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## ROOM STACK USING FLUTTER TECHNOLOGY

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## Abstract

*Finding a proper or suitable room in new city in nightmare for an individual, students and family. Manual finding ways consumes more time, efforts and money too. We also face same issues while renting the rooms. At the present time smart phones and its applications plays major role in our day to day life such as ordering food, online shopping, making digital payments. Then why not we use this for solving and finding the renting rooms. For that we are developing an application for searching and renting the room in a particular location where we want. Room stack is a mobile application developed using flutter and firebase that goals to solve the problem for finding and renting the rooms. By using this application, the room owner can upload the room details and let the room available for rent digitally. Individual, family and students who wants room on rent can search the rooms here as a tenant. Just find the required room, book it and ends up your room search. Flutter is new and evolving cross-platform mobile development framework made by Google. It allows user to create beautiful, cross-platform mobile applications with native performance, all from one codebase. Dart is opensource, scalable object-oriented programming language, with robust libraries and runtimes, for building web server mobile apps. Firebase is a real time database developed by google. Firebase acts as powerful, secured, scalable, high performance Backend-as-aservice for mobile and web applications.*

*INDEX TERMS: Flutter, Dart, Firebase, Room stack.*

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## 1. INTRODUCTION

Room stack is a Mobile application developed using flutter technology that goals to solve the problem for finding & renting the rooms. In this project, there are three modules. First the Room Owner, the room owners can upload the room details & let the rooms available for rent digitally. Second is the Room Buyer, the Room Buyer can search the room Individual, family or student who wants rooms on rent can search the rooms here. Just find the required room, book it and ends up your room search. Third is the General user, a general user can register himself as Owner or Buyer by entering personal details, address, mobile number and email id. System verified it using OTP form phone number. User can read the feedback given by buyer or owner in order to make proper decision for buying the room and enters in the system. User can search the room as per required location, price and facilities. System also allows applying filter if needed. System finds the room as per the need.

In this project we are using the flutter technology, Flutter is the technology in which we build a mobile application with high performance and it is a cross-platform for iOS and android form the single codebase. and also Flutter is a Google's UI toolkit for crafting beautiful, natively compiled applications for mobile, web and desktop from the single codebase.

In flutter all applications are written in DART. Dart is a clientoptimized programming language for apps on multiple platforms. It is developed by Google and is used to build mobile, desktop, backend and web applications. Dart is an object-oriented, class defined, garbage-collected language using C-style syntax that trans-compiles optionally into JavaScript. It appeared first time in 2007.

In flutter technology Firebase is real-time database developed by Google. Firebase act as powerful, secured, scalable, high performance Backend-as-a-service for mobile and web application. It is the latest trend in mobile development for

storing the data on Google cloud. Apart from storage it has lots of features.

## A. OBJECTIVE

To develop a Room stack that allows the user to view customer data as well as room updates. To develop this application that allows the users to add, edit, search and delete data from the database.

To study and analyse the requirement specification of the room stack. To produce the software requirement specification of the system. And to produce software design document of the system.

By the development of this application it is easy for the buyer to search the room that they want and it saves the time and they don't have to take more efforts.

The buyer can search the room and it is very easy to find the room that they want. By this application the owner can get the renter very easily.

The owner and buyer first they have to register by adding their personal detail can contact number and by adding the contact the OTP is generated on the registered contact no. that makes the authentication.

This application will suit for individual who want to live alone or the family who want to live with their family and the student Also who want to share the room.

Feedback system allows user make proper decision for getting the room.

## 2. LITERATURE REVIEW

In current situation the system works manually for both the room owners and room buyers. The buyer face lots of problems for finding and renting the room. It is very difficult for the buyer to search the room instantly. We must find the rooms manually for visiting each one personally and requires more effort for search. Buyer may not get the correct room.

Similarly, room owner can face some problems like the room owner tells the friends or hangs the written board for renting the room. Sometimes the owner entertains every buyer each time when buyer comes. Occasionally the owner does not satisfy from the buyer, owner might not get the correct buyer. With the present system the details of various activities of user is completely manual and brings about lots of paperwork.

