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Design and Analysis of Smartphone Application Development Methodology

Prof. P. L. Ramteke[1]
Department of Information Technology,
HVPM's College of Engineering & Technology, Amravati
Maharashtra State, INDIA
_E-mail: pl_ramteke@rediffmail.com_

Dr. D. N. Choudhari[2]
Department of Computer Science & Engineering,
Jawaharlal Darda Institute of Engineering & Technology,
Yavatmal, Maharashtra State, INDIA
E-mail: dnchaudhari2007@rediffmail.com

Abstract— The use of modern Smartphone encourages by recent powerful devices such as Apple's iPhone, Samsung's Note, Google's Android devices etc. In general Smartphone application usage is rapidly growing & expanding throughout the globe. There are need set of emerging guidelines for how to build the new best possible Smartphone applications. Intelligence of mobile has created a wide range of opportunities for researchers, academicians, scientists, engineers, and developers to create the new applications for end users and businesses. Information technology industry enormously concentrates on how to best build smart phone based applications widely. There are various issues in Cutting-edge research and applications development on computational intelligence in mobile environment The mobile-based application development industry is increasingly growing up due to the huge and intensive use of applications in mobile devices; most of them are running on Android based Operating System. As such to develop, analysis and design research model for remotely accessing and control smart phone devices, object oriented strategy is one of the powerful among various traditional software development models. The Various object oriented intelligent development approaches contributes in addressing these issues, as well as discover other potential elements in the mobile paradigm. There are several issues & emerging guidelines that developers follows when building new business or social Smartphone based model.. The combination of mobile computing and computational intelligence focuses on learning model and knowledge generated by mobile users and mobile technology. Mobile technology covers various applications of computational intelligence to mobile paradigm, including intelligence, mobile data, security, mobile agent, location-based mobile information services, intelligent networks, mobile multimedia data access and control.

Keywords- _Smart Phone, Operating System,Object riented Design & Analysis, Android OS,Model design, Connectivity_

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I. INTRODUCTION

This paper concerns with the continuous practices, improvements and execution of object-oriented and event driven modeling approaches [1, 2] in real-time systems. The Eclipse platform is java-based, but not restricted to Java. The Eclipse is to provide an IDE that can constantly evolve and adapt. It has some built in technology, but relies on plug-in tools from software suppliers [3].

Android is an open-source operating system and runs on a wide variety of hardware produced by companies like HTC and Samsung. Due to its open nature the user must be more vigilant in protecting the device from malware and remote access [11]. Importance of Theory and Practices: Theory, practices, development plan and its execution are the important stages for software development model.. The important task of project analyst & manager is to identify and specify the problem correctly. Thereafter make the theory and work plan together in context of the model, its organization, time schedule and risk management. It is found that Android OS is the world's most popular mobile working platform.

With Android we can use all the Google apps plus there are more than 600,000 apps and games available on Google Play to keep entertained alongside millions of songs and books, and thousands of movies. Android devices are already smart and will only get smarter with new features that can't find on any other platform [7].The main objective of this approach is to reduce the gap between problem domain and software implementation through the use of technologies which support systematic model transformations [9].

HTC DESIRE X

Its look is shown in fig.1 At a Glance it consists of Android v 4.0 Operating System, 5 MP Primary Camera, 4-inch Touch screen, 1 GHz Processor. HTC Desire X comes with 5 inch LCD display screen. The visual son these phones are crisp and clear. _Operating System:_ It's stirred to action by 1 GHz Dual core processor and Android v 4.0 OS with HTC Sense 4.0.

Fig.1 HTC Desire X

The phone also has 1 GB RAM. So, carry out multiple tasks with speed and switch between applications with ease. _Connectivity:_ This phone connects to the virtual world through Wi-Fi. There can be seamless transfer of files with other devices; as phone has Bluetooth and USB _connector_: It even has 3.5 mm stereo audio jack. The

phone is also DLNA enabled, means you can now stream media wirelessly, from your phone to a compatible PC.
Multimedia: The phone does not only offer excellent visuals but also

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unmatched audio experience. Enjoy enhanced sound output; as it boasts the beats audio technology. It supports host of audio and video formats. Camera: Get the best shot sever. This phone is loaded with 5 MP cameras with LED flash, auto focus and BSI sensor. So shooting doors or outdoors, never bed is appointed with the quality of images. You can also do WVGA video recording with this phone & capture images while video shooting. These cameras have smart flash, which automatically sets the level off lash depending upon the distance of subject. *Memory and Battery*: This powerful phone is powered by 1650mAh battery. Its internal memory is 4GB which is expandable to 32 GB with micro SD has enough space to build own library of important data, music and videos [6].

