

Health-X Medicine Reminder

B. E. Information Technology

By

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1. Introduction

1.1 Project Description

People often tend to forget to take medication on time. Taking medication is occasionally frustrating, but ultimately necessary. For this purpose we have proposed to develop an app which can make the experience a little easier. In our app one needs to input the schedule for taking the medicines. From there, the apps remind one to take pill at the proper time. The user can also search for nearby Hospitals and medical stores via the application and is provided with health tips.

1.2 Need of Application

It is a native android application meant to aid the forgetful and busy with remembering to take their daily medications. Designed for users to keep track of their medication schedule.

The application would allow the user to store pill objects and multiple reminders for those pills. The Application will locate the list of nearby medical shops. The Application would provide health tips and first aid tips.

1.3. Problem Statement

The application will be developed to notify the user when to take his/her medicine at a scheduled time and will also provide the user nearby medical stores location along with some first aid and health tips.

2. Literature review

2.1. Literature review

Sr.no	Title of the Paper	Review	Analysis
1	An android based medication reminder system based on OCR using ANN.	The system sets the reminder in the built in calendar application of the app. The reminder reminds the person of his/her medicine in take schedule.	The System gives reliable results for reminding the user although it uses complicated functions of OCR and ANN.
2	Medication reminder and healthcare-an android application.	The patients will get the schedule of medicine intake time with medicine description, starting and ending date of medicine, notification through message or email. The patients can also search doctors' disease wise easy searching facility to the users and saves the time.	The application gives reliable reminders, good user interface, nice user experience and it supports many new features supporting medication adherence.
3	Android Application for Emergency Medical Assistance (Doctors Nearby).	This project represents a solution that will be useful in emergencies. The situations may include accidents, natural or human-made calamities. The android app has facilities such as storing user details and the contacts of the receiver in emergencies.	In case of emergency when the user presses the "emergency button" present in the application, a list of nearby hospitals and clinics are displayed on the screen of the cell phone, using this information the user can select the desired hospitals.

2.2 Gaps Identified

- 1] need to improve the accuracy of character recognition. There should be a facility of adding names & dose of medicine should be included in the reminder.
- [2] overall performance of the system should be improved; the user interface isn't user friendly.
- [3] no reminder for medicines.

3. Proposed Methodology

3.1 Problem definition

The application will be developed to notify the user when to take his/her medicine at a scheduled time and will also provide the user nearby medical stores through location api

3.2 Proposed Solution

The User will enter the details of medication according to his/her prescription into the application. The Application will notify or alert the user according to the time and date of medication. The user can also locate the medical stores to stock up their medicines. The proposed app would be developed on android because android has a larger market share.

3.3 Scope of Application

The application has been designed in such a way that it would be easy to use by the majority of the users. The users will be able to enter personal and prescribed medicines in the application. The users will be reminded of their medications through notification at the correct time.

4. Requirement Analysis

4.1. Target audience

People who have trouble keeping track of their medicine and also taking their medication on time.

4.2 Features required

- Flexible scheduling- Can schedule notifications of medication for any time of the day.
- Compliance reminders and alerts- Alert user or patient of the medication and store multiple reminders for the user.
- Location of nearby stores- Locate the nearby medical stores to buy medicines and continue the medication for the patient.
- Health tips- Provide a variety of health tips to the user.

