SET – Conestoga College

Mobile Application Development

Assignment 3

Trip Planner

Requirement Adherence Document

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Table of Contents

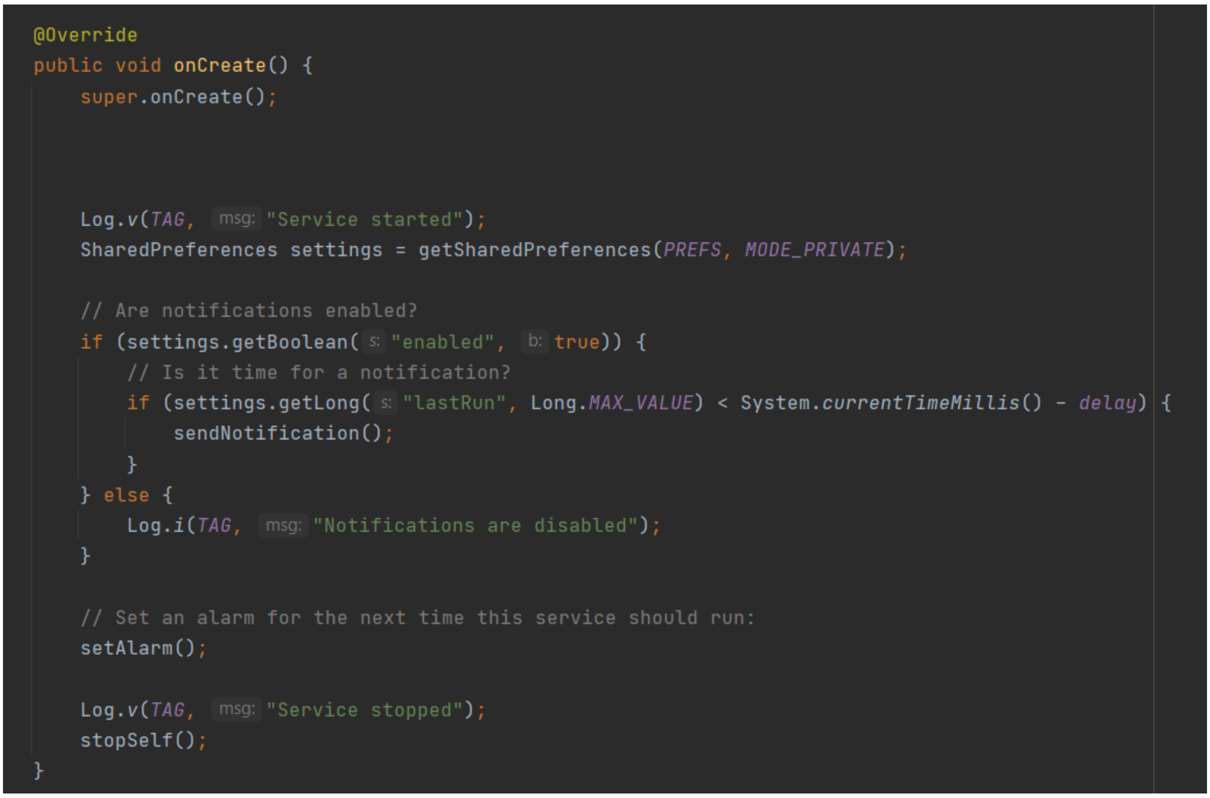
Requirement Adherence (Rubrics Comparison):

Services and Notifications

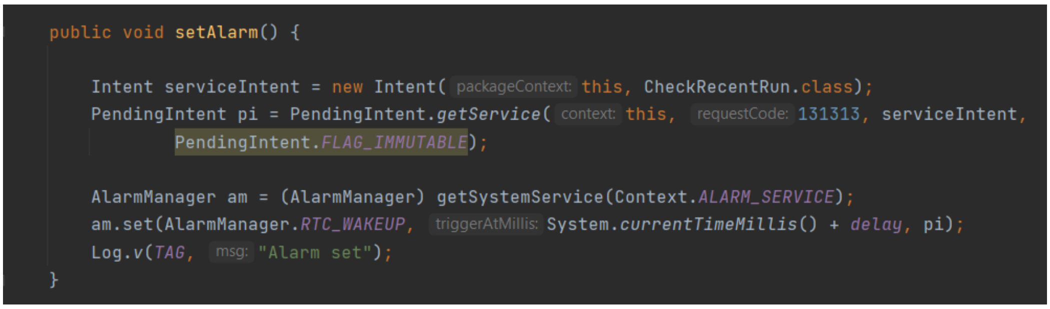
Implementation

- We implemented two services one alarm service and one notification service to pop up the notification.
- All this does is that if user does not have planned a new trip from last 7 days, the user is notified with notification alarm and notification and is suggested to plan a new Trip.

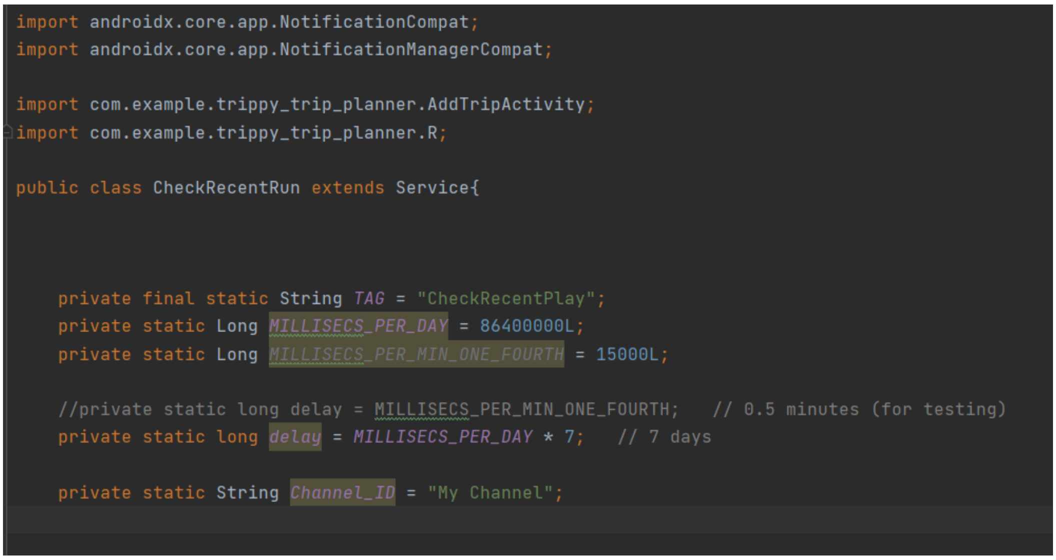
Target Code



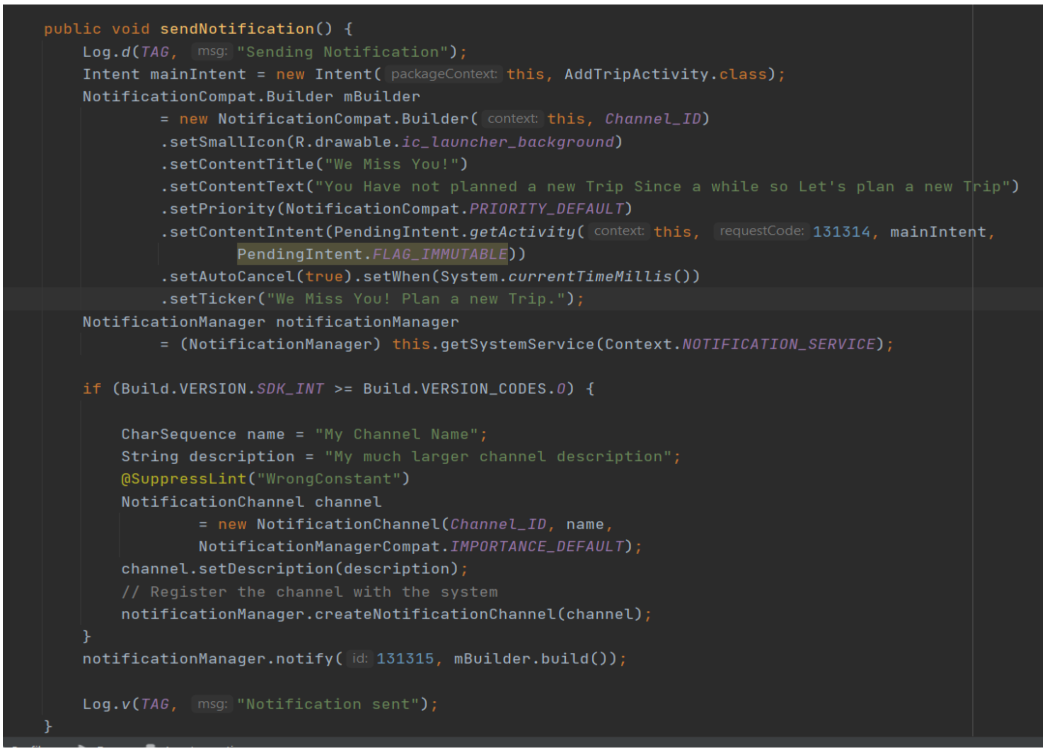
```
@Override
public void onCreate() {
    super.onCreate();



    Log.v(TAG,  msg: "Service started");
    SharedPreferences settings = getSharedPreferences(PREFS, MODE_PRIVATE);

    // Are notifications enabled?
    if (settings.getBoolean( s: "enabled",  b: true)) {
        // Is it time for a notification?
        if (settings.getLong( s: "lastRun", Long.MAX_VALUE) < System.currentTimeMillis() - delay) {
            sendNotification();
        }
    } else {
        Log.i(TAG,  msg: "Notifications are disabled");
    }

    // Set an alarm for the next time this service should run:
    setAlarm();

    Log.v(TAG,  msg: "Service stopped");
    stopSelf();
}
```



```java
    public void setAlarm() {

        Intent serviceIntent = new Intent( packageContext: this, CheckRecentRun.class);
        PendingIntent pi = PendingIntent.getService( context: this, requestCode: 131313, serviceIntent,
                PendingIntent.FLAG_IMMUTABLE);

        AlarmManager am = (AlarmManager) getSystemService(Context.ALARM_SERVICE);
        am.set(AlarmManager.RTC_WAKEUP, triggerAtMillis: System.currentTimeMillis() + delay, pi);
        Log.v(TAG, msg: "Alarm set");
    }
```

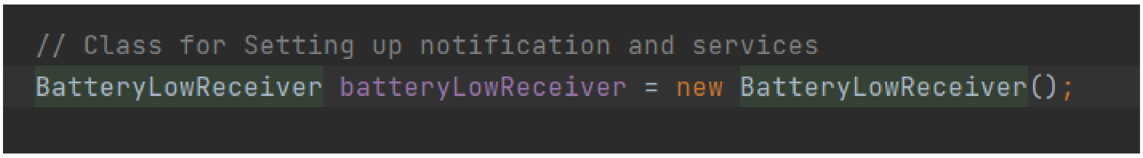


```java
import androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;

import com.example.trippy_trip_planner.AddTripActivity;
import com.example.trippy_trip_planner.R;

public class CheckRecentRun extends Service{



    private final static String TAG = "CheckRecentPlay";
    private static Long MILLISECS_PER_DAY = 86400000L;
    private static Long MILLISECS_PER_MIN_ONE_FOURTH = 15000L;

    //private static long delay = MILLISECS_PER_MIN_ONE_FOURTH;   // 0.5 minutes (for testing)
    private static long delay = MILLISECS_PER_DAY * 7;   // 7 days

    private static String Channel_ID = "My Channel";
```

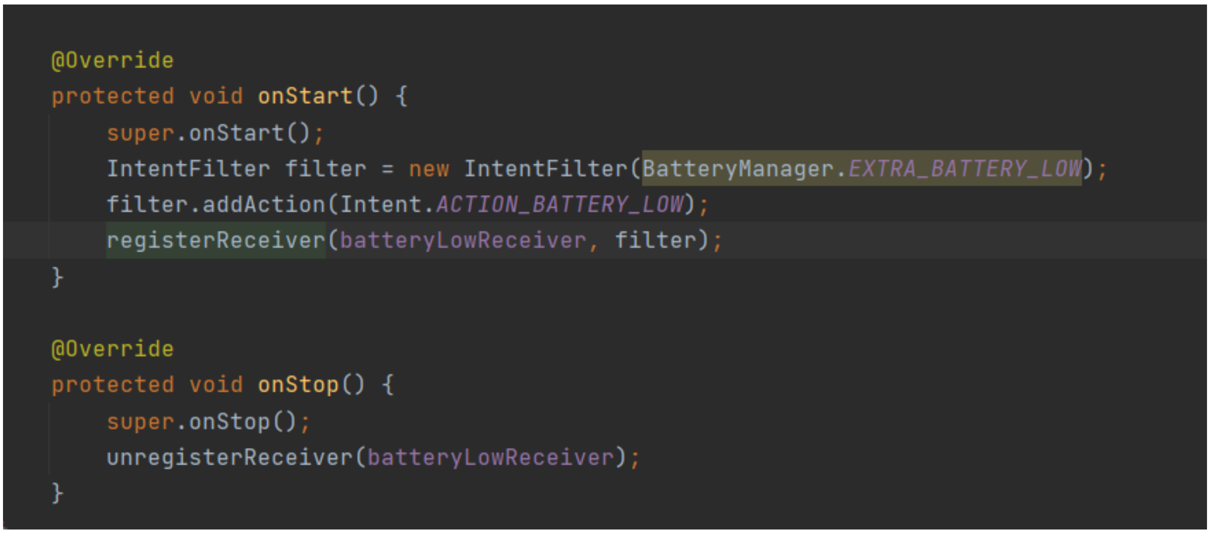


```java
    public void sendNotification() {
        Log.d(TAG, msg: "Sending Notification");
        Intent mainIntent = new Intent( packageContext: this, AddTripActivity.class);
        NotificationCompat.Builder mBuilder
                = new NotificationCompat.Builder( context: this, Channel_ID)
                .setSmallIcon(R.drawable.ic_launcher_background)
                .setContentTitle("We Miss You!")
                .setContentText("You Have not planned a new Trip Since a while so Let's plan a new Trip")
                .setPriority(NotificationCompat.PRIORITY_DEFAULT)
                .setContentIntent(PendingIntent.getActivity( context: this, requestCode: 131314, mainIntent,
                        PendingIntent.FLAG_IMMUTABLE))
                .setAutoCancel(true).setWhen(System.currentTimeMillis())
                .setTicker("We Miss You! Plan a new Trip.");
        NotificationManager notificationManager
                = (NotificationManager) this.getSystemService(Context.NOTIFICATION_SERVICE);

        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {

            CharSequence name = "My Channel Name";
            String description = "My much larger channel description";
            @SuppressLint("WrongConstant")
            NotificationChannel channel
                    = new NotificationChannel(Channel_ID, name,
                    NotificationManagerCompat.IMPORTANCE_DEFAULT);
            channel.setDescription(description);
            // Register the channel with the system
            notificationManager.createNotificationChannel(channel);
        }
        notificationManager.notify( id: 131315, mBuilder.build());

        Log.v(TAG, msg: "Notification sent");
    }
```

All this Code can be found in CheckRecentRun.java Class file.



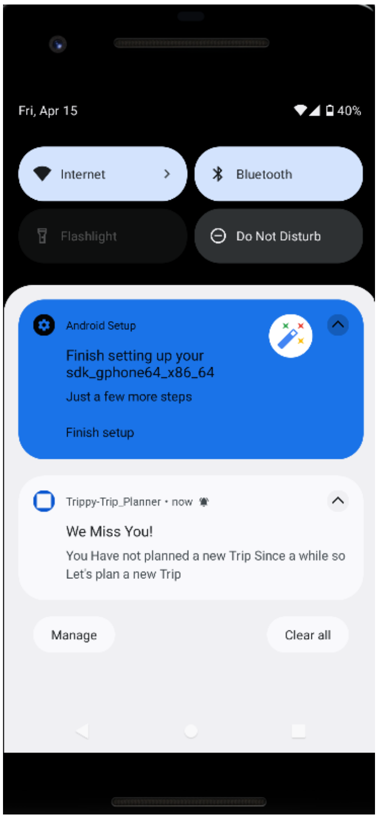
```java
// Class for Setting up notification and services
BatteryLowReceiver batteryLowReceiver = new BatteryLowReceiver();
```



```java
@Override
protected void onStart() {
    super.onStart();
    IntentFilter filter = new IntentFilter(BatteryManager.EXTRA_BATTERY_LOW);
    filter.addAction(Intent.ACTION_BATTERY_LOW);
    registerReceiver(batteryLowReceiver, filter);
}

@Override
protected void onStop() {
    super.onStop();
    unregisterReceiver(batteryLowReceiver);
}
```

This Code Can be Found in Main Activity Java File

Demo



Finish setting up your sdk_gphone64_x86_64

Just a few more steps

We Miss You!

