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ENERGY SAVER APPLICATION ON ANDROID BY PROVIDING VOICE ALERT

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Abstract: In Smartphone applications, Energy efficiency is vital, but many Android applications suffer from serious energy inefficiency problems. This paper proposes an application, which will improve the devices' energy by providing Optimization with Voice notification. When it shows the notifications of low battery (i.e.) After it reaches the utilization wall (30%), it will optimizes energy by turning off some application such as Brightness ,WIFI, Ringer mode, Mobile data and Bluetooth by clicking Optimize button. By implementing this Energy Saver application, we can overcome the Energy Inefficiency problems on Smart phones.

EXISTING SYSTEM

In the Existing system, they found a Methodology to save energy in the battery. There is an option called customize which makes user to turn off the some properties. This paper presents a battery monitoring system which is capable of sensing and monitoring capability of battery of mobile phone, which is used to indicate the battery conditions in any numbers of standby powers. By monitoring the battery conditions, it displays the properties which are the application consumes high power.

3.1 PROPOSED SYSTEM

The proposed system builds an application that will optimize the devices' energy. In this System it provides a user Comfortable options called OPTIMIZE. When the battery reaches the utilization wall it displays an Optimize option with ON and OFF buttons. When the user click these button it will turn off some properties such as Brightness, Bluetooth, Ringer mode, Wi-Fi, Mobile data. After clicking this option the energy for the device is Optimized and it goes to Silent mode, Turned off the WIFI and Mobile data and then it maintain the 30% of the devices' energy. This makes the battery's life strong and efficient.
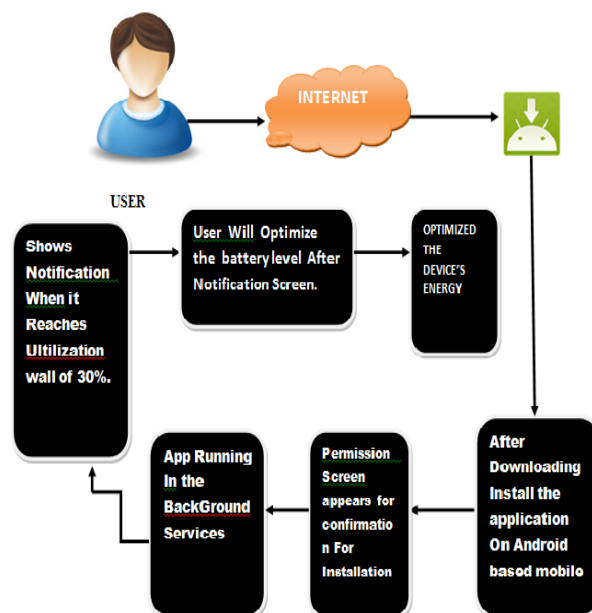
ARCHITECTURE

Figure 3.1 System Architecture

MODULES DESCRIPTION

Energy Saver application is created and installed with several modules in it. These modules involve various operations to be performed at each level. Each module has its own operations which defines several separate parts of the proposed system.

### application installation and background process

After the app gets installed in the user mobile it will automatically starts run in the background continuously. It starts running when the phone is switched ON and stops until the phone is switched OFF. It allows the other process to run as usual without any interruption. Intent Service class provides a straightforward structure for running an operation and this allows it to handle long-running operations without affecting your UI's responsiveness.
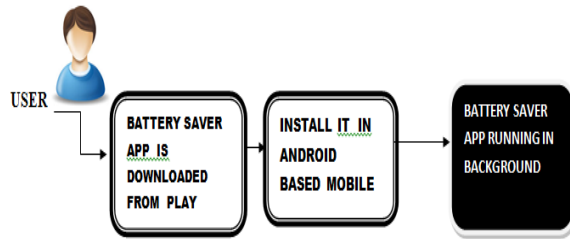
Installation & Background Process

## Monitors and Checks the Utilization Wall

It monitors the battery usages, which will analysis the energy consumption of each and energy properties in the android mobile. Mainly it will focuses the usage of some default properties such as Brightness, Bluetooth, WIFI, Ringer mode, Mobile data, andRotations.
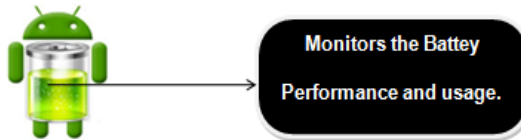

Battery Saver app

Monitors and checks Utilization wall

Shows Notification along with Voice Alert

When the battery reaches the utilization wall (i.e) when it reaches 30% of the battery it show Notification to user along with the voice alert, which helps to identify the user that the battery is low even when the user doesn't ensure the text notifications.
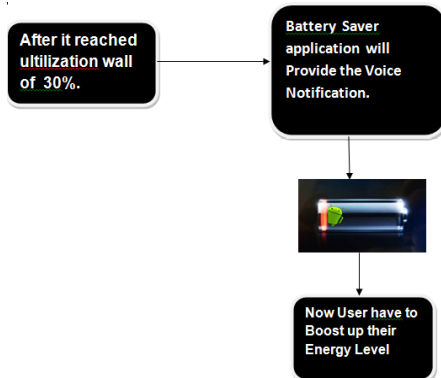
Notification of Low Battery Optimization of Energy Level

After it shows a voice Notification, it displays an Optimization screen to Optimize the devices' energy by turning off all the default properties on android mobile by one click.
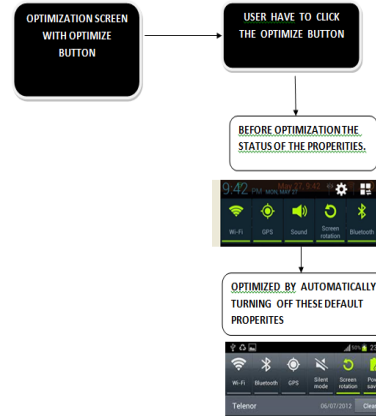
Optimization of Energy Level

