A Study of Evolutionary Mobile Operating System and Design

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Abstract — This paper presents a survey Evolutionary Mobile Operating System and Design application developments one platform and market analysis design on a mobile operating system. Mobile OS Architectures, challenges and Issues in various mobile operating Systems. a variety of services such as video calls, faster browsing services,2d and 3d games, Camera, Banking Services, GPS services, File sharing services, Tracking Services, M-Commerce and so many. The challenge in mobile technology may be due to Operating System or Hardware or Network or Memory. The security threads a multitasking processor and storage space and smart phone on condition and mobile using people on the smart phone develop and secure using the mobile the many mobile OS on market in today and a every day on new information on mobile OS

Keywords— mobile architecture, market analysis, mobile security, types of OS, mobile OS features

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1 INTRODUCTION

The smart phone operating system mobile phones, tablet, PDA, on other digital devices the new mobile OS is cellular mobiles. The develop OS company are GOOGLE , Microsoft, apple, Symbian, and palm OS developed in world the application programs to use on various services to performance, security, and privacy on the mobile architecture. Perform different task of our daily life on mobile phones in few seconds. We can transfer money, pay utility bills by using mobile phones in few seconds for which we have to go to banks that takes a lot of time.

Cell phones currently are shifting from the device specifications to the operating system features and for function use. Currently, Google has almost 81% of the market shared to its open-source operating system and the variety of cell phone manufacturers.

This paper shows mobile operations comprehensive analysis of each mobile operating system in order to Google Android Operating System. There are many platforms to develop in mobile operating system.

Smart phones are now participating nearly in each and every sphere of life like business, education, workplace and healthcare. The increasing popularity and capability of mobile devices and confides of organization to integrate them into their business processes represents an attractive target for criminals to attack. As a consequence, organizations need to implement policies to manage the risk of using mobile devices in an enterprise environment, especially when the data that the mobile devices are handing is sensitive and confidential .the overview of features, concepts and challenges to ensure specific policies

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to a safe integration of mobile devices into an enterprise environment. Technology is getting really advanced now-a-days and it is also becoming the most important part of our lives Mobile devices evolved the way users across the globe leverage services on the go from voice calls to smart devices which enables users to access value added services anytime and anywhere on mobile operating system .

2 TYPES OF MOBILE OS

- SYMBIAN OS
- Palm OS
- Android OS
- IOS OS
- Windows OS
- Black berry OS

2.1 Symbian Os

The OS develop in Nokia Company. the develop language C++ 3rd party manufactures the kernel file server ,memory management on OS layer resource and response on application and system task allocated java virtual machine using to frame work development. Nokia uses the Symbian OS in their cell phones.

2.2 Palm Os

The OS PDA handle device garnet personal digital assistant mobile hardware unit .the CPU, hardware control chip and smaller screen on the basic palm OS . 3rd party application an games graphics and drawing the smart phones develop on UNIX language. Palm OS Garnet (v5.4.x) is a proprietary operating system originally developed by Palm Inc. In palm develop on personal computer (PDA) mobile hardware units. At one point, Palm PDAs with the Palm OS held 85% of the market share in the mobile device market However, in recent years, Palm's market share has been in decline, mostly due to the stagnant nature of the OS.

2.3 Android Os

The developed on Google the basic on Linux control and open handset alliance (OHA) the language is java application to be using ARM processor. Android runtime include Davit VM core function is set using language is C++ in the android operating system the apps to download on play store. Android working on Linux control Application framework layer defined the Android application framework. All Android applications are based on the application framework.

2.4 IOS OS

The development of apple company is used for increase the sales of iphone & ipads. The usage is firmware refers to chip memory drive is peripheral .the processor ARM and interrupt table OS boot process .the kernel and drive, services to user space and hardware. The runtime dynamic link and c Language to develop the apps to develop on app store. The iphone OS is a derivative of the Darwin open source POSIX compliant computer operating system developed by Apple Inc. The current version (v2.2.1) utilized in Apple- only hardware products including the iphone and iPod Touch. .

2.5 Windows OS

The hardware to use ARM 7 control processing unit to be 256 MB ram and to using then kernel to low level device and basic security on the windows mobile .is develop by Microsoft .the develop language is html ,java script ,c# ,net and VB to develop him the windows mobile. Different types of OS on the OS list. Different processed on him windows mobile platform to flexible and multitask on the windows mobile. It supports a whopping 256 priority levels for threads and up to 32 processes.

2.6 Black Berry OS

The black berry OS on java based kernel and ARM processor structure Intel core processor on X scale. Memory cannot be allocated supplement allocation memory .three section on application memory, device memory and memory card (storage device). Blackberry is a mobile operating system developed by Blackberry Ltd. It is programmed in C, C++ and Java programming languages its market share graph declined gradually from 0.5% to 0.3% and unfortunately to 0%. Touch, Samsung Tizen and Sailfish OS. However, we are hoping that Firefox gains as much success as has other successful operating systems have in the future.