4.3. Hardware and software requirements

a) Software requirements –

1. IDE Android Studio
2. Operating System Windows 7 and above
3. Database Sql08

b) Hardware requirements –

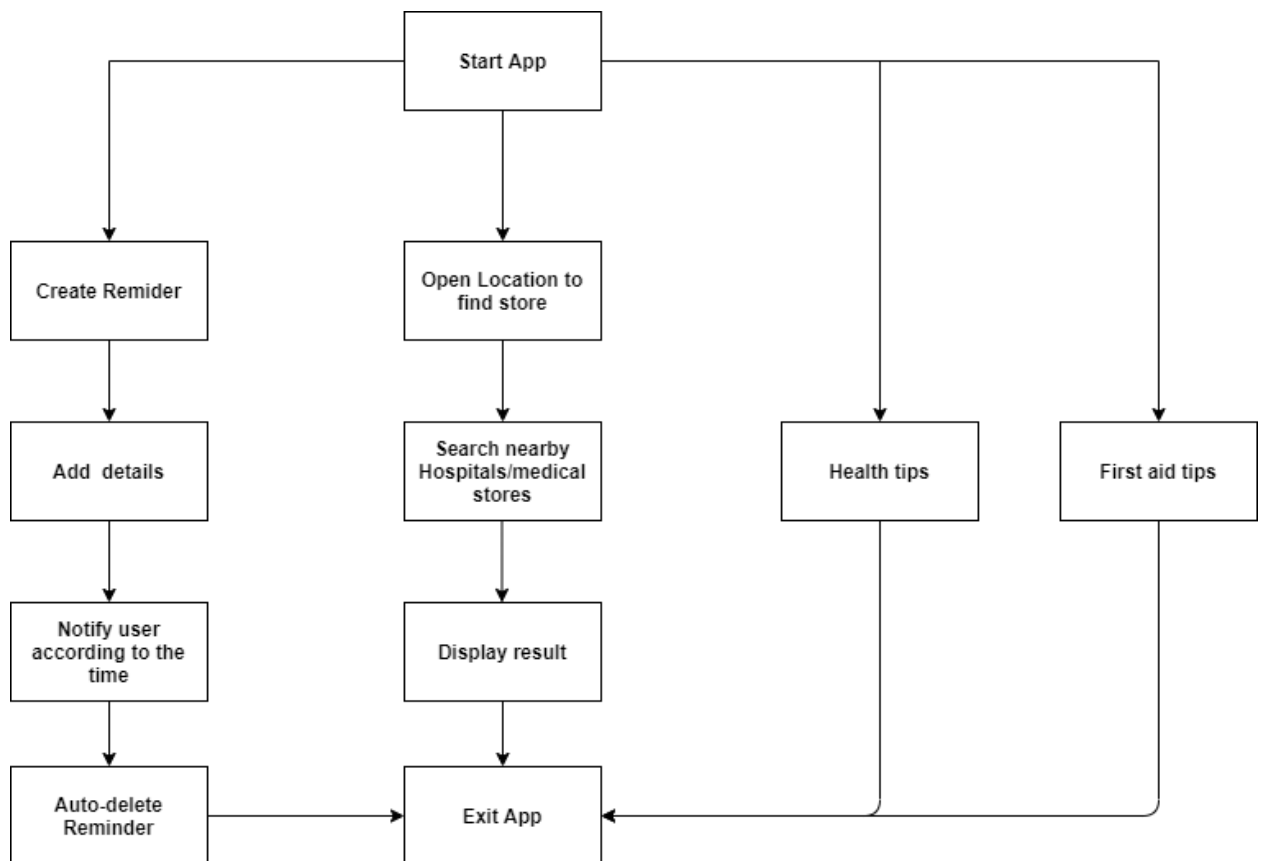
1. RAM 8gb ram
2. Intel processor I5 8th gen above
3. CPU 1.4 ghz
4. Internet connection Stable internet connection