USE CASE DIAGRAM

A use case diagram is a graphic description of the interactions among the elements of a system. It is a Unified Modeling Language (UML) is a type of Behavioral Diagram defined by and created from a Use-case analysis. Its purpose is to present a Graphical Overview of the functionality provided by a system in term of Actors.
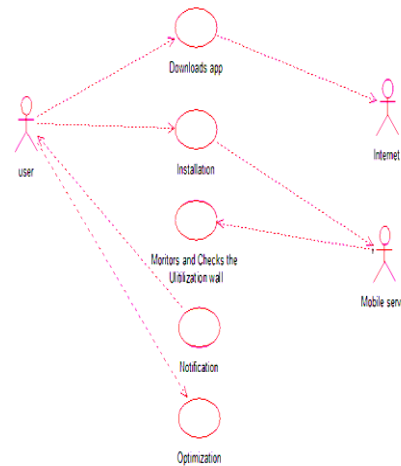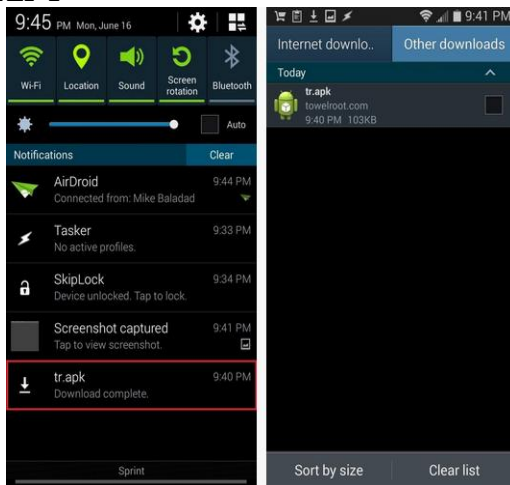

Use case Diagram

TECHNOLOGY USED

The development tools needed to develop the Android applications are listed and explained in order to implement the apps.

SNAPSHOTS

A snapshot preserves the state and data of the application clearly by an image.

STEP 1

Downloading app with .apk Extension

From this Figure 8.1 Shows that user have to download the Battery Optimization application from the Play Store to optimize their battery so that they can enhance their device's energy.

STEP 2
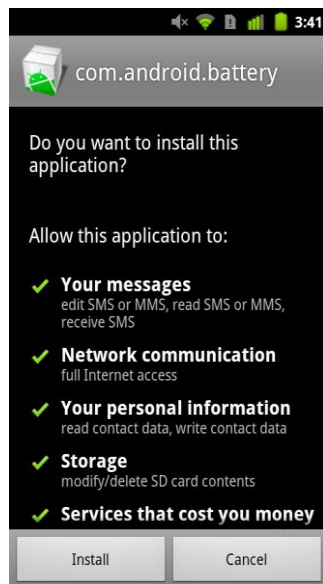
Installation of Battery app

After Downloading the application we have to be Install the app on the Android mobile to Optimize their Device's energy. Android mobile will always ask a Permission for Installing any application on the smart phones. This snapshots describes the permission on the mobile.
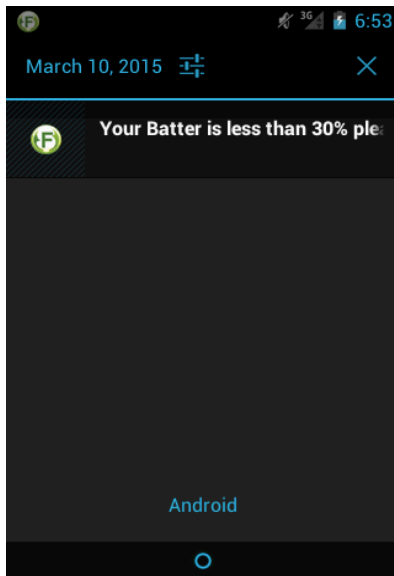
STEP 3

Battery app is Installed

From this Figure 8.3, we understood that at each time it display the screen that tells that application is installed successfully.

STEP 4

Battery Saver Running in Background

From this Figure 8.4, The Battery Saver Application is running in Background and it is Maintained and monitor by Mobile Server.

STEP 5

Notification along with Voice alert

After Successful installation, This App will monitors the battery usage and checks for the Utilization wall of 30%. When it reached utilization it Shows the Notification along with Voice alert on User's Mobile.

STEP 6

Voice Notification Screen to Optimize

From this Figure 8.6 We understood that after providing Voice Notification We need to Click this Optimize Button on this above Screen to Optimize the device's Energy .

STEP 9

Battery's Energy is Optimized

From this Figure 8.7 It describe about the Optimization. Here after clicking this Optimize button these Properties will automatically Turned Off to Optimize.

CONCLUSION

The application would be very useful and comfortable to the entire smart phones user. Some users do not have time to notify the battery level in their mobile when they are busy so we providing voice notification to indicate that battery is low. By this application, user no need to bother about their battery level because it automatically shows the optimize screen. It is very easy to use and it will not take more time and space to optimize. We can straight away download the application from play store and installed it on mobile. This Energy Saving App is efficient and effective to boost up the Energy.

FUTURE WORK

It is possible to add Installed app to optimize. It can be Propose in Other OS.
We can provide this Optimization While Manufacturing the software with license.

APPLICATIONS

Used in all Android Based Smart phones as well as tablets.

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