

1. Based on your understanding, identify a recent business trend that has influenced the Android Platform. Explain how this trend impacts Android app developers and businesses in the mobile app industry.
 - One significant trend that was influencing the Android Platform was the growing emphasis on Privacy and data security.

Impact on app developers.

1 Enhanced privacy measures.

- Android introduced stricter privacy controls and policies, affecting how apps collect and handle user data. Developers need to adhere to these guidelines, which might require changes to their app's data collection and usage practices.

2 User consent and permissions.

- Developers must ensure their apps request permissions in a transparent manner and only collect necessary data with user consent. This impacts user experience and app functionality, as users are becoming more cautious about granting permission.

3 Data minimization.

- Developers are encouraged to minimize data collection, storage, and retention, which can reduce the complexity of their app but might require -

adjustments to existing facilities.

Impact on Businesses in the APP Industry

1. Compliance Costs

- Ensuring compliance with evolving privacy regulations can be costly for businesses. They may need to invest in updates, audits, and legal consultation to avoid fines and reputational damage.

2. Consumer Trust:

- Adhering to strict privacy practices can build trust with users, leading to increased loyalty and competitive advantages.

3. Monetization challenges:

- Businesses relying on user data for advertising services may face challenges due to restricted access to user information.

4. Market Opportunity:

- Privacy-focused apps and services can capitalize on the growing demand for secure and private digital experiences.

U.V. Patel College of Engineering

GANPAT UNIVERSITY, KHERVA-384012, DIST - MEHSANA. (N.G.)

Q.2. What is the purpose of an Inflater of layout in Android development, and how does it fit into the architecture of Android layouts?

- The purpose of an inflater in Android development is to convert an XML layout file into corresponding view objects in memory. It's an essential component for dynamically creating and managing user interface elements.

1. XML Layout Files:

- In Android, you define UI layouts using XML files. These files describe the structure and appearance of your UI elements.

2. View Hierarchy:

- The created view object form a hierarchy that represents your UI. This hierarchy can include various UI elements like buttons, text views, and more, each with its attributes defined in the XML layout file.

3. Activity / Fragment:

- The view hierarchy is typically associated with an activity, which are parts of your app's UI.

4. User Interaction:

- UI with your app's UI, and you can programmatically modify to the UI elements as needed.

Q.3. Explain the concept of a custom DialogBox in android app. Provide examples to illustrate its use.

- In Android, A dialog is a small window that prompts the user to make a decision, provide some additional information, and inform the user about some particular task.
- Purpose of dialog
 - to warn the user about any activity.
 - to inform the user about any activity
 - to tell user whether it is an error or not.

Example:

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

```
        val ShowDialogBtn = findViewById<Button>(  
            R.id.showdialogbtn)
```

```
        ShowDialogButton.setOnClickListener {  
            showCustomDialog(this)}
```

y
y
y

Page No.

4

V.R. Telecom & Xerox

Page No.

3

fun showCustomDialog (context : Context) {

 val dialogView = LayoutInflater.from(context).inflate(R.layout.custom_dialog, null)

 val alertDialogBuilder = AlertDialog.Builder(context)
 .setView(dialogView)

 val alertDialog = alertDialogBuilder.create()

 dialogView.dialog_button.setOnClickListener {

 val userInput = dialogView.dialog_input.text.toString()

 alertDialog.dismiss()

 }

 alertDialog.show()

}

Q.4 How do Activities, services, and the Android manifest file work together to make an Android app? Can you describe their main roles and provide a basic example of how they cooperate to design a mobile app?

1. Activities : Activities use the UI components of an Android app. They represent the screen or UI elements that the user interacts with.

1. Activities

→ Main Role : Activities are responsible for presenting the UI and handling UI with CPP.

Example : in messaging CPP, you might have -
different Activities for composing a new msg,
viewing a list of conversations or reading
a specific msg thread.

- Each of these Activities manages a different
Screen or UI .

2. Services :

→ Main Role : Perform background tasks without UI.
They handle operation that should continue even when the CPP is not in the foreground.

Ex : music streaming CPP .

3. Android Manifest :

→ Main Role : Provide essential information to the Android system about CPP's Components and requirements.

Ex : you might declare multiple Activities for -
different screens and a service for handling
notifications.

2. Service : services are background components that perform tasks without UI.

3. Android Manifest File.

- It provides essential information about APP to the Android OS.
- Activities are declared in the manifest file using <activity> tags. This tells the Android system about the available activity in APP.
- Services are similarly declared in the manifest file using <service> tags. This informs the system about the services your APP provides.
- manifest file also specifies how different activities and services are related and how they interact with each other through the use of <intent-filters> and <actions>.
- When user interacts with APP, the Android system starts and manages the activities based on user action. Service can be started and stopped programmatically by Activities or other services and they can run independently of the user components. Permissions required for specific actions or components are also declared in the manifest file to ensure proper security and access control.

Ex Weather APP.

You have two Activity (1) Main Activity (2) Settings Activity cmd "Weather UPdateService" which periodically fetches weather data from an online API.

When user launches APP, the Android System reads the manifest, known which activities are available. cmd start the appropriate one. In b2, the "Weather UPdateService" periodically updates weather data even if the APP is not in foreground.

Q.5 How does Android manifest file impact the development of an Android application? Provide an example to demonstrate its significance.

b) Permissions

The Android Manifest file plays a crucial role in Android APP development. It contains essential information about the APP and its components, influencing various aspects of development and APP behavior.

i. Permissions.

The manifest file specifies the permissions your APP needs to access certain device features, like camera, location or contact.

Example, if APP requires access to the camera, you would declare the permission.

like <uses-permission android:name = "com.android.permission.CAMERA" />

2. Activities :

- define the app's activities in the manifest.
Each Activity must be declared with an intent filter to specify how it responds to actions.

3. Services and Broadcast Receivers :

- are declared in the manifest to specify -
how they interact with the system and other components.

4. APP metadata :

- you can include app metadata about the app, such as the app's name, icon, version.

5. APP Configuration.

- you can set various configuration options for your app in the manifest, like screen orientation, supported screen sizes.

Ex. Activity.

```
<Activity android:name=".MainActivity">
    <intent-filter>
        <Action android:name="android.intent.Action.MAIN"/>
        <Category android:name="android.intent.Category.LAUNCHER"/>
    </intent-filter>
</activity>
```