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Efficient Implementation of MSM Application using Android for SLN Construction

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Abstract*: This android application implementation is for those who are searching for Flats/Houses according to their respective criteria. In a fast growing city like Bengaluru, Real Estate is a booming platform. Proprietor can post the available Flats/Houses on the application with complete details about property and other important information. Customers can visit the application, search for specific, sort based on amount. Customers can download the PDF of the available broachers which removes the hassle of visiting the place in person and receiving the broachers manually. Customers can also send feedback. Provided feasible solutions using Android.

Index Terms: Android, MSM (Marketing and Sales Management), Proprietor, PDF (Portable Document Format), Firebase.

I. INTRODUCTION

MSM application using android for SLN constructions is an Android app developed for the booming needs of Real Estate. Which helps to override the problems prevailing in practicing manual system. This application is supposed to eliminate and in some cases reduce the hardships faced by the existing system. Moreover, this application is designed for the particular need of the SLN Company to carry out operations in smooth and efficient manner. This is an application which helps the Proprietor to maintain an organized sale by having all the details of the flat like flat number, flat dimensions, and number of rooms and also maintain his inventory details. The main objective of this application is to make the Proprietors work easy by providing all the details of the flats directly to the customers. The administrator alone has the right to update the flats and also delete it in an easy and efficient way.

Feasibility study: MSM application using android for SLN constructions is an android application hence the users of this application need to have an android smart phone. The application is designed for the fitness studio manager. An active internet connection or mobile data is required in order to use the app. Users can make use of this application only if they are registered as they need to login to the application through their Gmail account.

Social Feasibility: An android application is said to be socially feasible if it is accessible to the general majority. At present there are not many apps that provide a real estate environment. The project is totally built for Customers convenience. Hence this system can be said to be socially feasible. Economic Feasibility: Android applications can be developed using android studio or eclipse IDE which are open source and free of cost as the frameworks used for developing the application is open source the application can be easily developed in a cost effective manner. Operational Feasibility: The development of the proposed application would benefit the Customers as well as the Proprietor to extend the functionality of the application by distinguishing over Customers and Brokers. It is very operationally feasible as it can be used anywhere as long there is an internet connection.

Existing System: The existing system is as follows

• It is web based, there is no android application which is more convenient for mobile users.

• Existing software cannot perform all operations expected by Proprietor such as keeping record of Resale's.

Proposed System: The proposed system is as follows.

• In android application, user can register using their Phone Numbers which saves time and effort.

• The communication is not well with the existing system; this application provides a direct contact with the Proprietor removing the middle man process.

• It provides wide range of certain criteria in each window the customer is looking for better and quicker solution.

II. RELATED WORKS

This application proposes an active detection approach for Android code repacking. The approach embeds code watermarking with the detection code into the appropriate conditional branch code block by means of dynamic loading to achieve the hidden purpose. Then, the active detection approach compares the consistency of the runtime application signature and the original code watermarking signature to realize the code repackaging recognition. Author proposes work takes eight different types of Android applications from Github on three different mobile phones to verify the validity of the approach. [1]This Mobile Application gadget with android operating system is a location based feature that is useful to provide information displayed in navigation applications. Google Maps API V2 is one of the location-based APIs available within Android Operating System.

