A Study on Mobile Development and Operating System Design

M. Angelin Rosy[1*], P. Ranjithkumar[2], M. Felix Xavier Muthu[3]

[1,2]Dept. of MCA, Er.Perumal Manimekalai College of Engineering, Anna University, Hosur, India
[3]Dept. of Mechanical Engineering, St.Xavier's Catholic College of Engineering, Anna University, Nagercoil, India

Corresponding Author: angel_rosym@yahoo.co.in, Tel. - 9944579754

Abstract— Capability Of Mobile Devices And The Confides Of Organization To Integrate Them Into Their Business Processes represents an attractive target for criminals to attack A mobile operating system (Mobile OS) is a software platform on top of which other programs called application programs, can run on mobile devices such as personal digital assistant (PDA) , tablets, cellular phones, smart phones and so on specific application software targeted to mobile devices known as apps are gaining popularity. In specific we are referring to most used mobile devices belonging to the tablets and smart phones categories.

Keywords: operating system (Mobile OS), personal digital assistant, gaining popularity, Mobile devices, application programs.

I. INTRODUCTION

Mobile has become the primary entry point for all types of users, who are using smaller device yet want to be able to do the same or more as they do on the desktop system, since Internet connection or mobile Internet [2] from such devices is more efficient thanks to wireless data transmissions both through wireless networks and cellular networks. Such networks allow higher band rate and apps could contain complex multimedia content as well as audio and video content also because mobile devices are more similar to computer systems with enhanced computing facilities. However most apps take advantage of Internet connection and use the web platform as an environment for apps execution. When using an app by means of a support distributed computing platforms they are known as web apps [3]. A primary categorization of apps that lays on technologies involved in their development distinguishes apps in web, native and hybrid meaning that they use web technologies, the mobile software programming platforms on which the mobile operating systems is based or specific cross platforms tools that are able to mediate on these two approaches. The distribution of mobile software passes through the "app store" a custom kind of e-commerce site where a user could find the software he/she needs distributed with different types of licenses both payment and free. Given the presence of a single container, apps are categorized by scopes (entertainment, educational, social) and the kind of mobile platforms [4] (iOS, Android, Windows, Blackberry OS).Regardless the scope and therefore the underlying in operation systems, mobile apps have specific

Features since targeted to computer systems that show limited capacities, are equipped with some type of Internet connection and could show specific hardware as sensors, camera, and Global Positioning System (GPS) receivers. Usually mobile devices, even if different as regards the scope and functionalities (e.g., tablets can be seen as processing devices while smart phones' main aim is telephony), offer limited computing and storage features, small screen size, input device with touch and without the usual pointing devices and the integration with sensor devices. A plethora of mobile operating systems [4] has been developed for managing the different mobile hardware for the two main computer systems categories (tablets and smart phones), most of them tied to mobile devices manufactures (Nokia-based systems like Symbian OS or Blackberry-based systems).
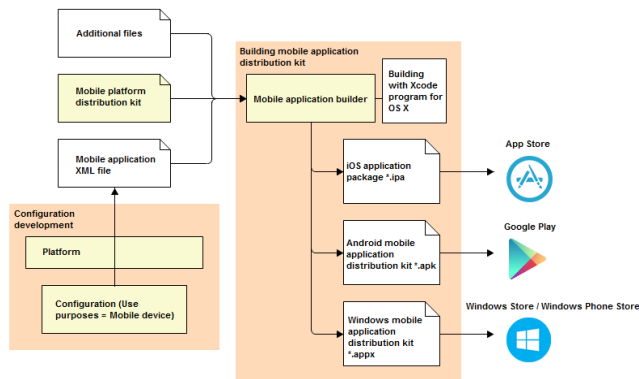

Fig. 1

II   MOBILE PLATFORM

Fig. 2

Providers cover software companies or organizations such as the case of Android OS, Windows Phone or the new proposals for operating systems (e.g., Tizen OS or Firefox OS, Ubuntu mobile) that developed mobile platforms appropriate for various classes of hardware. The paper analyzes mobile platforms from a package developer perspective examining the assorted existing and development platforms, the type of apps that could be developed for such environments and the tools available for such aim. In fact the presence of several mobile platforms, even if the actual market reduces the number to two systems (iOS and Android OS) is characterized by numerous frameworks (i.e., Windows-based, Blackberry OS, Bada OS).Developing AN app for one system excludes, although with different percentages, the number of potential users.

