iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** XII **Month of publication:** December 2022

DOI: https://doi.org/10.22214/ijraset.2022.47993

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue XII Dec 2022- Available at www.ijraset.com

Cloud Storage Connected Security Safe

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Abstract: Document management system is an essential approach that should be managed well so that it can ensure an effective and faster overall working process. Hardcopy documents have been one of the items that many people and most organizations face difficulty in managing. So, we need to manage them in a safe and secure manner due to the high dependency on them for our day-to-day activity. How to effectively manage softcopy of documents? This is an important issue faced by everyone nowadays. So, in order to improving management efficiency and protecting documents, we proposed a new framework to improve these document management procedures everywhere.
Keywords: Document management system, Internet Automation, User privacy, Wireless technology.

I. INTRODUCTION

Searching and gathering information could be a common task that continues to consume an oversized portion of time in everyday life. This can be particularly true when it involves finding relevant information during an emergency. Recent research shows that point spent to find the proper documents and knowledge takes up 19% of a typical work week and is second only to the time spent managing email (28%). Various people use Google Drive to manage their work-related and private documents and nowadays explosive growth of knowledge makes people bear a burden to store and manage data in local. To alleviate the price of information storage and management, many folks have rented cloud storage service and outsource the information to cloud servers and due to cloud storage people are able to conveniently share data with one another and work as a team. Cloud based document management systems offer benefits like; easily accessible of documents from anywhere and anytime, safety and security of document. The cloud hosted systems deliver information via the online which supplies 24/7 access to the data from any location and is highly portable. But this highly efficient cloud data is useful but within its limitations, hard-copy will always be required for various purpose like verification thus keeping hard copy safe at the same time is a crucial task. With our safe document management, we can keep textual matter of our documents safely inside the safe which incorporates a numpad as a security measure. So, if someone wants to access the safe, they need to place the passcode first which can make sure the security and privacy of the user. While providing an easy link to computer to transfer the file in soft copy format to the drive for further use on digital platfroms

II. LITERATURE REVIEW

The elements that can assist our work will be Document Management System, Cloud storage and Use of Electronic device i.e., scanner and an online portal for file to be transferred from one's device to the google drive.
Here the privacy of user is a main responsibility for us so we tried to make it end to end encrypted. No other person can access this file without the permission of user until the person uses the same Gmail ID. Also, there will be a virtual numpad which enhances the security of one's data. The Document Management System is a very powerful tool in managing the documents of large organizations. The Document management systems architectures, advantages, and application are also important. documents stored as hard copies, or on microfilm absorbs time. A DMS increases creates electronic images of documents and stores them centrally. Less time is spent locating the documents as they can be retrieved without leaving a desk. DMS users can also access other systems available from the desktop at the same time as retrieving documents. Public identity-based protocol is necessary for secure data storage, which supports the identity privacy protection of multiple users. Google Drive is a cloud storage and collaboration service used by hundreds of millions of users around the world. Quick Access is a new feature in Google Drive that surfaces the most relevant documents when a user visits the home screen. So when we upload the Document through our online portal then it will get displayed on the home screen of google drive. We cannot realistically expect users to accept security software that asks them to suspend or even delay their access to instant messaging, downloadable executables, or electronic mail. Documents that can be uploaded will be in JPG, JPEG.