3 ARCHITECTURE OF MOBILE OPERATING SYSTEM

The mobile operating system to the process and IPC (intermediate process control) to be GUI interface Layer. To run the programming on mobile architecture ... Java VM provides a set of APIs for mobile devices on the topmost of architecture. The industry has been reducing the

factor size of microprocessors and peripherals to design actual mobile devices. Out-of-Band and Out-of-Service management solutions are different from the operating systems and architectures
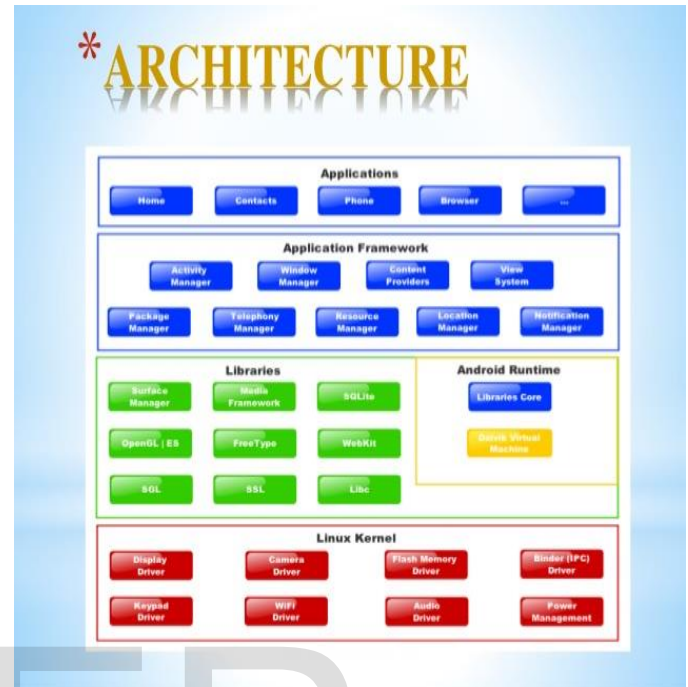

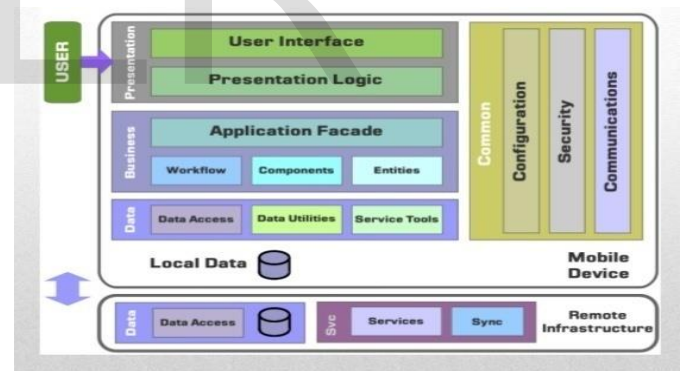Fig: 1 Mobile architecture common using the operations

Fig: 2 Microprocessors and peripherals to design actual mobile devices

4 MARKET ON MOBILE OS

Mobile touch to the OS and make it their own, additionally, it offers freedom to the users and developers to modify the OS according to their needs. According to Liana Cassia boy (2010), The Android OS is not also Phisticated as Apple's IOS but it offers customizations and freedom, which other platforms don't offer, such .the biggest powered on mobile phones in order for the customer to use the IOS he/she must buy an iphone or an iPad while on the other hand, if the customer wants an

Android phone he/she can have a variety of choices from different companies such as Samsung, HTC, Motorola, LG and Sony.

A recent report from Nielsen shows that Google's, strategy of having different devices from different companies is working because Android OS now account for 43% in United States, while I -Phone IOS accountonlyfor20.6%in the United States as shown in figure 1(Global Stats, 2013).Google's An-droid became the dominating OS for the third year on a row moving Apple's IOS to second place even though Apple started selling phones in 2017—one year before Google. The com-petition between Operating Systems is increasing rapidly and as a result it became more productive and beneficial to the market mobile OS.

Fig: 3 Mobile OS market on   2017

5 SECURITY OF MOBILE OS

The most cases, the use of a web service API first requires authentication to ensure that the caller of the web services is who they say they are. Usually, web service API security will use a form of token based authentication – this could be something like O Author as simple as sessions built into any modern server side framework, such as ASP.NET or Ruby on Rails. In the general authentication for secure on the username and password of mobile security. The token is then passed back to the web service on all subsequent requests and can be used on the server side to determine the identity of the user.

The security constrains the application to generally control on the security in the mobile phone system encryption. Regardless of the technology used to accomplish the token based authentication, all communication between the mobile client and the web server should be performed over an SSL secured connection in order to prevent the token from being captured the mobile systems.

6 CONCLUSION

The mobile phone operating system to architecture and security type of operating system on the mobile OS market analysis and using the mobile phones and security on him The survey reports that although each of the operating systems has their own Operating system Architecture, most of the operating systems are working with Linux based Kernel at lower level. Operating systems

Android, IOS, Blackberry OS and Windows phone are in the lead presently. Specifically, the Google's Android initiative of developing an OS which can run on all mobile devices has many made the Android the most used and popular mobile operating the world over. With respect to software Google is gaining momentum customer-wise, while Apple is having an advantage developer-wise.

REFERENCES

[1] Mohammed Basheikh (May-2014). Smartphone Operating Systems Market Analysis Retrieved July 26, 2014,

[2] Ahmed Ali (August 30, 2013) A Review of Different Comparative Studies on Mobile Operating System

[3]Android Team, "What is Android?" Feburary 2012. http://developer.android.com

[4] Android by 2012, A study on present and future of Google's Android By Dotcom Info way

[5] White paper on Mobile OS and efforts towards open standards By Dotcom Info way

[6] Tiwari Mohini, Srivastava Ashish Kumar and Gupta Nitesh Research Journal of Computer and Information Technology Sciences ISSN 2320 – 6527Vol. 1(6), 1219, November (2013)

[7] http://www.wisegeek.com/what-is- android-technology.html

[8] http://developer.android.com/about/versions/jelly-bean.html

[9] http://www.theverge.com/2011/12/13/ 2612736 /ios-history-iphone-ipad

[10] J. DeTreville, Making System Configuration more Declarative. Proc. Of Hot OSX: The 10th Workshop on Hot Topics in Operating Systems, June 2005.