Samsung Galaxy Grand Duos i9082 : It has Bean 1.2 GHz Dual Core Processor,5 inch WVGA TFT LCD Screen,8MP Camera, 8GB of internal storage,2100 mAh Li-Ion Standard batter [6].As shown below in fig.2

Fig.2 Samsung Galaxy Grand Duos i9082

Samsung Galaxy Grand Duos is a smart choice with stylish looks. This Smartphone promises excellent performance and consistency. This Smartphone is a beautiful combination of aesthetics and functionality that gets in limelight for both style and performance. *Display:* It has a brilliant 5" WVGA TFT LCD Screen that offers impressive resolutions. The fluid touch screen responds quickly and easily. *Operating System: The* Samsung Galaxy Grand Duos works on Android v4.1.2 Jelly Bean Operating System and is propelled by 1.2 GHz Dual Core Processor along with 1GB RAM, speeding its functioning and overall performance. *Connectivity:* This grand phone has been enabled with Wi-Fi 802.11 b/g/n, GPS and DLNA for internet connectivity. It has USB 2.0 port for connectivity. Seamless transfer of files using Bluetooth 4.0 LE
Camera: To capture beautiful memories one should have a beautiful camera. It is fitted with an 8MP rear LED Flash Auto Focus camera and 2MP front camera. *Memory and Battery*: it comes with 8 GB of internal storage space which can be extended up to 64 GB. This phone runs on 2100 mAh Li-Ion Standard battery.

Micromax A110 Super phone Canvas 2: At a glance it has 5" Multi-Touch LCD Screen, Android OS 4.0 ICS, 1 GHz dual-core processor, 8MP Auto-focus LED, Flash camera, Dual SIM, 2000 mAh battery as shown below in fig.3

Fig.3 Micromax A110 Super phone Canvas 2

*Operating System***:** Running on Android OS 4.0 ICS, the Sensation takes the crown of the most powerful Android device from Micromax so far. Under the hood is the powerful 1 GHz dual-core processor. The Micromax A110 handset loads 512 MB of RAM that together with the CPU renders the phone superb multi-tasking capabilities.

Karbonn A21 : It has 5" HD Capacitive Touch Screen, Android 4.0.3(ICS),1.2 GHz Dual Core, Qualcomm Snapdragon Processor, Wi-Fi 802.11 b/g/n, 5 MP LED Flash Camera 4 GB internal memory, 1800 mAh Battery. *Operating System:* The A21 is powered with extra ordinary 1.2 GHz Dual Core Qualcomm Snapdragon Processor. This Android 4.0.3(ICS) makes browsing faster and consumes lesser power.

II. DEVICE ORIENTATION VIEW

When utilizing the screen orientation APIs, it is important to know two concepts: First- the actual physical orientation of the device itself, and the orientation of screen in relation to device see Figure 4. It is important to note that while they're sometimes related, these two values can be different depending on your application configuration and there are two different APIs for accessing this information [11].

Figure 4. Screen Orientation of application is consistent with device

Physical orientation is the actual orientation of device in real space. This value is completely independent of anything that is happening in the software. In Action Script we access this information from within Stage class using the device Orientation property. It is read-only and cannot be changed by developer at runtime or in the application descriptor file. Valid values for this property can be found on Stage Orientation class and include DEFAULT, ROTATED_LEFT,

ROTATED_RIGHT, and UPSIDE_DOWN AND UNKNOWN.

To deliver benefits to wide range of applications including database query processing, multimedia, commerce systems, e-mail systems, search engines, Web browsers, covers efficient and effective mobile data retrieval by various advanced techniques and protocols intelligent approaches to resolving location-based query processing in mobile environment [15]. In effect these are truly centralized in their logic and information architecture. Depending on your perspective, local, rich client, native apps are anew development in the industry, or they can be thought of as a resurgence of the truly distributed computing model [16].

