A SURVEY ON ENERGY CONSUMPTION IN WIRELESS ROVING APPLICATION

M.MAHALAKSHMI
Research Scholar, School of Computer Science, Engineering & Applications,
Bharathidasan University,.Trichy,Tamil Nadu, India.
mmahalakshmimadhubalan@gmail.com

Abstract – Recent days, the energy consumption of mobile and tablet devices has become most familiar problem in android operating system. Android is an open source code which is easily understandable and handle by the users to get and use new kind of properties and applications on their handsets. Many studies focused on energy lifetime prediction, but the models are not capable of light weight devices. Energy consumption is becoming an issue in android devices. The peak energy drainer of mobile and tablet devices are the screen, Wi-Fi radios and other transmitter like Bluetooth or GPS. The services of android device includes display brightness, signal weakness, streaming video, playing games, background data, GPS & location services. The proposed system implements the service of streaming video, in which video coder and time slicing approaches are used for reducing the life of energy. The proposed has higher efficiency in improving the life of energy than the existing technique.

Keywords - Mobile computing, energy consumption, TSA, SVC, android.

I. INTRODUCTION

Mobile computing is one of the upcoming technologies with different models and methods. Mobile computing uses a wireless network infrastructure to provide anywhere, anytime communications and access to information. Mobile communications are involved with mobile Ad-Hoc network to improve the efficient networking communication.

Android is a mobile operating system based on the Linux kernel and developed by Google. Thousands of devices uses the android technology becomes a challenge. Android is a determination, built platform for mobile devices. These devices meant that they will be limited in terms of memory and speed. The proposed works of designing android mobile devices are energy powered.Android designed primarily for touch screen input, it also has been used in game consoles, digital cameras and other electronic devices. The application using android runs smoothly, efficiently and quickly. The operating system's success has made it a target for patent litigation as part of the so-called "smart phone" between technology companies.

Main issue in an android device is energy consumption, because of the mobile screen, display setting, brightness, multitasking, Bluetooth and GPS. Optimizing energy life seeks to limit its impact on the energy life of its host device. The energy life is extended in the user terminals using Time Slicing algorithm which helps to save energy. Even more energy is required when you are playing games or streaming a video.

Streaming video is usually a high power usage event that can drain the energy in 4 or 5 hours. Among streaming video, YouTube depleted energy life greatest, as users skip from one video to the next, watching multiple videos in sequence. The storage space on a mobile devices is limited by the size and power requirements. Since disks consume more energy than RAM chips they are less popular and tend to be a liability and thus lengthen the life of a charge.

The proposed work implements the service of streaming video. The Time Slicing algorithm is used in video streaming application. This technique improve the quality of user or experience (QoE) and energy efficiency of wireless broadcast receivers. Using the time slicing and scalable video coding algorithm the background running application memory will be cleared, the energy life will be optimized. The time slicing and scalable video coding algorithm is implemented to deliver the quality of video at the time of broadcast. The scope of this work will be looking at performance energy life, efficiency and speed.

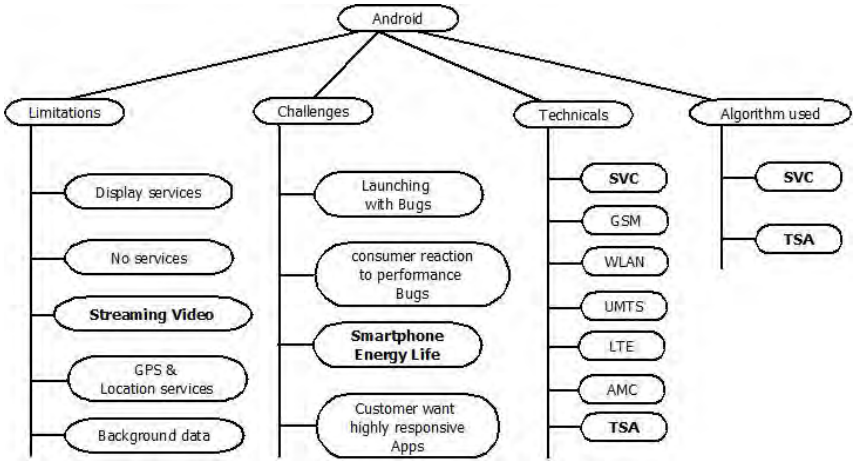

Figure1: Android Limitations, Challenges and Technical.

II. EXISTING SYSTEM

Existing techniques cannot be used effectively in a wireless broadcast environment, where only sequential data access is supported [4]. It may not scale to a very large scope of users. In an existing system to correspond with the server, mostly a client uses a fee-based network to achieve a reasonable operating range.