III. METHODOLOGY

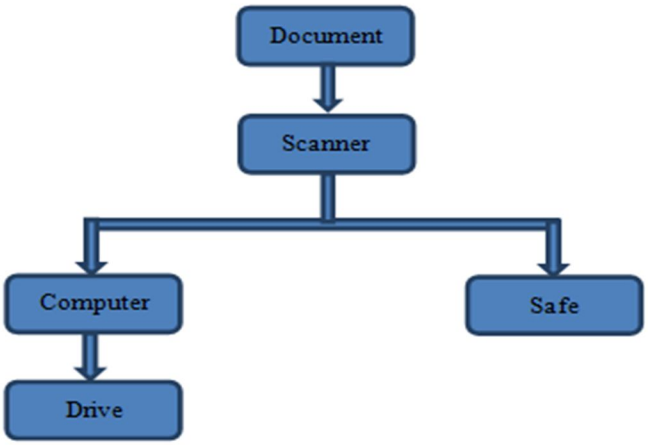
A. *Components*

1) *Security Safe:* It is where the original hard copy of the document is kept while ensuring its safety. Scanner (Fujitsu ScanSnap iX100 Wireless Mobile Scanner) - This device will scan the document and will send it to the user's device. It is a roller scanner and has an inbuilt software for transfer of files and can be seen in fig 1.

Fig 1 - Fujitsu ScanSnap iX100 Wireless Mobile Scanner

2) *Numeric lock:* It will be connected to our security safe and will be used to enter the security code to access the documents inside.

B. *Flowchart*



C. *Theory*

Document that the user wants to keep safe using our security safe while having a soft copy is to be passed in the scanner connected to safe from outside while it ends on the other side after being scanned. The scanner sends the soft copy to the computer where the cloud storage has been set up while the hard copy ends up inside the safe. The soft copy travels from the scanner to the device through the pre-installed software inside the scanner and ends up in the device. The user then visits the site where he has to follow the laid-out instruction of entering drive Id and selecting the desired file. The steps to get on self's drive ID is also given in the site.

IV. DESIGN

So, the design of our project consists of both hardware and software.

The hardware part consists of security safe with numpad lock and roller scanner. The safe has an extra layer of metal with a gap where the roller scanner is fitted, the gap needs to be of 31.8 X 14.2 X 7.4 cm. This metal layer provides the safe with extra security too. The numpad lock using Arduino is attached on top of this metal layer. Metal aligned to the scanner from where the document exits is horizontally removed from safe so that after scanning the document ends up inside the safe as can be seen in fig 2.

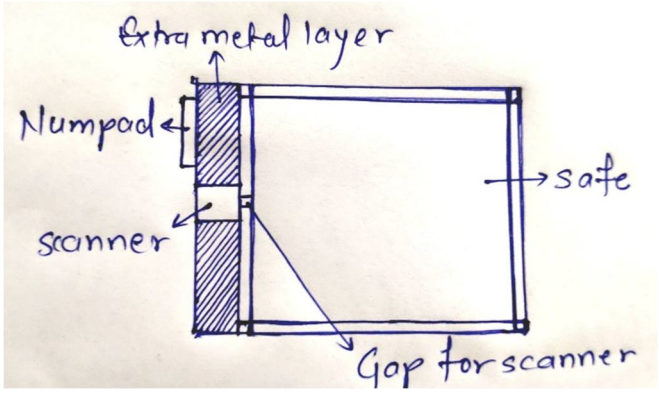


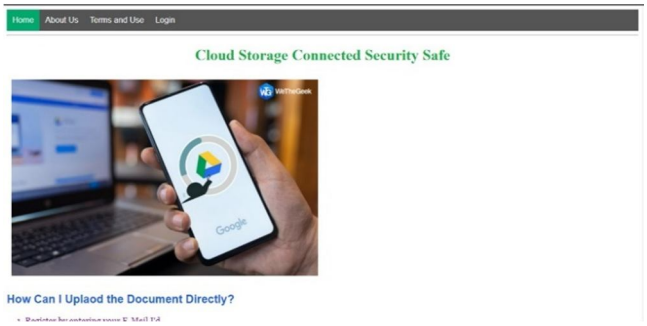
Fig 2 - Design of security safe

Software part consists of the two software, one pre-installed inside the scanner and other created by our team installed in the user's device from where he wants to upload the document.

