Android Rooting and Custom ROM

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Abstract

In this paper, we are going to see about the rooting of android mobiles and how to install custom ROMs in android mobiles and the advantages and disadvantages of rooting the android mobiles.
Keywords: Magisk, Custom Recovery, Stock Recovery, Stock ROM, Custom ROM

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I. INTRODUCTION

A. Android

Android is an open source operating system which is easily customizable to our needs. It is based on the Linux operating system and the apps which were running in the android is developed by Google and the other developers.

B. ROM

It stands for Read Only Memory. It is the operating system which runs in the android mobile. If we root our devices we can able to install new ROM which will changes the design of the device software. It is one of the main reason for rooting the android.

C. Stock ROM

Stock ROM is nothing but which comes with the stock firmware. It is the preinstalled operating system installed by the mobile phone manufacturer.

D. Custom ROM

The custom ROM is developed by the third party developers. Custom ROM has an unlimited customization. It can be used by other mobile phones which we can unlock extra features and we can improve the performance and battery life of the mobile phones. Some of the mobile phone companies have stopped updates for certain model mobile phones, so you cannot get further updates but with the help of the custom ROMs you can feel a high performance.

E. Recovery

It is nothing but when we switch ON the android it decides whether it should boot into the system or it should boot into the bootloader

F. Custom Recovery

When we buy a mobile it comes with the default stock recovery from this recovery we cannot able to install a custom ROM. So we are moving to custom recovery which is developed by third-party developers. It is one of the main reason for rooting the android device.

G. Porting the ROM

Porting the ROM is nothing but changing files from one device ROM to our device. It is not hard to do all you need is have some common sense and little patience. I am using MTK6575 chipset mobile so these ported ROM can be used for the following same chipset devices

MTK6575 to MTK6575
MTK6735 to MTK6735
MTK6753 to MTK6753

H. *Rooting*

As said earlier android is a Linux based operating system. Basically, when we buy a mobile phone, it comes with some restrictions by Samsung, LG or any other device manufacturer. From my point of view "Without Rooting Android Is Nothing". Rooting will give a special permission to the system user interface. From this we can modify the system files and we can improve the performance of the mobile and also we can improve the battery life of the mobile.

I. *Magisk*

It is used to root the smartphone. It will modify the boot image and it will install the files in /data and /cache. It is the advancement of rooting a smartphone in recent days. Before the magisk, the superSU is used for rooting the android.

1) *Features of magisk*

The magisk is fully open source and it is very easy to build. We can hide the root from some of the apps like Google tez etc. which will not work with the rooted system.

2) *SuperSU vs Magisk*

There will be only two options available either you have to go with superSU or magisk to root the android. Comparing with both of them my opinion is go with magisk because it has lots of features when comparing with the superSU.

3) *Installation of magisk*

The current update version of magisk is version 15.3 which can be flashed with any custom recoveries.

II. TYPES OF CUSTOM RECOVERIES

There are two types of custom recoveries. They are,
– Team win recovery project (TWRP)
– Clockwork mod recovery

From the above Custom recoveries my choice is TWRP, because it is very fast in flashing the Zip files and also it has many features when comparing with CWM recovery.

A. *Installing Custom Recovery*

Download the TWRP app from play store and enter your device name in it. Then download the TWRP zip file for your mobile phone and flash it. Now your phone replaces your stock recovery and installed with custom recovery.

B. *Some Android Custom ROMs*

There are some non-profitable organizations which compiles the ROM and releases for the user at free of cost. You can ask why they are doing for free? Because we all know that coding is fun and it will increase the knowledge of the developer. Below there are some of the non-profitable ROM developing organizations
– Mediatek Android Developers (MAD ROM).
– Bliss Rom.
– Android Ice Cold Project (AICP ROM).
– Droid on time (DOT OS).

1) *Advantages of rooting*
– Improve battery life.
– Remove bloatwares.
– Customize to our needs.
– Increase the performance.

2) *Disadvantages of rooting*
– Your phone warranty will we void.
– You cannot get official OTA updates from the manufacturer.
– Phone may get bricked.

III. CONCLUSION

From this, I conclude that some people have thought that mobile phone has spoiled the life of the students but that thought is totally wrong. It will gain the knowledge of the students. We can compile the ROM of our own from GITHUB website. This will be more useful in getting jobs in the Android marketplace.

IV. CREDITS

At this moment I thank all the custom ROM developers who work hard to bring the Android a butter feel.

REFERENCES

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