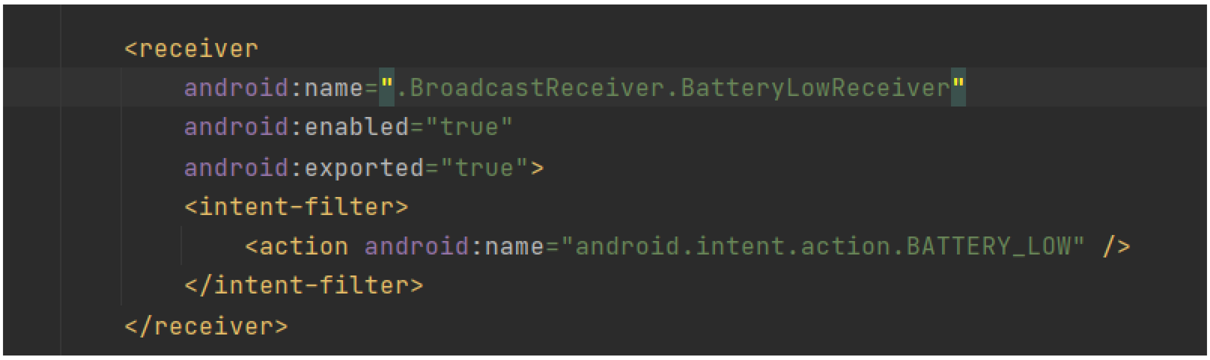
You Have not planned a new Trip Since a while so Let's plan a new Trip

Broadcasts and receivers

Implementation

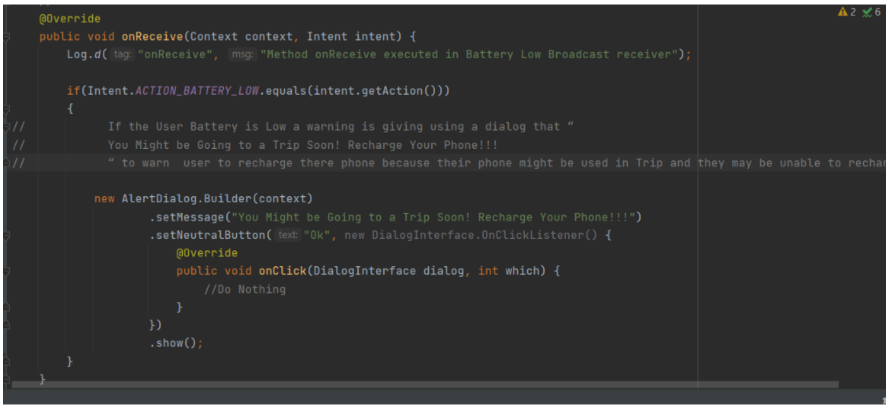
- A low batter receiver broadcast is being Implemented.
- Use of Low Batter Receiver System Broadcast.
- If the User Battery is Low a warning is giving using a dialog that “ `You Might be Going to a Trip Soon! Recharge Your Phone!!!` ” to warn user to recharge there phone because their phone might be used in Trip and they may be unable to recharge battery

Target Code



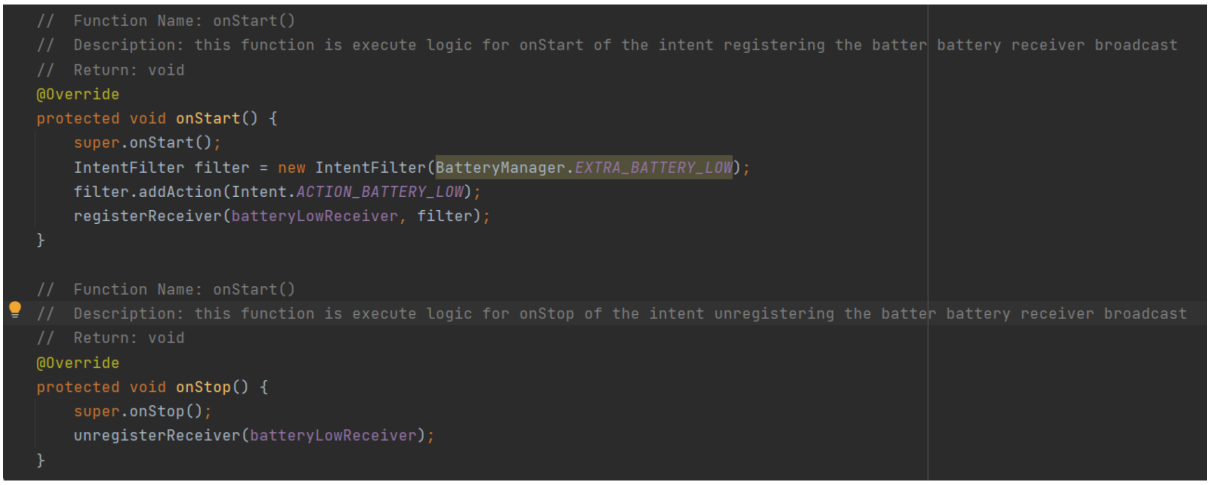
```
<receiver
    android:name=".BroadcastReceiver.BatteryLowReceiver"
    android:enabled="true"
    android:exported="true">
    <intent-filter>
        <action android:name="android.intent.action.BATTERY_LOW" />
    </intent-filter>
</receiver>
```

Code In Manifest



```
@Override
public void onReceive(Context context, Intent intent) {
    Log.d( tag: "onReceive",  msg: "Method onReceive executed in Battery Low Broadcast receiver");

    if(Intent.ACTION_BATTERY_LOW.equals(intent.getAction()))
    {
//          If the User Battery is Low a warning is giving using a dialog that “
//          You Might be Going to a Trip Soon! Recharge Your Phone!!!
//          “ to warn  user to recharge there phone because their phone might be used in Trip and they may be unable to rechar

        new AlertDialog.Builder(context)
                .setMessage("You Might be Going to a Trip Soon! Recharge Your Phone!!!")
                .setNeutralButton( text: "Ok", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialog, int which) {
                        //Do Nothing
                    }
                })
                .show();
    }
}
```

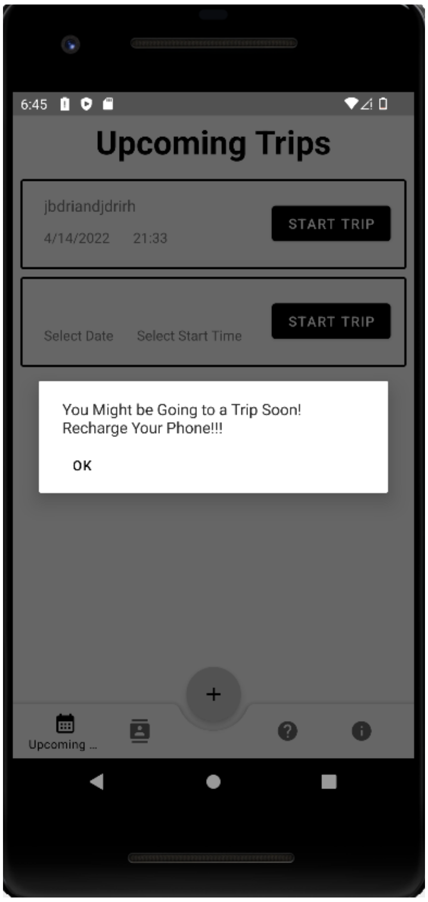
Code in BatteryLowReceiver Class File.



```
//  Function Name: onStart()
//  Description: this function is execute logic for onStart of the intent registering the batter battery receiver broadcast
//  Return: void
@Override
protected void onStart() {
    super.onStart();
    IntentFilter filter = new IntentFilter(BatteryManager.EXTRA_BATTERY_LOW);
    filter.addAction(Intent.ACTION_BATTERY_LOW);
    registerReceiver(batteryLowReceiver, filter);
}

//  Function Name: onStart()
//  Description: this function is execute logic for onStop of the intent unregistering the batter battery receiver broadcast
//  Return: void
@Override
protected void onStop() {
    super.onStop();
    unregisterReceiver(batteryLowReceiver);
}
```

Code in MainActivity Java Class File.

Demo



You Might be Going to a Trip Soon!
Recharge Your Phone!!!

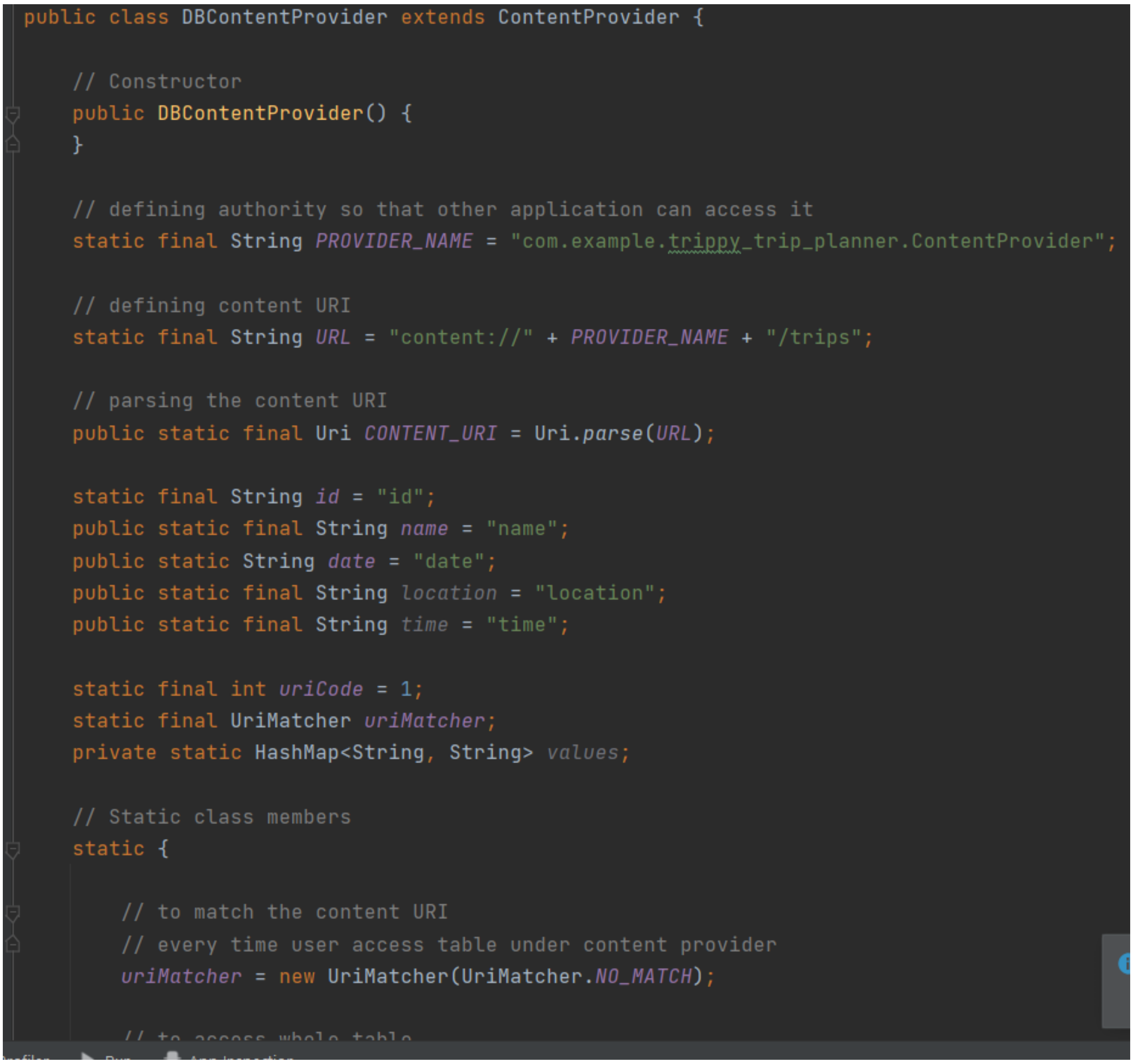
OK

Content Providers

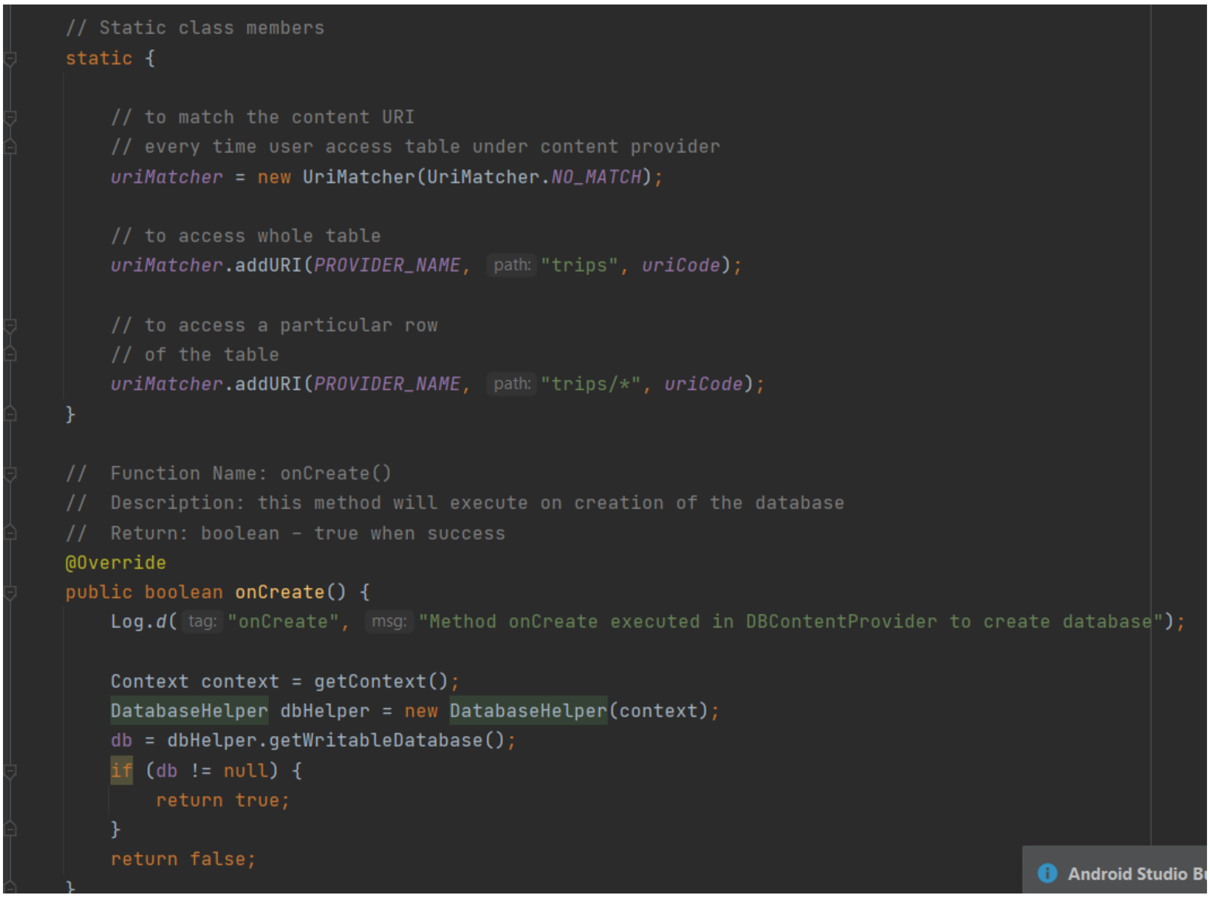
Implementation

- Data Base Wrapped around Content Provider
- Use Contacts System Content Provider to give user the Suggestion About the People they Can Invite on Trip to join the user.