5. Prototype Description

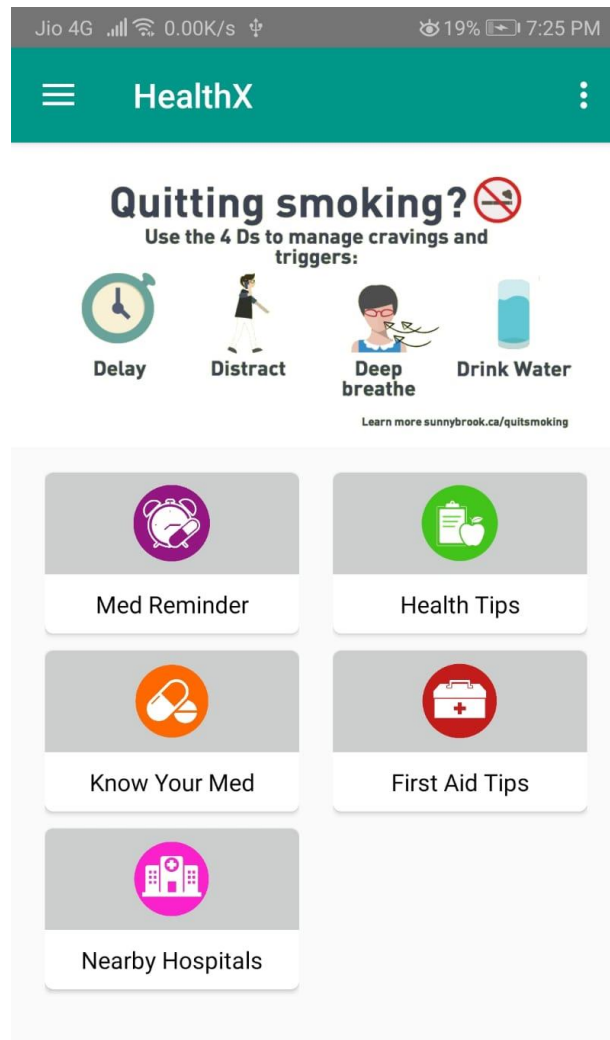
The User will enter the details of medication according to his/her prescription into the application. Then the application will notify or alert the user according to the time and date of medication. The user can also locate the medical stores to stock up their medicines and locate hospitals in case of emergency. The Application would provide health tips and first aid tips.

6. Design

6.1 Architectural Design



6.2 User interface design



7. Implementation

7.1 Working of project

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.v4.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/drawer_layout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:fitsSystemWindows="true"
    tools:openDrawer="start">

    <include
        layout="@layout/app_bar_main"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />

    <android.support.design.widget.NavigationView
        android:id="@+id/nav_view"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="start"
        android:fitsSystemWindows="true"
        app:itemIconTint="@color/drawer_item"
        app:itemTextColor="@color/drawer_item"
        app:menu="@menu/activity_main_drawer"
        />

<!--app:headerLayout="@layout/nav_header_main"-->
</android.support.v4.widget.DrawerLayout>
```

Main activity.java

```
package com.cbitss.careforu;

import android.app.ActivityManager;
import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.net.Uri;
import android.os.Build;
import android.os.Bundle;
import android.support.annotation.RequiresApi;
import android.support.design.widget.NavigationView;
```

```

import android.support.v4.view.GravityCompat;
import android.support.v4.widget.DrawerLayout;
import android.support.v7.app.ActionBarDrawerToggle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.util.Log;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.ImageView;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity
    implements NavigationView.OnNavigationItemSelectedListener ,
    FragmentReminder.OnFragmentInteractionListener
    ,Nearbyhosp.OnFragmentInteractionListener,

    FirstAidTips.OnFragmentInteractionListener,Knowmed.OnFragmentInteractionListe
ner,AboutUs.OnFragmentInteractionListener

    ,HealthTips.OnFragmentInteractionListener,Home.OnFragmentInteractionListener,
    FirstAidTipsHome.OnFragmentInteractionListener
    ,FirstAidOffline.OnFragmentInteractionListener {

    public ImageView iv;
    TextView tv;
    @RequiresApi(api = Build.VERSION_CODES.LOLLIPOP)
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Bitmap bitmap =
        BitmapFactory.decodeResource(getResources(),R.mipmap.ic_launcher);

        setTaskDescription( new
        ActivityManager.TaskDescription("HealthX",bitmap));

        Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
        setTitle("HealthX");

        NavigationView navigationView = (NavigationView)
        findViewById(R.id.nav_view);

        Intent intent = getIntent();
        if(intent.getExtras()!=null)
        {
            if(intent.getExtras().getInt("id")!=0)
            {
                int i = intent.getExtras().getInt("id");
                String s=intent.getExtras().getString("text");
                View headerView
                =navigationView.inflateHeaderView(R.layout.nav_header_main);

                iv=(ImageView)headerView.findViewById(R.id.nav_imageView) ;

```

```

        tv=(TextView) headerView.findViewById(R.id.nav_tv);
        tv.setText("Hi, "+s);
        iv.setImageResource(i);