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This Mobile Application gadget discusses the application design and utilization of Google Maps API V2 on the design of Android-based E-Land mobile application which aims to simplify the Land Office and the community in obtaining more accurate land area information. Utilization of GPS technology on mobile has a function to get location in performing a survey to determine the coordinate points of a ground area. [2]Market share for android smartphones have been increasing exponentially day by day. With this increase in numbers of phones sold every year, even the demands for a better quality of the android phones are increasing in the competitive market. To meet the high expectations of users, companies are putting good amount of efforts in the improvement of hardware as well as software. While smartphone hardware market is already saturating to an extent, there is a lot of scope for improvement on software design on top of Google's stock Android for better user experience. [3] Android operating system encapsulates applications in compact units in a form of APK packages. In our design, these APK packages will represent several modules of one application. The solution described in this article should enable automatic download and deployment of the packages with modules without user's interaction. Each module consists of Android Activities and other classes and related resources. First, it is necessary to analyse the way how the Android system loads the code (in classes) to the memory. [4] The majority of work to be done on the computer can be done via smartphones without place limitation and trouble of carrying computer. Using smartphones on vocational education necessitates mobilizing of modelling studies. The application is designed to work on devices with an Android operating system. The design works on Android 5.0 and above operating systems. [5] Mobile application migration is the process of porting an application's source code from one mobile platform to another. This process is difficult due to many differences between the platforms, such as languages, libraries, tools, design principles, and special hardware features. [6] In software applications, most of the time, errors occur, even though they are tested carefully. Finding the error related pieces of code is one of the most complicated tasks and it can make incorrect results if done manually. Manual methods and fully automated methods have been introduced to overcome this issue. There are two approaches to test SMAs in order to reach a high degree of quality: (i) using existing traditional methods and adapting them to SMA environments and (ii) introducing new special methods for SMAs. [7]The Android operating system can be updated at any time by Google and other attack surfaces than the ones. Here research is the only research to identify a more complete picture of the surfaces which can be used to protect and defend against availability attacks on Android applications for the latest version of Android, Android 7.0 Nougat. [8]

Today, over 50 % of the world population use mobile applications to manage every day their daily activities. These offer the opportunities to use multiple services such as e-commerce, social networks and e-banking. But, they don't always respect the security requirements such as privacy and data user protection. And the security breaches give to attackers the possibility to perform several attacks on mobile devices by compromising mobile applications. [9]

The android application provides the basic functionalities of a carpooling application available in the market including creation of trip, rating, and Facebook integration. The major innovation we made into the android application is that it provides the facility of tracking the current location of both the car and the passengers each other. [10]

III. SYSTEM ARCHITECTURE

A) System Architecture

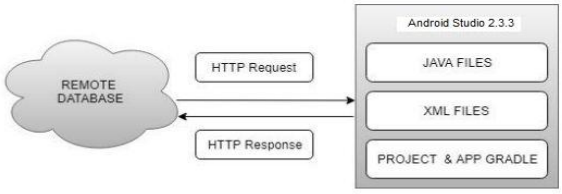

Fig. 1: System Architecture

In the above figure 1 the complete system architecture of the application is described. The system consists of users who access this application through an android smart phone and the application interacts with the firebase services in order to satisfy user actions.

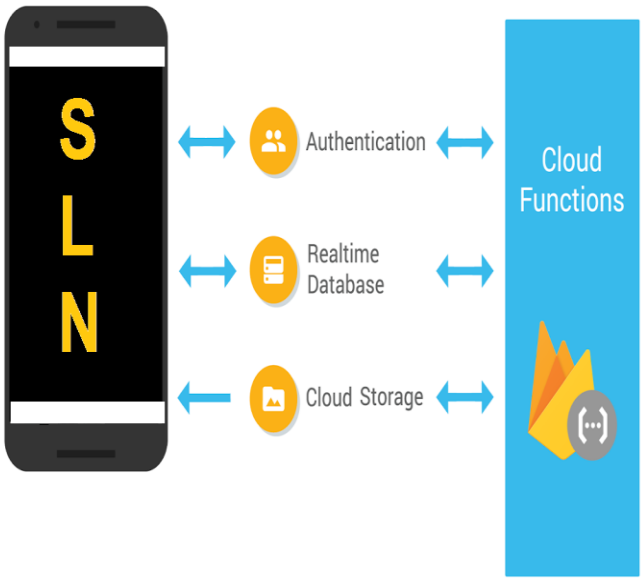

Fig. 2: System Architecture with Firebase

B) Functional Design

Sign in and Sign up

A new customer should provide the required information about themselves and sign up. Once the customer has signed up, the customer can sign in to view and perform other functions.

View Properties

After the customer signs in, he can view various images and information about the specific plot, flat or villa.

