MINI PROJECT

(2020-21)

Building and Deployment of Android Application

Remote Mobile Phone Access

MID-TERM REPORT

Institute of Engineering & Technology

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ABSTRACT

This project is about making a web application which has multiple uses when you have misplaced your phone. We will make an application with the main purpose of having a phone contact reach your phone even when you don't have your phone with yourself. The application will provide a platform which will help you to send a text message on your phone where you will write the name of your contact as saved in the database of your phone. Then the application will revert with the phone number of that person and thus you will be able to access the contact without even your phone being there.

The second use case will be to change the audio profile setting of your phone with just the application on some other phone and then you'll be able to find your phone with the sound being on.

The third use case will be to send the exact location of your phone through the web application when used on some other device. Then you won't be having any trouble in finding your phone like in the previous times.

It is also possible to lock your phone through this application whenever you have forgotten to do so.

We aim to further provide extra security to the web application in which there will be a passcode to access your application from some other device which would ensure that there is no one who would interfere in your security and as we all know that any application is not good enough when you don't have proper security in it.

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INTRODUCTION

1.1. General Introduction

To build an offline android application where people can have access to multiple features on their mobile phone without even having it with them at that moment. Those features include their contact list, their audio profile settings, their lock screen and even the phone's current location.

It is an offline android application where just by having the application on your phone and some other phone you can have access to some of your phone's features. As we know that sometimes when we do not have our phone with us, there are a load of things which we want to do with it and some of them are really important sometimes. Thus this application was necessary to build up and the icing on the cake is that it is completely offline.

This application firstly focuses on the main aim which was to access the phone's contact list which works as when you message a contact's name through this application to your phone, there will be a password which you will have to enter and then the contact's details will automatically be sent to you without any use of internet. There are many more uses which we aim for the application to fulfil like changing the mobile audio profile and even lock the phone when it isn't close enough. The only requirement will be to have the application downloaded on our phone as well as the phone which is used to do the work.

1.1.1. What is an Android application ?

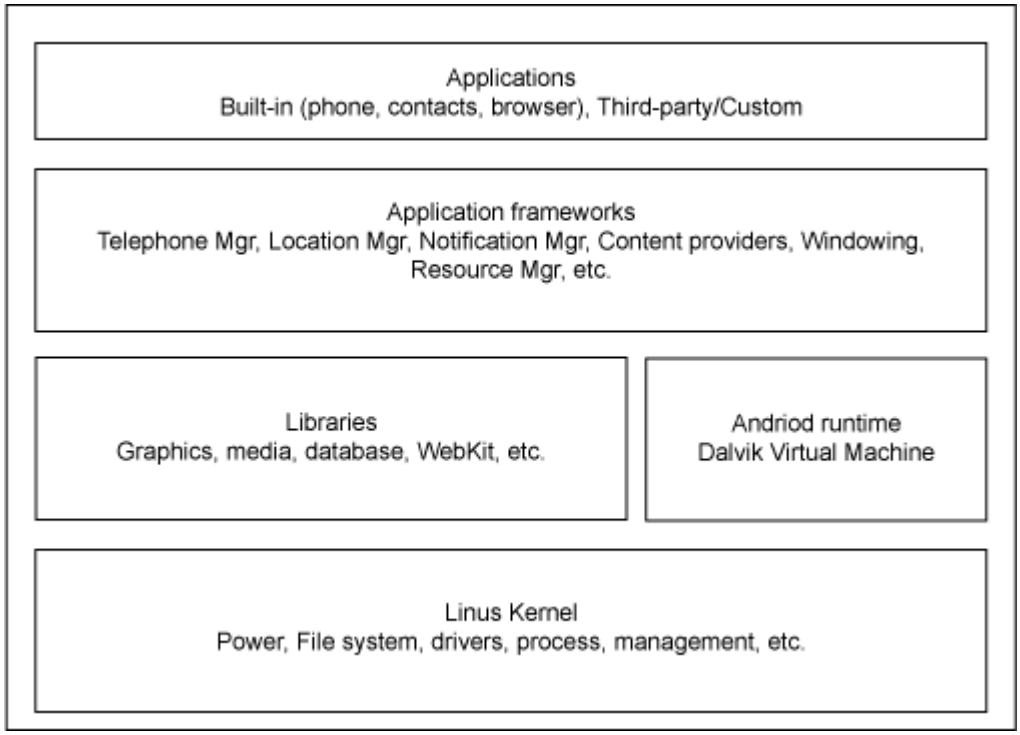
Android applications are organized as a collection of components. There are four types of components, and applications can be composed of one or more of each type. A dynamic instance of a component corresponds to an application subset that can be executed independently of the others. So, in many ways, an Android application can be thought of as a collection of interacting components. The components of an android application are as follows:

•Activities. User-facing components that implement display and input capture.
•Services. Background components that operate independent of any user-visible activity.
•Broadcast receivers. A component that listens for and responds to system-wide broadcast announcements.
•Content providers. Components that make application data accessible to external applications and system components.