Users must reveal their current location and send it to the server, which may be undesirable for confidentiality reasons. It cannot send large amount of data because the communication latency decrease. It cannot satisfy the demands as per the statistics needed. The main idea is to increase mobility power usage when accessing query. The speed of accessing the query can be moderate. The difficult problems in existing systems are following:

- Only sequential data access is supported [4].
- It may not scale to very large users populations while increasing the Smartphone users.

III. PROPOSED SYSTEM

The motivation of Optimization is to improve the quality of service to clients and make memory intensive. The demand as well as the sophistication and required computation power, for these types of application increase, energy and communication bandwidth limitations may prevent the use of many of these applications.

This System can reduce traffic between the mobile device and WiMAX helpers with Time Slicing. The method exhibits great scalability, higher in network density and then more queries answered by peers. This System is an approach to reducing the spatial query access latency by leveraging results from nearby peers in wireless broadcast environments.

In the video application the user can make an upload to server with good quality of the video to the other person. This system can improve the response time and increase the energy usage of the System. Less computation power need only limited energy resources. The steps in the proposed systems follows by:

- Reducing the spatial query access response time by leveraging results from nearby peers.
- To improve the mobile network density.
- The query access response time can be decreased with the increase in clients.
- Additionally, the large communication delays may be reduced as processing can reduce the message size.

IV. WORK FLOW

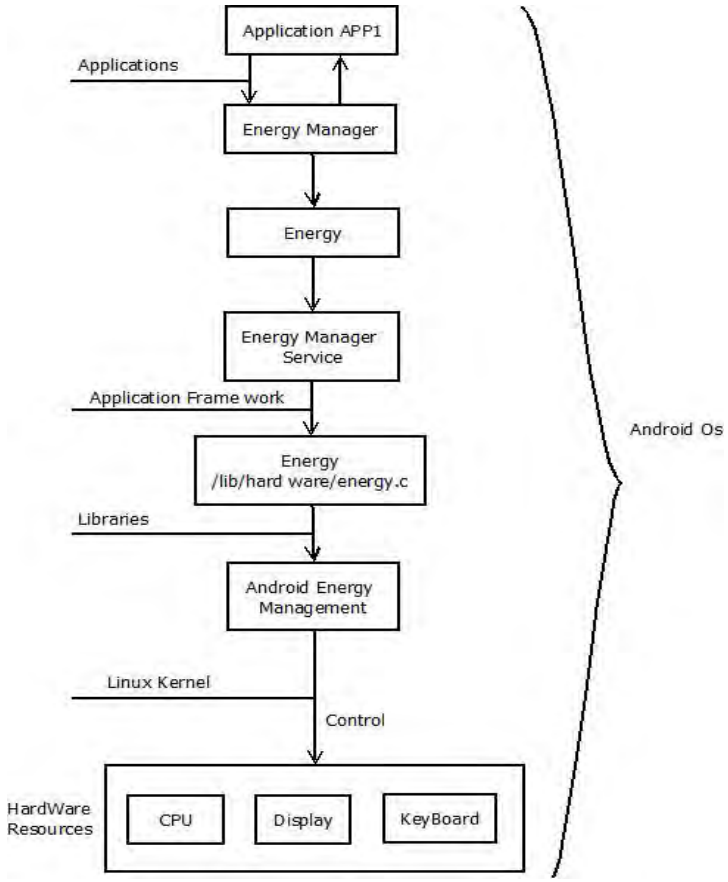

Figure2: Flow diagram for Energy consumption

V. LITERATURE SURVEY

Year	Title & Author	Content	Limitations
2010	MEASURING MOBILE PHONE ENERGY CONSUMPTION FOR 802.11 WIRELESS NETWORKING Andrew Rice & Simon Hay	1) The measurement framework produces fine grained, annotated traces of a phone's power consumption which we are using to develop an understanding of how particular aspects of an application drive energy use. 2) The power consumption of Android based handsets and show that changes to the DHCP process have reduced the energy consumed when connecting to a wireless network.	1) The system is the ability to annotate the power measurements with phone and network activity. 2) Minimizing power consumption change between devices, operating systems and operating scenarios.
2011	PERSONALIZED BATTERY LIFETIME PREDICTION FOR MOBILE DEVICES BASED ON USAGE PATTERNS Joon-Myung Kang & Sin-seok Seo & James Won-Ki Hong	1) The average battery consumption of each of these activities and the length of time a user spends on each one determines the battery lifetime of a mobile device. 2) This paper proposes an approach to predict a mobile device's available battery lifetime based on usage patterns. 3) Time-series log data related to battery consumption and the use time of each state.	1) Predicting the battery lifetime of mobile devices is important to minimize battery consumption at the application level. 2) In this paper, we have proposed a prediction model based on usage patterns, such as the battery consumption rate when making voice calls, using data communication, or waiting for calls.