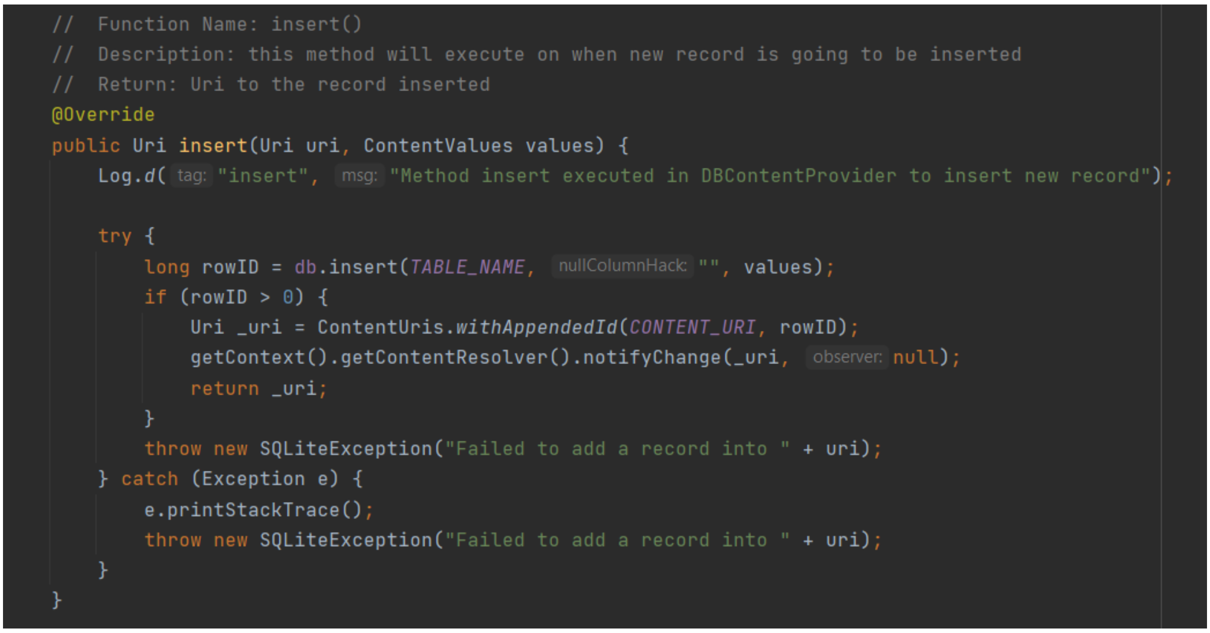
Target Code



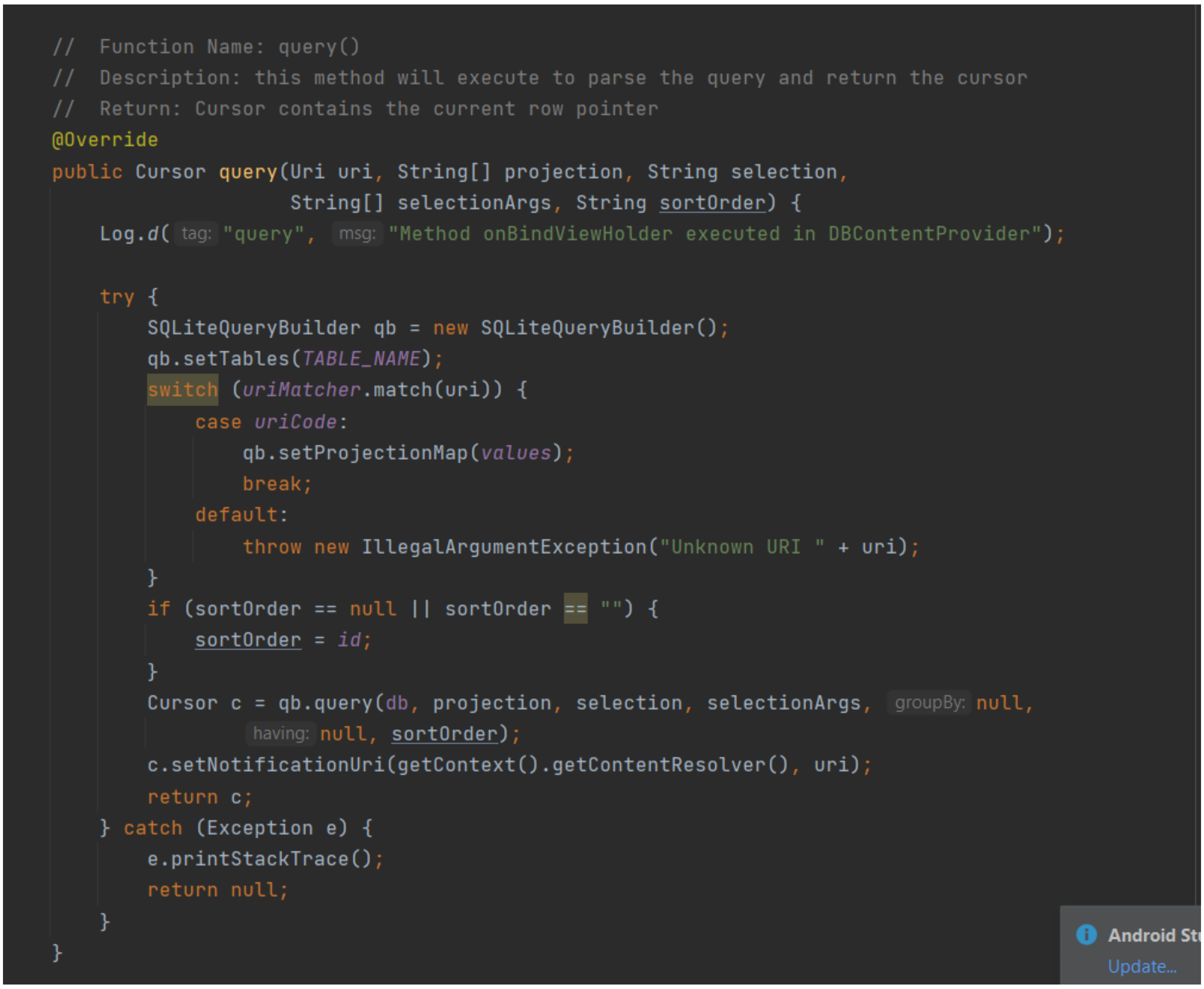
```java
public class DBContentProvider extends ContentProvider {

    // Constructor
    public DBContentProvider() {
    }

    // defining authority so that other application can access it
    static final String PROVIDER_NAME = "com.example.trippy_trip_planner.ContentProvider";

    // defining content URI
    static final String URL = "content://" + PROVIDER_NAME + "/trips";

    // parsing the content URI
    public static final Uri CONTENT_URI = Uri.parse(URL);

    static final String id = "id";
    public static final String name = "name";
    public static String date = "date";
    public static final String location = "location";
    public static final String time = "time";

    static final int uriCode = 1;
    static final UriMatcher uriMatcher;
    private static HashMap<String, String> values;

    // Static class members
    static {

        // to match the content URI
        // every time user access table under content provider
        uriMatcher = new UriMatcher(UriMatcher.NO_MATCH);

        // to access whole table
```



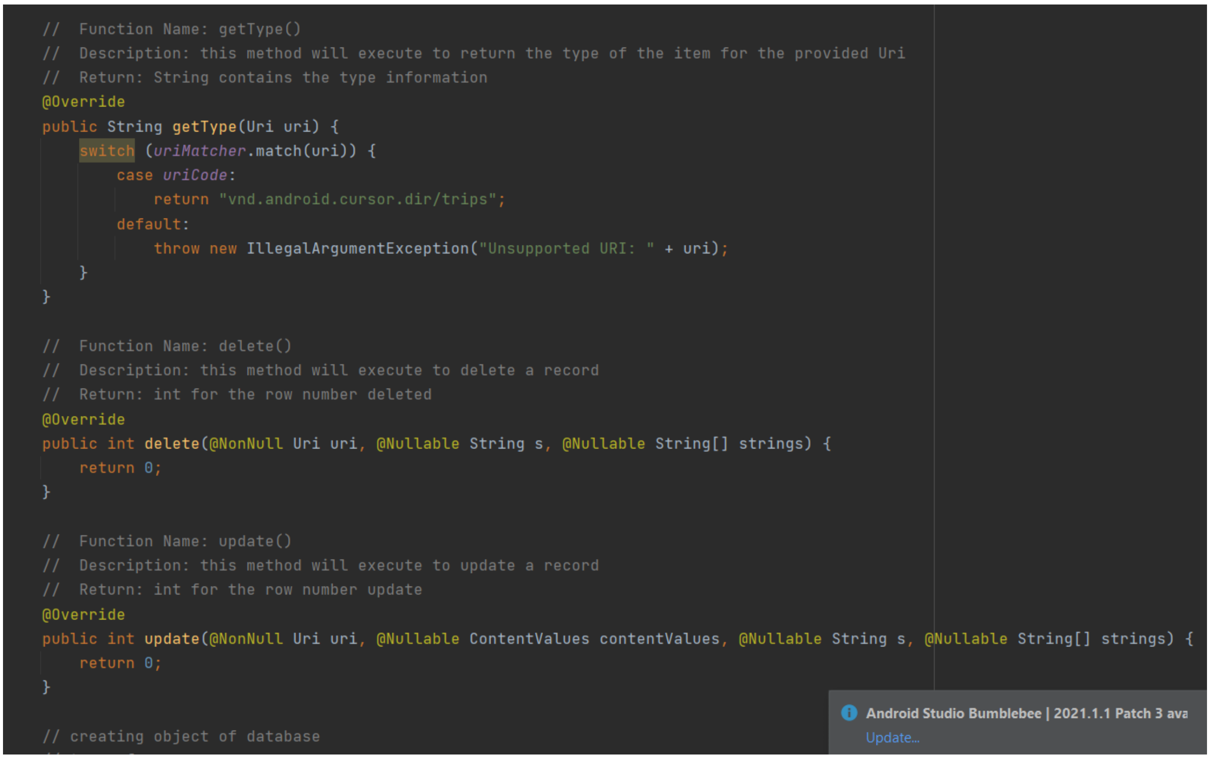
```
// Static class members
static {

    // to match the content URI
    // every time user access table under content provider
    uriMatcher = new UriMatcher(UriMatcher.NO_MATCH);

    // to access whole table
    uriMatcher.addURI(PROVIDER_NAME,  path: "trips", uriCode);

    // to access a particular row
    // of the table
    uriMatcher.addURI(PROVIDER_NAME,  path: "trips/*", uriCode);
}

//  Function Name: onCreate()
//  Description: this method will execute on creation of the database
//  Return: boolean - true when success
@Override
public boolean onCreate() {
    Log.d( tag: "onCreate",  msg: "Method onCreate executed in DBContentProvider to create database");

    Context context = getContext();
    DatabaseHelper dbHelper = new DatabaseHelper(context);
    db = dbHelper.getWritableDatabase();
    if (db != null) {
        return true;
    }
    return false;
}
```



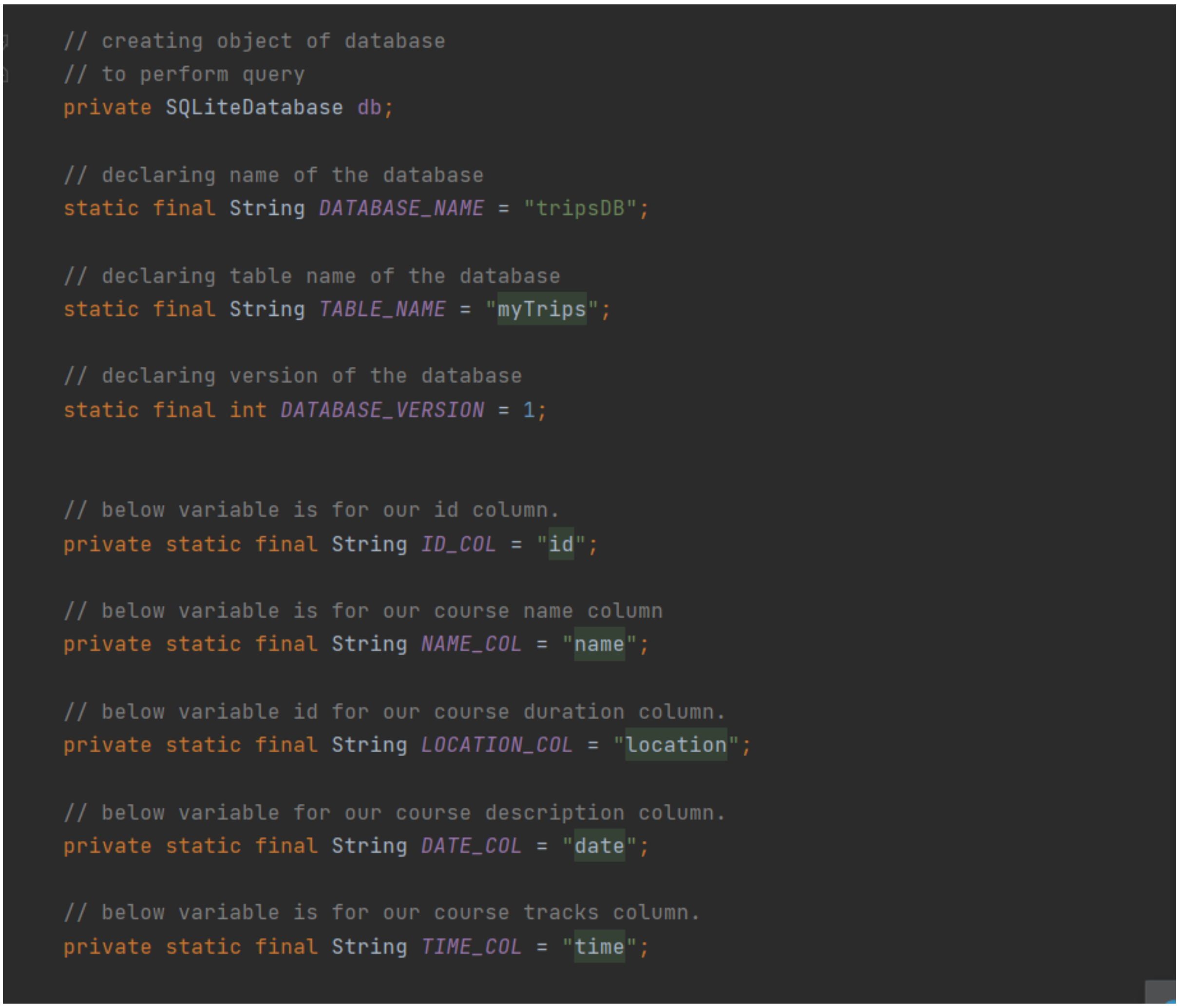
```
//  Function Name: insert()
//  Description: this method will execute on when new record is going to be inserted
//  Return: Uri to the record inserted
@Override
public Uri insert(Uri uri, ContentValues values) {
    Log.d( tag: "insert",  msg: "Method insert executed in DBContentProvider to insert new record");

    try {
        long rowID = db.insert(TABLE_NAME,  nullColumnHack: "", values);
        if (rowID > 0) {
            Uri _uri = ContentUris.withAppendedId(CONTENT_URI, rowID);
            getContext().getContentResolver().notifyChange(_uri,  observer: null);
            return _uri;
        }
        throw new SQLiteException("Failed to add a record into " + uri);
    } catch (Exception e) {
        e.printStackTrace();
        throw new SQLiteException("Failed to add a record into " + uri);
    }
}
```



