PERFORMANCE GAIN APPLICATION BY ANALYZING, MANAGING APPS & THEIR BACKGROUND SERVICES DEPEND ON USAGE OF ANDROID: DOT

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Abstract— Today, many smartphone user's increasing day by day and they had installed lots of apps on their smartphone. But from that many of applications are not longer used. The problem of identifying such apps is hard due to the fact that there exist hundreds of apps whose impact on the battery is not well understood.

To identify such unused apps, which we call zombies, and represent that zombie apps consume significant resources, memory on a user's smartphone and access their private information. This zombie app are used in android with the new application which we will design known as DOT. The DOT restore the application quickly and effectively also decrease overhead on a smartphone. Our evolution shows that (i) DOT saves huge amount of energy for unused zombie app and kill unwanted background processes and Services, (ii)it effectively prevents zombie apps from using undesired permissions.(iii) More CPU utilization and resource management are represent graphically on smartphone.(iv)increase or decrease brightness. In addition, DOT is energy-efficient; consume less than 5% of the battery per day.

Keywords— Sorting, Permission Service, Scheduling, Application management, Smartphone.

I. INTRODUCTION

There has been many third-party applications are available on smartphone, which are being downloaded from internet.1.3 million Apps are available on internet and a report in states that the no. of downloads of apps from the internet between May'13 and July '13 alone was about 2 billion. So, after downloading and installing such applications user can use this applications in certain time of period and they can't use this applications for long time but this unused applications are running in background. So background processes for such unused applications are running continuously. User can't known this running background process. We are declared these unused apps, & it's called as a zombie apps.

II. LITERATURE SURVEY

Parallel execution models and schedulers exist for servers; smartphones face a unique set of technical challenges due to the heterogeneity in CPU clock speed, variability in network bandwidth, and lower availability than servers. In this paper, we address many of these challenges to develop CWC—a distributed computing infrastructure using smartphones. We implement and evaluate a prototype of CWC that employs a novel scheduling algorithm to minimize the make span of a set of computing tasks. A distributed computing infrastructure using Smartphone but there are huge amount of energy are wastage and not security are provided [7]. Has described an on-line power estimation and model

generation framework. The power model in power tutor includes 6 components: CPU and LCD as well as GPS, WI-FI, Audio and cellular interfaces. For 10 second intervals, it is accurate to within 0.8% on avg with at most 2.5% error. A software implementation of power estimation tool has been publically release on Google android application market. This paper has also described power booter, an automatic battery state of discharged based power model generation techniques. The result indicates that the power model built with power booter is accurate to within 4.1% of measured values for 10 second intervals.[2] The use of Android smart battery interface and our own MCU-based power monitoring equipment for measuring the energy consumption of Android smartphones. . It is, however, necessary to deal with more general applications in different operation conditions in order to enhance the accuracy of our methods. Additionally, one of the most important aspects in task offloading is the network communication. The technologies, protocols and conditions of the network have great impacts on the power dissipation of smartphones. So, energy consumption models are needed (particularly for upcoming LTE Advanced and 5G technologies) to present the relationship between these parameters and the energy consumption during the offloading process, and to assist making offloading decision.

III.   METHODS & TECHNIQUES

The applications that are no longer used by user are analysed and their background services are stopped. The application will not wake up until their background services are resumed manually.

A. Aggressive Doze mode:

   It will restrict all the background services of the particular applications. It is not only responsible for managing the activities, process and all the resources used by an application but also for freezing the background services.

B. Package manager:

   Package manager is used to track where the application is installed on the device. It finds all the applications installed either on internal or external storage.

C. Activity manager:

   The lifecycle of whole applications are managed by activity manager. It is used to monitor all the activities done or process by the applications.

D. Notification manager:

   Notification manager is used to customize display alerts. It will give notification to the user about the application whose background services are freeze.

E. Permission services:

   Permission Services are nothing but a script which starts the application while booting the Android Application. So that no needs to manually Start the application every time when device restarts.

F. RT scheduler:

   Real time scheduler does a particular action within a certain time. In this Real time Scheduler is used for increasing or decreasing brightness of screen depend on the contents appear on the screen.