A software developer needs to understand to what mobile devices it is worthwhile to develop an app. Moreover if the choice regards more than one category, the developer should consider the design of a native or web apps meaning the use of mobile platform developer software rather than web technologies. Since the presence of mobile frameworks serving to the cross-platform development, advantages and disadvantages of these software should be examined.

This is a research allotted so as to grasp what mobile platforms and tools are to be taken by considering actual and future platforms and selections to certain offering educational and outreach app. Our background is a research institute involved in Astrophysics and this paper describes the study Proceedings of the 2013 International Conference on Systems, Control and Informatics 350 made to choose a platform wherever to develop education and reach physics apps.The remainder of this paper is organized as follows: Section 2 gives an overview of apps categories according users' behavior recent statistics from several market organizations. Section 3 describes the several mobile operating systems. Section 4 presents the approaches of

using cross-platforms tools in app development. Conclusion and future work are given within the final section.

III.   SMART PHONE APPLICATION

Fig. 3

1. Strategy
2. Design
3. Development
4. Marketing
5. Maintenance

At present various smart phone applications available. There are n number of smart phone applications are available today. Some of the fundamental applications square measure in-build with the in operation systems. Mobile app(smart phone app) is nothing but a computer program run on mobile devices such as smart phones and tablet PCs.Most such devices square measure sold-out with many apps enclosed as pre-installed software system like applications programmed, e-mail consumer, calendar, mapping program And an app for getting music or different media or more apps.

A. Android:
Android OS is that the most generally used software package in 2012 and 2013.
This is a computer code platform and software for mobile devices that is predicated on UNIX system kernel and is developed by Google however soon by Open telephone set Alliance

Its language is Java that is that the formally supported language. Now a day's Android 4.0 ice-cream sandwich, Android 4.1, 4.2 and 4.3 jelly bean are most widely used on September 3PrdP 2013, Android 4.4 kit kat is released by Google in its next Google Nexus 7.There square measure over one million Apps in Google play that makes users get freedom to try to something with their device. Android allows us to go video calls, phone calls, instant messaging at almost no cost. Ticket bookings are just a click away. Though Android updates don't change but it features good crisp looks and HD format supporting features. Some of the options of humanoid OS are: electronic messaging,

applications programmed, Multi-touch, Video job, Multi tasking and etc. Some of the best Android sensible phones are: Samsung Galaxy Note three, Moto X, Google Nexus seven etc. Google, Sony and Samsung are turning out with sensible watches like Samsung Galaxy that are progressing to revolutionize the sensible phone trade.

B. Apple iOS:

IOS is one in every of the most effective software system from Apple. This robust however high-ticket software system is developed by Apple whose linguistic communication is C.Recently free its one in every of the most important update in iOS history that's iOS seven.iOS seven permits America to perform between varied apps, an analogous UI(User Interface) than previous versions. Paying electricity bills, bank accounts maintenance are a tap a way .It has improved Siri, Airdrop (programming concepts) to transfer files. Control center that permits America to toggle totally different functions simply at a faucet. Up thereto level it's easier than different tasks. Apple i phone 5S also contains world's first and fastest A7 chip with 64 bit architecture and M7 motion co-processor chip. Apple I phone 5S also includes a finger print sensor which is the first ever technology launched by Apple. Some of the best iOS smart phones are: I Phone 5(discontinued now), I Phone 5C, i Phone 5S, I Pad 4, I Pad Mini, Sony Xperia Z3+etc.C.
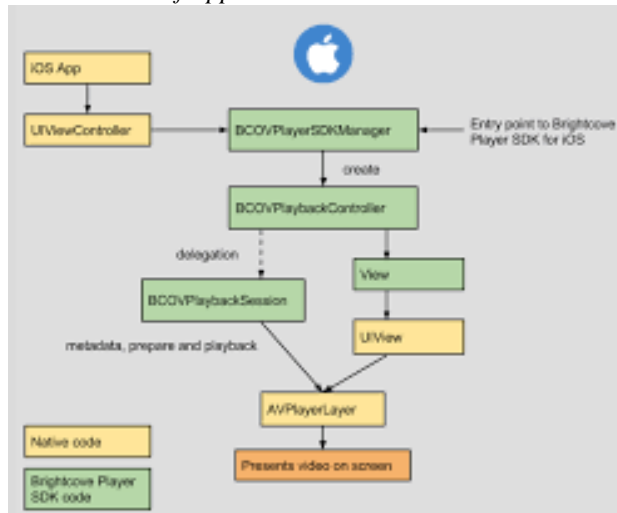
C. Architecture of Apple iOS:

