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Assignment-01 (MAD)

Q.1 Based on your understanding, identify a recent business Trend that has influenced the Android platform Explain how this Trend impacts Android app developers & business in the mobile app industry)

→ one significant trend that was shaping the Android platform & the mobile app industry was the growth of progressive web APPS (PWAs) & their impacts on of HOW this trend Could Have influded Android APP developers & business :

→ Progressive Web APPS (PWAS):
PWAS are web application that offer a native app like experience within web browser They leverage modern web Technology to provide features as offline, access, Push notification & response design what gets apart is their ability to function seamlessly on both desktop & mobile device.

* Impact on Android APP Developers :

1) Reduced Development Effort: Developer Could choose to build PWAS instead OF traditional native Android APPS reducing the need Separate codebases & resources for different platforms. This Could save time & effort.

2) Cross-Platform Compatability: PWAs are designed to work on various platforms including Android, Developers could reach broader audience with a single PWA potentially simplifying their Development and maintenance process.

3) Enhanced User Experience: PWAs can provide a smooth app like experience to user, including offline access & push notification. Developers could focus on developing that experience without having to worry about platform-specific constraints.

* Impact on Business in the Mobile App Industry:

1) Cost saving: Building a PWA can be more cost effective than developing separate native apps for multiple platform. This can benefit business by reducing development & maintenance expenses.

2) Wider Reach: Can be Accessed through a web browser making them accessible to broader audience without the need for app store downloads. This can help business reach user more easily.

3) Improved Engagement: The app-like features of PWAs such as push notification, can lead to increased user engagement.

4) Faster Updates: Updating a PWA is often quicker & more straightforward than updating native apps through app stores.

5) Reduce friction: since PWAs don't require User to install an app they can reduce the friction associated with app download.

→ It's Important to note that while PWAs offers many advantages they may not be suitable for all types of apps or byssiness.

Q2 What is the purpose of an Inflator of layout in Android development how does it fit into the architecture of Android layouts?

→ layoutsInflator is used to create a new view (or layout) object from one of your xml layouts findViewById just gives a responce to a view that has already been created

1) Dynamic UI Creation: Android apps often need to create & display UI components dynamically based on user interaction, data or native conditions

2) Seprution OF Concerns: Seprating the UI layouts definition (xml) From the code that manage It aleks maintain a clear seprution of concerns.

3) code Reusability: developers can reuse layouts.

4) localization & Theming:

5) Efficiency

6) Custom views

* How it Fits into the Architecture

→ Activity & Fragment: In Android, Activities & Fragments are responsible for managing UI components.

→ Binding views: After inflating a layout developers often bind views to variable in thier code using method like 'FindViewById':

→ Event handling & Interactivity: Inflater allows for adaptibility in UI design.

Q.3 Explain the concept of a CustomDialogBox in Android applications: provide Examples to illustrate its User.

→ In Android application a "CustomDialogBox" often is a UI Component that allows developers to create a Customized, pop-up dialog window the can designe information, collect User input, or perform various actions.

* How work:

→ layout Definition: Developer define to layouts for the custom Dialog using an XML layout file

→ Dialog Creation: In code custom Dialog is created & associated with XML layout Developers can set properties for the dialog, such as its size, title & specific behaviors.

→ Displaying the Dialog : When needed the custom Dialog can be displayed to the User

→ User Interaction : User can interact with the elements within the custom dialog, entering text, clicking buttons.

→ Handling Actions : Developer can define actions or event Handlers for the UI elements within the Custom dialog to respond to User Input or perform specific Task.

* Examples !

1) login Dialog :
- Purpose : A custome Dialog for User login or authentication
- layout : The Dialog a "login" button & "Forgot" password.

Q.4 How do Activities service & the Android manifest file work Together to make an Android can you describe their main roles & provide a basic example of how they coprate to design a mobile APP ?

→ In Android app development Activities Services & the Android manifest file work together to create the structure & functionality

1) Activities :
- Role : Activities represent individual screens or user interfaces in an Android APP.

Example - Imagine a simple email app with two activities : one for composing emails & another for view the inbox.

2) Service :

- Role : Service are background components that perfor long - running operation without a User Interfac

Example : In our emails app example a service could be used previously check for new emails in the background & update inbox

Android Manifest File :

Role : The AndroidManifest.xml File is a configuration file that defins essential information about the app its components and requires permission

Example : In the Manifest file you ; specify which activities & service the APP contains their properties and any permission required among other things

Q.5 How does the Android Manifest File impact the deportment of an Android application & provide an example to demonstrate its significance

-) The Android Manifest file is a critical component in Android app development it serves several significant purpose that impact the development and functionality of an android application.

* Example :

1) Component declaration : The Android Manifest file is where you declare all the component of your Android application, including activities, service broadtext recivers & content providers

```
<application....>
    <activity android:name = ".MainActivity">
    <intext-Filter>
    <Action android:name = "android.intext.Actin.Main"/>
    <category android:name = "android.inter.category.LAUNCHER"/>
    </input-Filter>
    </activity>
    <service android:name = "My service"/>
    <reciver android:name = "My Recive"/>
    <provider
        android:nam = ".Mycontextprovider"
        android:authorities = "com.example.myapp.provider"/>
</Application>
```

2) Application Configuration : This includes setting the apps theme, ican, label, version, information & setting the minimum Android APs level required.

→

```
<Application
    android:icon = "@drawble/app_icon"
    android:label = "@string/app_name"
    android:theme = "@style/AppTheme
    android = allowbackup = "true"
```

android : versioncode = "1"
android : versionname = "1.0"

3) Permission : your declare the permission your app requires to Access system response & data such as the ' Camera function Intent

→ <User - permission admin:name: = "android.Permission.CAMERA"
<User - permission android:name = "android.permission.ACCESS FINE - LOCATION/>

4) Intext Filters :

5) App permission :

6. What is the role of resource in Android developers Discuss the various types of resource & their significance in creating cell - structure application provide Examples to clarify your points.

→ Resource are the additional files & static content the your Code uses, such as bitmaps layouts definition User interface string, animation instruction & more

→ Resource are used for Anything From defining colors image length mean & string value

* Resource types overview :

(1) Animation resource : Define pre-determined animations From animation are saved in res / drawble / & accessed from R. drawble class

(2) Color State list resource : Define a color resource that changes based on the view state saved in res/color & accessed from the R.color class

(3) Drawable resource : Define various graphic with bitmaps or xml

(4) layout resources : Define the layout of your application UI

(5) Menu resource. Define the content of your application menu

(6) String resource()

(7) Style resource : Define the look & Format for UI element in xml

(8) Font resource : Define font families to include custom fonts in xml

Q9 How does an android service contribute to the Functionality of a mobile Application & Describe the process developing an Android Service

→ Declare the service in the Manifest : in the Android manifest.xml file declare the service with its name & inputs Ritu

< service android:name = "myService" />

(3) Implement the service Functionality : Write For the service inside the overridden method

(4) Start the service : To start the service create an Intent that specifies the service class & call 'startService()' with the Intent.

(5) Optionally Bind to the service:

(6) Stop or unbind From the service : you can stop a service using 'stopService()' or unbinding From using it 'unbindService()".