CREATING MOBILE DIALER APPLICATION
(Case Study : BOGOR – WEST JAVA)

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ABSTRACT

The phone number is one of the supporting factors are important in running a business. Besides being used to ask for information, the phone number can also be used as a means of reservation and confirmation. Phone number search is difficult and still use the manual search of some communities, especially in the city of Bogor trouble finding the phone number of a business entity. The number of business entities will also make public the difficulty in storing data either manually or electronically. Therefore, we need a dialer program that can provide the mobile phone number data is structured in one application. Mobile dialer is a mobile application that stores data business phone number in Bogor making it easier for people to directly make a phone call without exiting the application. Mobile dialer is built using the Java programming language and platform Android Studio. This application will help people in running and supporting a wide range of activities, although in emergencies

Keywords : mobile dialer , java , android studio , the phone number.

1. INTRODUCTION

Rapid development in mobile technology has encouraged people entered the era of digitalization . Current mobile devices , especially smartphones are very helpful in presenting information quickly and efficiently . Besides its small size , light weight and portability make the smartphone the right choice for the public especially those requiring high mobility in large cities . Many things in life aspect that using mobile technology such as mobile banking , mobile advertising , mobile payment and other.

The idea of making mobile dialer application is due to the number of complaints in the search for contact information phone number hotels , airlines, restaurants or hospitals that require fast and precise searches . Search through the manual takes a long time because of the many phone numbers must be sought and examined again so that no wrong doing such a phone connection . While searching through Google Search, the phone we use must have a quota for internet access and a phone number listed is not necessarily the number that we are looking for.

Mobile dialer application is built using the Java programming language and uses the latest Android platform Studio . The advantages of this application is that users can directly make a call to the phone number without having to exit the application and no internet quota.

Problems that can be identified include: difficulty finding the phone number of business entities in Bogor both in normal circumstances and emergencies , a lack of effective data search contact phone number using the phone book for the phone book is quite thick and requires a long time to search, the search through Google Search less effective because it requires a quota and the network signal is not

stable and the destination phone number is not used or a business entity had to replace his phone number.

In the design of mobile dialer application is necessary restriction to prevent difficulties arising at the time of making the application. These limits include: use within a business entity registered only in the Bogor region except the category of transport and food service 24 hours for using call centers , mobile dialer application is designed in the form of extension .apk and are not included in the Google Play platform for their license fees to be paid by the developer as well as the agreement is quite complicated , this app is designed for android-based smartphones with minimal version 4.0 (API 14) or also known as android ice cream sandwich.

Based on the background of the problems that have been described can be formulated as follows :

1. How is the public to easily search a contact phone number of a business entity in the city of Bogor quickly and efficiently ?

2. How to make mobile dialer application that is userfriendly , access without quotas and any advantage gained when access it ?

2. PROGRAMMING

The application is built using the Java programming language that can run on various platforms , from the desktop to mobile devices . Programming is also included in Object Oriented Programming (OOP) . There are several versions of the Java programming language , including Java Development Kit (JDK) is a software that is used to make the process of compilation of javacode to bytecode that can be understood and executed by the Java Runtime Environment (JRE) . JRE can be run on Windows operating systems , Mac or Linux . These applications work properly and can be used when playing online games , chatting and other activities on the Internet. Applications

created with the Java language will only run if the computer is already installed in the JRE.

At first Android is a Linux-based operating system , but now it can be operated on Windows operating systems . Android designed for mobile devices such as smartphones and tablet computers , which in 2005 bought the SO . Today, many smartphone manufacturers that embed Android as the operating system such as Samsung , Xiaomi , Sony , LG , Oppo , Motorola , and other . As it grows android has several versions , one of which is Android version 4.0 (Ice Cream Sandwich) released on October 19, 2011 which introduced features unlocked by face recognition (Face Unlock) .

3. THIS RESEARCH METHOD

Bogor is a city in West Java Province , Indonesia, the city is located 59 km south of Jakarta . In the Dutch colonial era , known as the Bogor Buitenzorg which means without anxiety or securely . Geographically , Bogor has a strategic location and proximity to the state capital so as to make the Bogor city that has developed quite rapidly both industry sector , trade, transport , communications and tourism. Many people from outside the region to settle in Bogor because of the close location to Jakarta . By 2015 the population of Bogor 1.03072 million inhabitants , the rapid population growth in the city of Bogor make every people to get something quickly and accurately

High mobility for residents in large cities , making phone especially smartphones become essential requirement in running a business or daily activities . Likewise with the address search by phone number or official business entity with quickly and appropriately . It is necessary for the software to accommodate the need for it . Mobile dialer is an application created to address issues of speed and accuracy in the search for the phone number .