2012	ANALYSING POWER CONSUMPTION OF DIFFERENT BROWSERS & IDENTITY MANAGEMENT SYSTEMS IN MOBILE PHONES Md. Sadek Ferdous & Ron Poet	1) One of the major concerns for the user of mobile phones is the battery life which is limited and tends to run out quickly. 2) This paper, we analyze the efficiency, in terms of power consumption, of different browsers in mobile phones and different Identity Management Systems when the mobile phones are used to access online services protected by those Identity Management.	1) A bit difficult to collect data due to the volatility of readings in the PowerTutor app. 2) The app itself consumed a huge amount of power which was necessary to estimate the power consumption by all consecutively running applications.
2013	AN ANALYSIS OF POWER CONSUMPTION IN A SMARTPHONE Aaron Carroll & Gernot Heiser	1) Mobile consumer electronics devices, especially phones, are powered from batteries which are limited in size and therefore capacity. 2) In mobile phones, battery capacity is severely restricted due to constraints on size and weight of the device. 3) Our approach is to measure the power consumption of a modern mobile device.	1) The main feature it is lacking is a 3G cellular interface, which supports much higher data rates than the 2.5G GPRS interface. 2) The difference in power consumption compared with more modern processors can traced largely to idle power; in other respects, the age of the CPU is not a substantial limitation.
2013	A PROFICIENT SCHEME FOR BACKUP AND RESTORE DATA IN ANDROID FOR MOBILE DEVICES M S. Shriwas	1) A need of an efficient backup and restore technique to protect valuable data from loss, failure and theft. 2) In this work an efficient and secure technique of backup and restores data in Android Smartphone is presented which employs the use of efficient RLE compression technique. 3) The compression of data helps to save time, space to store and further improves performance of the device by conserving the battery.	1) The use of smart phones are increased as it having PC-like functionality, memory and batteries are still limited. 2) Compression of data helps to save time, space to store and further improves performance of the device by conserving the battery.

VI. CONCLUSION

Smartphone and tablet computers are the most fashionable and fastest rising types of portable devices in the modern mobile networks. They are powered from energies that have limited size and capacity. Mobile Phones are not just for contact to people but it plays vital role in the life. The life time of battery reduces when using the functionalities like voice message, Wi-Fi communication, camera, videos, multimedia message and many others in mobile phones. Proposed work is to optimize the energy usage on the mobile devices and improve response times.

REFERENCES

[1] Andrew Rice and Simon Hay, "Measuring Mobile Phone Energy Consumption for 802.11Wireless Networking," in the Article in Press Pervasive and Mobile computing http://www.elsevier.com/locate/pmc, 2010.
[2] Joon-Myung Kang , Sin-seok Seo and James Won-Ki Hong, "Personalized Battery Lifetime Prediction For Mobile Devices Based On Usage Patterns," in the Journal of Computing Science and Engineering, Vol. 5, No. 4, December 2011, pp. 338-345.
[3] Md. Sadek Ferdous and Ron Poet, "Analyzing Power Consumption Of Different Browsers & Identity Management Systems In Mobile Phones," in the International Journal of Distributed and Parallel Systems (IJDPS), Vol.3, No.2, March 2012.
[4] Ms.Shriwas "A Proficient scheme for Backup and Restore Data in Android for Mobile Devices," in the International Journal of Innovative Research in Engineering & Multidisciplinary Physical Sciences (IJIRMPS), Volume 1, Issue 1, October 2013.

[5] Jaspreet Kaur Aulakh, Sugandha Sharma and Mayank Arora "Securing the Android Phones Using the Power of Cloud," in the International Journal of Advanced Research in Computer Science and Software Engineering, Volume 4, Issue 6, June 2014.
[6] Sheenam,Sugandha Sharma and Mayank Arora "Research Paper on Self Learning Offloading Scheme for Android Phones," in the International Journal of Advanced Research inComputer Science & Technology IJARCST, Vol. 2, Issue 3 (July - Sept. 2014).
[7] Renuka M. Dhanwate and Vaishali B. Bhagat "A Literature Review on improving energy efficiency on Android using Cloud based services," in the International Journal of Advance Research in Computer Science and Management Studies, Volume 2, Issue 12, December 2014.