

# Design and Development of KIOSK - an Android Application for Apartments

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**Abstract** - Heavily populated areas like urban and metropolitan cities have crowded with huge amount of sky high buildings and apartments. Searching areas, buildings, houses or offices to reach door steps is merely difficult task and time consuming one, in order to overcome situations like this many have found remedies, among them kiosk based information guide and android application in mobile can solve such problems.

Presently android is advanced, user friendly and majorly used operating system. By considering this into account an application is developed to give a solution to the end user in mobile as well as on kiosk machines. This is easy and flexible for operations. The system is developed on Android OS where all the features and solutions are added pertaining to the problem statement.

Android studio is utilized for development where all the possible test cases have been studied, designed and implemented like area, street, apartment, floor, etc.

It provides detailed Information of the apartment to users. It gives the detailed information within no time, nearby apartments location by maps, can get detailed floor-wise view. There is no need to ask information to others.

**Key Words:** KIOSK, Firebase. Android, GPS, Cloud Storage

## 1. INTRODUCTION

Interactive or electronic KIOSK is a combination of hardware and software components used for providing some services such as access to information, making payments, etc. Usually it is an ordinary computer terminal with a display as output device and android stick as input device.

Today electronic KIOSKS are used for many purposes. For example, it can be a self-service system in a library or an airport, terminals in big stores for checking product's prices and locations or informational KIOSK in a museum, where visitors can get information about current exhibitions. There are many purposes and applications of KIOSKS, but several things are common for the most of them. First of all, KIOSKS are usually spread geographically in

different parts of one building or around the city or even country. Second, target users of KIOSKS are ordinary people probably with low level of computer skills or without any skills at all, that is why KIOSKS have to be easy for use, user-friendly and still be secure. They should limit an access to underlying system software and prevent improper use.

Android applications are booming now a day as it has become addiction to new generation. Everything goes ease on palm to full fill ones need on spot. Hence in this paper touch screen KIOSK for the apartment industry is an android based concept to provide information about bigger apartments in metro cities.

## 1.1 Purpose

The Main purpose of this paper is to design and develop the KIOSK android application for apartment.

To accomplish this task, the following steps will be done:

- i. Floor plan Views
- ii. Maps in different Views with GPS
- iii. Featuring Material Design
- iv. Gallery
- v. Amenities

## 2. DYNAMIC MODELLING

This Use case diagram contains User registration, user login, select floor, maps view, information amenities, view of apartment gallery, reply for queries, handle tenants complaints, maintenance, uploading new tenant details, updating database, updating new facilities etc.

New user can register first if he doesn't have the account, after that he can login in app after creating an account he can get information about apartment such as amenities, maps, gallery, floor. Other side in back office admin can update details of tenants, update database and also he can add new facilities, reply queries for tenants.



Fig – 1: Use Case Diagram

### 3. ACTIVITY DIAGRAMS

#### 3.1 Tenants:



In the above Tenant activity diagram, tenant must add details to register, after registering tenant can login with his email id and password. Once he/she registered and login to the account, he/she can get information of the apartment. After getting information, he/she can logout from his account.

#### 3.2 Back Office




In this Back office Activity Diagram, admin after login, he/she can maintain needs of tenants, queries and he/she can update details, add new facilities, update

database, reply queries for tenants. Admin after adding all these tenant requirements, he/she can logout.



