International Journal of Ethics in Engineering & Management Education
Website: www.ijeee.in (ISSN: 2348-4748, Volume 2, Issue 4, April 2015)

Multitouch Using Multitasking on a Single Screen

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***Abstract*— All devices available today are multitasking but not multiuser. Multi-Tasking system has power to do multiple tasks simultaneously and Multi User allows many users to work simultaneously on the single system. The Multi User Application, it allows many users to work simultaneously. Available screen is divided into n number of different portion. Every portion is available to work independently. Different users can do different tasks as per their requirement. All resources of the system can be shared by all users. All the current systems are not multi user system. Current system allow single user to do multiple task simultaneously. If system is engage by a user then other users has to wait until previous user release it. Though the remaining resources are idle but still other users have to wait until first user finished his task. Proper utilization of resources is not done.**

1. INTRODUCTION

It provides a consistent development environment across devices and handles most of the work to adjust each application's user interface to the screen on which it is displayed and at the same time system provides APIs that allow you to control your application's UI for specific screen sizes and densities and in order to optimize your UI design for different screen configurations. Android runs on a variety of devices that offer different screen sizes and densities. For applications, the Android system for example, you might want a UI for tablets that's different from the UI for handsets. The Multi User Application, it allows many users to work simultaneously.

Although the system performs scaling and resizing to make your application work on different screens, we should make effort to optimize our application for different screen sizes and densities. In doing so, we maximize user experience for all devices and users believe that our application is actually designed for their devices-rather than simply stretched to fit the screen on their devices.

2. LITERATURE SURVEY

Android is the most popular operating system for mobile devices like smart phones and tablets. Android is developed on top of Linux with some modifications suitable for mobile devices. Gartner survey stated that android shares 43 per of smart phone market, while apple is only 18 per. There are 400,000+ apps available in android market and 556,750+ apps are there in Apple app store .These figures shows the importance of developing apps for android. Here the question is how to make your app selective /popular/effective for the users among thousands of Apps. Android provides a lot of flexibility to the developers. Services are the most important application components in Android. This paper will discuss about services that can be used to make your apps effective. How to use services where to use services, and where they are not helpful, and how services differ with Threads and a sync task with the help of three example Apps. The Android operating system (OS) is widely used within several types of embedded mobile platforms containing mobile phones as well as tablets and the industry is examining the ability of Android within other embedded platforms, i.e., military, that need real-time guarantees and the ability to meet deadlines as a prerequisite for reliable operation. The paper presents preliminary conclusions on Android's real-time behavior based on experimental measurements performed on a commercially available Android platform. Communication with multiple user is more common than one-to-one communication. Therefore system is developed for multi-user communication. By enlarging our already developed real-time gesture planning method, this propose gesture adjustment suitable for human's demand through parameterization and gaze motion planning which can communicate with multiple people and adjust a gesture to the location of talker and/or object. The components of the system (i.e. input/output processes and selection of interaction rule) are connected each other via Key-Value Store, which has an internet technology, parallelism and scalability. This conducted multi-user HRI experiments for over 500 subjects in total. In HRI system, the induction rate of communication was over 60 per thanks to parameterization. Natural body gesture is essential for human-robot communication and human-robot symbiosis. This have already proposed a real-time gesture planning method. Especially in multi-user HRI, this function becomes more important because of its adaptation to changes of a speaker's and/or object's locations. This implements the method for multi-person HRI system on the android Acaroid -SIT, and conduct two experiments for estimating the precision of gestures and the human impressions about the Acaroid. Through these experiments, it is confirmed that method gives humans more sophisticated impressions. Android has native support for multi-touch which was initially made available in handsets such as the HTC Hero. The feature was originally deactivated at the kernel level (possibly to avoid infringing Apple's patents on touch-screen technology). Google has made available an update for the Nexus One and the Motorola Android which enables multi-touch natively. A touchscreen is an electronic visual display that the user can control through simple or multi-touch gestures by touching the screen with a special stylus/pen and-or one or more fingers. Some

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touchscreens use especially coated with gloves to work while others use a special stylus/pen only. The user can use the touchscreen device to show to what is displayed and to control how it is displayed. Touchscreens are common in devices such as game consoles, personal computers, tablets, and smartphones. They can also be connected to computers or networks. They also play a eminent role in the design of digital appliances such as personal digital assistants (PDAs), satellite navigation devices, mobile phones, and video games and some books (Electronic books) Multi-touch technology substantially started in 1982, when the University of Toronto's Input Research Group developed the first human-input multi-touch system, in spite of an earlier system like switch-matrix touch screen from M.I.T. was also able for multi-touch detection. The multitouch system at the University of Toronto used a frosted-glass panel with a camera placed behind the glass. When fingers pressed on the glass and the camera would find the action as one or more black spots on an otherwise white background, granting it to be registered as an input. Since the size of a dot was reliant on pressure and the system was pressure-sensitive as Thisll. In 1983, Bell Labsat Murray Hills published a comprehensive discussion of touchscreen based interfaces. The popularity of smart phones and devices, tablets, and many types of information appliances is driving the demand and acceptance of common touchscreens for portable and functional electronics. Touchscreen devices are available in the medical field and in heavy industry, as Thisll as for automated teller machines (ATMs), and kiosks such as museum displays or room computerization, where keyboard ,mouse and other input devices do not allow a suitably spontaneous, quick, or accurate communication by the user Actually, the touchscreen sensor and its accompanying controller-based firmware have been made available by a wide array of after-market system integrators and chip or motherboard manufacturers. Display manufacturers have acknowledged the trend toward acceptance of touchscreens as a highly desirable user interface component and have begun to integrate touchscreens into the fundamental design of their products. The use of touchscreen technology to control electronic devices pre-dates multi-touch technology and the desktop system. Early synthesizer and digital instrument builders like Hugh Le Caine and Robert Moog experimented with using touch-sensitive capacitance sensors to control the sounds made by their instruments. IBM began building the first touch screens in the late 1960's and in 1972, Control Data liberated the PLATO IV computer and a terminal used for educational prospects that employed single-touch points in a 16x16 array as its user interface One of the early implementations of mutual capacitance touchscreen technology was developed at CERN in 1977 based on their capacitance touch screens developed in 1972 by Danish electronics engineer Bent Stumpe. This technology was used to establish a new type of human machine interface (HMI) for the control room of the Super Proton Synchrotron particle accelerator. In a handwritten note 11 March 1972, Bent Stumpe represented his proposed solution - a capacitive touch screen with a fixed number of programmable buttons presented on a display. The screen consists of a set of capacitors etched into a film of copper on a sheet of glass and each capacitor being composed so that a nearby flat conductor, such as the surface of a finger would rise the capacitance by a important amount. The 4 capacitors consist of fine lines etched in copper on a sheet of glass - fine enough (80 m) and sufficiently far apart (80 m) to be invisible. In the final device, a simple layer coating prevented the fingers from actually touching the capacitors. A virtual keyboard can usually be operated with multiple input devices such as keyboard and mouse, which may consist of a touchscreen devices. Virtual keyboards are frequently used as an on-screen input method in input devices with no physical keyboard, where there is no room for one. It is common for the user to input text by tapping a virtual keyboard built into the operating system of the device.