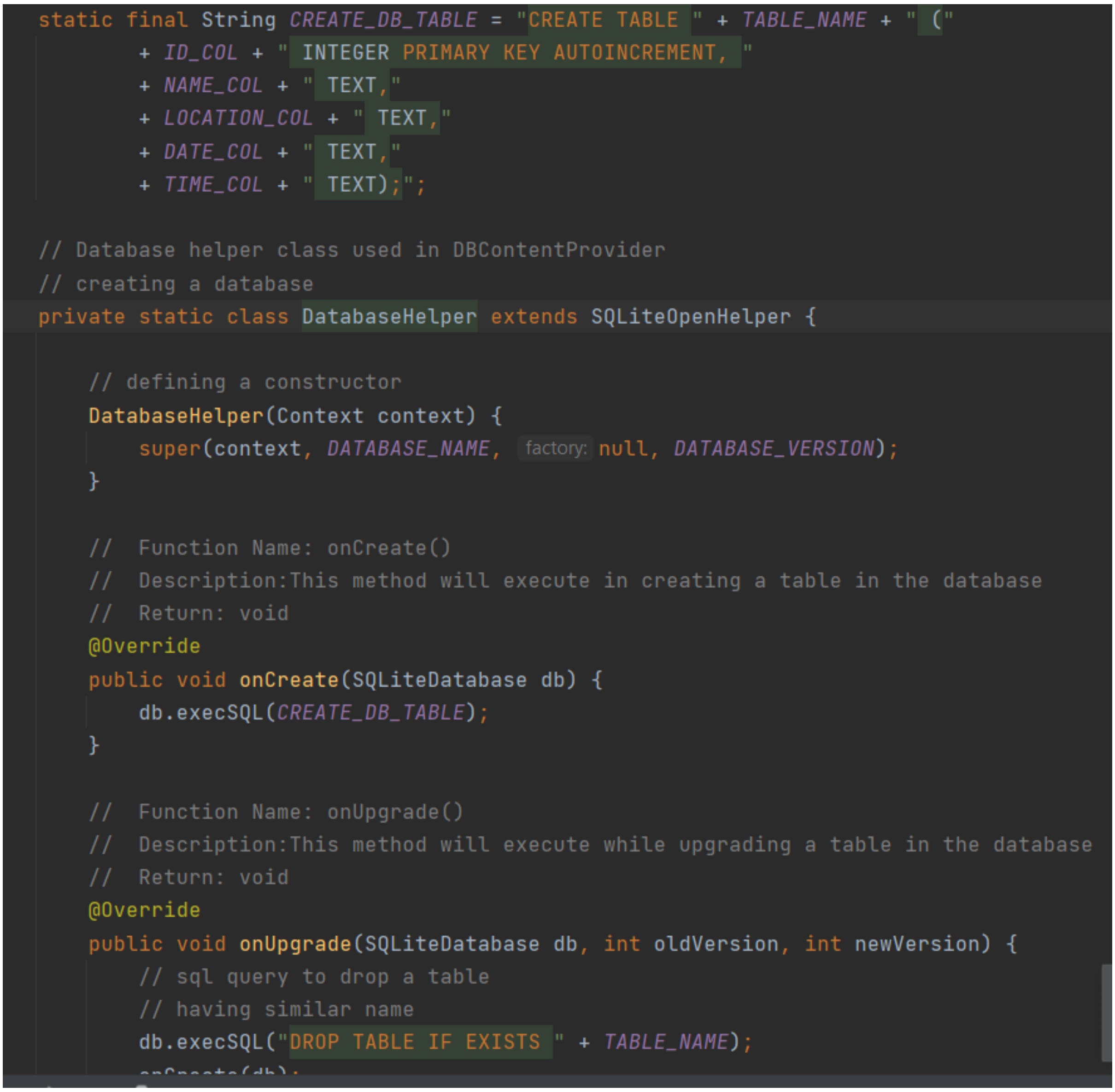
```
//  Function Name: query()
//  Description: this method will execute to parse the query and return the cursor
//  Return: Cursor contains the current row pointer
@Override
public Cursor query(Uri uri, String[] projection, String selection,
                    String[] selectionArgs, String sortOrder) {
    Log.d( tag: "query",  msg: "Method onBindViewHolder executed in DBContentProvider");

    try {
        SQLiteQueryBuilder qb = new SQLiteQueryBuilder();
        qb.setTables(TABLE_NAME);
        switch (uriMatcher.match(uri)) {
            case uriCode:
                qb.setProjectionMap(values);
                break;
            default:
                throw new IllegalArgumentException("Unknown URI " + uri);
        }
        if (sortOrder == null || sortOrder == "") {
            sortOrder = id;
        }
        Cursor c = qb.query(db, projection, selection, selectionArgs,  groupBy: null,
                 having: null, sortOrder);
        c.setNotificationUri(getContext().getContentResolver(), uri);
        return c;
    } catch (Exception e) {
        e.printStackTrace();
        return null;
    }
}
```



```
//  Function Name: getType()
//  Description: this method will execute to return the type of the item for the provided Uri
//  Return: String contains the type information
@Override
public String getType(Uri uri) {
    switch (uriMatcher.match(uri)) {
        case uriCode:
            return "vnd.android.cursor.dir/trips";
        default:
            throw new IllegalArgumentException("Unsupported URI: " + uri);
    }
}

//  Function Name: delete()
//  Description: this method will execute to delete a record
//  Return: int for the row number deleted
@Override
public int delete(@NonNull Uri uri, @Nullable String s, @Nullable String[] strings) {
    return 0;
}

//  Function Name: update()
//  Description: this method will execute to update a record
//  Return: int for the row number update
@Override
public int update(@NonNull Uri uri, @Nullable ContentValues contentValues, @Nullable String s, @Nullable String[] strings) {
    return 0;
}

// creating object of database
```



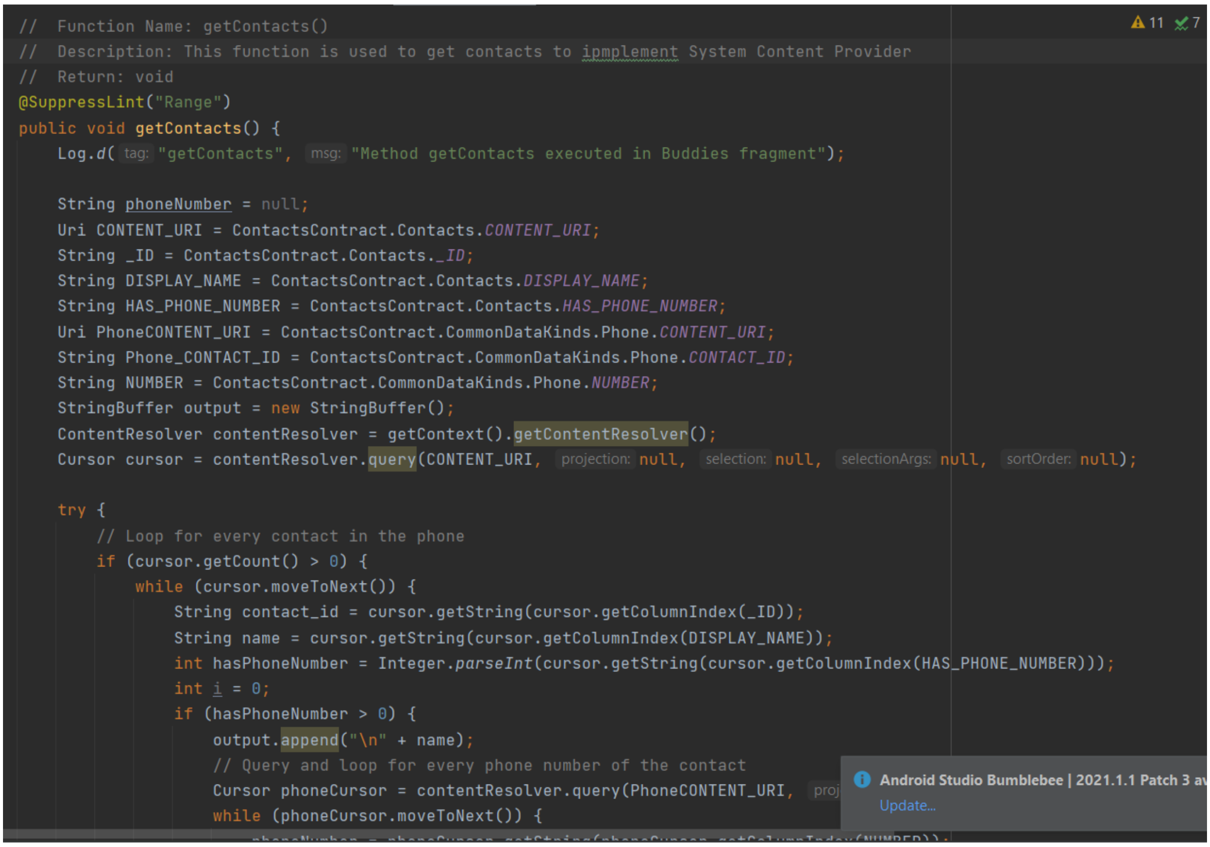
```
    // creating object of database
    // to perform query
    private SQLiteDatabase db;

    // declaring name of the database
    static final String DATABASE_NAME = "tripsDB";

    // declaring table name of the database
    static final String TABLE_NAME = "myTrips";

    // declaring version of the database
    static final int DATABASE_VERSION = 1;


    // below variable is for our id column.
    private static final String ID_COL = "id";

    // below variable is for our course name column
    private static final String NAME_COL = "name";

    // below variable id for our course duration column.
    private static final String LOCATION_COL = "location";

    // below variable for our course description column.
    private static final String DATE_COL = "date";

    // below variable is for our course tracks column.
    private static final String TIME_COL = "time";
```



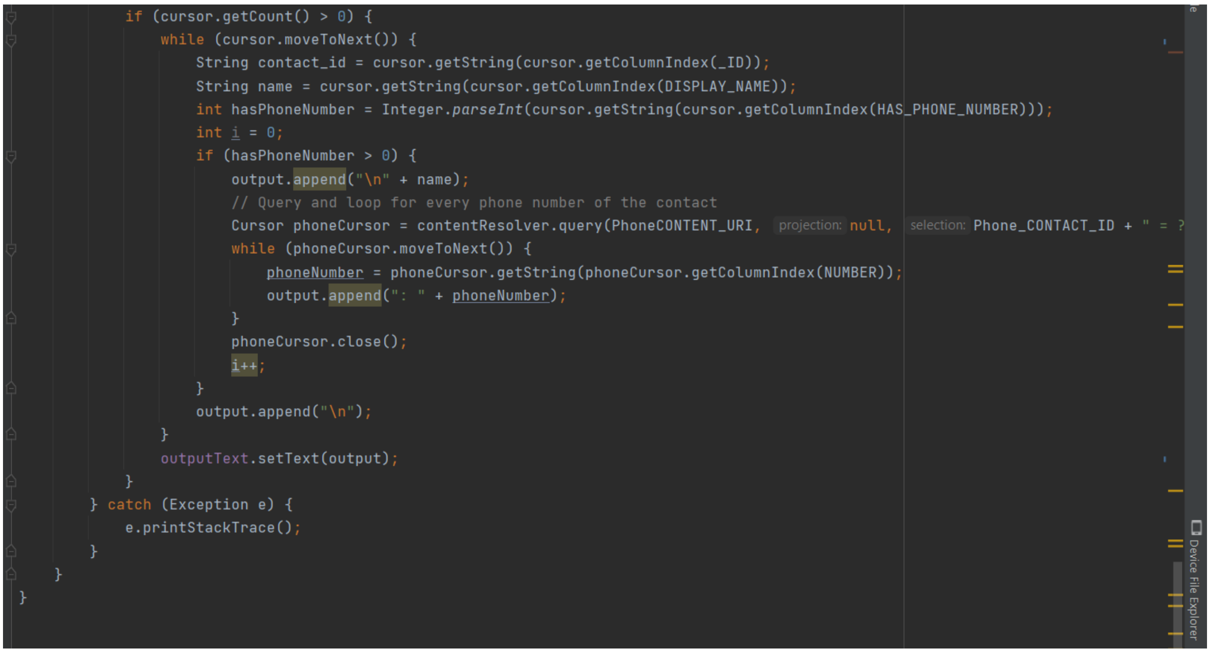
```java
static final String CREATE_DB_TABLE = "CREATE TABLE " + TABLE_NAME + " ("
        + ID_COL + " INTEGER PRIMARY KEY AUTOINCREMENT, "
        + NAME_COL + " TEXT,"
        + LOCATION_COL + " TEXT,"
        + DATE_COL + " TEXT,"
        + TIME_COL + " TEXT);";

// Database helper class used in DBContentProvider
// creating a database
private static class DatabaseHelper extends SQLiteOpenHelper {

    // defining a constructor
    DatabaseHelper(Context context) {
        super(context, DATABASE_NAME,  factory: null, DATABASE_VERSION);
    }

    //  Function Name: onCreate()
    //  Description:This method will execute in creating a table in the database
    //  Return: void
    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL(CREATE_DB_TABLE);
    }

    //  Function Name: onUpgrade()
    //  Description:This method will execute while upgrading a table in the database
    //  Return: void
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        // sql query to drop a table
        // having similar name
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);
        onCreate(db);
```

All this Code can found in DBContentProvider Class.

This is used to wrap the database around Content Provider.



```
//  Function Name: getContacts()
//  Description: This function is used to get contacts to ipmplement System Content Provider
//  Return: void
@SuppressLint("Range")
public void getContacts() {
    Log.d( tag: "getContacts",  msg: "Method getContacts executed in Buddies fragment");

    String phoneNumber = null;
    Uri CONTENT_URI = ContactsContract.Contacts.CONTENT_URI;
    String _ID = ContactsContract.Contacts._ID;
    String DISPLAY_NAME = ContactsContract.Contacts.DISPLAY_NAME;
    String HAS_PHONE_NUMBER = ContactsContract.Contacts.HAS_PHONE_NUMBER;
    Uri PhoneCONTENT_URI = ContactsContract.CommonDataKinds.Phone.CONTENT_URI;
    String Phone_CONTACT_ID = ContactsContract.CommonDataKinds.Phone.CONTACT_ID;
    String NUMBER = ContactsContract.CommonDataKinds.Phone.NUMBER;
    StringBuffer output = new StringBuffer();
    ContentResolver contentResolver = getContext().getContentResolver();
    Cursor cursor = contentResolver.query(CONTENT_URI,  projection: null,  selection: null,  selectionArgs: null,  sortOrder: null);

    try {
        // Loop for every contact in the phone
        if (cursor.getCount() > 0) {
            while (cursor.moveToNext()) {
                String contact_id = cursor.getString(cursor.getColumnIndex(_ID));
                String name = cursor.getString(cursor.getColumnIndex(DISPLAY_NAME));
                int hasPhoneNumber = Integer.parseInt(cursor.getString(cursor.getColumnIndex(HAS_PHONE_NUMBER)));
                int i = 0;
                if (hasPhoneNumber > 0) {
                    output.append("\n" + name);
                    // Query and loop for every phone number of the contact
                    Cursor phoneCursor = contentResolver.query(PhoneCONTENT_URI,  proj
                    while (phoneCursor.moveToNext()) {
                        phoneNumber = phoneCursor.getString(phoneCursor.getColumnIndex(NUMBER));
```

