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SPACE OPTIMALITY USING DATA MINING

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ABSTRACT

The memory space offered by the technologies today is the device memory and cloud storage, which is a cutback in the physical memory available. The motive is the optimum use of the device without being handicapped at the storage front. Using advanced software attuned with Big Data Analysis using Data Mining, the proposed system fulfills the requirement.

Keywords: Big Data Analysis, Cloud Storage, Data Mining, Device Storage

I. INTRODUCTION

The advancing technology of today's world is revolutionized and forward-looking. It has given the liberty to the users to stay put and on the move with convenient devices thus making it crucial to maintain those devices in their optimal state for the best use. One of the key concerns in the maintenance of these devices is the storage convolution. The memory space radically offered by the technologies today is limited to only the device memory in terms of physical memory with an addition of liberal cloud space. For instance, Traditional mobile phones did offer a feature of adding a supplementary memory in the form of storage cards for the ease of space complexity, but this nowadays is abating. The futuristic and hi-tech approach is the cloud. But, there are certain boundaries up to which this territory can be utilized for optimal storage. The proposed system intends to eliminate or at least broaden these boundaries. The idea is to use the cloud storage as an impression of the physical storage. The concepts of achieving this are based on Big Data Analysis that mines data according to user's behaviour with the device.

II. PROPOSED SYSTEM

The idea of the proposed system is to optimize the utilization of the storage of devices by the process of data mining. The system makes use of big data analysis by analyzing the user's behaviour with the device, and based on this behaviour the system makes deductions about the infrequently used data and, after the user's affirmation uploads this data to the cloud. This synchronization is automatic and does not require the manual intervention of the user.

For instance, in a mobile device the proposed system would keep track of the most used applications and the frequently accessed media, it would then determine the data to be uploaded to cloud, thereafter seeking the user's affirmation and then completing the process after receiving consent.

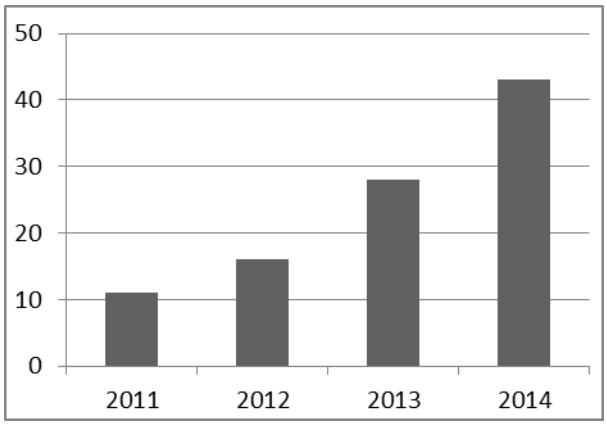

Fig 1: Present Cloud Storage Statistics

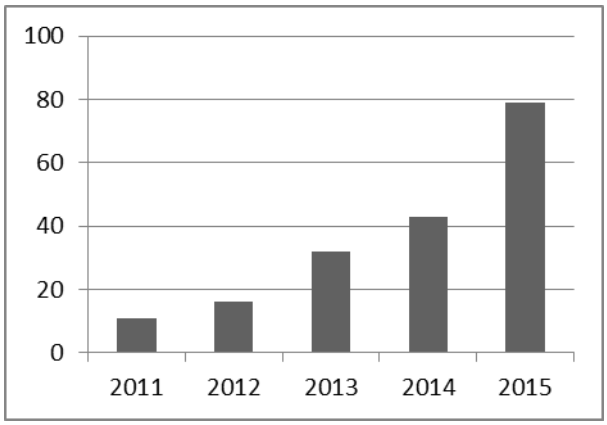

Fig 2: Estimated Cloud Usage Post Proposed System Implementation

III. EXPERIMENTATION METHOD

The foremost step is the implementation of intelligent software and its integration with our existing systems as the proposed system is employed for use only after the intelligent software's installation.

The job of this intelligent software is the Data Mining process, in which it explores the user's data in search of consistent patterns and there by collecting information about the activities on data. This information is based on the user's way of interaction with the device such as the number of times data is accessed.

In the next step, the software categorizes the data on the basis of its frequency of usage or its age and how user interacts with this data.

On completion of the above stated step, the software prompts an affirmation from the user to proceed to the further stage.

Based on the user's response, the software uploads this data to the cloud storage.

IV. EASE OF USE

The proposed system advances the storage use in a personalized manner for each user. It terminates the idea of exhaustive memory by using the best of available memory. It is economical as it permits the user to make an efficient use of the modest available device rather than investing in the high-end storage devices. As the Data is stored on the cloud, the device memory is freed up to an extent resulting in enhanced performance. The

implementation of the proposed system as a working software would not alter or interfere in the functioning of the device.

V. DIRECT VS OVERHEAD COST

The initial cost of the setup would be marginally high as the existing systems will have to be integrated with "Intelligent softwares" so as to take benefit of the system.

Once implemented, the maintenance cost would be minimal. As the system would prove to be of great benefit to the masses, it will have high number of users thus reducing the cost involved in the initial setup making a system with high financial feasibility.

VI. CONCLUSION AND FUTURE WORK

In this paper, we present that putting the proposed system into practice can notably improve the usage of Cloud storage and the working of the devices.

For future work, we plan to improve the existing systems and making them compliant to the needs of the proposed system. We plan to look into user-friendly techniques to speed up the setup and working of the system. Finally, we intend to apply our system to a wide range of users.

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