IV.   PROPOSED SYSTEM

Today android has become one of the most popular operating system because of its unique features such as best user interface, easily available of millions of applications on play store & most important due to the open source Many users installed lots of applications on android device but from that they can use only few applications daily. But the non-used applications are also having the background services running in behind, which creates a lot of overhead on CPU, main memory, bandwidth and the resource
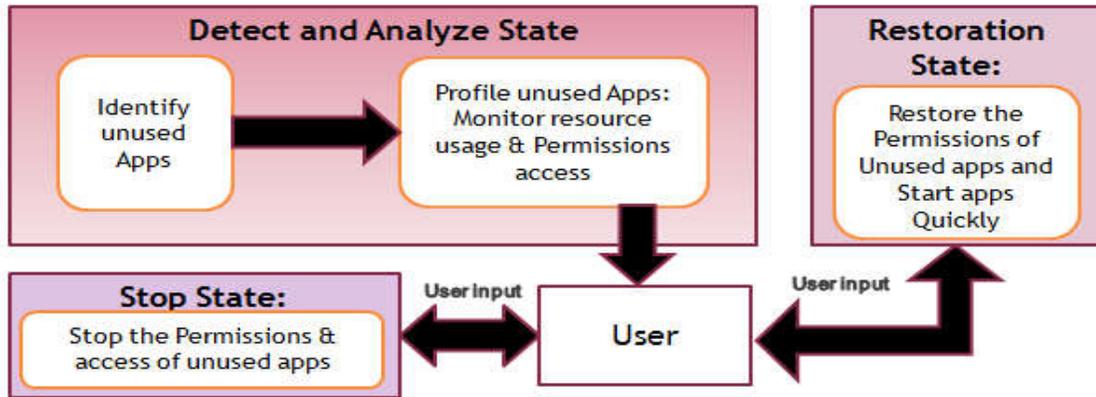

Fig. Working of DOT

In proposed system we develop an application which analyze & track the applications installed on android device which are no longer used by the user & their background services are stopped. We not only giving manual control to the user to stop the application background services that he want to stop but also giving some battery efficient unique feature such as NS mode ,SL mode.
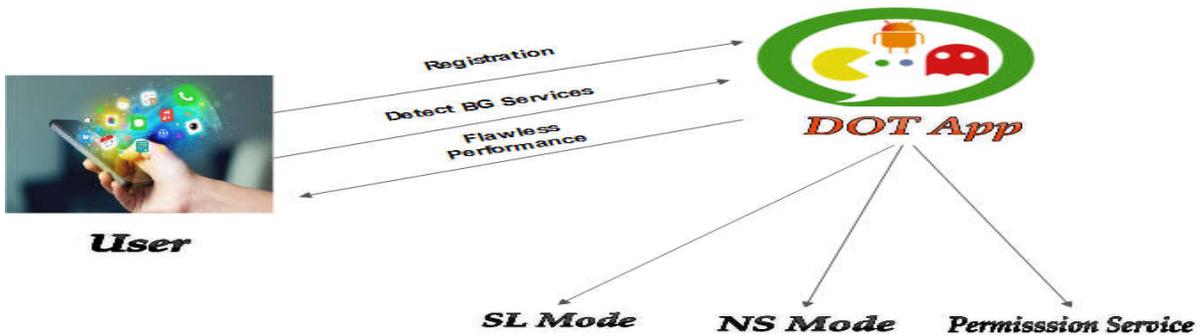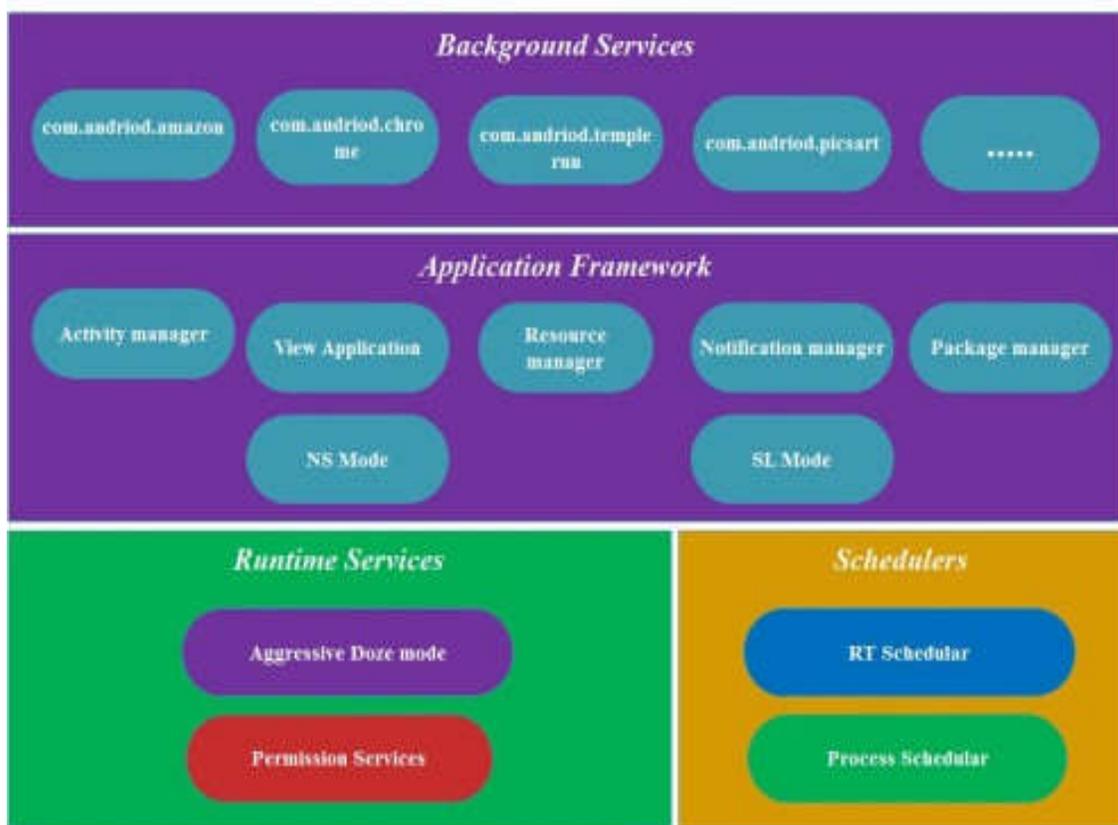