This research method using SDLC (System Development Life Cycle) with waterfall based. SDLC is not only

important for the application development process , but also very important for the maintenance of the application itself . Roger S. Pressman (1992 : 24) This model breaks down into six stages , namely : System Information Engineering and Modeling , Software Requirements Analysis , Design , Coding , Testing / Verification and Maintenance . It would also require flowchart to start making applications for mobile dialer.
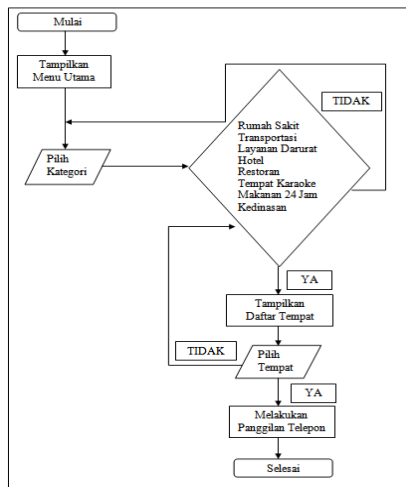

Figure 2. Flowchart Mobile Dialer Application

3.1   Analysis and Design System
a.   Functional Analysis

The use of mobile devices make people often spend time on a smartphone or tablet computer. The difficulty of getting the phone number of a business entity either in normal circumstances or emergencies make people need a mobile application that has a list of phone numbers of services that exist in an area.

b.   Non-Functional Requirements Analysis

To be able to create applications that can actually function as a good and thorough needed hardware and software that has the following specifications: Application required hardware Notebook Lenovo G400, 2 GB RAM Hard Disk 500 GB, Memory VGA 734 MB, VGA Intel Graphics HD, Android-based Smartphone, USB cable while the software yagn needed is Microsoft Windows 8 64-bit, Java

Development Kit version 7, Android Studio version 1.5.1, Android software Development Ki, Smartphone Driver, Emulator Genymotion, USB Debugger and Microsoft Office 2010.

3.2   Modeling System
is a simplified form of an element and very complex components for easy understanding of the information needed . Modeling system used in the design of this application is the Unified Modeling Language (UML) . UML diagrams used are Use Case diagrams and activity diagrams .
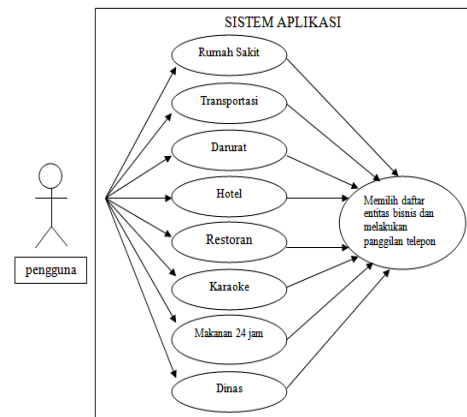

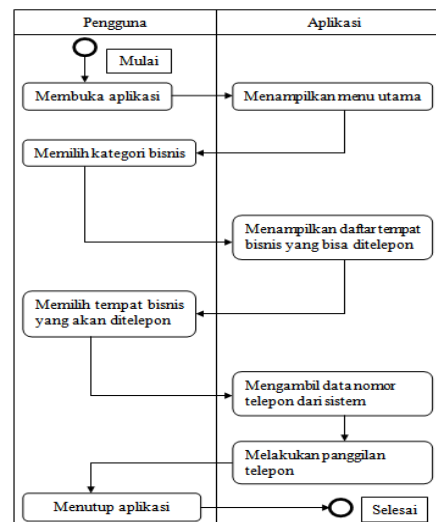Figure 3. Use Case Diagram Mobile Dialer Application

Figure 4. Activity Diagram Applications Mobile Dialer

3.3   Draft Interface
The user interface is user friendly application created consisting of :

a. Display the main menu interface , the initial view when the user opens the mobile dialer application . Users will see the icons of each business category that lists the names of business entities registered in the system
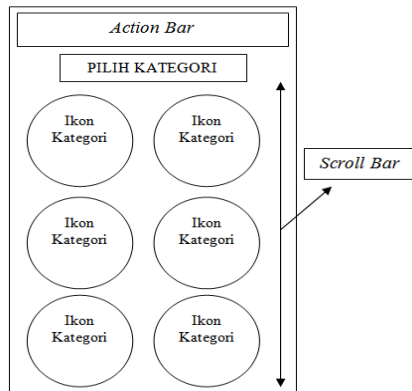

