Experiment No. 4

Aim: To create GUI base application in Android.

Requirements: Compatible version of Android Studio, Gradle and Java.

Theory:

User Interface

Your app's user interface is everything that the user can see and interact with. Android provides a variety of pre-built UI components such as structured layout objects and UI controls that allow you to build the graphical user interface for your app. Android also provides other UI modules for special interfaces such as dialogs, notifications, and menus.

Layouts

A layout defines the structure for a user interface in your app, such as in an activity. All elements in the layout are built using a hierarchy of View and ViewGroup objects. A View usually draws something the user can see and interact with. Whereas a ViewGroup is an invisible container that defines the layout structure for View and other ViewGroup objects, as shown in figure 1.

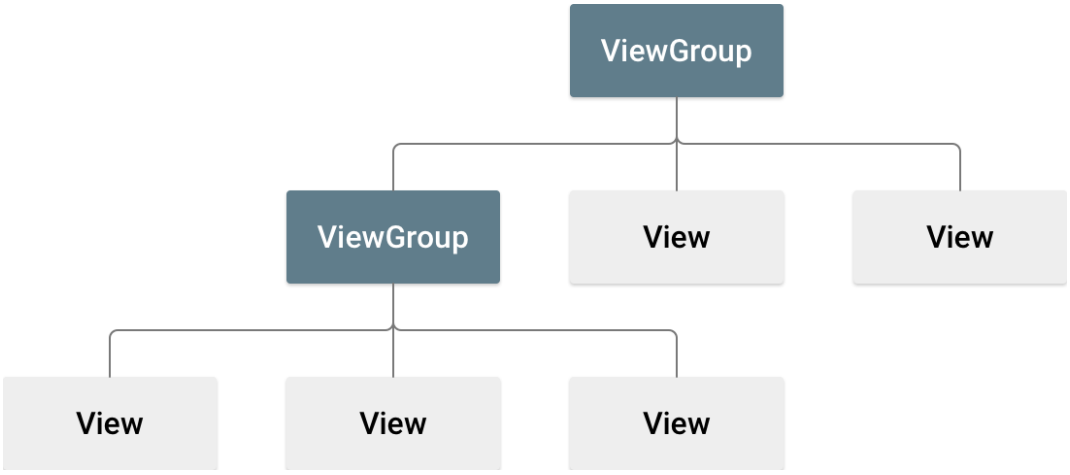


Figure 1. Illustration of a view hierarchy, which defines a UI layout

The View objects are usually called "widgets" and can be one of many subclasses, such as Button or TextView. The ViewGroup objects are usually called "layouts" can be one of many types that provide a different layout structure, such as LinearLayout or ConstraintLayout.

You can declare a layout in two ways:

- **Declare UI elements in XML**. Android provides a straightforward XML vocabulary that corresponds to the View classes and subclasses, such as those for widgets and layouts.

You can also use Android Studio's Layout Editor to build your XML layout using a drag-and-drop interface.

- **Instantiate layout elements at runtime**. Your app can create View and ViewGroup objects (and manipulate their properties) programmatically.

Declaring your UI in XML allows you to separate the presentation of your app from the code that controls its behavior. Using XML files also makes it easy to provide different layouts for different screen sizes and orientations (discussed further in Supporting Different Screen Sizes).

The Android framework gives you the flexibility to use either or both of these methods to build your app's UI. For example, you can declare your app's default layouts in XML, and then modify the layout at runtime.