Fig: DOT Application

Fig: Architecture of DOT

V.   CONCLUSIONS

Typical smartphone user's increasing day by day and they had installed lots of apps on their smartphone. But from that many of applications are not longer used. The problem of identifying such apps is hard due to the fact that there exist hundreds of apps whose impact on the battery is not well understood.

We conclude that application will increase the performance of the System. So that we can get the lag free user interface, less over head due to unwanted notifications, increase bandwidth.

VI.   FUTURE WORK

We are planning to give more features to the rooted users such as CPU clock speed increase or decrease, Stop the System Background services, Also will create a windows software for the computers in order to manage the background Services more efficiently.

REFERENCES

[1]   **"**ZapDroid: Managing Infrequently Used Applications on Smartphones." Indrajeet Singh, Srikanth V. Krishnamurthy, Harsha V. Madhyasthay, Iulian Neamtiuz UC Riverside f singhi.10.1109/TMC.2016.2591546, IEEE Transactions on Mobile Computing.

[2]   "Accurate online power estimation and automatic battery behavior based power model generation for Smartphones," L. Zhang, B. Tiwana, Z. Qian, Z. Wang, R. P. Dick, Z. M. Mao, and L. Yang, Proceedings of IEEE/ACM/IFIP CODES/ISSS,   2010.

[3]   "An analysis of power consumption in a smartphone,") A. Carroll and G. Heiser, USENIX ATC, 2010

[4]   "Android permissions demystified." A. P. Felt, E. Chin, S. Hanna, D. Song, and D. Wagner, ACM CCS, 2011.

[5]   "Appinsight: Mobile app performance monitoring in the wild," L. Ravindranath, J. Padhye, S. Agarwal, R. Mahajan, I. Obermiller, and S. Shayandeh. USENIX OSDI, 2012.

[6]   "Android: Privilege separation for applications and advertisers in android." P. Pearce, A. P. Felt, G. Nunez, and D.Wagner. ACM ASIACCS, 2012.

[7]   " A Distributed Computing Infrastructure Using Smartphones." Mustafa Y. Arslan, Indrajeet Singh, Shailendra Singh, Karthikeyan Sundaresan 2013 IEEE. Transactions on Mobile Computing.

[8]   *"*TIDE: A User-Centric Tool for Identifying Energy Hungry Applications on Smartphone." 2015 Tuan Dao*, HarshaV, Madhyastha,* SrikanthV.Krishnamurthy*, GuohongCao* IEEE 35th International Conference on Distributed Computing Systems.

[9]   "Mockdroid: Trading privacy for application functionality on smartphones," A. R. Beresford, A. Rice, N. Skehin, and R. SohanIn ACM Hot Mobile, 2011.

[10]   "These aren't the droids you're looking for: Retrofitting android to protect data from imperious applications," P. Hornyack, S. Han, J. Jung, S. Schechter, and D. Wetherall, In ACM CCS, 2011.

[11]   "Addroid: Privilege separation for applications and advertisers in android," P. Pearce, A. P. Felt, G. Nunez, and D. Wagner   in ACM ASIACCS,

[12]   "Energy efficientinformation monitoring applications on smartphones through communicationoffloading," R. Kemp, N. Palmer, T. Kielmann, and H. Bal, in Mobile Computing, Applications, and Services, ser.Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering. Springer Berlin Heidelberg,

[13]   Automatically diagnosing abnormal battery drain issues on smartphones. X. Ma, P.   Huang, X. Jin, P. Wang, S. Park, D. Shen, Y. Zhou, L. Saul, and G. Voelker. eDoctor: In *NSDI*, 2013.

[14]   Into the wild: Studying real user activity patterns to guide power optimizations for mobile architectures. A. Shye, B. Scholbrock, and G. Memik. In *MICRO*, 2009.

[15].   Empowering developers to estimate app energy consumption. R. Mittal, A Kansal, and R. Chandra. In *Mobicom*, 2012.

[16]   Energy consumption in mobile phones: A measurement study and implications for network applications. N. Balasubramanian, A. Balasubramanian, and A. Venkataramani. In *IMC*, 2009.