Figure 5. User interface Main Menu

b. Display the list of business entities , is to see when users press the icon image category will display a list of business entities from each respective category. Users just simply a click on the list, then the system will make a phone call directly
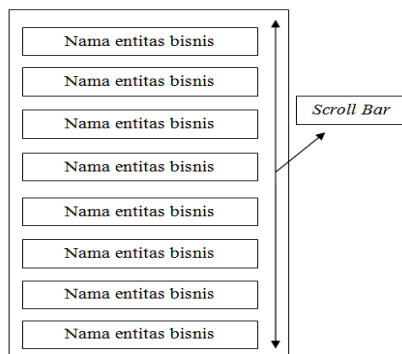

Figure 6. Display Interface Business Entity List

3.4 Implementation Interface

a. The main menu display

Figure 7. Main Menu Mobile Dialer Application
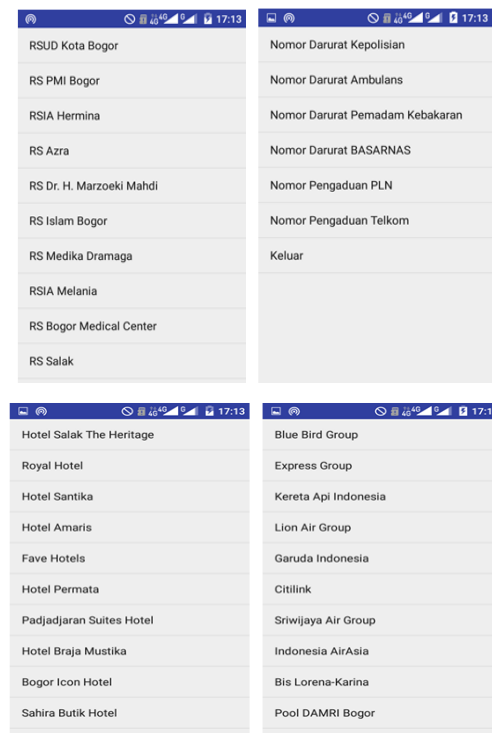
b . Display the list of business entities

Figure 8. List of Entities Business Applications Mobile Dialer

c . Display telephone calls

This display appears when the user has chosen one of a list of business entities that will be called. This display is a display of phone calls from the Smartfren Andromax Ec , any smartphone must have a different view of phone calls.
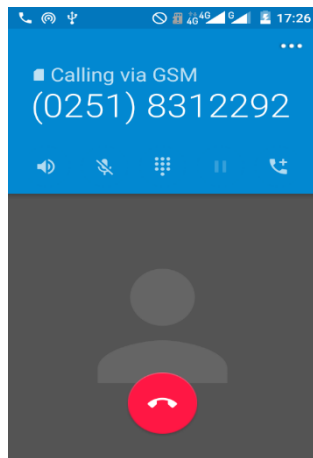
Figure 9. Display Phone Calls from Smartfren Andromax Ec

3.5 Testing Systems

Tests conducted on Smartfren Andromax Ec and Lenovo A390 . Previous first perform testing on Genymotion emulator which serves as a virtual device on the notebook. System testing is performed to determine whether the application has been made already running well and properly and there is no problem on that application . The following comparison table :

Table 1 Table Testing In Emulator Genymotion

No.	Activity In Test	Yes	No	Information
1.	Open an application	√		
2.	Displays the main menu	√		
3.	Showing the category icon and the name of the category	√		
4.	Pressing picture category icon next to the activity	√		
5.	Display a list of business entities	√		
6.	Make phone calls directly		√	Because the emulator can not call

Table 2. Table Testing In *Smartphone* Lenovo A390 and Smartfren Andromax Ec

No.	Activity In Test	Yes	No	Information
1.	Open an application	√		
2.	Displays the main menu	√		
3.	Showing the category icon and the name of the category	√		
4.	Pressing picture category icon next to the activity	√		
5.	Display a list of business entities	√		
6.	Make phone calls directly	√		It takes the pulse to call

4. Conclusion

Based on the stage and the analysis that has been done then the conclusion is :

a. Mobile dialer application can help the community find a contact phone number of business entities in the city of Bogor efficiently , quickly and accurately without the help of a search engine or manual phone book .

b. This application has the advantage that it can directly make phone calls without having to exit the application .

c. This application can collect several business entities in Bogor City into a structured application neatly and in a way that is easy to use and user friendly.

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