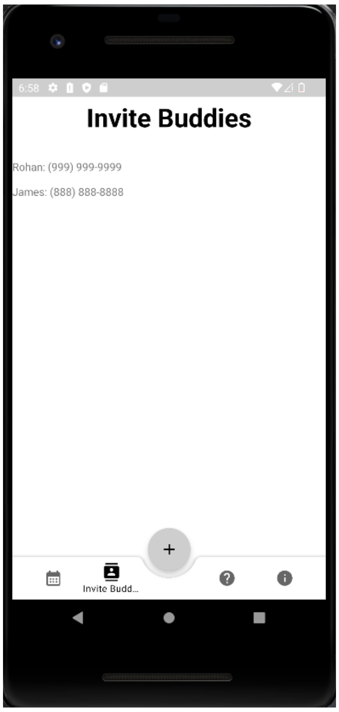


```
            if (cursor.getCount() > 0) {
                while (cursor.moveToNext()) {
                    String contact_id = cursor.getString(cursor.getColumnIndex(_ID));
                    String name = cursor.getString(cursor.getColumnIndex(DISPLAY_NAME));
                    int hasPhoneNumber = Integer.parseInt(cursor.getString(cursor.getColumnIndex(HAS_PHONE_NUMBER)));
                    int i = 0;
                    if (hasPhoneNumber > 0) {
                        output.append("\n" + name);
                        // Query and loop for every phone number of the contact
                        Cursor phoneCursor = contentResolver.query(PhoneCONTENT_URI,  projection: null,  selection: Phone_CONTACT_ID + " = ?
                        while (phoneCursor.moveToNext()) {
                            phoneNumber = phoneCursor.getString(phoneCursor.getColumnIndex(NUMBER));
                            output.append(": " + phoneNumber);
                        }
                        phoneCursor.close();
                        i++;
                    }
                    output.append("\n");
                }
                outputText.setText(output);
            }
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

Function used to fetch the Contacts. Implementing System Contact Provider.

Code in Buddies Class File.

Demo



Invite Buddies

Rohan: (999) 999-9999

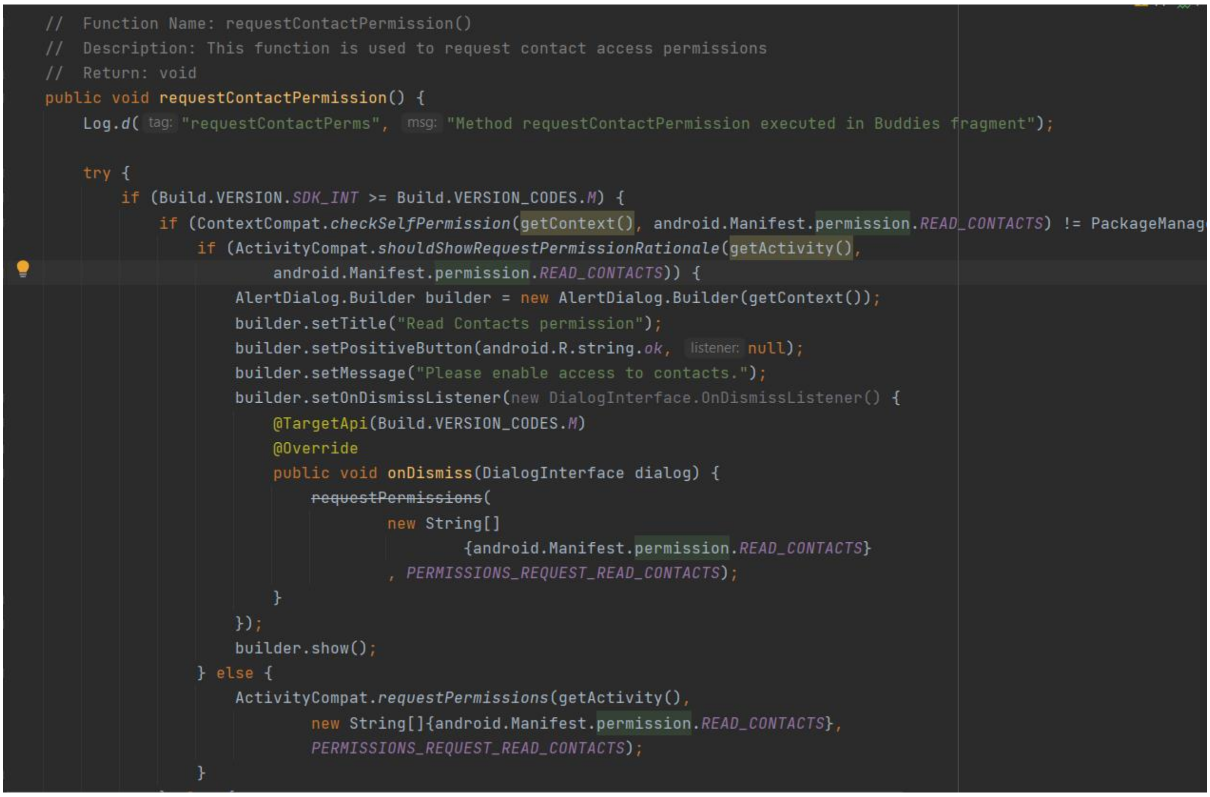
James: (888) 888-8888

Dialog And Permissions

Implementation

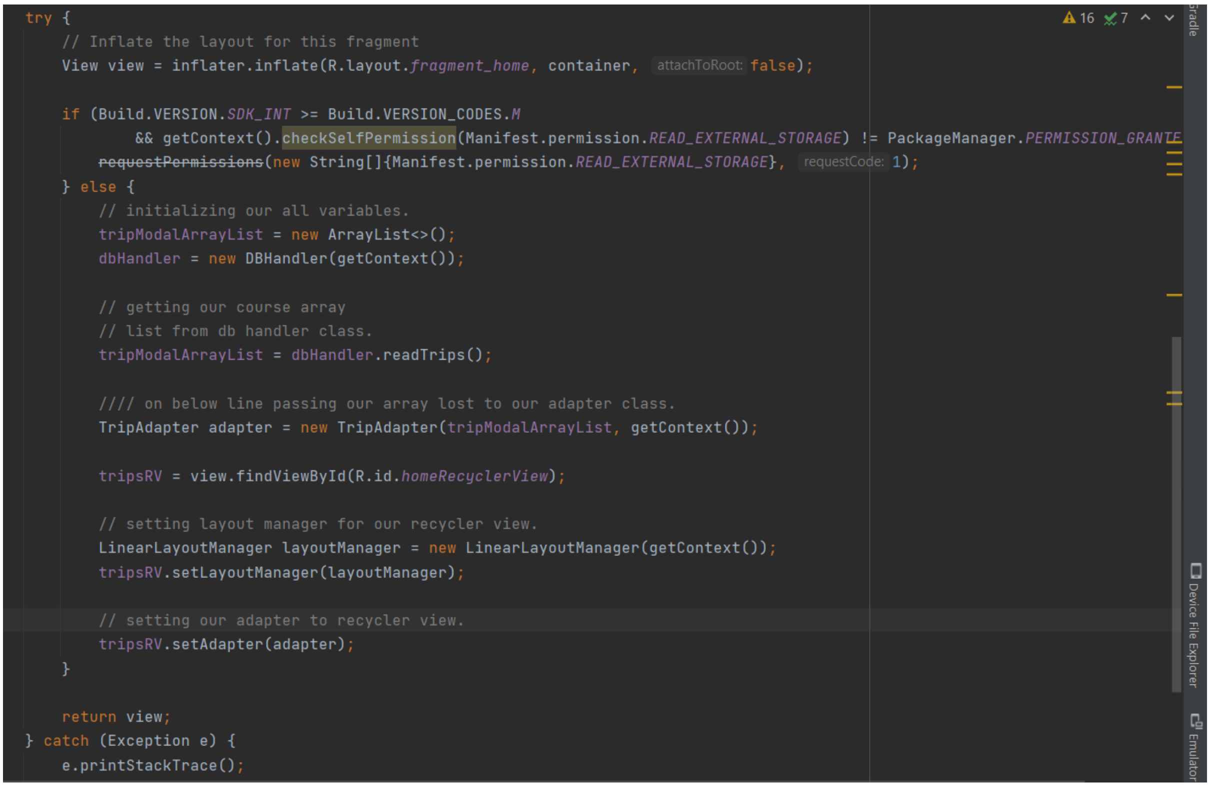
- Widespread Use of Dialogs and Permission
- When Fetching Contacts User is Asked Permission to Fetch the Contacts with Custom made Dialog. If User Deny the permission next time a neutral Dialog will be shown Saying user to allow Contacts Permission.
- User is also asked the permission to Read External Storage for Database
- Neutral Dialog is Shown to user When User Battery is Low
- When Presenting information about asked the user opinion whether they would like to know About us. Textview text is changed further accordingly on the basis whether user replied positively or negatively.

Target Code



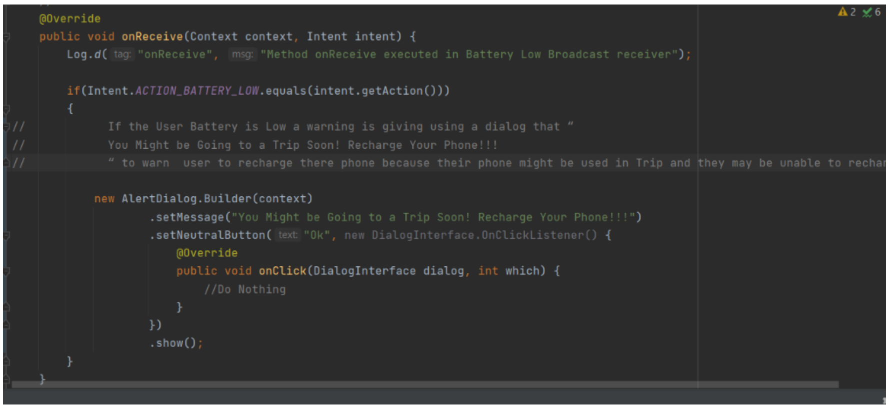
```
//  Function Name: requestContactPermission()
//  Description: This function is used to request contact access permissions
//  Return: void
public void requestContactPermission() {
    Log.d( tag: "requestContactPerms",  msg: "Method requestContactPermission executed in Buddies fragment");

    try {
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
            if (ContextCompat.checkSelfPermission(getContext(), android.Manifest.permission.READ_CONTACTS) != PackageManag
                if (ActivityCompat.shouldShowRequestPermissionRationale(getActivity(),
                        android.Manifest.permission.READ_CONTACTS)) {
                    AlertDialog.Builder builder = new AlertDialog.Builder(getContext());
                    builder.setTitle("Read Contacts permission");
                    builder.setPositiveButton(android.R.string.ok,  listener: null);
                    builder.setMessage("Please enable access to contacts.");
                    builder.setOnDismissListener(new DialogInterface.OnDismissListener() {
                        @TargetApi(Build.VERSION_CODES.M)
                        @Override
                        public void onDismiss(DialogInterface dialog) {
                            ~~requestPermissions~~(
                                    new String[]
                                            {android.Manifest.permission.READ_CONTACTS}
                                    , PERMISSIONS_REQUEST_READ_CONTACTS);
                        }
                    });
                    builder.show();
                } else {
                    ActivityCompat.requestPermissions(getActivity(),
                            new String[]{android.Manifest.permission.READ_CONTACTS},
                            PERMISSIONS_REQUEST_READ_CONTACTS);
                }
```

Code in Buddies Fragment asking for Contact Permission using Custom Dialog



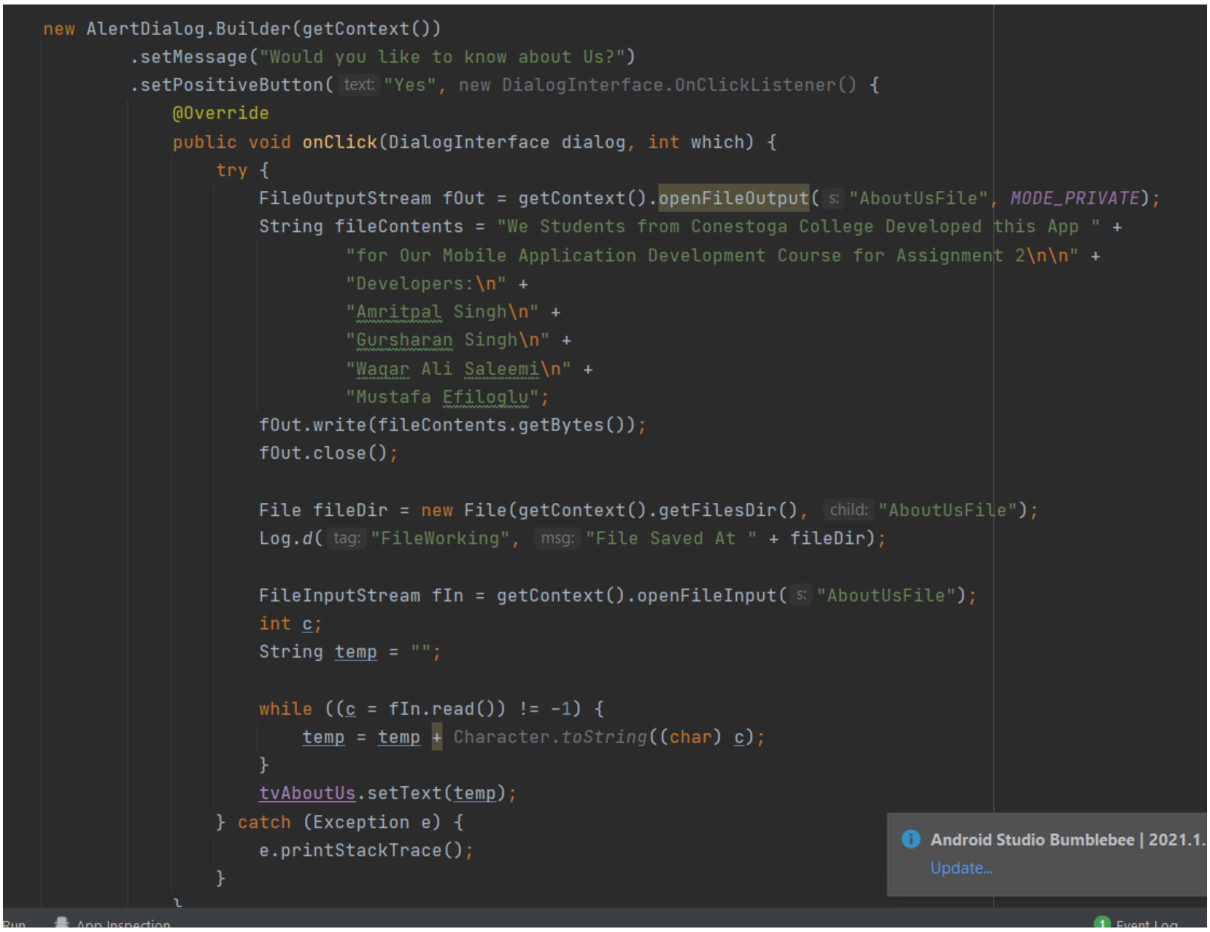
```java
try {
    // Inflate the layout for this fragment
    View view = inflater.inflate(R.layout.fragment_home, container,  attachToRoot: false);

    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M
            && getContext().checkSelfPermission(Manifest.permission.READ_EXTERNAL_STORAGE) != PackageManager.PERMISSION_GRANTE
        requestPermissions(new String[]{Manifest.permission.READ_EXTERNAL_STORAGE},  requestCode: 1);
    } else {
        // initializing our all variables.
        tripModalArrayList = new ArrayList<>();
        dbHandler = new DBHandler(getContext());

        // getting our course array
        // list from db handler class.
        tripModalArrayList = dbHandler.readTrips();

        //// on below line passing our array lost to our adapter class.
        TripAdapter adapter = new TripAdapter(tripModalArrayList, getContext());

        tripsRV = view.findViewById(R.id.homeRecyclerView);

        // setting layout manager for our recycler view.
        LinearLayoutManager layoutManager = new LinearLayoutManager(getContext());
        tripsRV.setLayoutManager(layoutManager);