On a desktop PC, one purpose of a virtual keyboard is to provide an alternative input mechanism for users with disabilities who cannot use, or do not have access right to a mechanical keyboard. Another significant use for a virtual keyboard is for bi or multi-lingual users who switch frequently bet Thisen different character sets or alphabets, which might be confounding over time. In spite of hardware keyboards are accessible with dual keyboard layouts (e.g. Cyrillic/Latin letters in various national layouts), the on-screen keyboard gives a handy alternative while working at different stations or on laptops which seldom come with dual layouts. An optical virtual keyboard was invented and patented by IBM engineers in 2008.It optically recognizes and resolves human hand and finger motions and interprets them as operations on a physically non-existent input device like a surface having painted keys. In that way it assigns to imitate unlimited types of manually operated input devices such as a mouse or keyboard. All mechanical input units can be substituted by such virtual devices, improved for the current application and for the user's physiology maintaining speed, clarity and accuracy of manual data input. Virtual keyboards may be used in some cases to reduce the risk of keystroke logging. to monitor the display and mouse to obtain the data entered via the virtual keyboard, than it is to monitor real keystrokes. Ho Thisver it is possible. The features of the Android system is to optimize your application's user interface for each screen configuration and ensure that your application not only renders properly ,but provides the best user experience possible on each screen.

3. ARCHITECTURE

Android application contains three managers. First one is file manager. It allows android users to access files for mobile device provides access to files like pictures, videos and audio and second one is memory manager which is used to improve the performance save the battery life and also it also manages memory required for android application. Third one is process manager which is used for killing all running applications provides free memory to run other applications. All the operation performing through android Operating System. Quad

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core processor helps to support applications running in mobile. It can run multiple instructions at the same time increase speed of programs.

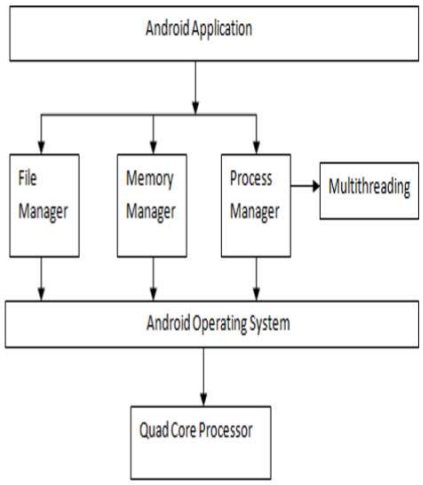

Figure 1: Architecture of the System

3.1 MODULE OF THE SYSTEM

In this Splash activity is a background activity which is used for uploading the images, videos, audio. The menu is then displayed from which the particular application can be selected. The various applications are music, call, message, browsing and contacts. This application is handled through threading in the background. By selecting the particular application the further processing of the application is been done. Such as if user selects the music, he or she can hear the music and so on.

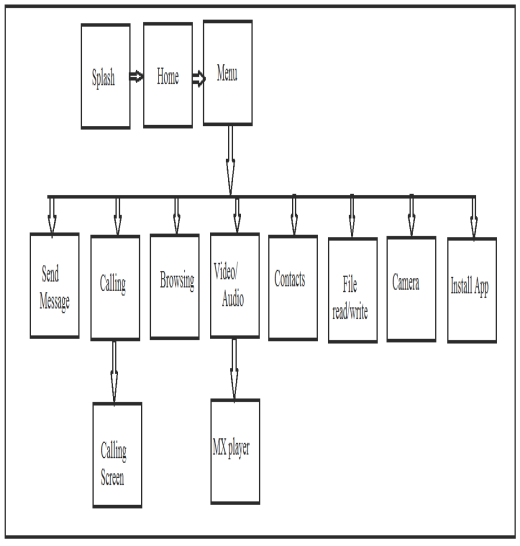

Figure 2: Block Diagram of system

4. CONCLUSION

The Multi User Application is great improvement over the old android application by using multitasking technique on a single screen. This application is user friendly and efficient to use. It allows many users to do the parallel computation simultaneously.Multitouch is the android application which allows multiple users to use the same device at the same time. Main purpose behind this system is proper utilization of resources. It allows multiple users to share single system at the same time. It reduces or removes the waiting time when system is engage with another user.

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