        SharedPreferences sp=getSharedPreferences("Shpr",
Context.MODE_PRIVATE);
        SharedPreferences.Editor ed=sp.edit();
        ed.putBoolean("logged",true);
        ed.putString("User",s);
        ed.putInt("imgRes",i);
        ed.commit();
        Home hm = new Home();

getSupportFragmentManager().beginTransaction().replace(R.id.container,
hm).commit();
    }
    else {
        FragmentReminder rm = new FragmentReminder();

getSupportFragmentManager().beginTransaction().replace(R.id.container,
rm).commit();

        SharedPreferences sp=getSharedPreferences("Shpr",
Context.MODE_PRIVATE);
        int i = sp.getInt("imgRes",0);
        String s=sp.getString("User",null);
        View headerView
=navigationView.inflateHeaderView(R.layout.nav_header_main);

        iv=(ImageView) headerView.findViewById(R.id.nav_imageView) ;
        tv=(TextView) headerView.findViewById(R.id.nav_tv);
        tv.setText("Hi, "+s);
        iv.setImageResource(i);
    }

}
else {
    Home hm = new Home();

getSupportFragmentManager().beginTransaction().replace(R.id.container,
hm).commit();

        SharedPreferences sp=getSharedPreferences("Shpr",
Context.MODE_PRIVATE);
        Boolean loggedin=sp.getBoolean("logged",false);

        if(!loggedin)
        {
            CustomDialogClass cdd = new CustomDialogClass(this,
getApplicationContext());
            cdd.show();
        }
        else
        {
            int i = sp.getInt("imgRes",0);
            String s=sp.getString("User",null);
            View headerView
=navigationView.inflateHeaderView(R.layout.nav_header_main);

```

```

        iv=(ImageView)headerView.findViewById(R.id.nav_imageView) ;
        tv=(TextView) headerView.findViewById(R.id.nav_tv);
        tv.setText("Hi, "+s);
        iv.setImageResource(i);
    }
}

DrawerLayout drawer = (DrawerLayout)
findViewById(R.id.drawer_layout);
ActionBarDrawerToggle toggle = new ActionBarDrawerToggle(
    this, drawer, toolbar, R.string.navigation_drawer_open,
R.string.navigation_drawer_close);
drawer.setDrawerListener(toggle);
toggle.syncState();

navigationView.setNavigationItemSelectedListener(this);
}

@Override
public void onBackPressed() {
    DrawerLayout drawer = (DrawerLayout)
findViewById(R.id.drawer_layout);
    if (drawer.isDrawerOpen(GravityCompat.START)) {
        drawer.closeDrawer(GravityCompat.START);
    } else {
        super.onBackPressed();
    }
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is
present.
    getMenuInflater().inflate(R.menu.main, menu);
    return true;
}

@Override
public boolean onOptionsItemSelected(MenuItem item) {
    // Handle action bar item clicks here. The action bar will
    // automatically handle clicks on the Home/Up button, so long
    // as you specify a parent activity in AndroidManifest.xml.
    int id = item.getItemId();

    //noinspection SimplifiableIfStatement
    if (id == R.id.action_settings) {
        return true;
    }

    return super.onOptionsItemSelected(item);
}

@SuppressWarnings("StatementWithEmptyBody")
@Override

```

```

public boolean onNavigationItemSelected(MenuItem item) {

    Log.d("Item:",item.toString());
    // Handle navigation view item clicks here.
    int id = item.getItemId();

    if (id == R.id.nav_medrem) {
        FragmentReminder rm=new FragmentReminder();

getSupportFragmentManager().beginTransaction().replace(R.id.container,rm).commit();

        // Handle the camera action
    } else if (id == R.id.nav_firstaid) {
        FirstAidTipsHome ft=new FirstAidTipsHome();

getSupportFragmentManager().beginTransaction().replace(R.id.container,ft).commit();

    } else if (id == R.id.nav_hosp) {
        Nearbyhosp nh=new Nearbyhosp();

getSupportFragmentManager().beginTransaction().replace(R.id.container,nh).commit();