### 4. SYSTEM IMPLEMENTATION

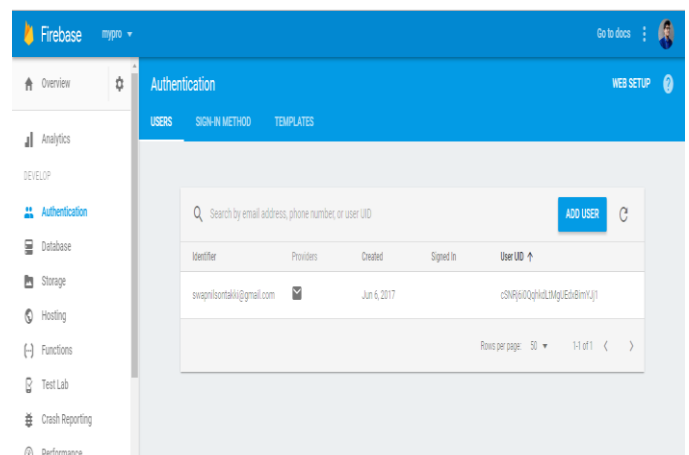
#### 4.1 System Requirements:

-  Java JDK 8
-  Java Runtime Environment (JRE)
-  Android Studio

### 5. DATABASE DESIGN

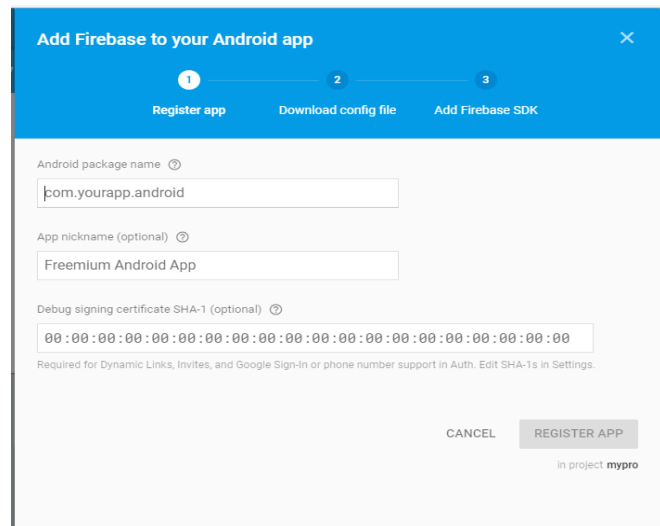
#### 5.1 Google Firebase:

Firebase is a mobile and web application development platform.

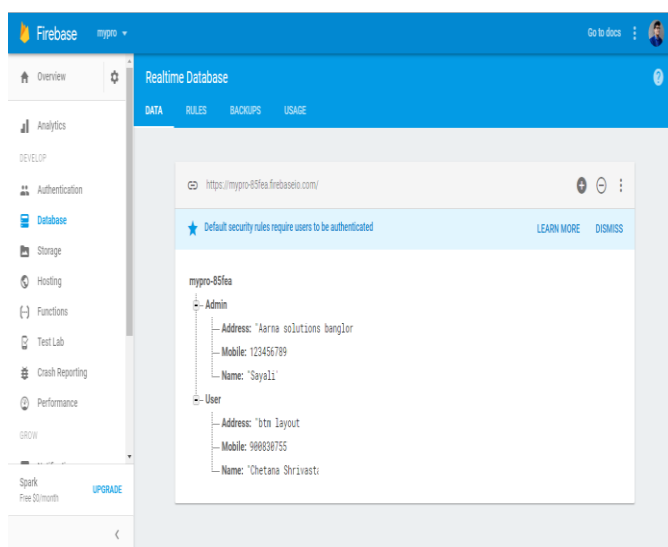


Firebase Storage provides secure file uploads and downloads for Firebase apps, regardless of network quality. The developer can use it to store images, audio, video, or other user-generated content. Firebase Storage is backed by Google Cloud Storage.