III. THE MODEL DESIGN

The design of model for a smart phone in real-time is critical task. The more formal approach includes the efforts to be reused. The design of model for new invention in smart phone system, manage the size and complexity of this system and improve the software development process through reused of object oriented view of various android packages. *Object-Oriented Analysis:* It uses an integrated set of models to identify conceptual objects in system. The reasons for using the approach include its explicit attention to real-time issues, the ability to verify the analysis by simulating the models, the availability of textbooks, training and technical support and its prescribed approach for transitioning from analysis to design and development.

IV. THE OBJECT IN REAL WORLD

In situations like this, requirements are never well understood at the beginning, nor do they remain static over time. Therefore requirement analysis is the first task. Engineering Skills: for successful software development requires number of different technical skills. These include problem analysis ability, system design, program design, coding, integration, and testing. OOA offers some help in this area by having different roles within the analysis phase. The design approach associated with OOA [6]) also offers opportunities to begin with some design and implementation tasks early in some areas, while analysis is still proceeding in other areas.
The area where object oriented analysis, design offers the best assistance for it. As opposed to theory, is typically neither pretty nor clean. The issue here is not to point a
Self-righteous finger at these areas, but to recognize that they do exist and will have a negative impact on the model it is not effectively addressed and design.

Requirements: The problems creates when requirements for a software system are poorly understood [3, 4, 5]. When systems are expanding into areas of new technology, the "requirements" are frequently being discovered. When it is the objective of model to develop a platform to support a family of products over an extended period of time, seldom are all the members of this family.

V. PRACTICE BASED APPROACH OF OOA&D

The various problems come at different times in the analysis process and different problems were dealt with more or less effectively

depending on the sequence in which they were resolved. The best way to address is to divide the analysis process into a set of distinct steps, based on the sequence in which the issues were best addressed. These steps are to: assess applicability of OOA, gain programmers & management support, initiate analysis, and sustain analysis. These simple sequences of steps perform function of breaking a problem into smaller pieces to reduce the difficulty, and to guide the process.

VI. SUMMARY

There is a lot to succeed with OOA than mastering the modelling techniques. Some of it has to do with just good project management practices, process of introducing a new engineering discipline into an organization. General object-oriented approach of OOA and application a specific OOA modelling technique used. If the issues in all of these areas are actively tracked and addressed, the chances of success are greatly enhanced. Establish utility of OOA. & create productive analysis environment, train the analysis team and use experienced OOA analysts. Augment formal models with informal technical notes.

VII. CONCLUSION

The various strategies to design and development of recent advancement lead to Mobile's smart app integration. Smart phone will become the best mobile communication terminals, but the proportion level of Smartphone in the mobile phone market depends on its development approach quality. As a typical embedded system, it is common problem in embedded system development. The purpose of this article is to analyse & design Smartphone development methodology, which is based on the development of event-driven and OO approach This paper studies the development of model in embedded system's superiority and shortcoming combines with object-oriented design patterns for Smartphone applications development. Mobile phone development platform is Android, and tests the effectiveness of models [14].

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Prof. P. L. Ramteke[1] is Associate Professor & Head, Department of Information Technology. He has completed Bachelor & Master Degree of Engineering in Computer Science & Engineering from SGB Amravati University Amravati.

He has obtained M.Phil in Computer Science and pursuing Ph.D in the faculty of Engineering & Technology in research area of Mobile Computing & Technology. He is member of various technical Institutions like IEI, LMISTE, and LMIAPT etc. His research interests includes Mobile Computing & Software Engineering and Expert System Design

Dr. D.N.Choudhary[2] is Professor & Head of Department of Computer Science & Engineering at Jawaharlal Darda Institute of Engineering & Technology, Yavatmal. He is Master of Engineering in Computer Science & Engineering and Ph.D in Computer Science He is Ph.D supervisor in Computer Sci. & Engineering at SGB

Amravati University, Amravati (Maharashtra)-INDIA and member of various national technical Institutions like ISTE, IEI, CSI

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