsistent data entry, potential for mistakes, and incorrect information entry.
2) Cost-prohibitive continuous staff training.
3) The system depends on moral people.
4) Information sharing and customer service are reduced, and security is lacking.
5) It takes a lot of time and money to prepare reports.

II. LITERATURE SURVEY

Sonya R. Manalu et al, [1] to offer information about boarding places and evaluate it, this study aims to create a smartphone application with chat and push-based notification features.

Login, see lodging rooms list, see detail, review, show map, chat, & broadcast information are among the features designed for this application.

An analysis reveals that the app is helpful for communicating between room searchers and building managers and provides information about boarding houses.

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K. Aminuzzaman et al, [2] the author's website will be designed for tourism and will be responsive and user-friendly. Our website was created using HTML, CSS, Bootstrap, JavaScript, and CSS for the front end and PHP and MySQL for the back end. Home-sharing-like websites still need to be created in Bangladesh.

Y. H. Keith et al, [3] in order to better understand how blockchain functions and to suggest which algorithm should be utilised in blockchain applications, comparisons are done in this article. Therefore, the same might be applied to the house rental sector, where all contracts between tenants and landlords were written on paper. Although there is software for this market segment, the majority of them struggle to maintain data tracking and protect information.

K. Shah et al, [4] the collection of data used in the model that we suggested is explained in this research along with a machine learning-based prediction model for house rental prices. Predicting the cost to rent a house is the paper's main goal. A model for predictions based on the variables affecting the cost of leasing has been developed in this study. Regression techniques are used to create a prediction model, and the best-performing with the greatest efficiency is chosen by running a comparison analysis on the results.

Sanidhya kuchhal et al, [5] the authors want to develop an internet-based app that is both responsive and user-friendly, and they hope to build it specifically for travel and private use. We used HTML, CSS, and Angular JavaScript for the front-end portion of our online app, and PHP and MySQL for the back-end portion. Our application on the internet will be considerably more helpful to those who use it.

Dipta Voumick et al, [6] in this paper, a standard web application for smart house rentals has been created for both tenants and homeowners. This online application is incredibly user-friendly, and effective, and it offers a lot of distinctive features that aren't provided by other house rental websites that are now available in Bangladesh. Using web applications that have been built, tenants can register with their cell phones, store identifying information, look for available homes, communicate with homeowners, and select a suitable home. Additionally, property owners can sign up for the application, which will manually validate and authenticate the information provided. Property owners can examine a renter's information history anytime a tenant contacts them via text and submit information connected to their property as necessary.

Henry Peter Gommans et al, [7] the program can be applied to an inventory management tool to give managers a framework for making legitimate transactions in a constrained amount of time. Every time a transaction is made on the system, the database—in this case, Microsoft Access 2007—that stores the data is updated at the same time. Last but not least, ALL-POWERFUL GOD rather than human effort was the key to achievement.

R. Nandhini et al, [8] the authors suggest that consumers rent a home system that uses java script. The user can look for a rental home in a variety of locations, including districts and local areas. There is a dire requirement to embrace and value technology given the present paradigm change in the technological industry.

Amika Mehta et al, [9] with this app, you may rent out items for periods of time that can vary from a single day to a full week or an entire month. It is an expanded type of giving out stuff that is frequently organized with several local branches and enhanced by a tool that enables bookings online. a service called LeKeDe that offers the ability to rent out everyday items including furniture, books, cars, clothes, accessories, workout equipment, mechatronics, etc.

III. METHODOLOGY

The strategy and methodology of the system used to perform a research study are referred to as methodology. It demonstrates the methods and tools for gathering data, system the approach, the suggested system input and output for users, and tools for systems development.

A method for demonstrating how the system being suggested will be built is system development. In this instance, a waterfall model will be the methodology adopted. It is a part of the stages the system developer would employ when creating it.

Its application is for managing rental properties.

You can use this app to find tenants for your flat or home. The software allows homeowners to add their properties and provide information about them. The customer looking for rental homes will notice the house on the mobile application and contact its proprietor for further instructions.

In the app, there are three panes. The person who wants to rent out the home is represented in the first panel, while the homeowner who wants to continue renting out their home is represented in the second. And the third panel is for admin who will look after the owner as well as user panels simultaneously.

