MULTIROM BOOTING ON ANDROID

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Abstract- *Today in rapid change in hardware and software field,we have powerful devices that can run one operating system simultaneously. while they have the potential to run multiple OS simultaneously. MultiROM gives your device the ability to install and use multiple ROMs,or even other Linux based Operating Systems alongside each other. Many Android devices given are supported in present from the manufacture side. In the nutshell it is good for everyone who wants to try out something new on their hardware or just want to do testing while the current work setup.*

Keywords- Multi-Booting, Fast Boot , Android System Consistency.

I. INTRODUCTION

Android ,one of the most popular operating systems, have relatively complete app ecosystem. Rich applications resource provide end users with inconvenience which makes Android Devices integrated into end-user life. MultiROM is created with Sole purpose only, so that user can have choice and so that they can have multiple operating systems tailored for their every need. The primary component of MultiROM is a boot manager, which appears every time your devices start and lets you choose ROM to boot.It is similar to the GRUB(Bootloader of Linux).or MS-DOS boot Manager(Bootloader to Windows).

Multi-booting is the act of installing multiple operating systems on a computer, and being able to choose which one to boot. The term dual-booting refers to the common configuration of specifically two operating systems. Multi-booting may require a custom boot loader.

We simply have to click the operating System we have to boot in and it will directly boot that OS. The primary or internal operating Systems boots by default if no option is selected. Installing other ROMs are doing by TWRP RECOVERY which let us install , backup, restore, delete ROMs.

The need for MultiROM arises when the hardware market grew cheaper and cheaper and high end hardware stared becoming affordable.The potential growth of hardware has a bigger curve than software. While no open source solution exists before this to multiboot MultiROM was created.

Now ,Microsoft has also started his own proprietary and closed solution to let Microsoft 10 dual boot on an existing Android Device. They even filed a patent for it. Microsoft technology would let phone makers preinstall multiple operating system on a device in a compressed form, with the user able to select which operating system he/she would like to boot. To solve this problem MutiROM was created and was crowd-funded at IndieGOGO. Now source code of MultiROM is available with GPL license so anyone can fork it, tweak it according to their own device.

II.THEORY:

It is similar to the boot manager of Linux i.e GRUB and Windows i.e MS-DOS Bootloader. The BOOT Manager looks like the image in the middle.It has 3 panes for navigating i.e internal ,USB,Misc. Internal is the first pane that opens up by default which is the actual area where user gets to choose the operating system that he/she wants to BOOT. The device has 10 operating systems installed currently.Clicking on any one let the user boot into the OS. The Second Menu is the USB options which let the users mount USB using OTG cable if device supports it. The third pane has andvanced reboot options through which users can reboot to bootloader to flash radio,firmware,recovery,etc. It should be noted that only Android based ROMs are supported by MULTIROM,you can see the message appears at the bootom of your screen in the MultiROM manager app Saying "Ubuntu Touch is not supported on this device as it developed on the basis of particular nexus devices for now".This is Normal and Fine,since Ubuntu Touch doesnt o□cially support many Android Devices,but both Ubuntu Touch and Android are both Linux Distributions.

III.TWRP Recovery:

Customized TWRP is used for installing,updating,manage multiROM.This is the software that is used for everything from installing to deletion in MultiROM.

Installing TWRP is super simple and easy if you have previously installed a custom recovery,you should not have

any trouble for installing it.For the installing the TWRP requirements are stated below.The first requirement for the TWRP is that your device should be rooted.And below it covers the requirement for rooted devices or the fastboot method(for both unrooted and with an locked BootLoader it is not possible to install TWRP)to get TWRP up and running on your device in no time.If neither of these methods works for you,the flash image method should come handy,though it requires root access.

User can install ROMs from zip files and MultiROM installer MROM files(which are generally packed similar to flashable zip).The users also have the option to share kernel between the internal and secondary ROMs.

Fig:4.1:Data Flow Diagram :
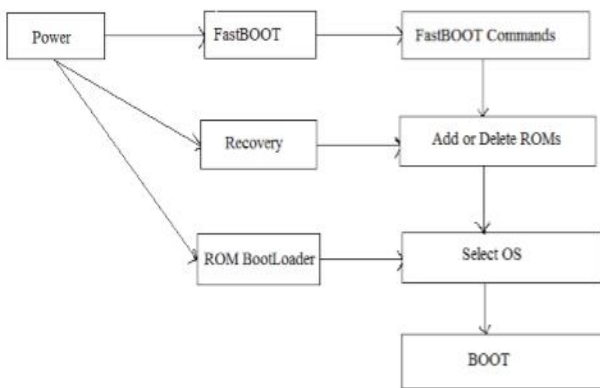
IV.CONCLUSION AND FUTURE WORK

The existing system consists of phases like installing ROMS,editing the GUI ,editing the Menu Options,uninstalling the ROMs. The final output of the proposed system is in the form of report so that it can be further analysed and reformed in future by a more improved system than the proposed system.

Thus, on the basis of literature survey and by analysing the existing system, we have came to a conclusion that the proposed system will be able to install Multiple ROMS at once and using it is very easy.

FUTURESCOPE:

MultiROM is capable of installing: • Android Primary ROMs (internal) • Android Secondary ROMs • Alternative Linux-based operating systems • Ubuntu Touch • ROMs on USB Drives (Supported devices only) • There's a lot of alternate OSes out there for it. • MultiROM lets you try

them all without requiring you to wipe your device each time you want to try a new OS or ROM build. • Android devices makes up the reference implementation for Android, so that tends to be the series of device that sees the fastest movement in terms of new builds of the OS, and in unique OS derivatives like CyanogenMod. • Each new OS would require you to reflash the device, losing all your configuration, apps and saved data.

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