        // setting our adapter to recycler view.
        tripsRV.setAdapter(adapter);
    }

    return view;
} catch (Exception e) {
    e.printStackTrace();
```

Code in Home Fragment Class File asking user to read External Storage.

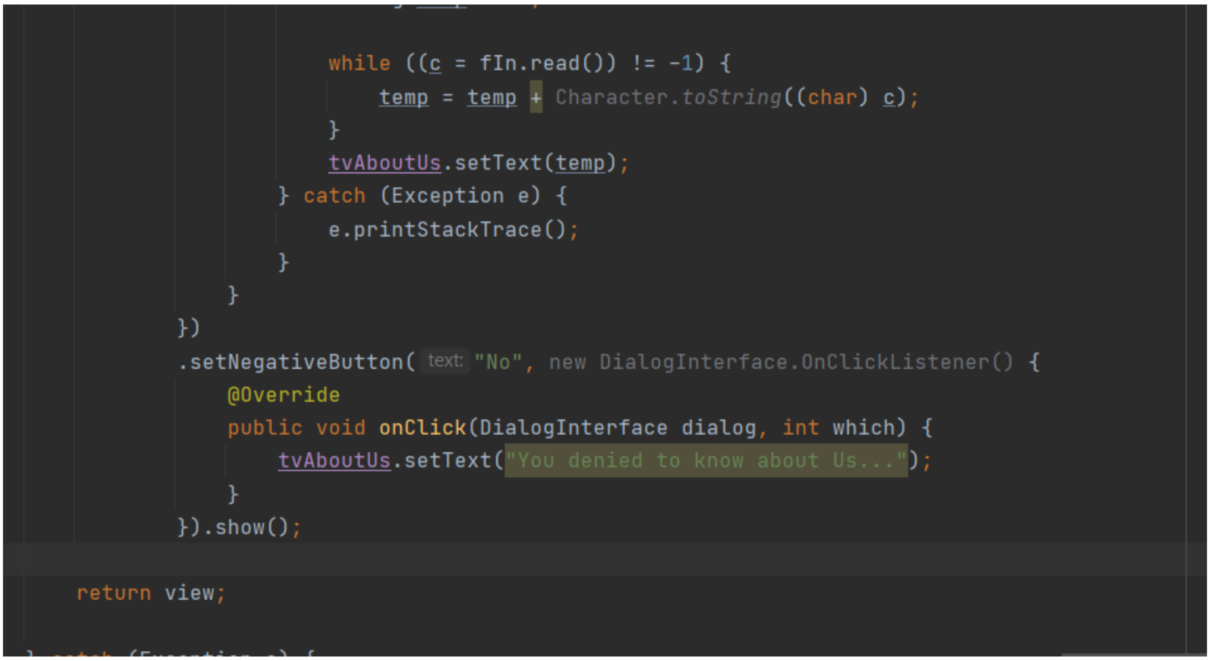


```java
@Override
public void onReceive(Context context, Intent intent) {
    Log.d( tag: "onReceive",  msg: "Method onReceive executed in Battery Low Broadcast receiver");

    if(Intent.ACTION_BATTERY_LOW.equals(intent.getAction()))
    {
//          If the User Battery is Low a warning is giving using a dialog that “
//          You Might be Going to a Trip Soon! Recharge Your Phone!!!
//          ” to warn  user to recharge there phone because their phone might be used in Trip and they may be unable to rechar

        new AlertDialog.Builder(context)
                .setMessage("You Might be Going to a Trip Soon! Recharge Your Phone!!!")
                .setNeutralButton( text: "Ok", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialog, int which) {
                        //Do Nothing
                    }
                })
                .show();
    }
}
```

Code in BatteryLowReceiver Class File Showing User Neutral Dialog.



```
new AlertDialog.Builder(getContext())
        .setMessage("Would you like to know about Us?")
        .setPositiveButton( text: "Yes", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                try {
                    FileOutputStream fOut = getContext().openFileOutput( s: "AboutUsFile", MODE_PRIVATE);
                    String fileContents = "We Students from Conestoga College Developed this App " +
                            "for Our Mobile Application Development Course for Assignment 2\n\n" +
                            "Developers:\n" +
                            "Amritpal Singh\n" +
                            "Gursharan Singh\n" +
                            "Waqar Ali Saleemi\n" +
                            "Mustafa Efiloglu";
                    fOut.write(fileContents.getBytes());
                    fOut.close();

                    File fileDir = new File(getContext().getFilesDir(),  child: "AboutUsFile");
                    Log.d( tag: "FileWorking",  msg: "File Saved At " + fileDir);

                    FileInputStream fIn = getContext().openFileInput( s: "AboutUsFile");
                    int c;
                    String temp = "";

                    while ((c = fIn.read()) != -1) {
                        temp = temp + Character.toString((char) c);
                    }
                    tvAboutUs.setText(temp);
                } catch (Exception e) {
                    e.printStackTrace();
                }
```

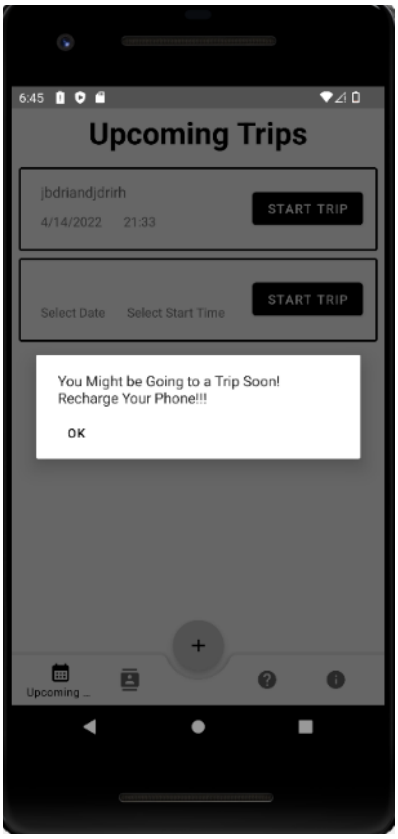


```
                    while ((c = fIn.read()) != -1) {
                        temp = temp + Character.toString((char) c);
                    }
                    tvAboutUs.setText(temp);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        })
        .setNegativeButton( text: "No", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                tvAboutUs.setText("You denied to know about Us...");
            }
        }).show();

    return view;
```

Code in Help Fragment Java Class File.

Asking user opinion whether they would like to know About us. Textview text is changed further accordingly on the basis whether user replied positively or negatively.

Demo

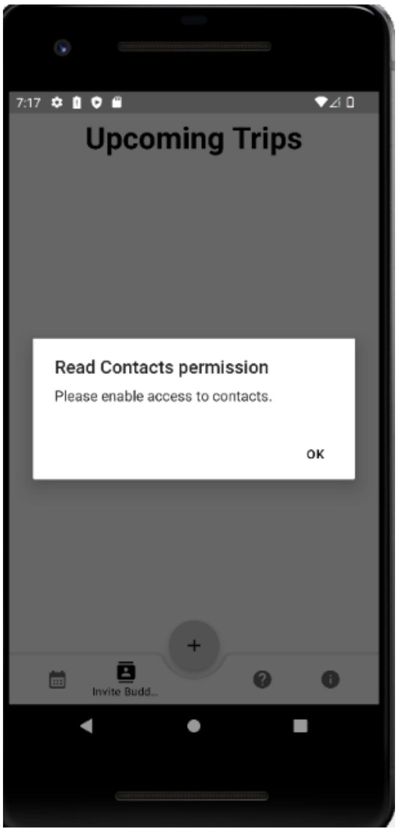

Upcoming Trips

jbdriandjdrirh

4/14/2022 21:33

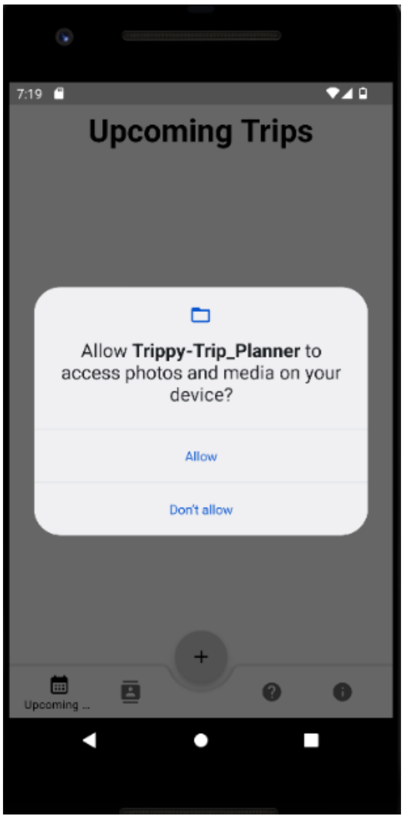
Select Date Select Start Time

You Might be Going to a Trip Soon!
Recharge Your Phone!!!

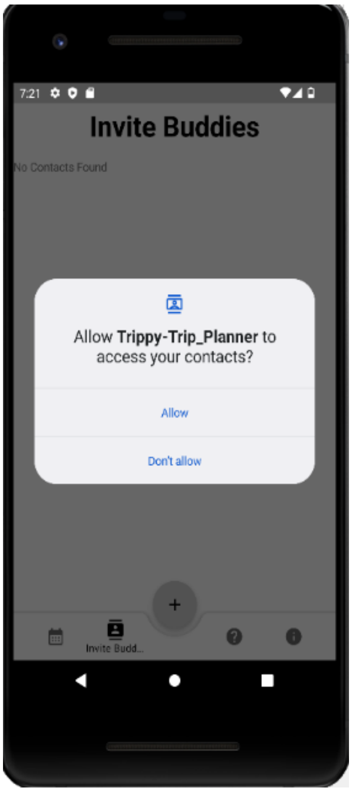

Upcoming Trips

Read Contacts permission

Please enable access to contacts.

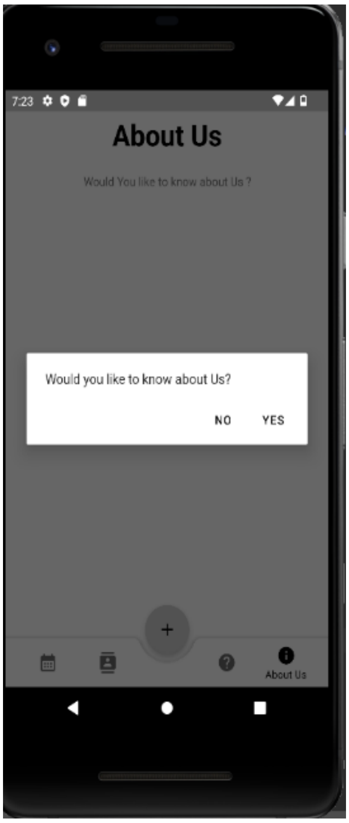

Upcoming Trips

Allow **Trippy-Trip_Planner** to access photos and media on your device?


Invite Buddies

No Contacts Found

Allow **Trippy-Trip_Planner** to access your contacts?


About Us

Would You like to know about Us ?

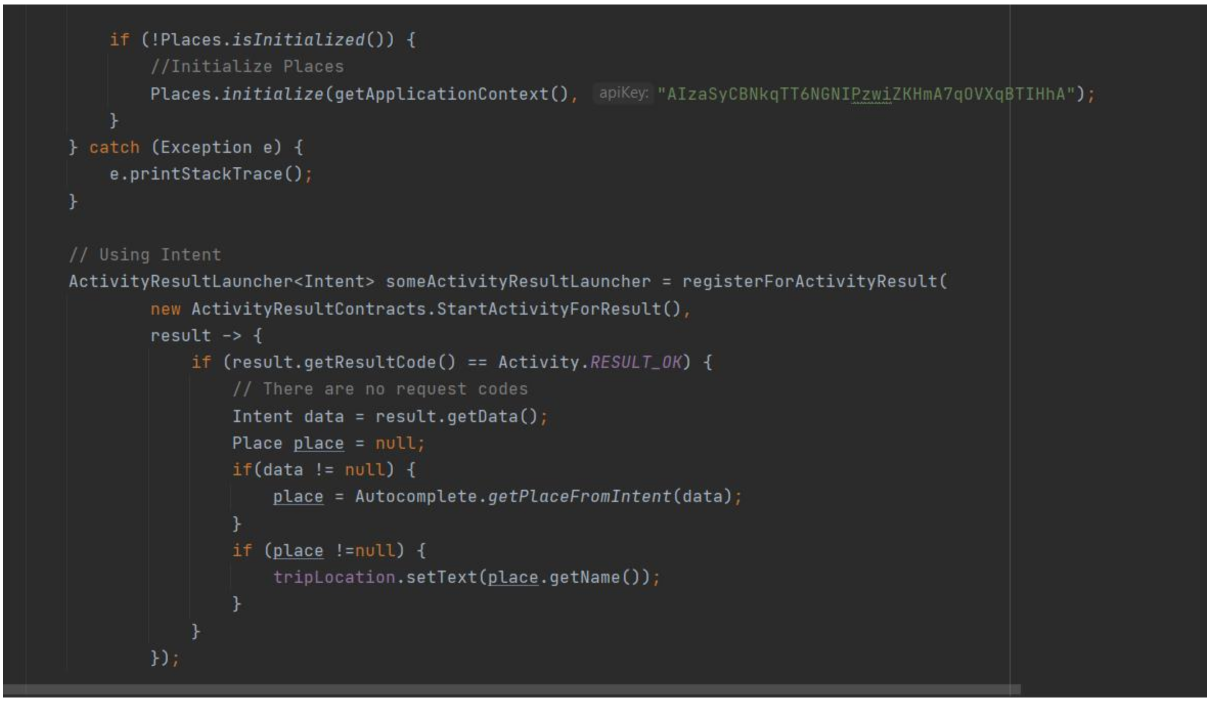
Would you like to know about Us?

Application Widgets

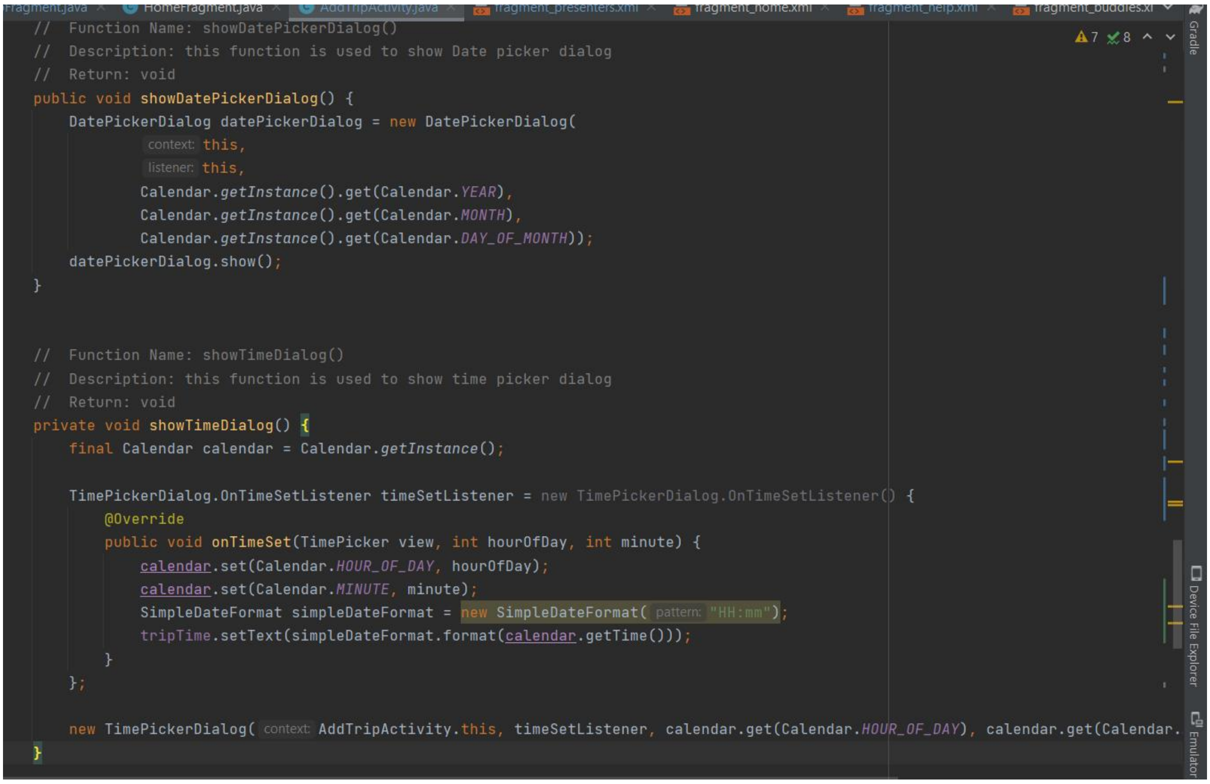
Implementation

- Use of Cool and Custom Application Widgets, Tabs, Floating Buttons, Customs Date Picker Dialogs, Time Picker Dialogs, Divider, Auto Search Complete Features to make the layout of Application look nice.
- Use of Dividers to make Everything clear to user in Help Fragment Layout
- Custom Date Picker and Custom Time Picker Dialog to adorable experience to user in Add Trip Layout helping user to pick date and time easily
- Bottom App Bar, Bottom Navigation Menu and Floating Action Button Used for Professionally Designed Navigation Menu.
- Auto Complete Place Search for User to reduce user efforts in Add Trip Layout helping user.
- Used Toolbar and App Bar Layout in Add Trip Activity for Closing the Activity and Add new Trip Easily.

Target Code

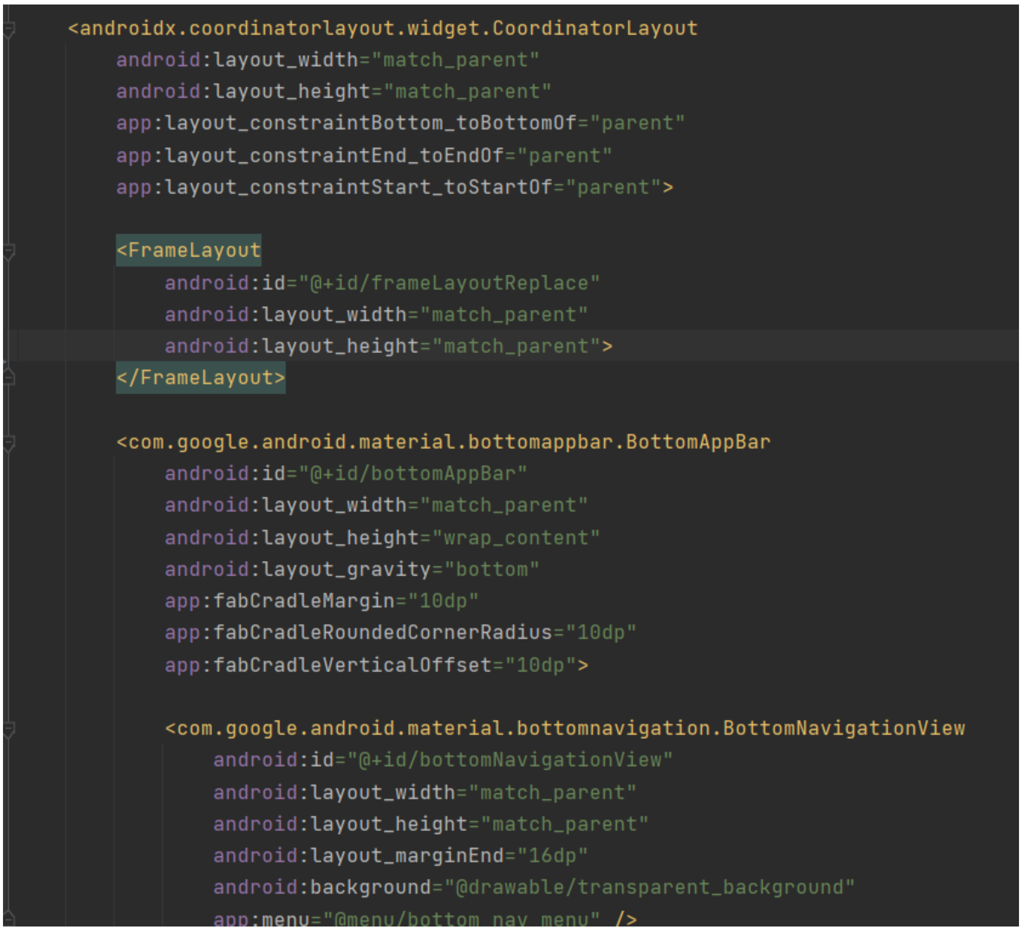


