A Backup and Restore Software for Android System

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Abstract— All personal valuable data is stored on smartphones rather than computers or laptops in everyday life. All this vital information must be safeguarded against omission, mislaying and burglary, and information recovery is crucial. There are lots of back-ups and restore apps available on the internet out there, but they are available with limited features, or some are paid apps. Our app will allow you to backup and restore your android device data free of cost, also it will give you access to extra features like personal cloud. It allows users to save a backup locally and also on the cloud so that you can restore the data from your cloud whenever you are in the same network.

Keywords—Loss of data, Theft, Restore, Backup, Android Device, FTP, Private Cloud, File system.

1. Introduction

This is a free Android Application used to store data, backup data locally and also on the cloud so that you can restore the data from your personal cloud as well. This application will be able to restore data like Photos, Videos, Audios and Documents without rooting the device. It will ensure that if you have the backup file with you then all the data you have lost, can be retrieved properly.

2. Literature Survey

A. Efficient Android Data Backup and Restore Method: This document describes a new way to back up and restore information in Android smartphones that uses RLE compression to save time, space, and improve performance. This paper explains how to use RLE compression in new ways. In India, data is compressed during backup and decompressed during restore, according to the paper. RLE is used to compress data, as stated in this paper. This describes RLE compression. Also a new way to RLE compression that addresses RLEs shortcomings.

B. The Creation and Execution of Android File Access Control System: This document presents the layout and execution of Android File Access Control System that elements permission and confirmation to report functioning with a purpose to defend the touchy documents. The simulation consequences imply that the Android File Access Control System attains the intention of report get entry to manipulate on Android.

C. A Look at the Various Backup and Restore Methods Used in Mobile Devices: They have accomplished a study on unique backup and repair strategies. This study began through reading numerous backup strategies utilized in unique cell structures and additional issues confronted through customers whilst the usage of them. This discusses unique backup strategies and the issues related to it. In these paintings a green and stable approach of backup and repair facts in mobile phones is supplied which takes on the usage of AES encryption approach and also complements the overall execution with planned support.

D. Backup Techniques for Protecting File Systems(1998): This document is a study of the backup approach for safeguard file systems is presented in this document. There are alternatives for device or file based backups, full vs incremental backups, and optional data compression, including others. File system locking and creating direct, copy on write "snapshots" of the file system are between the methods for on line backup. Here it talks about how to protect data from site catastrophes and the deterioration of the media. The document then categorizes on the basis of the key parameters, numerous study and commercialized backup systems have been developed. The sensitive systems including UNIX dump and tarut are included in the categorized systems.

E.On the Scalability of Data Synchronisation Protocols for PDAs and Mobile Device:

Each synchronisation protocol has its own set of strengths and weaknesses, with scalability is determined by three factors: I the volume of data exchanged between two devices throughout synchronisation, (ii) the volumes of data that needs to be stored in the devices' address space to guarantee adequate synchronisation, and (iii) a computational complexity of the synchronisation. In some applications with long propagation delays between hosts, the number of rounds of communications per synchronisation, or the number of times there is a two-way communication between hosts, is important.

F. Cloud Computing: An Architecture, its Security Issues & Attacks: Many existing technologies have advanced as a result of the introduction of cloud computing. Cloud has the ability to accept all of the necessary internal factors. As people become more reliant on technology, they become more vulnerable to various attacks. The integrity of the cloud system is jeopardised by this attack. We attempted to address a variety of security issues in this paper, which may have raised concerns. There is a need to address security issues in the service model, as well as in the development model, in order to protect against cross-sectional writing, SQL injection, verification attacks, and cloud computing attacks, and to create a solid design and structure.