1.1.2. How does an android application works ?

Android is a vast software system and it has been developed in a modular manner by using layers for it's specific functionality on top of the Linux kernel to speed up development and still be open source.

Various layers of Android are shown in the image below:

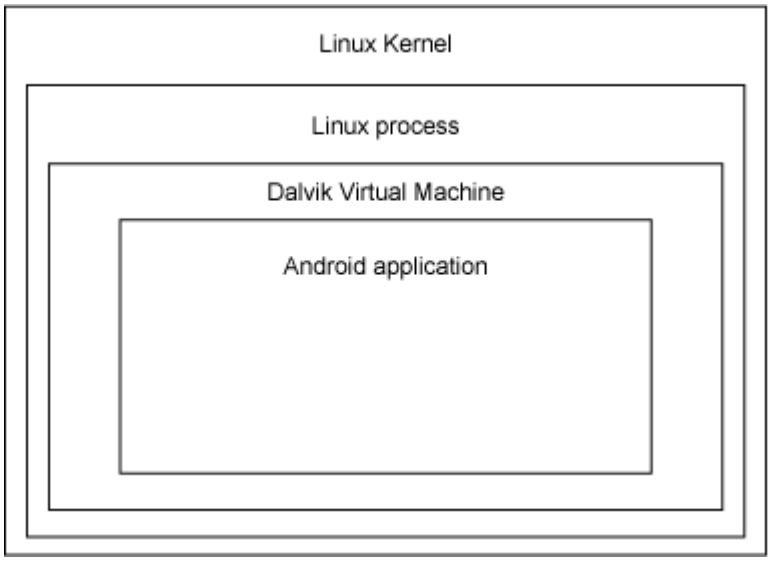


Linux Kernel – The lowest layer of the Android framework is the Linux kernel for low level hardware interfaces.

DVM / Libraries – Java programming language, is used for developing Android applications which are executed on a virtual machine (VM) instead of JVM and it is the Dalvik Virtual Machine (DVM). Every Android application runs in an instance of the DVM.

Applications – They are Android applications which are either custom developed or are provided with Android.

The layering is illustrated as:



Android Application Framework – An Android application is actually a package of different components and each is tasked for a specific aim. It is not a executable as in case of Windows and has the following

Intents – It is usually an 'action' instruction and is a Java package name prefixed as 'action.COMMAND_NAME.'. IThey are actually events to which the application will reply to.

Services – They run in the background and persist even though they might not always be on top of the screen.

BroadcastReceivers – They alert applications of events in the device.

Activity – It is the part of application with which the user interacts with.

ContentProviders – They enable data sharing amongst Android applications.

1.2. Area of Computer Science

Here in this project we have touched the area of Computer Science, Android application in which we have created an offline Remote Phone Access application using Android Studio and programming languages like Java.
Many of the largest technology companies maintain large scale android applications, providing services such as social media, search, advertising and video and audio streaming.

1.3. Hardware Requirement

The requests of the hardware for the web application are as followed:

1. 64 bits laptop or desktop.
2. An Android Phone.

1.4. Software Requirement

To access this android application, we need to have an android mobile phone only. Using this mobile phone we can have all the benefits of this mobile application.
For the server side we need:
An android phone which meets the specifications:

1. Android OS
2. At least 2 GB RAM and 150 GB Free Space
3. Java Compiler Installed

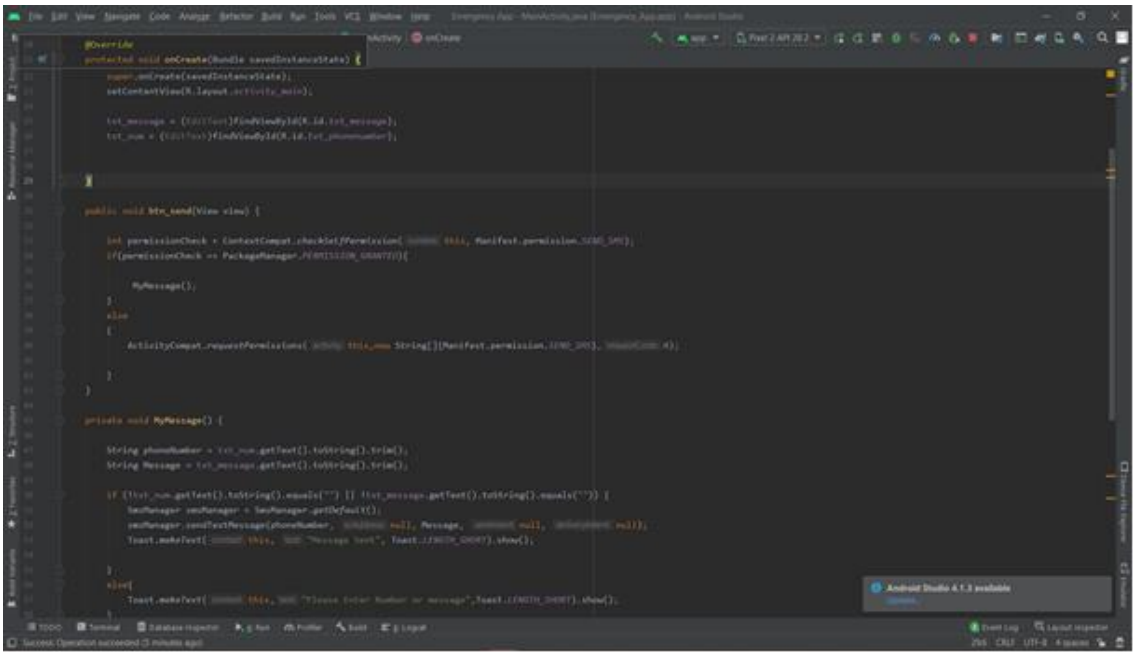
OBJECTIVE

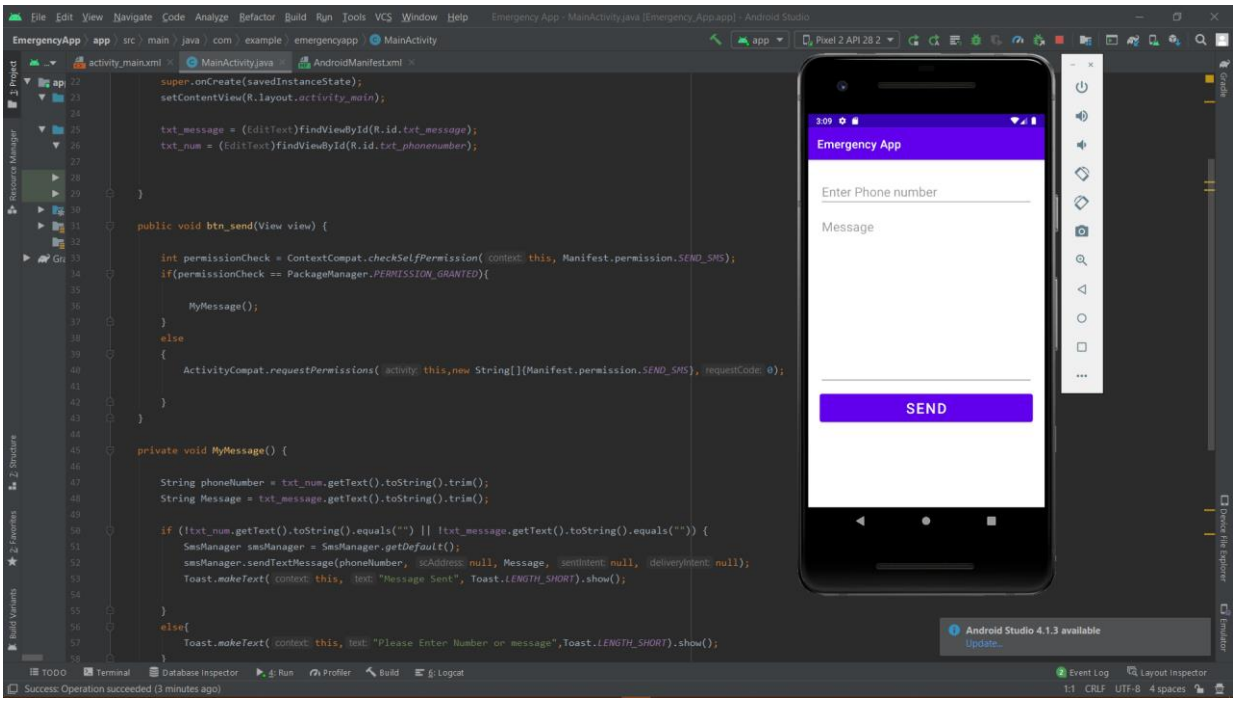
The main objective of this project is to create an android application through which people can have access to some of the features of their phones without their phone actually being there with them close by. It will be developed by android studio and the programming language used will be Java.