```
    if (!Places.isInitialized()) {
        //Initialize Places
        Places.initialize(getApplicationContext(), apiKey: "AIzaSyCBNkqTT6NGNIPzwiZKHmA7qOVXqBTIHhA");
    }
} catch (Exception e) {
    e.printStackTrace();
}

// Using Intent
ActivityResultLauncher<Intent> someActivityResultLauncher = registerForActivityResult(
        new ActivityResultContracts.StartActivityForResult(),
        result -> {
            if (result.getResultCode() == Activity.RESULT_OK) {
                // There are no request codes
                Intent data = result.getData();
                Place place = null;
                if(data != null) {
                    place = Autocomplete.getPlaceFromIntent(data);
                }
                if (place !=null) {
                    tripLocation.setText(place.getName());
                }
            }
        });
```

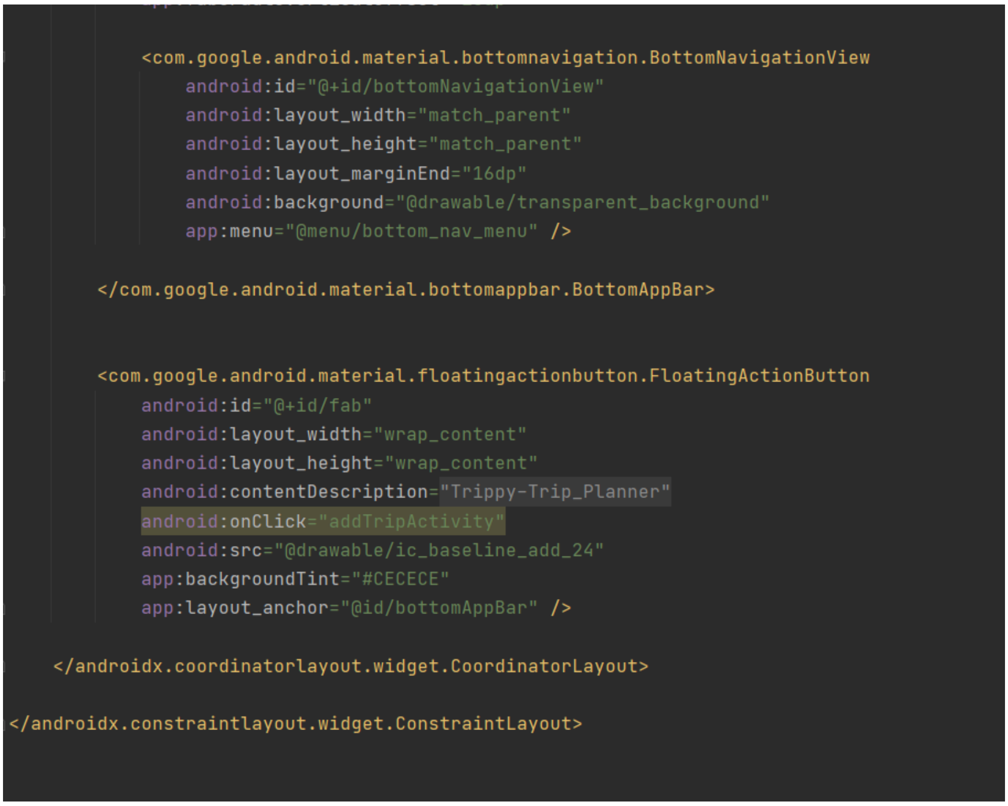


```
//  Function Name: showDatePickerDialog()
//  Description: this function is used to show Date picker dialog
//  Return: void
public void showDatePickerDialog() {
    DatePickerDialog datePickerDialog = new DatePickerDialog(
            context: this,
            listener: this,
            Calendar.getInstance().get(Calendar.YEAR),
            Calendar.getInstance().get(Calendar.MONTH),
            Calendar.getInstance().get(Calendar.DAY_OF_MONTH));
    datePickerDialog.show();
}


//  Function Name: showTimeDialog()
//  Description: this function is used to show time picker dialog
//  Return: void
private void showTimeDialog() {
    final Calendar calendar = Calendar.getInstance();

    TimePickerDialog.OnTimeSetListener timeSetListener = new TimePickerDialog.OnTimeSetListener() {
        @Override
        public void onTimeSet(TimePicker view, int hourOfDay, int minute) {
            calendar.set(Calendar.HOUR_OF_DAY, hourOfDay);
            calendar.set(Calendar.MINUTE, minute);
            SimpleDateFormat simpleDateFormat = new SimpleDateFormat( pattern: "HH:mm");
            tripTime.setText(simpleDateFormat.format(calendar.getTime()));
        }
    };

    new TimePickerDialog( context: AddTripActivity.this, timeSetListener, calendar.get(Calendar.HOUR_OF_DAY), calendar.get(Calendar.
}
```

All this Code Can be Found in AddNewTrip Activity Class file showing Data and Time Picker and google place auto complete feature.

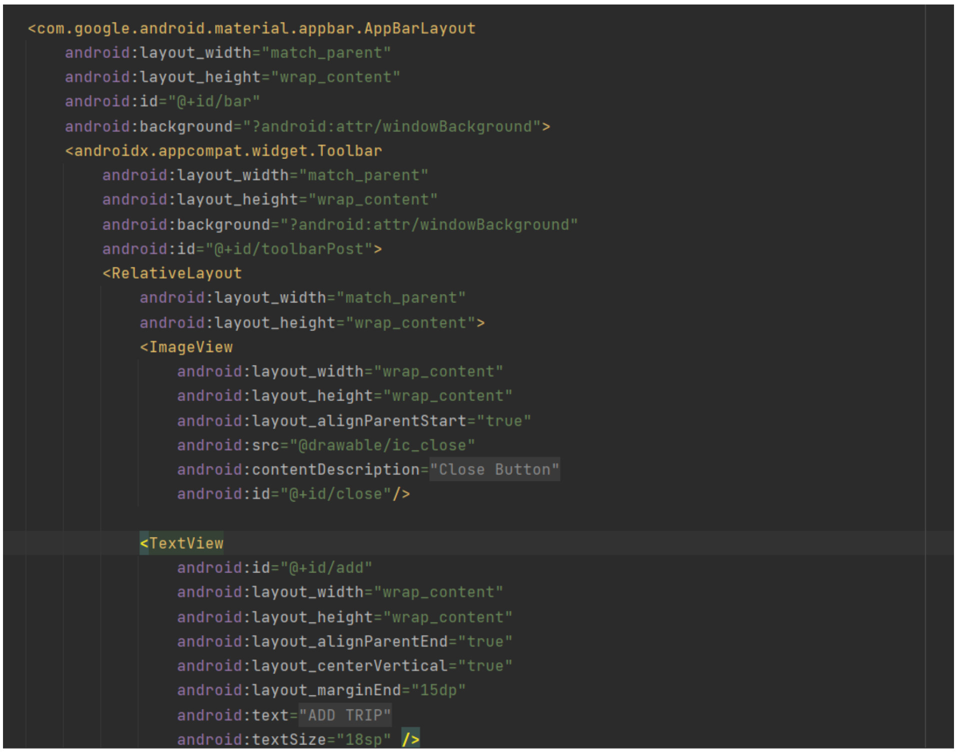


```
    <androidx.coordinatorlayout.widget.CoordinatorLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent">

        <FrameLayout
            android:id="@+id/frameLayoutReplace"
            android:layout_width="match_parent"
            android:layout_height="match_parent">
        </FrameLayout>

        <com.google.android.material.bottomappbar.BottomAppBar
            android:id="@+id/bottomAppBar"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="bottom"
            app:fabCradleMargin="10dp"
            app:fabCradleRoundedCornerRadius="10dp"
            app:fabCradleVerticalOffset="10dp">

            <com.google.android.material.bottomnavigation.BottomNavigationView
                android:id="@+id/bottomNavigationView"
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:layout_marginEnd="16dp"
                android:background="@drawable/transparent_background"
                app:menu="@menu/bottom_nav_menu" />
```

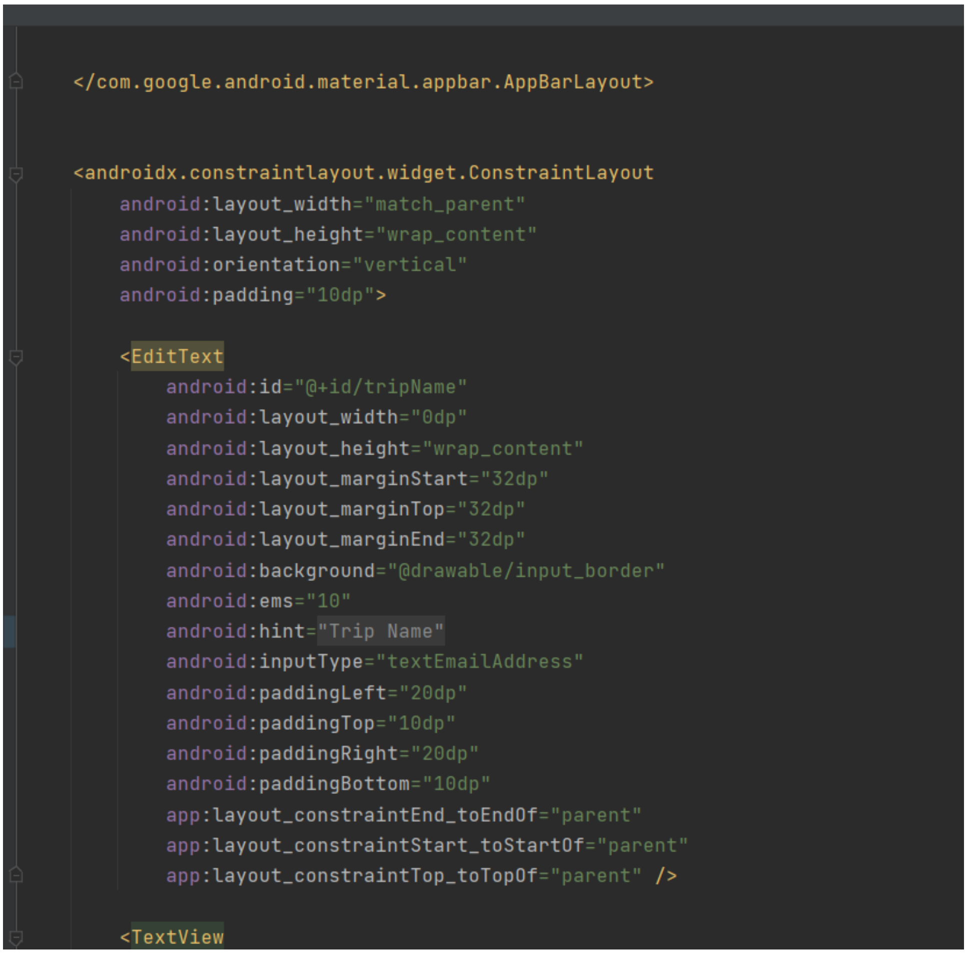


```
            <com.google.android.material.bottomnavigation.BottomNavigationView
                android:id="@+id/bottomNavigationView"
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:layout_marginEnd="16dp"
                android:background="@drawable/transparent_background"
                app:menu="@menu/bottom_nav_menu" />

        </com.google.android.material.bottomappbar.BottomAppBar>


        <com.google.android.material.floatingactionbutton.FloatingActionButton
            android:id="@+id/fab"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:contentDescription="Trippy-Trip_Planner"
            android:onClick="addTripActivity"
            android:src="@drawable/ic_baseline_add_24"
            app:backgroundTint="#CECECE"
            app:layout_anchor="@id/bottomAppBar" />