2.1 Summary of Related Work

Paper	Information
Shriwas et al.2013[1]	This document outlines a new method for backing up and restoring data in Android mobile phones that makes use of RLE compression to save space, time, and to improve performance.
L. Huang et al.2012[2]	This research proposed the creation and implementation of an Android File Access Control Program that allows for authorization and authentication of file operations in order to prevent sensitive files from being accessed.
A. Chervenak et al.1998[3]	This is research about a study of backup techniques for protecting file systems. full vs. incremental backups, File or Device based backups, and optional data compression are just a few of the alternatives available.
Pratap P.Nayadkar et al.2014[4]	They examined a number of backup and restore techniques in this paper. They began their research by examining the various backup techniques used in various mobile systems, as well as the problems that users encounter when using them.
S.Agarwal et al.2002[5]	In this paper, they took a look at several synchronisation protocols for synchronising PDAs with other mobile devices and wired PCs.
Kalpana N. Meher, Prof. P. S. Lokhande et al.2013[6]	They've attempted to address a variety of security concerns and issues in this paper. In terms of protection from the various attacks of computer-based cloud design with good design, security issues in the service model and development model must be discussed.

3. Proposed Work

Many of us have faced a situation where we have had to change our phone or we have lost the data unintentionally or due to some unforeseen circumstances. We lose some important documents or data which could never be brought back once deleted forever. To recover the lost data in the existing world, you have to pay for the software which does not guarantee you the 100% retrieval of the lost data from the device. So, it is important to have a backup for your data in a secured place. By having a backup you can not only save your data from malicious attacks but also hardware failure, data leakage, malware, etc. Backup data is the only way to recover important data in such situations. This application helps to transfer backup and restore data in an easier and hassle-free manner and also free of cost.

3.1 System Architecture
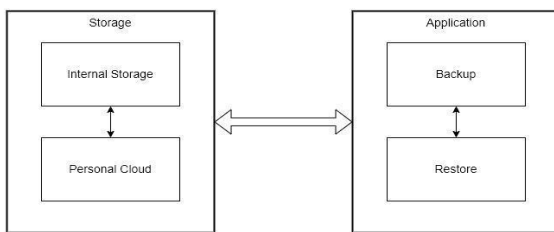
The system architecture is given in Figure 1.

Fig. 1 Proposed system architecture

A. Backup: It is necessary to have a backup of your important documents as we can lose them unintentionally anytime.

By this, you can easily transfer the important documents, documents, images, etc to a safer location without any additional charges.

B. Select the files which require backup: The user needs to take backup of all the important documents that need to be backed up now or in future.

C. Private Cloud: Nowadays, it is common to have an online drive storage but many people do not trust these clouds for storing their personal data, most of them are finding an alternative like offline storage. Our application will provide you an option to back up your data locally and on google drive but it will also provide an option to upload files to users personal cloud storage like FTP servers.

D. Upload files: After selecting the particular documents that need to be transferred, within a few seconds the documents will be uploaded to that drive.

E. Restore: The second option given in this application is the restore option, wherein the user can restore all the files they have saved in google drive. Any kind of file, document, or image, video, music file can be restored within a short period of time.

F. Select files to be restored: After which the documents which the user needs to restore have to be selected by them, only after which the final process can take place.

G. Share: If the user wants to restore data by sharing it on other platforms such as instagram, whatsapp, email etc they can do so by clicking on the share button provided.

H. Add to personal cloud: When we click on restore, it displays all the documents that were previously stored in there, we can select and restore the documents from there.

I. Files restored: In the final step after selecting the desired documents to be restored, click on ok and all the documents restored will be stored in your desired location.

3. Requirement Analysis

The minimum software and Hardware specifications are as follows:

Hardware details:

Processor	1.0 GHz or higher
RAM	2 GB or higher

Software details:

Operating System	Android 8.1+

Conclusion

This report discussed and explained in detail all the problems faced by Smartphone users while explaining the architecture of backup and restore software in android systems. We have explained the difference between the existing system and the proposed system. Also discussed how we are developing a free of cost software for android system to easily transfer the data from one location to another hassle-free and without many steps. We have also explained how to restore lost data from the existing backup created in google drive to the location that the user desires.

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