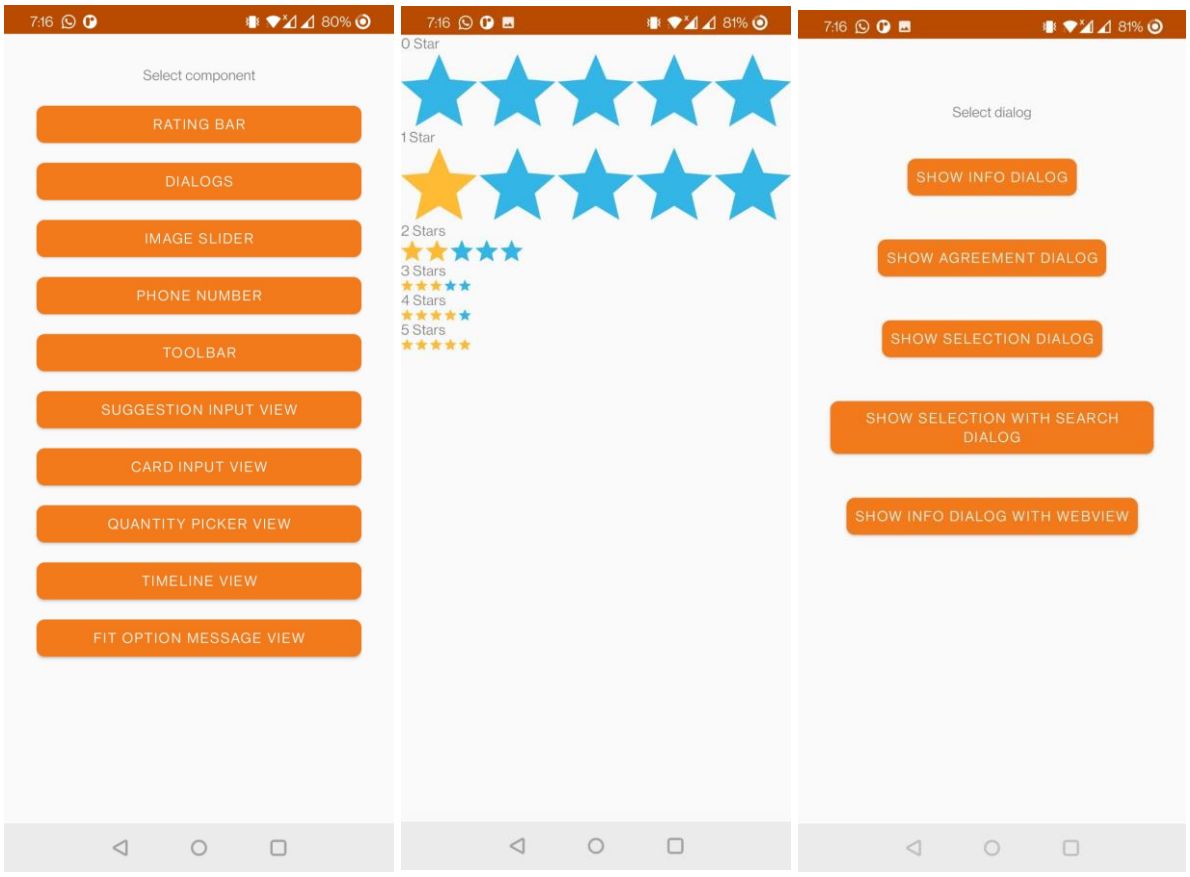
Code:

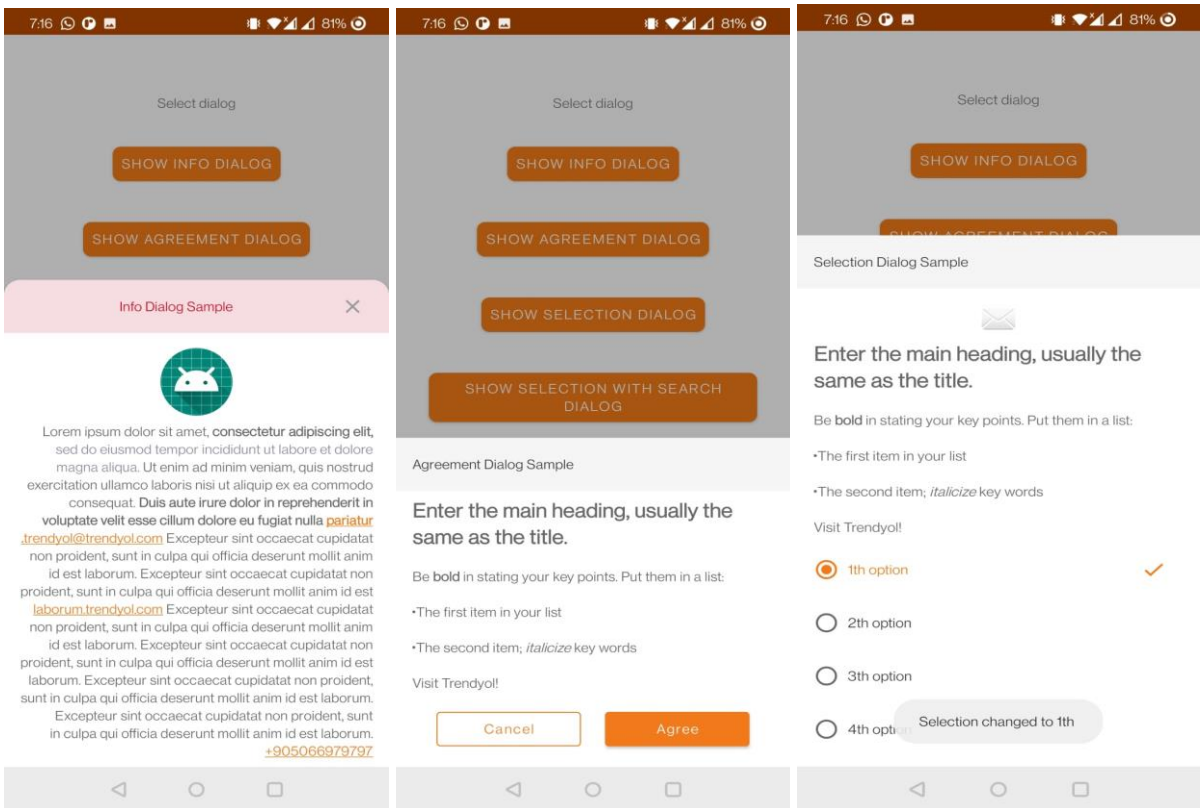
```
package com.trendyol.uicomponents
import android.content.Intent
import android.os.Bundle
import android.widget.Button
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

    private val buttonRatingBar by lazy { findViewById<Button>(R.id.button_rating_bar) }
    private val buttonDialogs by lazy { findViewById<Button>(R.id.button_dialogs) }
```

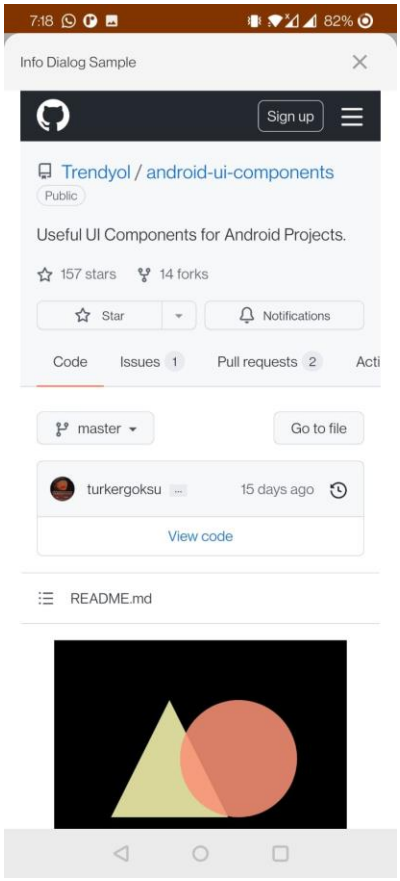
```
    private val buttonImageslider by lazy { findViewById<Button>(R.id.button_imageslider)
}
    private val buttonPhoneNumber by lazy {
findViewById<Button>(R.id.button_phone_number) }
    private val buttonToolbar by lazy { findViewById<Button>(R.id.button_toolbar) }
    private val buttonSuggestionInputView by lazy {
findViewById<Button>(R.id.button_suggestion_input_view) }
    private val buttonCardInput by lazy { findViewById<Button>(R.id.button_card_input) }
    private val buttonQuantityPicker by lazy {
findViewById<Button>(R.id.button_quantity_picker) }
    private val buttonTimelineView by lazy {
findViewById<Button>(R.id.button_timeline_view) }
    private val buttonFitOptionMessageView by lazy {
findViewById<Button>(R.id.button_fit_option_message_view) }

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        buttonRatingBar.setOnClickListener {
            startActivity(Intent(this, RatingBarActivity::class.java))
        }
        buttonDialogs.setOnClickListener {
            startActivity(Intent(this, DialogsActivity::class.java))
        }
        buttonImageslider.setOnClickListener {
            startActivity(Intent(this, ImageSliderActivity::class.java))
        }
        buttonPhoneNumber.setOnClickListener {
            startActivity(Intent(this, PhoneNumberActivity::class.java))
        }
        buttonToolbar.setOnClickListener {
            startActivity(Intent(this, ToolbarActivity::class.java))
        }
        buttonSuggestionInputView.setOnClickListener {
            startActivity(Intent(this, SuggestionInputViewActivity::class.java))
        }
        buttonCardInput.setOnClickListener {
            startActivity(Intent(this, CardInputViewActivity::class.java))
        }
        buttonQuantityPicker.setOnClickListener {
            startActivity(Intent(this, QuantityPickerViewActivity::class.java))
        }
        buttonTimelineView.setOnClickListener {
            startActivity(Intent(this, TimelineViewActivity::class.java))
        }
        buttonFitOptionMessageView.setOnClickListener {
            startActivity(Intent(this, FitOptionMessageViewActivity::class.java))
        }
    }
```