Fig. 4

D. Windows:

Windows software system is one that is that the most generally used software system developed by Microsoft Corporation. Windows phones have the world's best UI (User Interface) permitting United States to hover over the apps with simply a slide. Windows phone seven was launched by Microsoft in 2010 that was the any updated to Windows phone eight. Now Windows phone eight is more updated to Windows eight.1.It consist X Box gaming which allows users to experience console level gaming. It allows Multi-tasking, installing third party apps. Earlier the Windows phone OS was not compatible with large screen Phablets and Tablets but now Nokia is working on a 6- inch Phablet and Microsoft is making its OS to be compatible with it. Some of the best Windows smart phones are: Nokia Lumia 1020, Nokia Lumia 928,HTC Mobile Radar and etc.Windows phone software are developing for large screen smart phones which means soon Windows Tablets and Phablets will be seen. Windows has launched its Surface 2 Computer which acts like a smart phone and as well as a computer Linux.
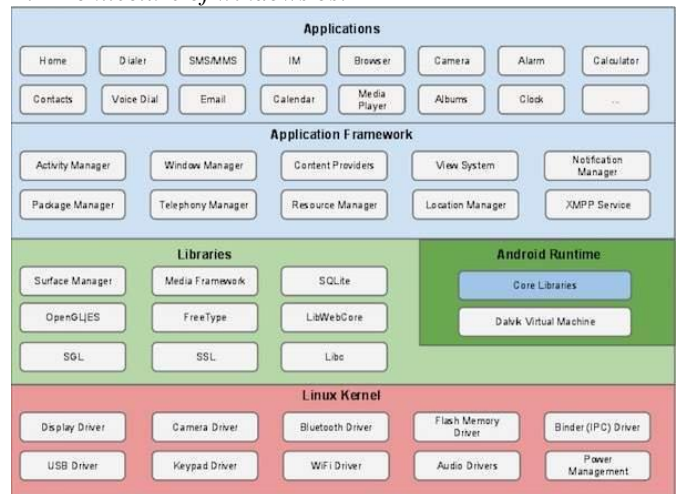
E. Architecture of windows os:

Fig. 5

F. kernel

The kernel system service provided by mechanical man inner nuclear layer is predicated on UNIX two.6 kernel, Operations like internal storage, method management, web protocol, bottom-drive and different core service area unit all based on Linux kernel.

G. Cocoa touch layer:

The Cocoa bit Layer contains the key frameworks for building layer defines the essential application and support for key technologies like multitasking, touch-based input, push notifications and plenty of high-level system services.Cocoa touch follows a Model View-Controller(MVC) software Architecture.

Cocoa bit may be a UI framework for building computer code programs to run on iOS for the iphone, iPod Touch, and ipad, watch OS for the Apple Watch, and TV OS for the fourth-generation Apple TV, from Apple Inc.... Cocoa bit relies on the macOS Cocoa API toolset and, like it, is primarily written within the Objective-C language.

H. Media layer

The Media Layer contains the graphics, audio, and video technologies. Graphics technologies include Core Graphics, Core   Animation   and   OpenGL technologies that handle 2nd vector and invigorating views and 2nd and 3D figures. Audio Technologies supports wealthy audio expertise and audio formats like AAC, Apple Lossless   (ALAC),   A-law   and   Linear   PCM.Video technologies support the Playback of picture show files with the .mov, .mp4, .m4vand .3gp computer file name extensions. Media layer is an Apple Inc. term that refers to computer code frameworks and technologies that change audio, visual associated alternative transmission capabilities at intervals an iOS high-powered device. It defines the complete transmission design at intervals Apple-powered mobile devices and applications.

I. Core services:

Core Services are a set of macOS and iOS application programming interfaces that architecturally are underneath Carbon, Cocoa and Cocoa Touch. In addition to Core Foundation, it also encompasses other APIs including Grand Central Dispatch, Blocks, CF Network Carbon Core, OS Services, and Web Service Core.