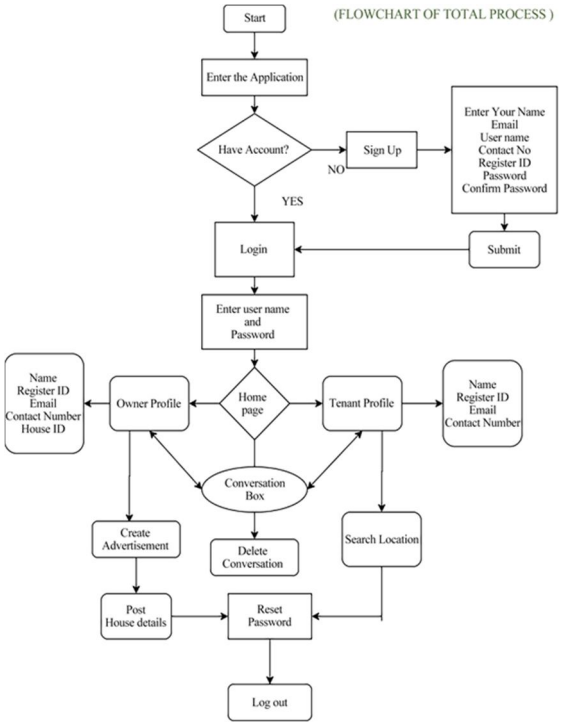


Figure 3.1 System Flowchart

A. Panel 1 for House Owner

The property owner can view all the homes he has listed for rent on the app in this panel. On the app, the owner can also add new houses. The fundamental information about the residence, such as the location, the rent, and the number of rooms, must be added. Additionally, he has the ability to view all members of a certain residence that he is renting as well as add new users.

B. Panel 2 for Users

In this panel, the user can see all the houses that are available on the app for rent. The user can click on any house to see more details of the house. He can also see all the members that have taken the house on rent right now. He can contact the owner and message him and also view the location of the house on the map.

C. Panel 3 for Admin

In this panel, Admin can add or delete unnecessary data from the app, manage payment method and other settings.

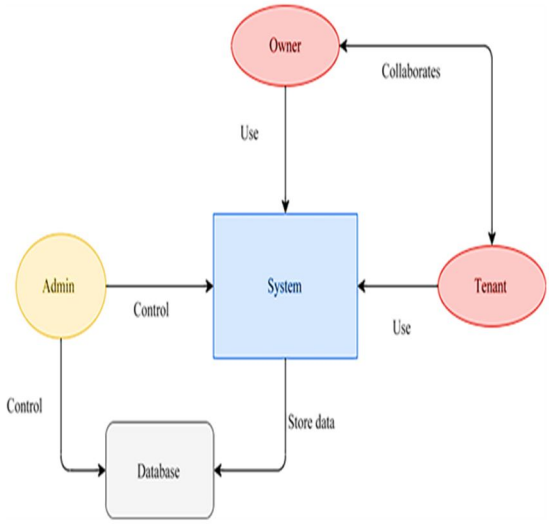


Figure 3.2 Use Case Flow for all

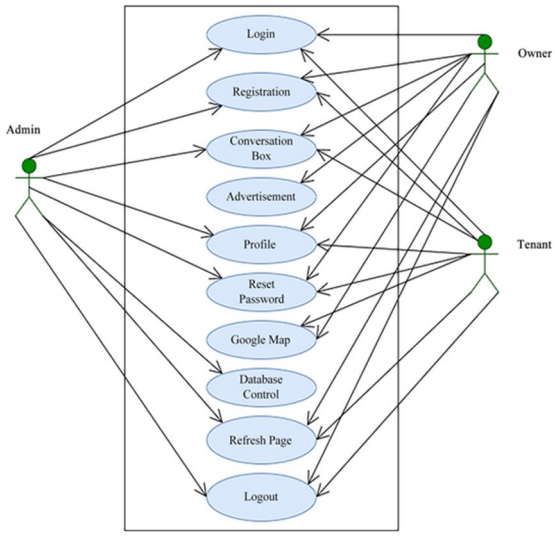


Figure 3.3 System Use Case Diagram

D. Project Requirements

1) Android Studio - It's a software to build android apps.
2) Java – Java is an Object-oriented programming language used as a backend here.
3) XML – XML is a designing language used for designing screens.
4) Firebase – Firebase is a no-SQL storage device that will be used for storing the data.

E. Features of the App

1) This app has two primary panes.
2) Sign up as a user and as a homeowner.
3) The home's owner may add a new rental home.
4) The user can see the location of the house on a map.
5) Only homeowners have the authority to bring in new occupants.
6) Both the user and the home's owner can see every resident.
7) The user can view all the rental homes listed on the app.
8) The viewer is able to click on any property to view more information about it.
9) The app's administrator can add or remove pointless data.