    } else if (id == R.id.nav_medinfo) {
        Knowmed km=new Knowmed();

getSupportFragmentManager().beginTransaction().replace(R.id.container,km).commit();

    } else if (id == R.id.nav_abtus) {
        AboutUs au=new AboutUs();

getSupportFragmentManager().beginTransaction().replace(R.id.container,au).commit();

    }
    else if (id == R.id.nav_chgname) {
        SharedPreferences sp=getSharedPreferences("Shpr",
Context.MODE_PRIVATE);
        SharedPreferences.Editor ed=sp.edit();
        ed.putBoolean("logged",false);
        ed.putString("User",null);
        ed.putInt("imgRes",0);
        ed.commit();
        CustomDialogClass cdd = new CustomDialogClass(this,
getApplicationContext());
        cdd.show();
    }
    else if (id == R.id.nav_healthtips) {
        HealthTips ht=new HealthTips();

```

```
getSupportFragmentManager().beginTransaction().replace(R.id.container,ht).commit();

    }

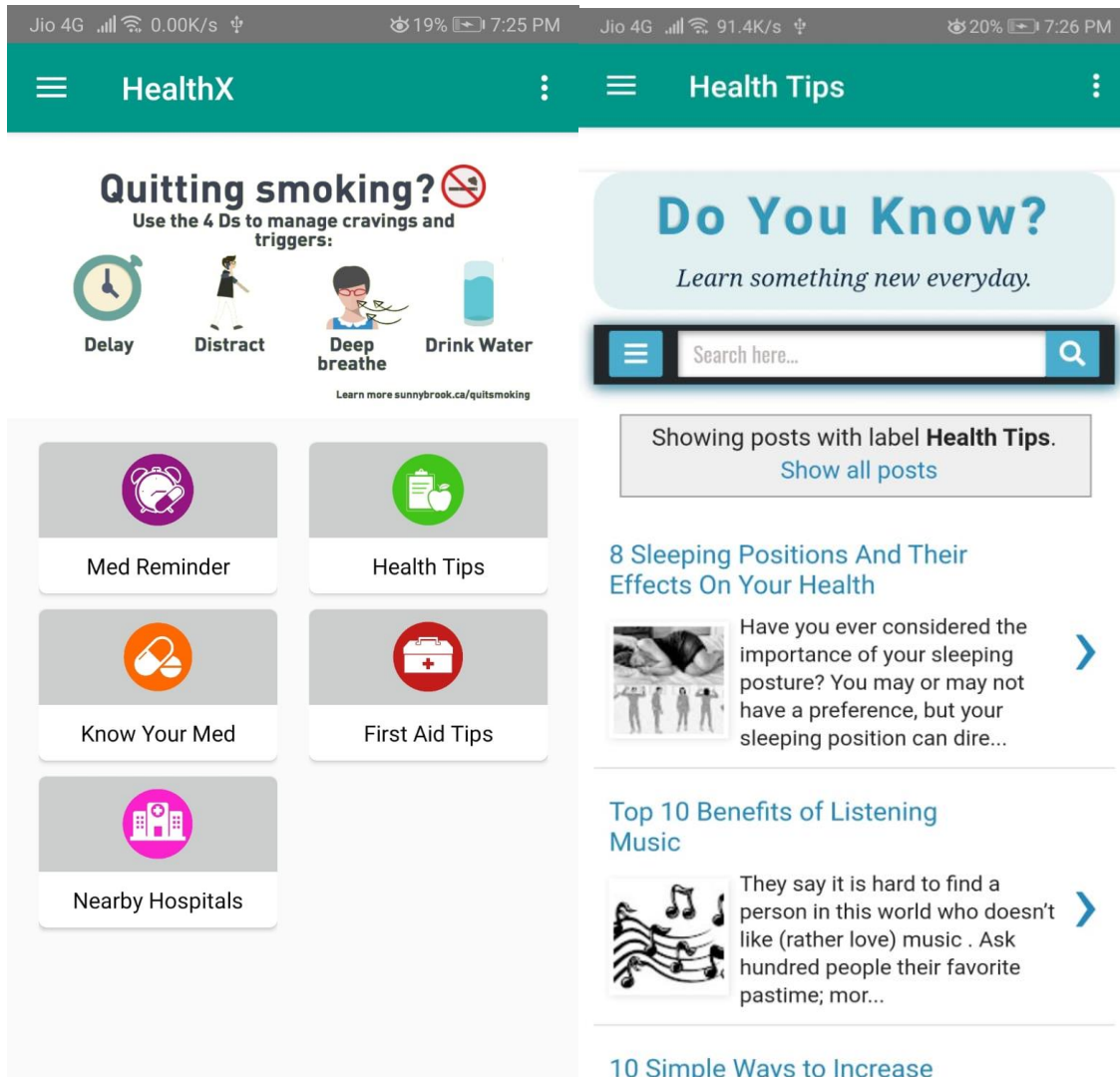
    DrawerLayout drawer = (DrawerLayout)
findViewById(R.id.drawer_layout);
    drawer.closeDrawer(GravityCompat.START);
    return true;
}

