MINIMIZATION OF ENERGY CONSUMPTION USING RGB WHITE PROCESS IN CLOUD

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Abstract: In multimedia streaming applications the energy utilization of mobile devices is a major demanding. In this paper the user's observable experience is incremented when displaying a video stream and also traverses how to prune the energy utilization of the backlight. In this paper to introduce codes of a RGB White color to improve the user's observable experiences. This RGB White color process is adaptable for all the devices. RGB color system, speculate all the colors from the combination of the Red, Green and Blue colors. In proposed system the power energy is improved when the brightness of the screens increased. Proposed system shows energy savings of 20 percent on commercial mobile devices.

Keywords: Energy utilization; backlight; RGB White color; Mobile devices.

1. INTRODUCTION

An incrementing variety of mobile applications, pruning the energy utilization of mobile devices is a major demanding in sustaining multimedia streaming applications. This paper traverses how to prune the energy utilization of the backlight when displaying a video stream without crashing the user's visual experience. Initially, it represents the problem as a dynamic backlight scaling optimization problem. Then, propose algorithms to solve the fundamental problem and prove the optimality in terms of energy savings. Developed a prototype implementation integrated with existing video streaming applications to validate the practicability of the approach [1]. The results of experiments conducted to evaluate the efficacy of the proposed approach are very encouraging and show energy savings of 20 percent on commercial mobile devices.

Researchers have been traversing various low-power system designs by destinations of distinct energy intensive components as well as power management policies from various perspectives in recent days. The backlight used arecent studied; likewise, it should perceive the most absorption with respect to improving energy saving efficiency. Moreover, in advance technology mobile users are becoming increasingly addicted to multimedia streaming applications such as YouTube and social network communities like Facebook. People more addicted such usage behavior will lead to a significant increment in the energy utilization of mobile devices, especially with the smart phones it demand for larger, higher-resolution screens. It leads to motivates us to traverse how to prune the backlight's energy utilization when surfing multimedia streaming applications on mobile devices.

Need to focus the display subsystems to stay in active mode for longtime as the video stream is displayed; likewise, its way to prune the power utilization is to dim the backlight. However, image distortion takes place because the resemblance between the original image and given backlight-scaled image [14]. To assess image distortion the structural similarity (SSIM) index [16] a metric is designed. Various number of energetic backlight scaling techniques has been developed to limit the image distortion and preserve the reliability of a single image when the backlight is dimmed in modern years. The provoked image distortion is enclosed to a sufficient threshold and may not affect the clearance of the display significantly which is noticeable difference of the human visual system. Additionally prune the power consumption and they commit for the image distortion through image pixel transformation at the same time. However, determine the dimmest backlight level for a single image from these methods and gives some techniques for exploring dynamic backlight scaling optimization in this paper.

2. RELATED WORK

In multimedia streaming applications, nowadays the mobile users are increasingly addicted .The power consumptions in mobiles devices are decreasing when displaying video in the backlight. However, proposed the dynamic backlight scaling technique for reducing the energy utilization [1].

In video stream, a temporally-aware backlight scaling (TABS) technique .The main aim is to maximize energy saving in the display system. The video distortion itself comprises of (i) an intra-frame (spatial) distortion (ii) an inter-frame (temporal) distortion. The dynamic-programming algorithm has been used with the backlight levels, and increases the energy consumption [6].

In human visual system (HVS), proposes an approach for pixel transformation of the displayed image to increase the potential energy saving of the backlight scalingmethod. It takes advantage of HVS characteristics and tries to minimize distortion between the perceived brightness values of the individual pixels in the original image and those of the backlight-scaled image [7].

3. EXISTING METHOD

Increasing the popularity of mobile devices has foremost in information and communications technology.

This is currently changing a people's lifestyles for motivating the development of a growing number of mobile applications and services. However, pruning the energy utilization of mobile devices that utilize the applications and services is a major demanding in multimedia applications. In the existing system a cloud-based energy-saving service was used [1].

In system the one server is to maintain more than ten devices energy. Sometime packets are missing to the execution and lag. The existing system scaling very large lag when communicate between them. Energy saving services of cloud based is very low to use. The pattern implementation is interacting with existing video and it is low acceptance. It is inexpert to use mobile devices. The drawbacks are increasing the energy utilization, it can be more than one user are access the same data, optimization is very critical to use, it takes very large scaling to maintained risk and it is minimum of energy saving.

4. PROPOSED METHOD

4.1 Backlight Scaling Technique

Prune the energy utilization of the backlight when displaying a video stream without crashing the user's visual experience. Introducing codes of a RGB White color to improve the user's observable experiences. This RGB White color code process is adaptable for all the devices. RGB color system, speculate all the colors from the combination of the Red, Green and Blue colors. In this proposed system the power energy is improved when the brightness of the screens increased. It uses the minimum of RGB color values. The intensity of the colors is reduced in our proposed system. In our proposed system the RGB White which have integer values from 0 to 255.