V. EXPERIMENTS

The first experiment had the code which only could send the file to the particular drive whose address was predefined in the code and but with continuous experiments the code was developed and now with entering the ID of one's respective drive the website sends the selected file to the drive although the site isn't verified so it wasn't able to access any other ID. Again, few redesigning were done and new code was created in which permission to access the drive is asked everything the code is deploys since it isn't verified by any ISP.

So, this is the front end which was developed by HTML and CSS to interact with user.



Front end (Separate)

Also, backend was developed using Google Scripts to function behind the scenes for uploading the selected document. This is ouput of backend coding.

Back end (Separate)

Then both of these code were merged and the final site was created after all these experiments.

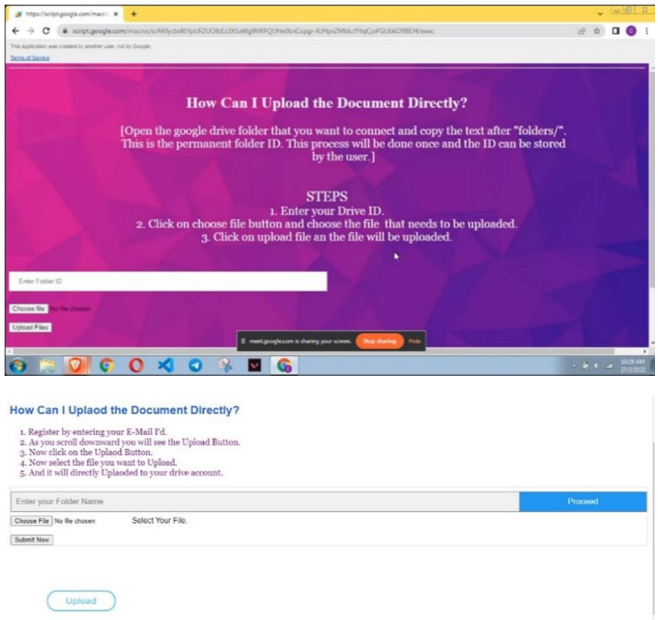
VI. RESULTS AND DISCUSSIONS

A. Discussion

Initially we decided to make this whole process fully automated but we can't achieve it right now due to some lack of knowledge. Also, we currently aren't able to use the scanner as we are at the early stage of our project development, the desired scanned is not feasible so we haven't tested the product with the scanner but rather assumed that it would work as it's supposed to be.

In this project, we have made an online server from which user can upload the scanned document directly to the drive of the receiver. The images below are the screenshot of the server.

The previous two codes we created during experimentation were combined and this is the form we got as final result which user has to fill.



Front end and back end combined (Final Result)

In order to save the file, User just needed to select the scanned file from the choose file button which he/she can access in the drive, then by submitting It will sooner get uploaded to the drive in that particular folder.

For this, we have used google script language which is basically JavaScript language with html and CSS. Google script made it easier to upload file in the drive where scanned file will get stored while html is used here to create the form, for overall web development of the site and CSS is used for the web designing. The results we get is the overall output of the combine code of Google script and HTML. It is not necessary that only scan file get store, we can use the other format file too from the PC.

The program is currently on a very under developed stage and has very high potential, the whole safe can be converted into an IOT which work on its own i.e., scan and upload document on drive after initial installation are done and permissions are given for the first time like every other IOT. Being an unidentified site right now it even need permission to access drive ever time it is deployed but it can work without any computer once it is upgraded and many other features can be also be installed like activity tracker for each document of when it is taken out and by whom using a face id and a lot more.

VII. CONCLUSION

Cloud storage connected security safe has the main advantage that it allows a user to scan the document to make a soft copy, upload and transfer the document to a safe at a task which may take some time while each task is done separately but with our website all of it can be done at once with some few simple clicks.

VIII. ACKNOWLEDGMENT

Our group has have taken efforts in this project. However, it would not have been possible without the kind support and help of our course guide and our individual efforts. So, we would like to extend our sincere thanks to her as she guided us throughout this project.