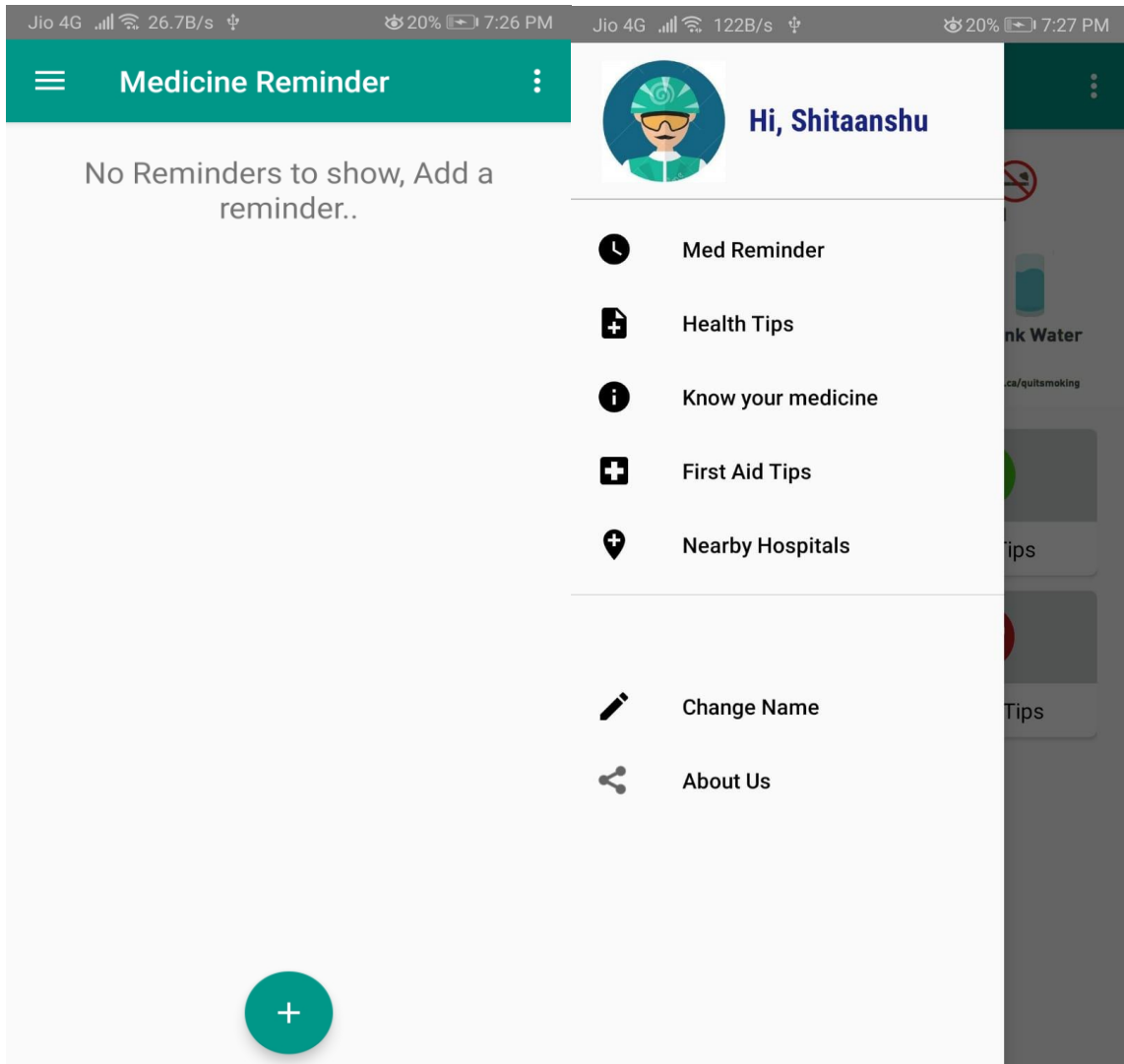
@Override
public void onFragmentInteraction(Uri uri) {