IV. RESULTS & CONCLUSION

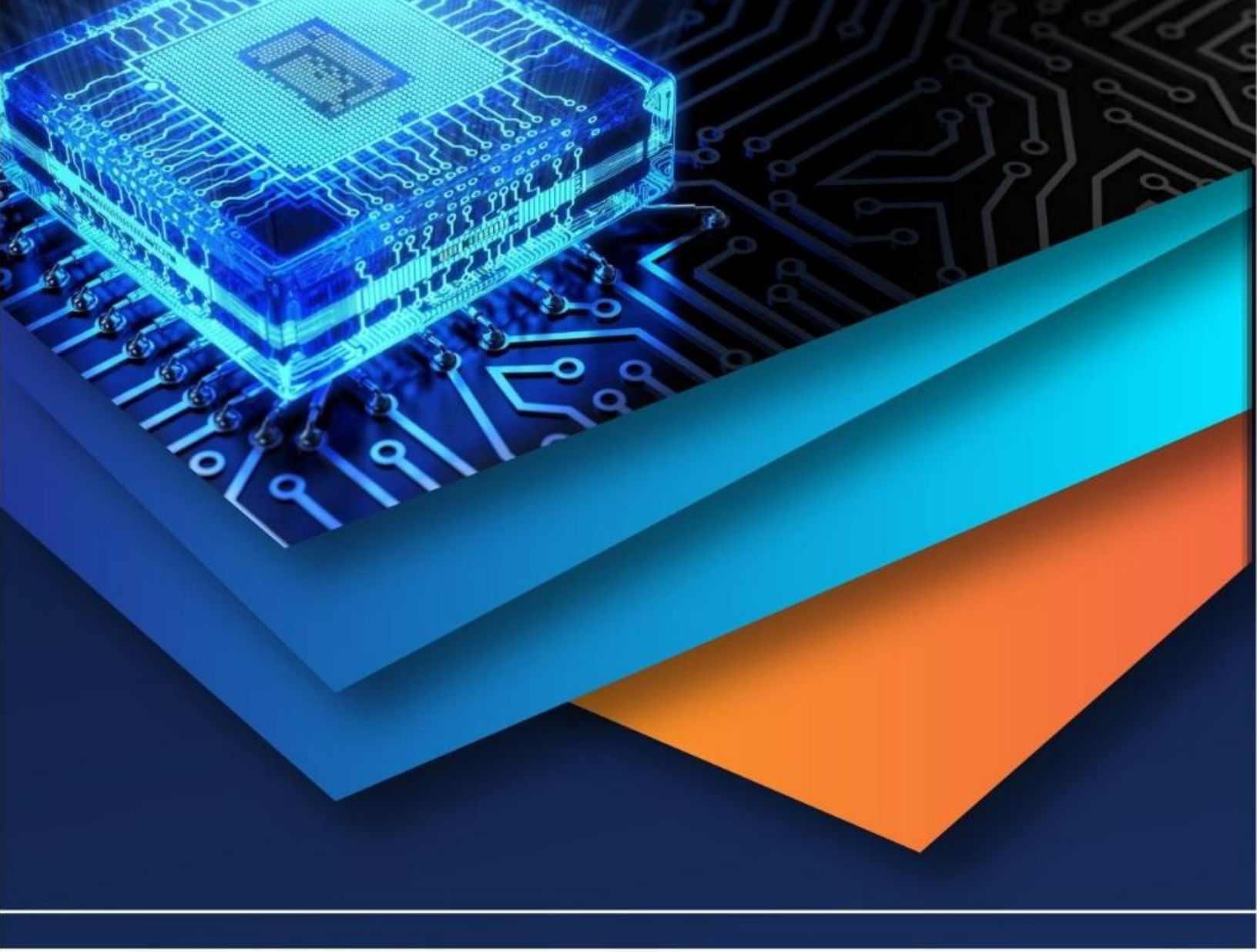
This project involved the creation of an online, app-based smart home rental system. The system may offer managers an app that enables them to complete reasonable transactions in a constrained amount of time. The purpose of this method is to meet the requirements of landlords. Additionally, a number of user-friendly interfaces have been introduced. Additionally, the users will greatly benefit from the position tracking system because it will be simple to locate the residence on a map. Additionally, this system has been optimised for safe and confidential data storage and authentication due to security concerns. This product is expected to be quite effective in meeting all of the consumers' needs.

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