Insert Properties

The Proprietor can keep on adding new properties as and when they are completed construction or on a resale, with adequate details of each property.

Delete Properties

After the property details have been added, they can be deleted by the proprietor once they have been sold.

Search Properties

Customers can search for specific projects or property which they are interested in. This eliminates the hassle of going through unwanted properties.

Feed Back

This module helps the owner to take in customer's views and better develop the business.

Download Broachers

This module saves the time for customers from manually coming and receiving broacher's, instead they can download it from the application.

Contact

This module is designed to contact the owner in various ways and in a simpler manner. This eliminates the middle persons in the business.

C) Data Flow Diagram

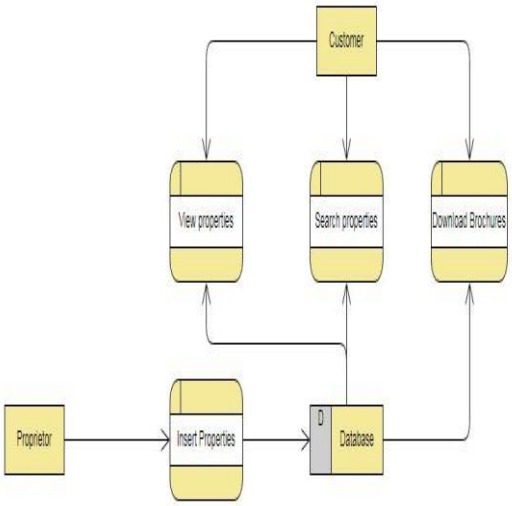

Fig 3: Data Flow Diagram

The above diagram shows the data flow of the application, the proprietor inserts the properties into the database whereas the customers on the other side can view the properties and download the brochures.

D) Activity diagram

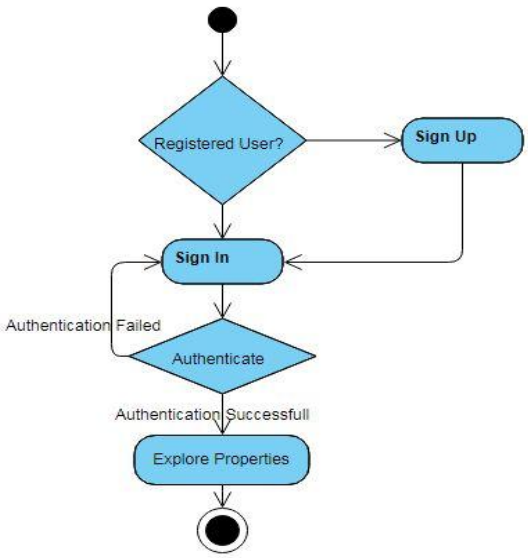

Fig 4: Customer Activity Diagram

Ones the user opens the application, if the user is registered, the user can directly Sign in or else the user needs to Sign up and then Sign in. The user is authenticated and then allowed to explore the properties.

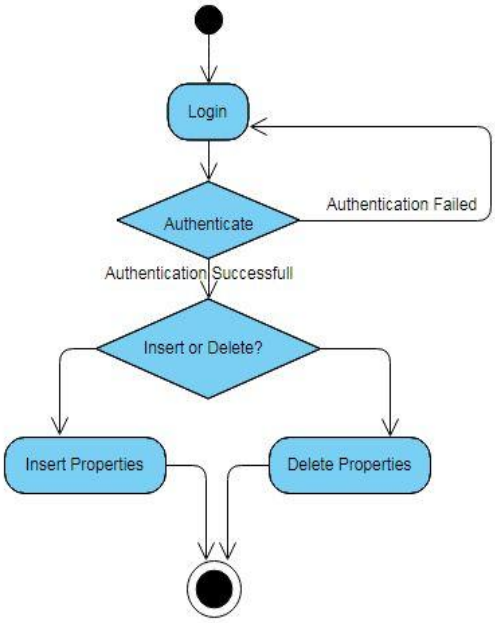

Fig5: Proprietor Activity Diagram

The proprietor needs to login and then has a choice between weather to delete or insert properties. Each of the two choices will take the proprietor towards a separate and unique activity.