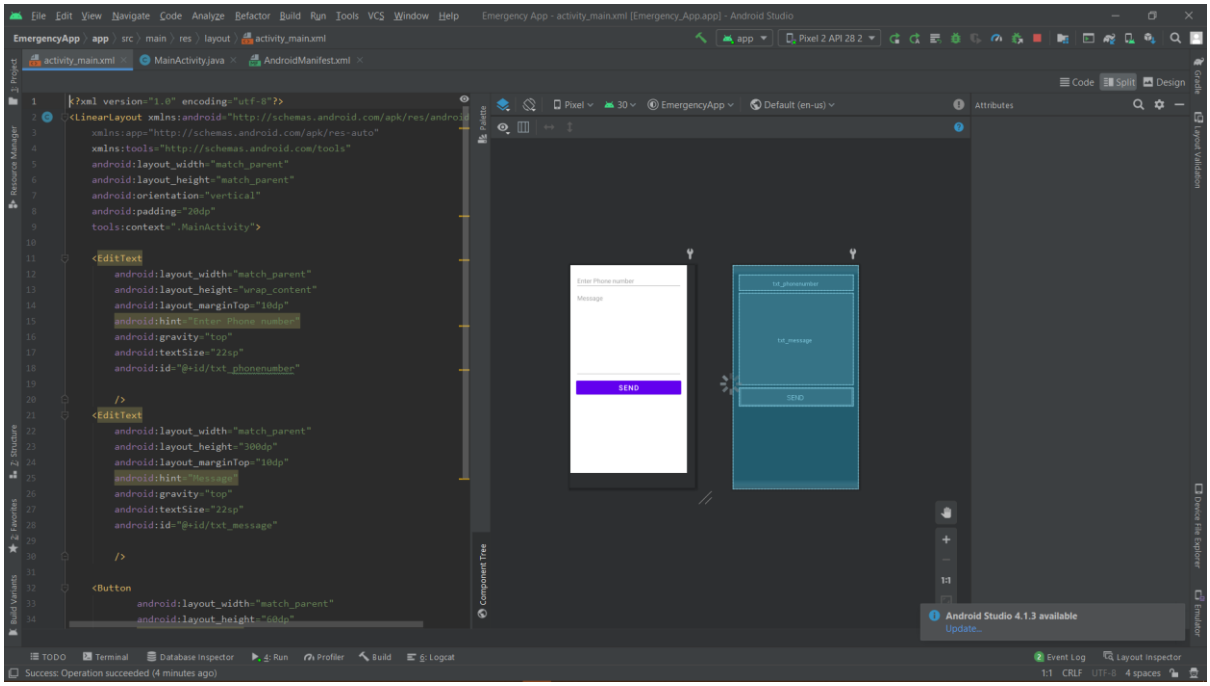
PROGRESS

So-far we have already developed a simple messaging android application by using android studio and by programming through Java language. This is our first step in building this android application, we plan to add different features to this application so that it fulfils all the needs of our application and thus makes our project successful. This application is currently capable of sending your message to a person. Also, we have created our database on MongoDB in which we will storing the contacts of the user.

SCREENSHOTS




Emergency App
Enter Phone number
Message
SEND


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Emergency App - activity_main.xml [Emergency_App.app] - Android Studio
EmergencyApp app src main res layout activity_main.xml
app
Pixel 2 API 28 2
activity_main.xml
MainActivity.java
AndroidManifest.xml
Code Split Design
Pixel 30 EmergencyApp Default (en-us)
Attributes
<?xml version="1.0" encoding="utf-8"?>
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xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
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android:layout_height="match_parent"
android:orientation="vertical"
android:padding="20dp"
tools:context=".MainActivity">
<EditText
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android:gravity="top"
android:textSize="22sp"
android:id="@+id/txt_phonenumber"
/>
<EditText
android:layout_width="match_parent"
android:layout_height="300dp"
android:layout_marginTop="10dp"
android:hint="Message"
android:gravity="top"
android:textSize="22sp"
android:id="@+id/txt_message"
/>
<Button
android:layout_width="match_parent"
android:layout_height="60dp"
Enter Phone number
Message
SEND
txt_phonenumber
txt_message
SEND
Android Studio 4.1.3 available
Update...
TODO Terminal Database Inspector 4: Run Profiler Build 6: Logcat
Event Log Layout Inspector
Success: Operation succeeded (4 minutes ago)
1:1 CRLF UTF-8 4 spaces

REFERENCES

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