Each room has a file that consists of the room number, size, rent per month, normal deposit, tenant and status. And owner also have to manage the details of every buyer such as first name, last name, Phone number, date of payment, amount and balance etc. sometimes the records are not secure as papers

may get lost or impaired. Hence, there is need of readjustment of the system with more advantages and resilience. This process consumes more time and requires more efforts.

## 3. MODULES

There are three modules in this project, they are as follows.

1. Room Owner
2. Room Buyer
3. General User

1. Room Owner

   • Registration

Owner performs registration by entering personal details, address, mobile number & email id. System verifies it using OTP from the entered phone number, then the registered owner has to login for further process.

   • Upload Rooms

The registered owner can upload the details for room including rent, facilities, room images, capacity of users, terms and conditions as needed.

   • Room Management

The room management allows the user to modify or delete the room details. Once room data has been uploaded by owner, He can modify the detail as needed.

   • Accept/Reject room booking

Owner has choice to accept or reject the booking by verifying the user details. In case he like the tenant profile he can accept the booked request and tenant will get that room. After it, the same room cannot be booked by any one until tenant leaves the room.

   • De-registration

Owner can de-register any time, if he like or don't like the system. After this he will left out the system and he cannot add any room in system.

2. Room Buyer

   • Registration

Buyers can view room & owner details without registration. For booking a room he must register by entering personal details, address, mobile number & email id. System verifies it using OTP from phone number

- Book a room

User can book desired room after registration. Confirmation will be done after accepting request from owner.

- Search Rooms

User can search the room as per required location, price and facilities. System also allows applying filters if needed. System finds the room as per need.

- Feedback

User can provide feedback for room, services, and owners along with star rating, so that new user can make decision for buying a room in future. It helps the system to grow its quality.

- De-registration

User can de-register any time if he like or don't like the system.

3. General User

- Registration

A general user can register himself as Owner or Buyer by entering personal details, address, mobile number & email id. System verifies it using OTP from phone number.

- Reads feedback

User can read the feedback given by buyer or owner in order to make proper decision for buying the room & enters in the system.

- Search Rooms

User can search the room as per required location, price and facilities. System also allows applying filters if needed. System finds the room as per need.
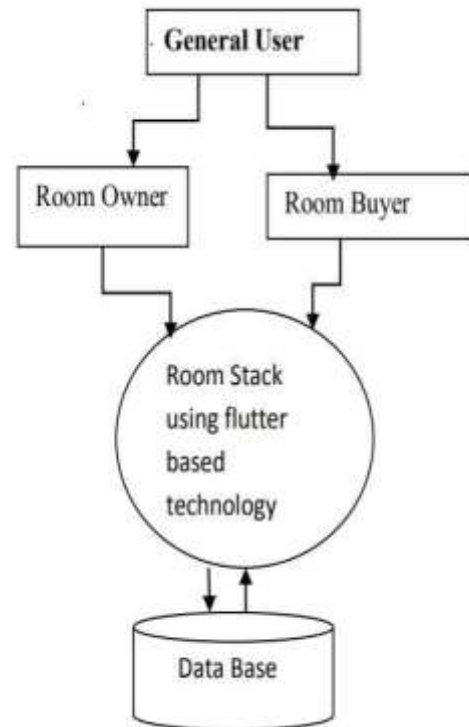
# 4. SYSTEM ARCHITECTURE



**Fig. 1. System Architecture**

# 5. PROPOSED SYSTEM

Room stack is a mobile based application developed using flutter and firebase that enables the user to rent and find the room for solving room problems. This system is efficiently field to manage all the issues such as search, filter, renting finding. This system is applicable for students, families, individual even business man also. We can use this system free of cost.

# 6. ADVANTAGES

Some major advantages are mentioned below,

- The room owner can easily find the room buyer for renting the room.
- The room buyer can easily get the room by using this application.
- The main advantage of this application is that it is real time system.
- This application is totally free of cost.

## 7. CONCLUSION

Room stack provides  buyers  of specific room application and Room owner with a simple way to report and arrange the room. Finally,the goal of this mobile application is to create a best relationship between the room owner and the room buyer which  can be achieved through this application.

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