    </androidx.coordinatorlayout.widget.CoordinatorLayout>

</androidx.constraintlayout.widget.ConstraintLayout>
```

Code in main activity layout for floating button and bottom navigation menu



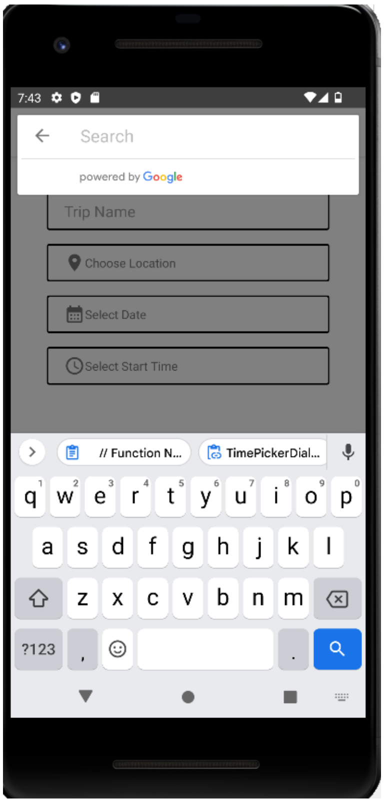
```xml
<com.google.android.material.appbar.AppBarLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/bar"
    android:background="?android:attr/windowBackground">
    <androidx.appcompat.widget.Toolbar
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="?android:attr/windowBackground"
        android:id="@+id/toolbarPost">
        <RelativeLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content">
            <ImageView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_alignParentStart="true"
                android:src="@drawable/ic_close"
                android:contentDescription="Close Button"
                android:id="@+id/close"/>

            <TextView
                android:id="@+id/add"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_alignParentEnd="true"
                android:layout_centerVertical="true"
                android:layout_marginEnd="15dp"
                android:text="ADD TRIP"
                android:textSize="18sp" />
```

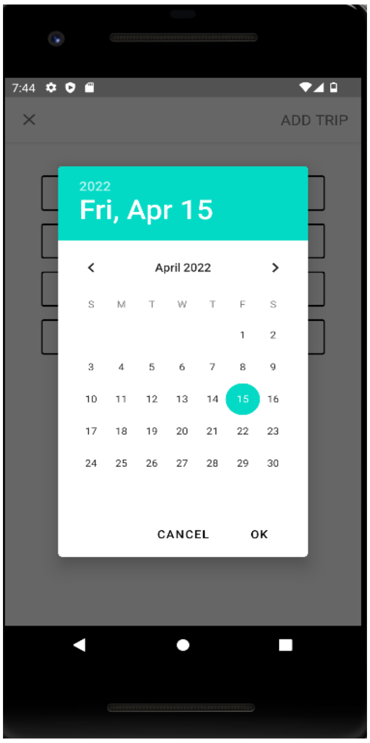


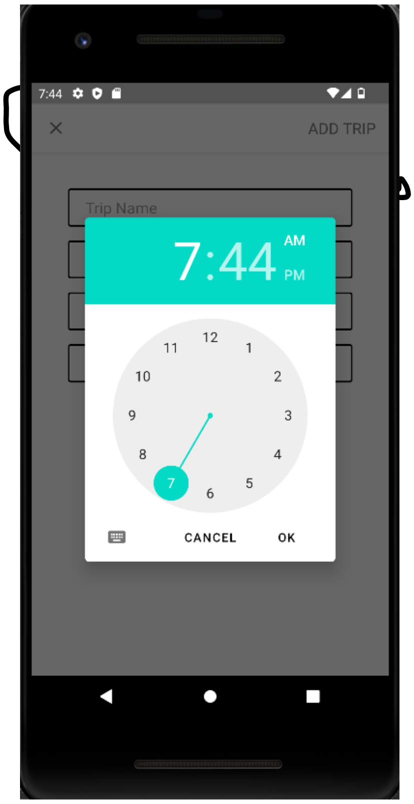
```xml
</com.google.android.material.appbar.AppBarLayout>


<androidx.constraintlayout.widget.ConstraintLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:padding="10dp">

    <EditText
        android:id="@+id/tripName"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="32dp"
        android:layout_marginTop="32dp"
        android:layout_marginEnd="32dp"
        android:background="@drawable/input_border"
        android:ems="10"
        android:hint="Trip Name"
        android:inputType="textEmailAddress"
        android:paddingLeft="20dp"
        android:paddingTop="10dp"
        android:paddingRight="20dp"
        android:paddingBottom="10dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
```

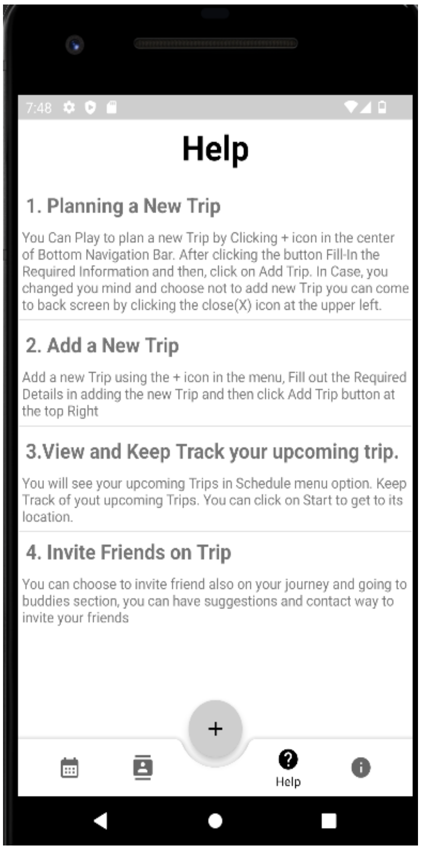
Code in Add Trip Activity Layout top bar layout

Demo









Help

1. Planning a New Trip

You Can Play to plan a new Trip by Clicking + icon in the center of Bottom Navigation Bar. After clicking the button Fill-In the Required Information and then, click on Add Trip. In Case, you changed you mind and choose not to add new Trip you can come to back screen by clicking the close(X) icon at the upper left.

2. Add a New Trip

Add a new Trip using the + icon in the menu, Fill out the Required Details in adding the new Trip and then click Add Trip button at the top Right

3.View and Keep Track your upcoming trip.

You will see your upcoming Trips in Schedule menu option. Keep Track of yout upcoming Trips. You can click on Start to get to its location.

4. Invite Friends on Trip

You can choose to invite friend also on your journey and going to buddies section, you can have suggestions and contact way to invite your friends

Bottom Nav Bar and Dividers and Floating Button

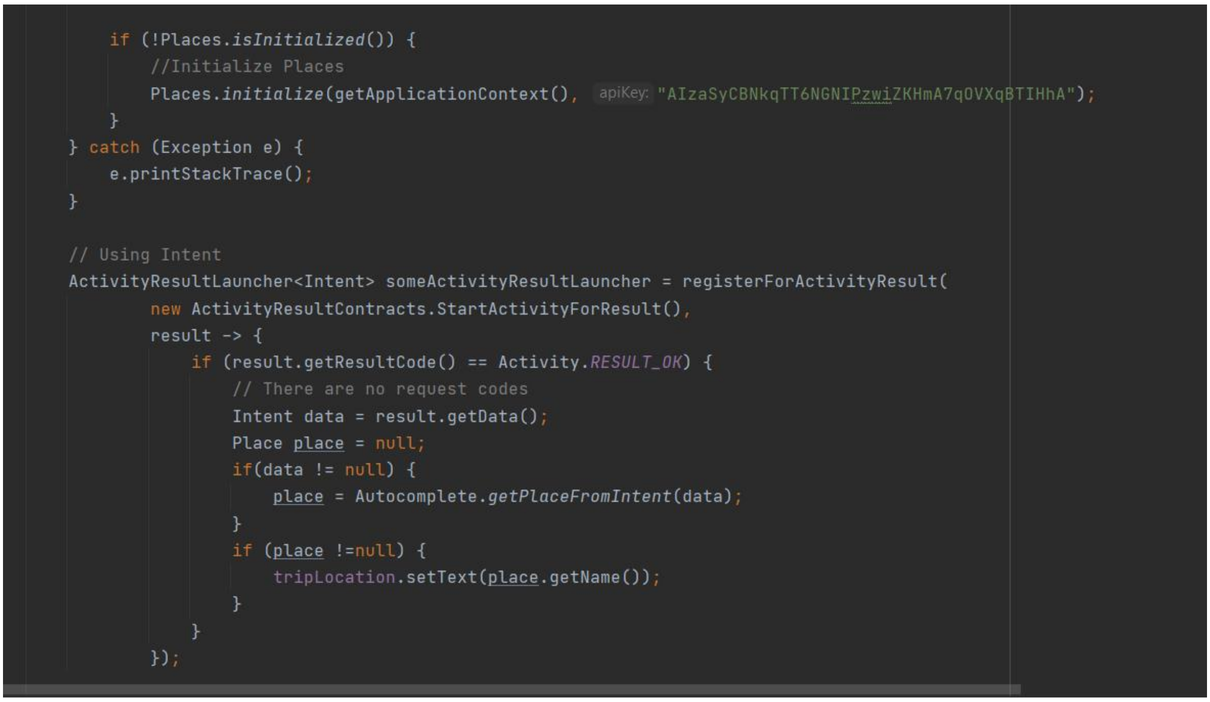
Working With Map

Implementation

Instead of Google Maps We do have used google places API and Google Places.

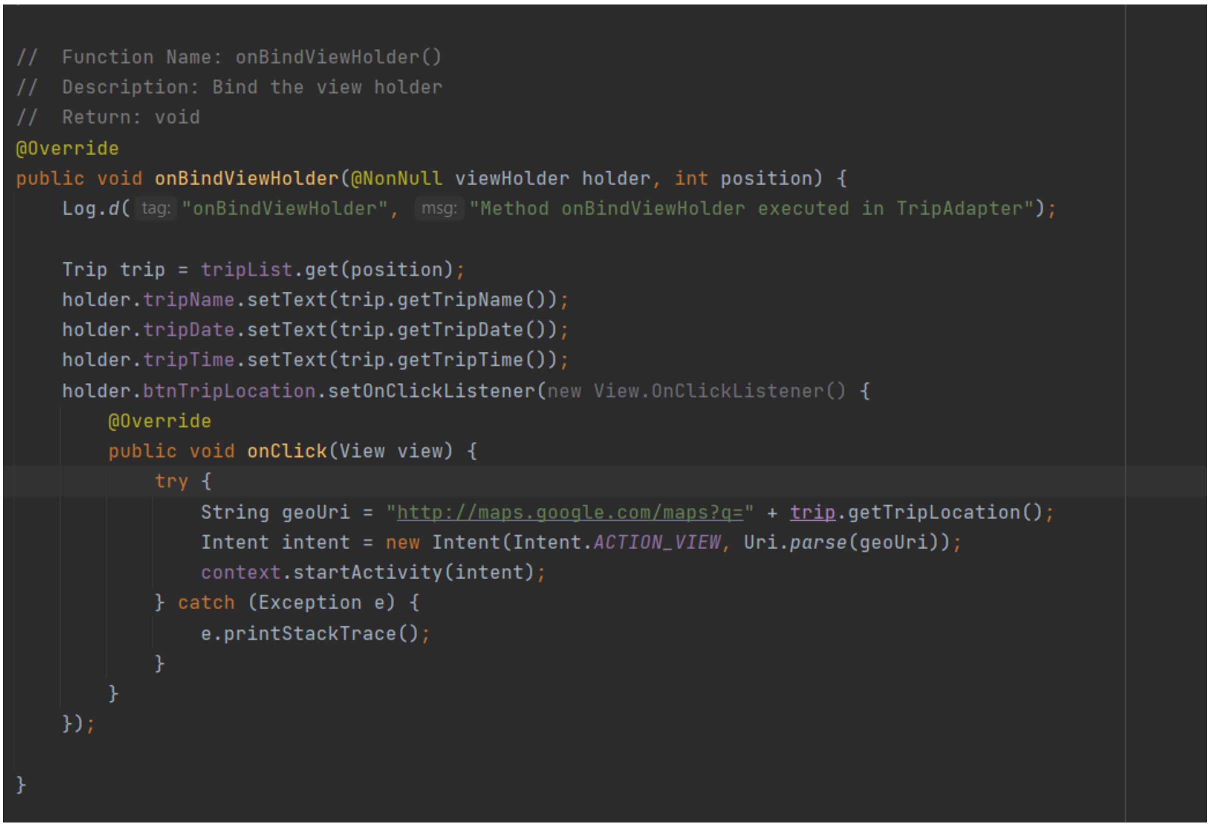
Google Maps are also used such that when User click of Start Button, user is taken into google maps to the Trip Location in order to Travel to that Destination.

Target Code



```
    if (!Places.isInitialized()) {
        //Initialize Places
        Places.initialize(getApplicationContext(),  apiKey: "AIzaSyCBNkqTT6NGNIPzwiZKHmA7qOVXqBTIHhA");
    }
} catch (Exception e) {
    e.printStackTrace();
}

// Using Intent
ActivityResultLauncher<Intent> someActivityResultLauncher = registerForActivityResult(
        new ActivityResultContracts.StartActivityForResult(),
        result -> {
            if (result.getResultCode() == Activity.RESULT_OK) {
                // There are no request codes
                Intent data = result.getData();
                Place place = null;
                if(data != null) {
                    place = Autocomplete.getPlaceFromIntent(data);
                }
                if (place !=null) {
                    tripLocation.setText(place.getName());
                }
            }
        });
```

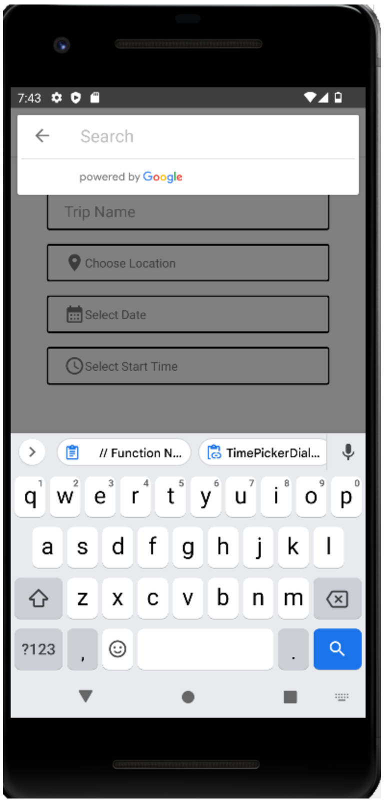
Code in Add Trip Activity Class File.

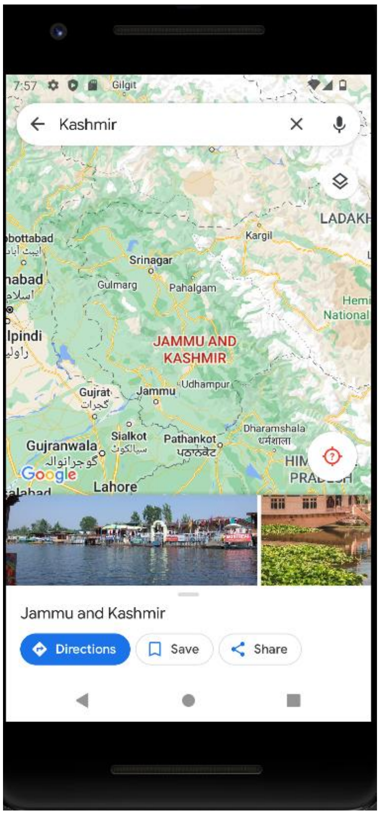


```
//  Function Name: onBindViewHolder()
//  Description: Bind the view holder
//  Return: void
@Override
public void onBindViewHolder(@NonNull viewHolder holder, int position) {
    Log.d( tag: "onBindViewHolder",  msg: "Method onBindViewHolder executed in TripAdapter");

    Trip trip = tripList.get(position);
    holder.tripName.setText(trip.getTripName());
    holder.tripDate.setText(trip.getTripDate());
    holder.tripTime.setText(trip.getTripTime());
    holder.btnTripLocation.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            try {
                String geoUri = "http://maps.google.com/maps?q=" + trip.getTripLocation();
                Intent intent = new Intent(Intent.ACTION_VIEW, Uri.parse(geoUri));
                context.startActivity(intent);
            } catch (Exception e) {
                e.printStackTrace();
            }
        }
    });

}
```

Code in Trip Adapter Class File.

Demo





Documentation

Proper documents of Rubrics, Description and Contributions Submitted with extensive details.

Coding Practises

Implementation

- Widespread use of Logs in every possible situation
- Proper Commenting of Code. Every File Include Header Comments, Function Comments and Inline Code Comments.
- Exception Handling done in proper Way in try and Catch Blocks. Application face no Exceptions.