

★ ASSIGNMENT - 2 ★

Q : 2 Describe Android ? Explain
? different features of Android .

Ans : Android is an Open
Source and Linux Based
Operating system for mobile
Devices such as smart
Phone and tablet computers .

It was developed by
Andy Rubin [Father of Android]

The Android was introduced by
open handset alliance ,
lead by Google , and
other companies .

Android is an Open
source OS , so it allows
Developer to create their
Application at free cost .

→ Features of Android .

→ Open source
→ Beautiful UI :

⇒ Connectivity :

GSM / EDGE , ISDN, UMTS,
Bluetooth, wifi, LTE, NFC and
wiMAX .

⇒ Storage :

Relational Database is a light weight
for Data Storage used purpose.

⇒ Media Support :

PNG, GIF, BMP, AMR, JPEGS,
etc, WAV, AAC

⇒ messaging :

Supports SMS
and MMS.

⇒ web Browser :

Open source engine, coupled with engine supporting
HTML 5 and CSS 3 . Based on layout
webkit with chrome's

⇒ Multi Touch

Multitouch Android support
screen.

⇒ Multi - tasking :-

User can jump from one task to another and same time various application can run simultaneously.

⇒ Resizable widgets:-

Widgets are Resizable.

Q : 2 Define OHA and Explain it.

Ans : OHA stands for Open Handset Alliance. It is a business alliance for the mobile device that was created for developing standards.

⇒ The OHA has approximately 80 member companies, including HTC, Dell, Intel, Motorola, Qualcomm, and Google.

⇒ The OHA's main product is the world's most popular smartphone platform.

at OHA members are primarily mobile Operators Handset Manufacturer, Software Development firms, Semiconductor Companies and Commercialization Companies.

Q:3 State the Importance of Dalvik Virtual Machine.

Ans : The Dalvik Virtual Machine is an android Virtual machine optimized for mobile devices.

It optimizes the virtual memory and battery performance.

Machine life

Advantages :-

Android

OS

Dum

Supports

the

only.

- Execution is faster.

- Faster Android 2.2 Dalvik Compiler has its own JIT compiler

- It has been designed so that multiple instances of the virtual machines can run effectively.

~ Application are given their own instances.

Q: 4 Explain framework of Android OS with Diagram.

Ans : Android os system is a stack of software component which is roughly divided into four main sections and 4 layers.

- Linux Kernel
- Libraries
- Android Runtime
- Application framework
- Application.

* Linux Kernel :

At the bottom of the layers is Linux.

This provides a level of abstraction between hardware like camera, keyboard, display etc. and the device drivers.

→ The Kernel handles all things that are good at such drivers, which take the pain out of interfacing with peripheral hardwares.

* Libraries :

On the top of Linux Kernel there is a set of libraries including web browsers, well known database used for storage and sharing of application data, record and video, SSL for internet security, audio libraries etc. etc.

* Android Runtime :

This is the third section of the architecture and second available layer from the bottom.

This section called Provider
Key Component called Dalvik.
virtual Machine.

The Android Runtime
also Providers a set of libraries which enable
core Developers to write application
Android Standard Java Programming
Android using language.

* Application framework:

higher - level It provides many
Applications services to the form
of Java classes.

* Applications :

the You will find all
at the Android application layer.

Examples of such Applications
are Contacts, Books, Games,
etc.

Q : 5 Explain libraries and Android Runtime environment.

Ans : On top of Linux Kernel there is a Set of libraries including open - source web browser engine webkit, well known library which is SQLlite Database Repository for storage and sharing application Data, libraries to play and record audio and video, SSL libraries responsible for Internet security etc.

\Rightarrow Android Runtime Environment :-

This is the third Architecture available on the layer from the bottom.

This section provides a key component called Dalvik Virtual Machine.

The Android Runtime also provides a set of Core

libraries
Application
Android
Standard
language.

which
enable
to
write
using
Programming
Java

Q: 6
? Describe AVD. List the steps
to create AVD.

Ans : AVD is essentially on
emulator that allow Android
Applications to be tested
without installing them on
a Physical Android Based
Device.

AVD you can configure the
variety to emulate a
such of Hardware features.
memory screen size
camera capacity skin, front
etc.

* setup And creation of
AVD.

- one can create or
Message a new AVD using the
Android virtual Device
Manager.

Step 1 :- Select manager It will Open Dialog.

Device menu . AVM Manager now in AVM tab click on Create Button. It will open Create New AVM dialog.

Set your Requirements as per Click on OK button. It will create a New AVM.

Step 3 : Select the AVM from list of created AVM's and click on start button.

Step 4 : click on Launch Button to launch the AVM.

Q : Explain Android SDK.

Ans : Android SDK is a software Development Kit which allows Developers to create an Application.

Android SDK includes sample Projects with source code Development tools required to build an Android Application.

Some essential tools which are very useful for the development of the Android Application.

These tools provide a smooth flow of process from developing and debugging.

Q: 8 List and Explain Diff
Component Project of Android framework.

- Ans : i] src
ii] assets
iii] libs
iv] res
v] Android manifest.xml
vi] Proguard - Project.txt
vii] Project Properties.

i] src → user specified java files will be available here.

ii] gen :-

It contains auto gen.
files, R.java is automatically
created by Eclipse IDE
and any manual changes
are not necessary

iii] Assets :-

It contains Raw hierarchy
of files and directory
with no other capabilities

iv] Bin :-

It is the area used
by compiler to prepare the
files to be finally packaged
to the APK file.

v] libs :-

External libs files will be
placed in this folder.

vi] res :-

Android supports Resource like
images and certain XML
configuration files, these can
be placed in separate from
the source code.

vii] Android Manifest.xml

It is the setting file of your Android app. Each APPS can have 1 manifest file.

ix] ic_launcher-web.png

This is an icon to be used in Google Play.

x] Proguard-Project.txt

Everything here will be in commented out state because in general most people don't have any specific needs, just tool to run Proguard with standard settings.

xij] Project Properties :

It is the main file containing info such as Build platform target and the library dependencies renamed from has been Default.

Q : 9
? and Describe Broadcast Receiver
Content Provider.

Ans : Broadcast in Android is the System - wide events that can occur when the Device starts, Broadcast allow as to the system and Application events happens, than when the Register Receiver get Notified.

There are two type of Broadcast Receiver.

- static Broadcast Receiver
- dynamic Broadcast Receiver

A Content Provider manages Access to a central Repository of Data.

A Provider is Part of an Application which often works with the UI for Data.

However Content Provider to be used by other APPS, which are primarily intended by Client using a Provider.

Q: 10 Write a Program of Display
Android "Hello World!".

Ans : <LinearLayout

 xmlns:android = "http://schemas.android.com/apk/res/android"

 android:layout_width = "fill_parent"

 android:layout_height = "fill_parent"

 android:orientation = "vertical" >

<TextView

 android:id = "@+id/textview1"

 android:layout_width = "match_parent"

 android:layout_height = "match_parent"

 android:text = "Hello world"

 android:textColor = "@color/red" />

</LinearLayout>

MainActivity.java

Package com.example.helloworld;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

Public class mainActivity
extends AppCompatActivity {

@Override
protected void onCreate(Bundle
savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

}

}