Core services process

Fig. 6

Contains the High-level options that each one applications use like I Cloud Storage, Core services framework. I Cloud Storage let your application data to a centralm location and access those items from all user's computer and iOS device. Core services framework includes Accounts framework, Address book framework and Core information framework contacts   and   for   managing   model-view   controller applicatifor user account

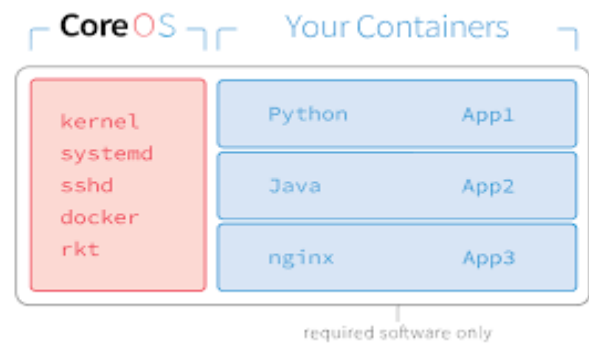*J. Core os*

Fig. 7

Contains the low-level features such as Accelerate framework, Core Bluetooth framework and External accessory framework. Accelerate frame work contains interfaces for performing DSP, Linear algebra and image processing calculations. The Core Bluetooth framework allows developers to interact specifically Bluetooth Low-energy accessories.
External accent framework provides support for human action with hardware
accessories connected to associate iOS based
mostly device.

K. Core OS Services:

The core operating system (OS) services consist of the kernel and other features. Core OS services change low-level tasks, such as process, thread, and memory management. Basic device drivers are a part of the Core OS services.

L. Prerequisites and Goals:

In order to induce started with this guide, you ought to have a CoreOS cluster with a minimum of 3 machines organized. You can follow our guide to bootstrapping a CoreOS cluster here. For the sake of this guide, our 3 nodes are going to be as follows:

- Coreos-1
- Coreos-2
- Coreos-3

These 3 nodes ought to be organized mistreatment their personal network interface for his or her etcd shopper address and peer address, as well as the fleet address. These ought to be organized mistreatment the cloud-config file as incontestable within the guide on top of. In this guide, we will be walking through the basic work flow of getting services running on a CoreOS cluster. For demonstration functions, we will be setting up a simple Apache web server. We will cowl putting in a pack service atmosphere with dockhand so we'll produce a system-style unit file to explain the service and its operational parameters.

M. WinRT APIs:

WinRT arthropod genus give numerous options for alter the system services like electronic communication, graphics and media and etc.This API is written in C++ on prime of Win32 and also the COM interface. It is exposed resolute alternative languages (in specific C++/CX, C#, Visual Basic and JavaScript) via API meta-data files (winmd files).

WinRT comes with AN application programming interface (API) within the kind of a category library that exposes the options of Windows eight for the developer, like its immersive interface API.It is accessible and expendable from any supported language. Included with: Windows Server 2012, Windows ...Replaces: Win32 APIType: Application programming interface

First of all the title of this post is not correct .Due the selling overkill of IT consummation pressure, there square measure a lot of and a lot of people that thinks that each one applications have UI and might be by default named "Desktop applications". Such selling did a brain wash that teach United States of America to form a distinction between Apps (WinRT) and classic Desktop applications (none WinRT).

IV. CONCLUSION

Smart phones like personal computer provide various functionalities like use of application, usability, web browsing, running GPS, expendable memory, multi-tasking, multi-processing, playing games, social networking etc. In this paper we have presented a detail review and comparative analysis of smart phone operating systems Android, iOS and Windows OS.We have created comparison between robot, iOS and Windows OS.From this comparative analysis we've got found that robot and Windows in operation systems square measure superior than different in operation systems. Android gets eighty.7% and is the best smart phone operating system in world today. We can conjointly use it as an academic tool. Due to golem AN open supply software system the user will simply install third-party applications from the market and ever from unreliable sources. Due to this it has some limitations which lead to malware attacks like viruses, warms, spywares, adware and Trojan horse. This paper provide a comparative analysis on smart phone operating systems and through this analysis we can said that at present Android is the Best operatingsystem for the smartphone used by globally.

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