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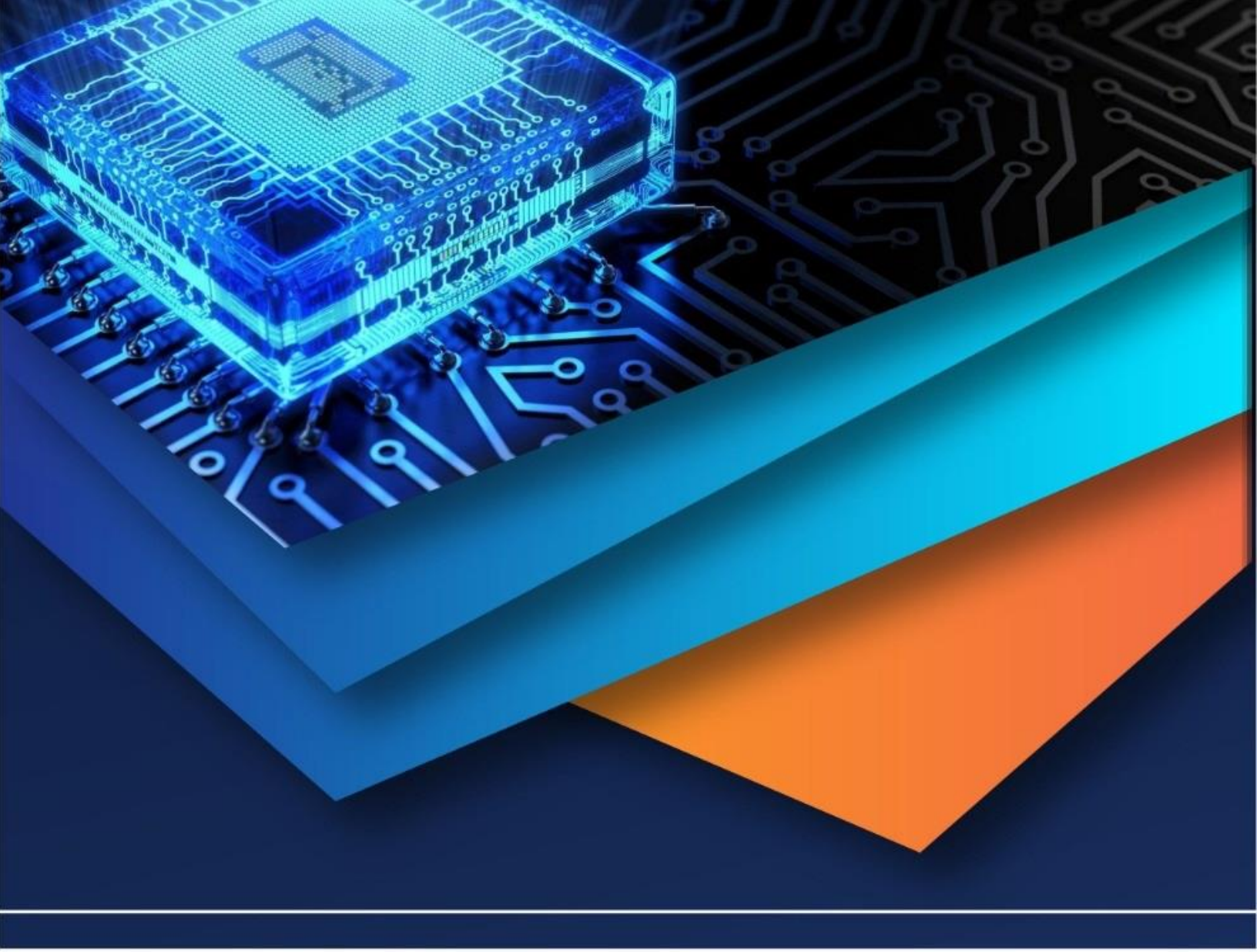

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