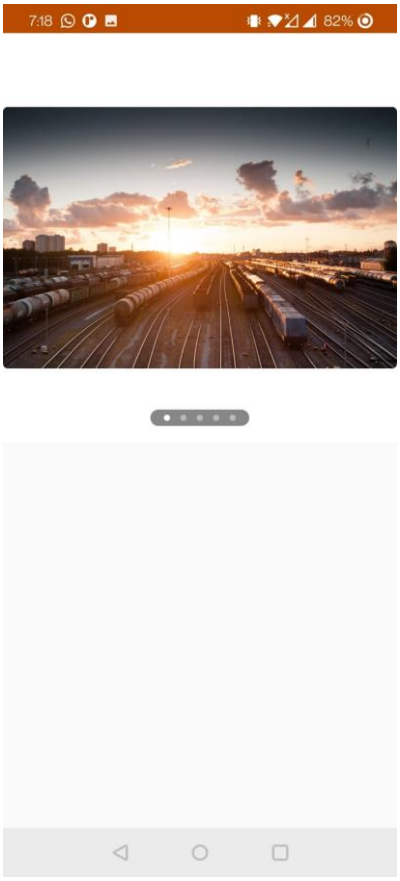
}

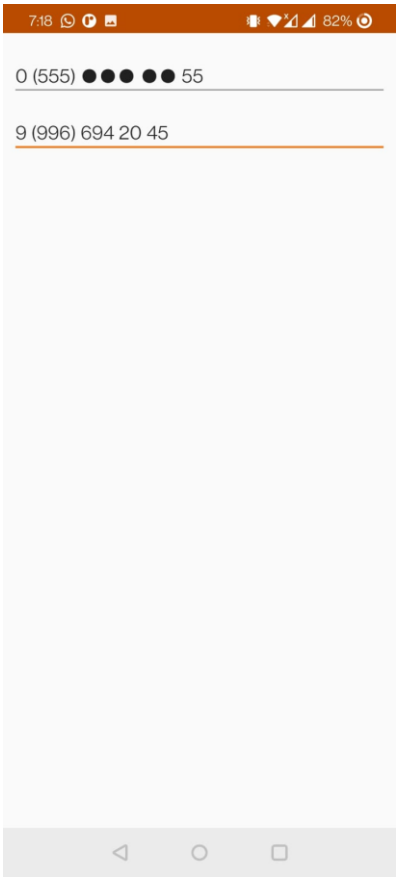
Output:

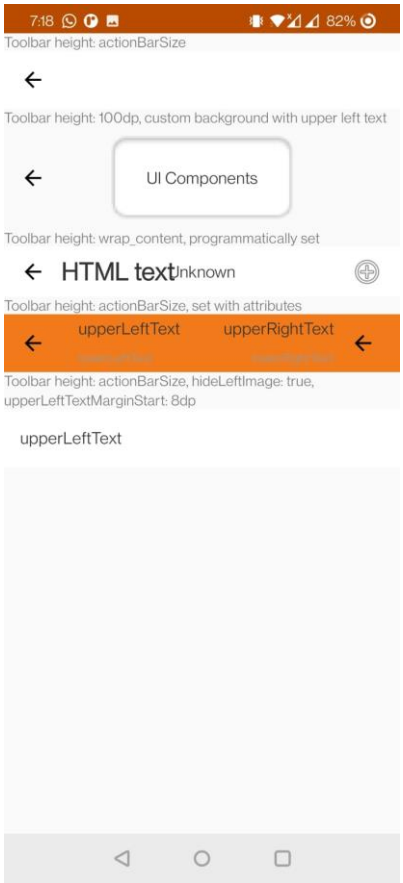

Select component
RATING BAR
DIALOGS
IMAGE SLIDER
PHONE NUMBER
TOOLBAR
SUGGESTION INPUT VIEW
CARD INPUT VIEW
QUANTITY PICKER VIEW
TIMELINE VIEW
FIT OPTION MESSAGE VIEW
0 Star
1 Star
2 Stars
3 Stars
4 Stars
5 Stars
Select dialog
SHOW INFO DIALOG
SHOW AGREEMENT DIALOG
SHOW SELECTION DIALOG
SHOW SELECTION WITH SEARCH DIALOG
SHOW INFO DIALOG WITH WEBVIEW


Select dialog
SHOW INFO DIALOG
SHOW AGREEMENT DIALOG
Info Dialog Sample
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur .trendyol@trendyol.com Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.trendyol.com Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. +905066979797
Select dialog
SHOW INFO DIALOG
SHOW AGREEMENT DIALOG
SHOW SELECTION DIALOG
SHOW SELECTION WITH SEARCH DIALOG
Agreement Dialog Sample
Enter the main heading, usually the same as the title.
Be bold in stating your key points. Put them in a list:
•The first item in your list
•The second item; italicize key words
Visit Trendyol!
Cancel
Agree
Select dialog
SHOW INFO DIALOG
Selection Dialog Sample
Enter the main heading, usually the same as the title.
Be bold in stating your key points. Put them in a list:
•The first item in your list
•The second item; italicize key words
Visit Trendyol!
1th option
2th option
3th option
4th option
Selection changed to 1th

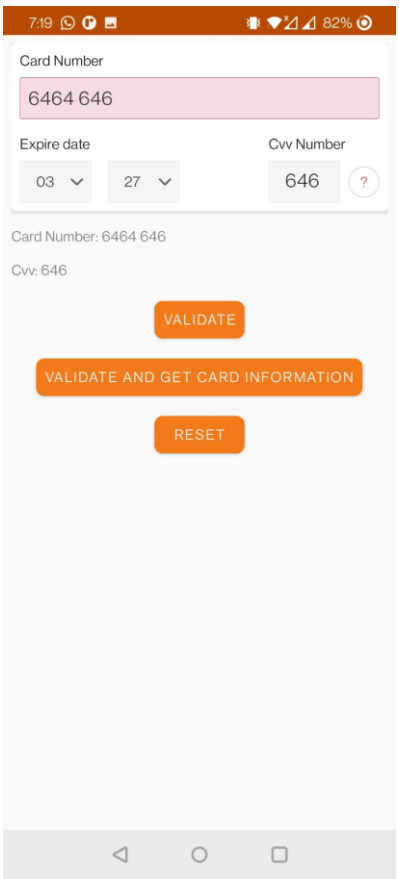

Info Dialog Sample
Sign up
Trendyol / android-ui-components
Public
Useful UI Components for Android Projects.
157 stars
14 forks
Star
Notifications
Code
Issues 1
Pull requests 2
Acti
master
Go to file
turkergoksu
15 days ago
View code
README.md