The advantages of proposed system are it improves the power energy then it is adaptable for all mobiles and it improves the quality of the video when displaying in the backlight.

5. SYSTEM FLOW DIAGRAM

Figure 1 shows the system flow diagram of backlight scaling technique and RGB White process method. Initially, get the video from any location in the system. The getting video file is to be any type of format. After getting those files have to convert the video into the frames. Process these frames in a histogram based manner. The need of this kind of progress is to reduce the energy of playing a video in a mobile.

Take the frames and convert it into the images. For the conversion frames are using the RGB white based manner process. In the existing system got the darkening images from those conversions. But propose system to use the RGB white based conversion process. This process could provide the clear and light contrast based images.

This is an important process because every video files from the YouTube can take large energy for playing that video. Main aim is to prune the energy. So that uses the RGB white based conversion process. After getting the images can convert it into the images into video format. Those videos are uploaded into the cloud. This process to be done for checking the energy for playing the videos from the YouTube and also our backlight based conversion video.

Here, to measure the time and also the power consumption of each and every video to be uploaded into the cloud. It can reduce the time of buffering the video and also mainly reduce the power of the playable

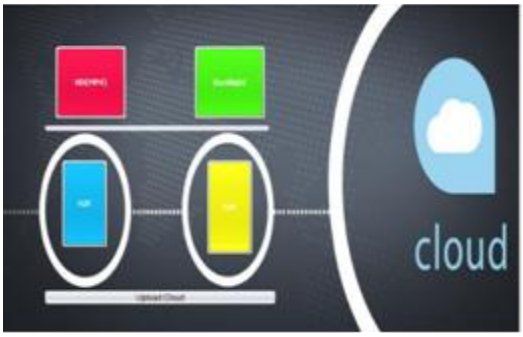
video. The videos are played in a mobile. Because our concept focusing the concept of mobile streaming.

- RGB – Red Green Blue

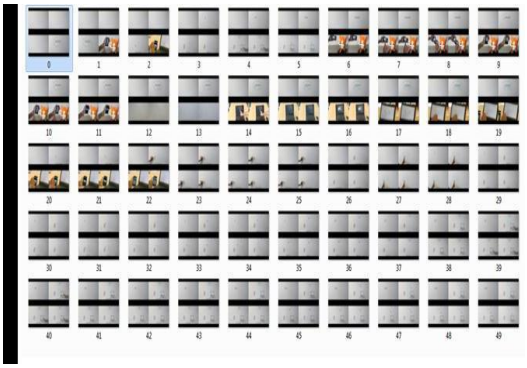
Figure 1: System flow diagram

6. EXPERIMENTAL RESULTS

The energy utilization is increased by using backlight scaling technique and RGB White process conversion in the multimedia streaming application on mobile devices. The input images are processed by RGB White process and backlight technique. Fig(a)shows the image of whole conversion process, initially the video convert into frame then frame to video conversion then apply HD conversion for getting clearance and reducing the size of the video after that applying backlight technique finally proceed the upload the video into the cloud .



(a)



(b)

(c)

(d)

Figure 2: Results of the proposed method: (a) The image of backlight scaling technique and RGB White process ; (b)Frames is converted from video; (c) Video is converted from frames by RGB White process; (d) The converted video is again converted into HD conversion for size reduction.

7. CONCLUSION AND FUTURE WORK

7.1 Conclusion

Thus energy saving is the major issues of mobile devices in today world. In this paper addressed the major issues of energy saving and also reduced the energy by proposed concept. The proposed algorithm also increased the visual experience of the user who is working with the mobile device. For that reason introduce a RGB White colors to improve the users observable experiences. In this proposed RGB White improved the drawbacks presented in the existing LED, OLED, AMOLED, SOMLED technologies. Finally, proposed RGB White increases the user's observable experiences and also reduced the energy utilization.

7.2 Future Work

In the proposed system used RGB white concept for reducing the power consumption of smart phone applications. Reduce the darkness of background and gain a better visual experience than the other Visual technology. This RGB White color code is adaptable for all the mobile phones. RGB color space or RGB color system, speculate all the colors from the combination of the Red, Green and Blue colors. In the future work, just upgrade the proposed system by implementing an android L application. Android Lollipop is a Google latest mobile OS. It has the feature of save the battery life and multiple device compatibility. Lollipop software supports all devices like TVs, cars, smart watches. So it can work all the devices and customized for needs. The OS adds a feature which gives the estimated time left before you need to charge and, it tells approximately how much time it will need to charge before it's ready to go, when it's charging.

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