E) Product Perspective

SLN PROPERTIES android project is developed for those who are searching for Flats/Houses according to their criteria or near by location. In a fast growing city like Bengaluru, Real Estate is a booming platform. Proprietor can post the available Flats/Houses on the application with complete details about property and other important information. Customers can visit the application, search for property based on specific range or need, sort based on amount. This application eliminates the middle persons who cause fraud deals and their charges by creating a direct contact with the owner itself. Customers can download the PDF of the available broachers which removes the hassle of visiting the place in person and receiving the broachers manually. Customers can also send feedback.

F) Product Functions

- Sign In and Sign Up
- Insert Properties
- View Properties
- Search Properties
- Delete Properties
- Feed Back
- Download Broachers
- Contact

G) User Classes and Characteristics

People looking for new or resale flats are normal users with basic knowledge of how to use a mobile device or a smart phone. Proprietors can interact with Customers using a smart phone via various platforms like calling, messaging and Emails.

H) Operating Environment

The operating environment for this application is an android smart phone with minimum screen size of 4 inches for better visualizations. The users of this application must have a smart phone with operating system version of Marshmallow or above. Users of this application must have internet connection enabled.

Design and Implementation Constraints

The following might the challenges faced during the design and implementation of the project.

Hardware Limitations: The minimum hardware requirement for the system is 8 GB of Ram and a 4GB hard-disc drive space for the Android Studio to run faster and smoothly.

Software Limitations: Unknown errors may occur during development.

Investment Limitations: Many more functionalities and a much more powerful application can be developed depending on the investment.

IV. RESULTS AND ANALYSIS

a) Introduction Activity

Fig 6: Introduction Activity

The interface of the Introduction Activity is shown in the above figure, it is just a splash activity to load the app initialization in background, and check the internet connection is established or not.

b) Customer or Proprietor

Fig 7: Customer or Proprietor Activity

The interface of Customer or Proprietor Activity .Here the Customers need to click on CUSTOMERS button to Sign In or Sign Up and the Proprietor need to click on PROPRIETOR button to Sign In.

c) Customer Sign Up and Sign In

Fig 8: Customer Sign Up Activity

Fig 9: Customer Sign In Activity

The above figure 8 and 9: The interface of Customer Sign Up Activity (left). Here Non Registered customers need to Sign Up by providing the required details and then Sign In securely. The interface of Customer Sign In Activity (right). Registered Customers can specify their registered phone number and password to log in securely.