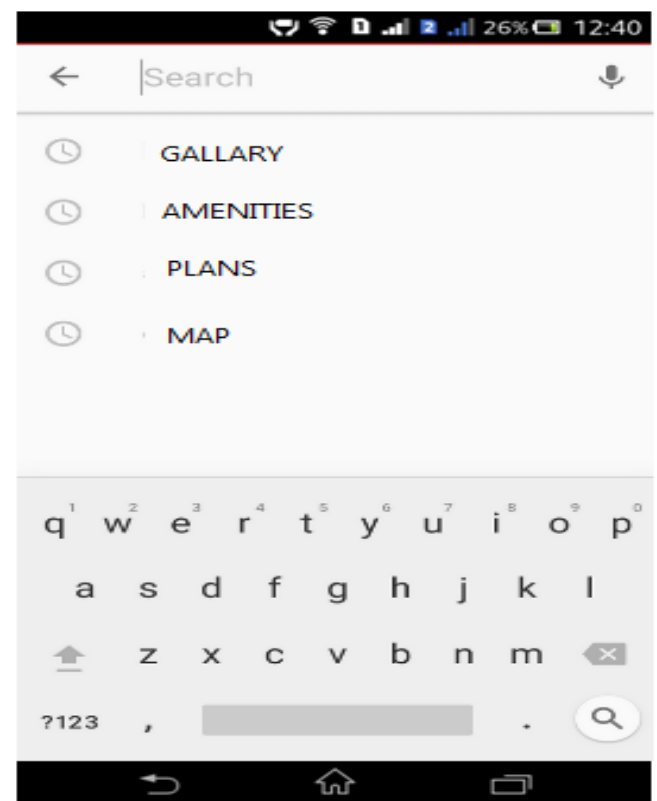
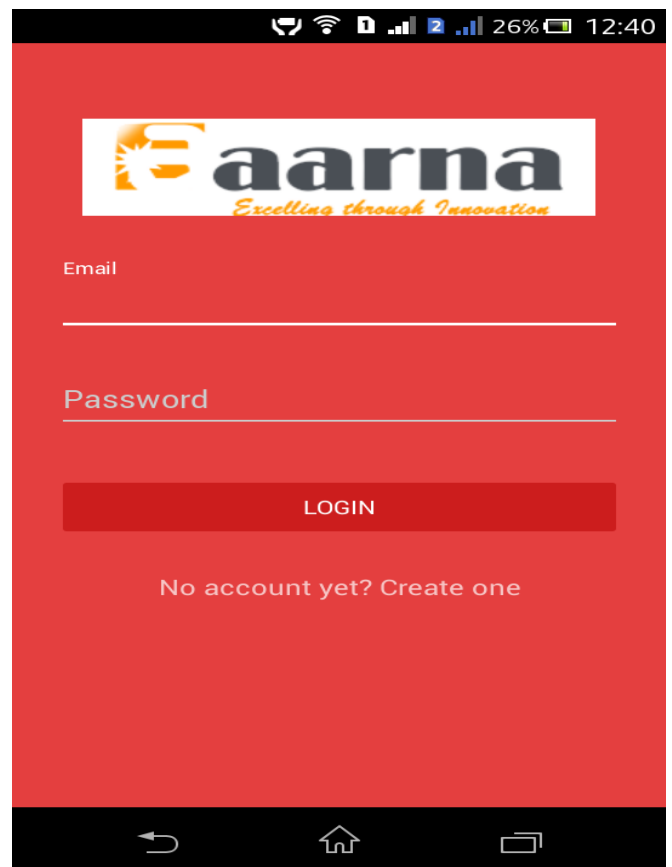
Cloud Storage is built for app developers who need to store and serve user-generated content, such as photos or videos.