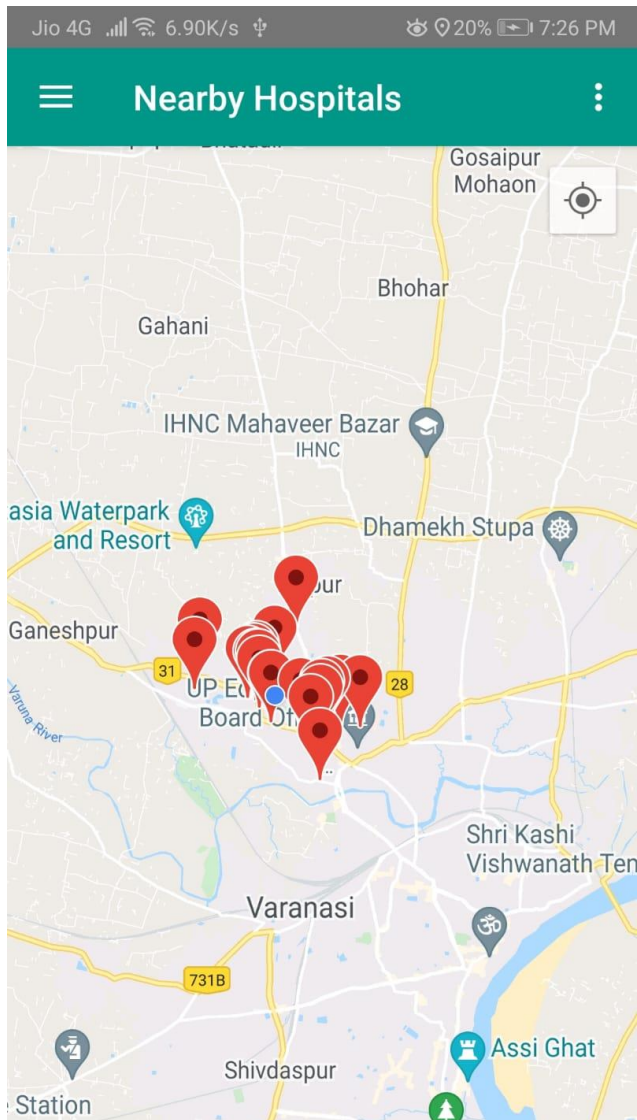
}

}
```


8. Results and discussion







9. Conclusion and Future Scope

We have proposed HealthX- Healthcare app. The main advantages of this application is that it notifies the individual to take his/her medication and provides health and emergency first aid tips. It also provides locations for nearby Hospitals and medical stores. This app would be useful to individuals who forget to take their medicines on time.

Future Scope: -

- Additional features like daily steps calculator can be implemented.
- Virtual Doctors tips can be added for different types of health-related issues.
- Online 24/7 medical help and suggestions.

10. Reference

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[2] Deepti Ameta, Kalpana Mudaliar , Palak Patel, "Medication Reminder And Healthcare- An Android Application". International Journal of Managing Public Sector And Communication Technologies (IJMPICT) Vol.6,No.2,June 2015.

[3] Dhanesh Sharma,Priyanka Dubey, Navin Singh, "Android Application For Emergency Medical Assistance (Doctors Nearby)".International Journal of Scientific & Engineering Research(IJSER)2016.

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