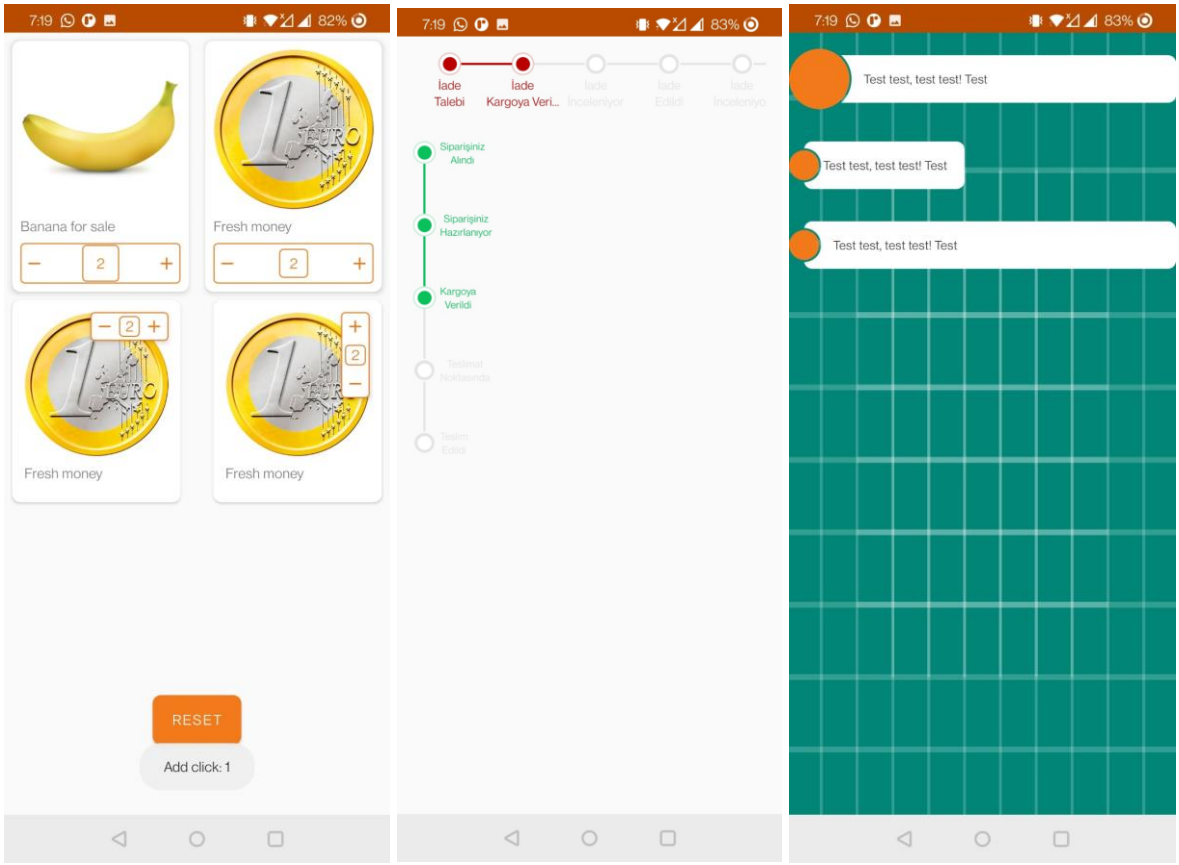



0 (555) ●●● ●● 55
9 (996) 694 20 45


Toolbar height: actionBarSize
Toolbar height: 100dp, custom background with upper left text
UI Components
Toolbar height: wrap_content, programmatically set
HTML text Unknown
Toolbar height: actionBarSize, set with attributes
upperLeftText
upperRightText
Toolbar height: actionBarSize, hideLeftImage: true, upperLeftTextMarginStart: 8dp
upperLeftText


10 ₺
20 ₺
30 ₺
Other
LOAD
Selected Text: 30 ₺
Selected Value: 30


Card Number
6464 646
Expire date
Cvv Number
03
27
646
Card Number: 6464 646
Cvv: 646
VALIDATE
VALIDATE AND GET CARD INFORMATION
RESET



Conclusion: We have successfully implemented GUI app in andorid.