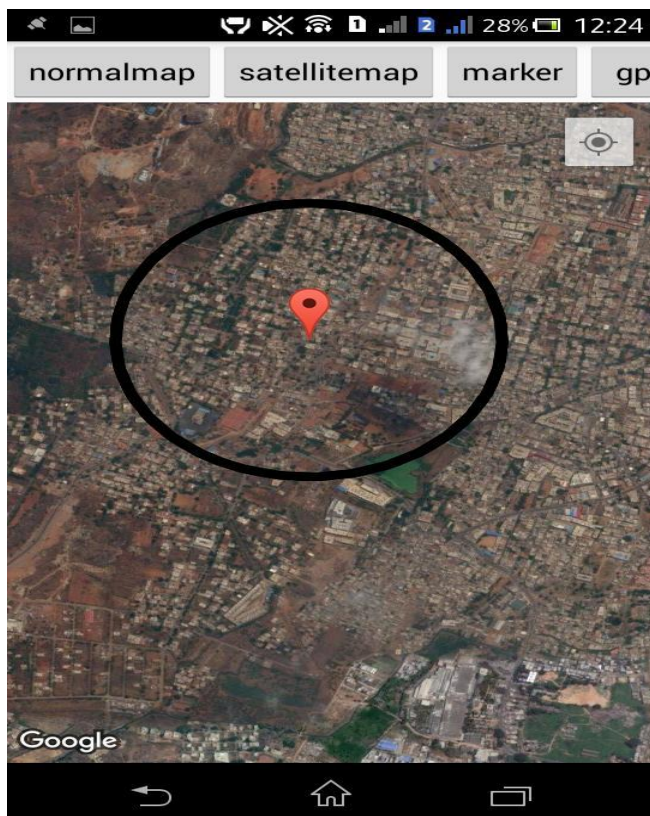
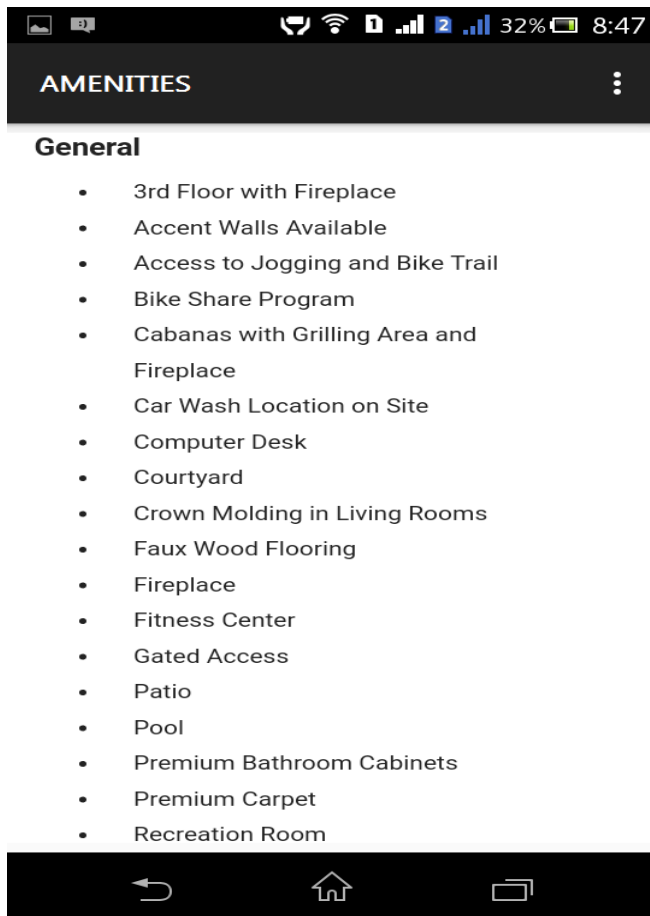


Cloud Storage for Firebase is a powerful, simple, and cost-effective object storage service built for Google scale. The Firebase SDKs for Cloud Storage add Google security to file uploads and downloads for your Firebase apps, regardless of network quality. You can use our SDKs to store images, audio, video, or other user-generated content. On the server, you can use Google Cloud Storage, to access the same files.



## 6. SCREENSHOTS





## 7. CONCLUSIONS

Presently android is advanced, user friendly and majorly used operating system, by considering this into account an application is developed to give a solution to the end user in mobile as well as on kiosk machines, this is easy and flexible for operations. The system is developed on Android OS where all the features and solutions are added pertaining to the problem statement.

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