d) Flat Insert

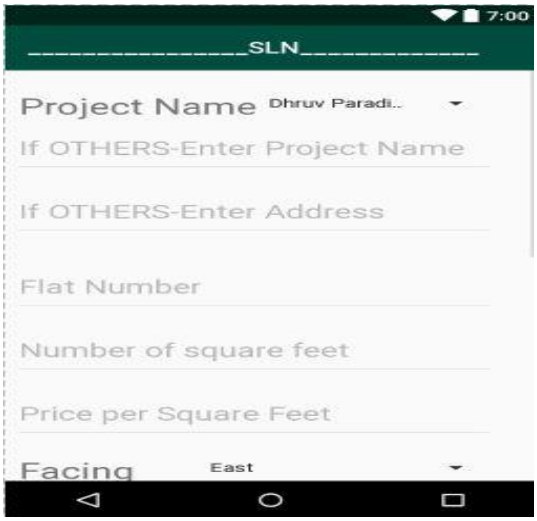

Fig 10 a): Flat Insert Activity

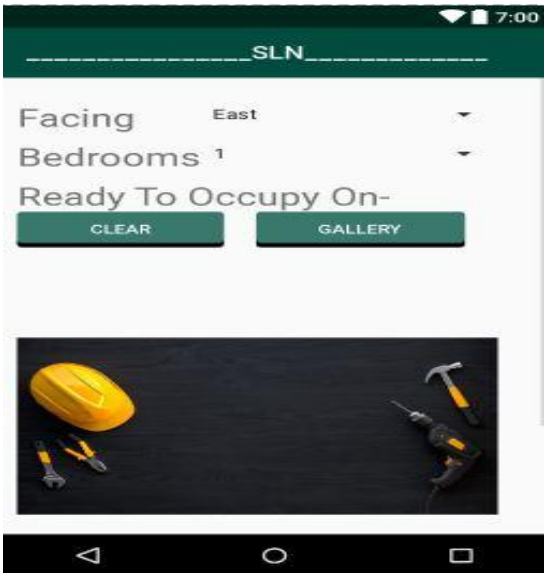

Fig 10 b): Flat Insert Activity

The above figure 10 a) and 10 b) The interface of Flat Insert Activity. After the proprietor has successfully logged in. Proprietor can add new properties by filling in the required details of the properties which will be saved on the database and displayed for the customers.

e) Brochures Download Activity

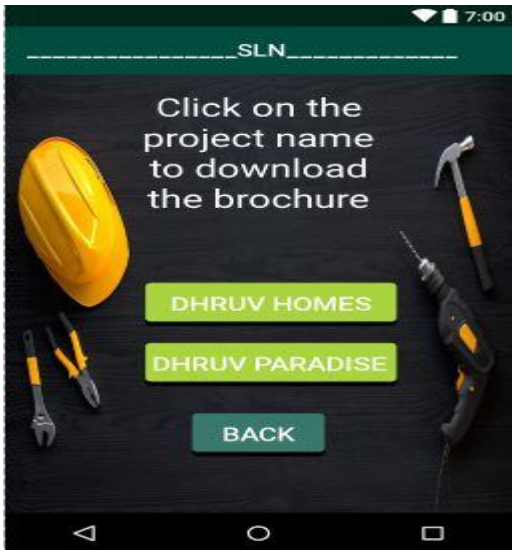

Fig 11: Brochures Download Activity

The interface of Brochures Download Activity. Here Customers can download the brochures in pdf format onto their android devices by just clicking on the project name.

f) Contact Activity

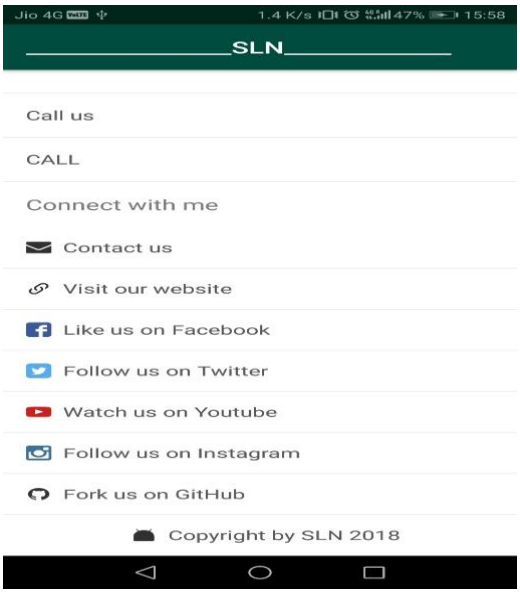

Fig 12: Contact Activity

The interface of Contact Activity. Here Customers can contact the Proprietor via various methods depending on which method is more convenient to the customer.

V. CONCLUSION

The MSM application using android for SLN constructions android application brings together all the features like Customers can sign in and sign up, they can download brochure of the projects in pdf format, allows to get In touch with the owners directly, have a look at the available properties with all the information required to purchase a particular property in detail and to make sure that the services provided by it are secure and efficient. Coming to the Proprietors side, proprietor can insert new properties along with its details. Proprietor can delete the inserted properties with just one click. The existing systems lacked some of the features which this application overcomes. The advantage of the system architecture is allowing users with smartphones connected to the internet to access the app anywhere and anytime to have access to all the features the app offers.

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