Digi Doc

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Abstract: *DIGI DOC management systems provide good support for storing and organizing digital documents. However, there are no computer tools that support organization of paper documents on our desks. We ran a study of people's organization of their office desk space with respect to their digital workspace. This study resulted in a set of requirements for a media bridging tool. Based on these requirements, we built a prototype media bridging tool called Paper Space that uses computer vision to link paper and digital documents. The system also tracks piles of paper documents on the real desktop, and links those papers to digital documents stored in the computer. Digital documents can be sorted and grouped according to the physical layout of the corresponding papers on the desk. The system automatically creates digital piles of documents in a simulated desktop that reflect the paper piles on the real desktop. The user can access valuable information through the system, such as printing statistics, location of a printed document on the desk, and past projects and their documents. A two week user evaluation of the system showed interesting usage scenarios and future trends for improving user interaction.*

Keywords: Digi Doc, cluttered desk

1. Introduction Need of Security

Digital Doc, one of the key initiatives under the Digital India initiative, is aimed at eliminating the usage of physical documents and enable sharing of e-documents across government agencies via a mechanism to verify "authenticity" of the documents online. Residents can also upload their own electronic documents and digitally sign them using the e-sign facility. These digitally signed documents can be shared with Government organizations or other entities. An encroaching reality for documentary researchers in sociology is that the practice of digital documentation is rapidly increasing. Individual's lives are documented in unprecedented ways through social media, blogging, video and audio. Institutions are also generating huge amounts of data, some of which is presented in the style of a 'document' through reports, white papers and so forth, but much of it is 'data' fed into other algorithmic processes for logging, monitoring and to spur further automated action. The internet is our predominant form of archiving, storing and indexing the everyday. As more human and non-human agents participate in this archival process, its scope grows in both breadth and depth. Whilst the possibilities for qualitative research expand with this ongoing documentation, through, for example, Visualization and computational linguistics from scholars in the Digital Humanities and Digital Sociology, it is imperative that we recognize and critically assess these sources of knowledge as new forms. The critical assessment of knowledge sources has a long tradition in the social sciences, predominantly in their application to qualitative research and the traditional methods of interviews, observation, and the analysis of non-virtual written or visual documents. This body of work recognizes the unavoidable distortions introduced by the human actors that both produce knowledge and the researchers that interpret it. Accepting these distortions, researchers have deployed a reflexive approach to their knowledge sources that recognizes that factors such as the identity of the author and the interpretative position of the reader necessitate an awareness of the social construction of meaning and the need for linguistic reflexivity. These distortions apply equally to digital documents. Today many of the documents that are produced by us, and about us, are products of digital electronic computing. No longer familiar in their material the documents of our lives arise and persist as signals confined within software and hardware assemblages. Yet in a vast number of social spheres, we have adopted the idea of the 'digital document' quite readily, acclimation through increasingly user-friendly software that express and mimic the typographic conventions of print culture. Discussion of documents as qualitative sources of knowledge has predominantly focused on their content, rather than them as material objects in use has argued for an extension of this understanding, 'repositioning' documents in a way that also recognizes them as both containers of knowledge and objects of action within the social world. By extending this recognition of documents as objects in their own right, this paper argues that by recognizing documents as material objects of interpretation, we can then ask what might be the 'consequences of form' when our documentation predominantly comes in the form of electrical signal rather than as ink on paper.

2. Need of Security

Enable digital empowerment of residents by providing them with Digital Document on the hosting. It enables e-Signing of documents and makes them available electronically and online minimize the use of physical documents. It also ensures the authenticity of the e-documents and thereby eliminated usage of fake documents. Secure access to Govt. issued documents through a web portal and mobile application for residents. Reduce administrative overhead of Govt. departments and agencies and make it easy for the residents to receive services. Ensure privacy and authorized access to residents' data.

3. Literature Review

In this, we present a detailed review of previous work related to our research. The related research includes "working with papers and desktop management", augmented reality systems, and tracking physical artifacts. By desktop we mean the physical desktop and not the computer virtual desktop,

unless otherwise stated. In the working with papers and desktop management section we first describe studies of how users manage and organize their offices, and then review the current tools of both personal information management and document management. The next section, augmented reality systems, surveys the state of the art in paper and desktop augmented systems. Finally we outline the available technologies for tracking physical objects on the desktop.

3.1 Working with Documents and Desktop Management

Since the advent of personal computers, electronic and paper documents continue to coexist in our offices. The idea of the paperless office remains a myth despite the availability of powerful electronic tools for handling documents. To understand why paper documents still occupy a significant portion of office space (see Figure 2.1), several researchers studied paper documents, and how they are used on our desks. Information workers use different strategies for managing and organizing paper documents. Personal information management systems, for electronic documents, are much less efficient than those techniques used by information workers in the physical domain.

Figure 1: An office full of papers, documents, and folders

Sellen and Harper provide an inspiring study of paper documents use in the modern office. In "The Myth of the Paperless Office" they explain the rise of paper use by the unique affordances of paper. The properties of paper being thin, light, porous, opaque, flexible, and inexpensive, among others, allow for easy authoring, reading, reviewing and annotating. They also observed the important role of paper for collaborative working and sharing.Paper and electronic documents are used by information workers interchangeably. Each of the two mediums has its own advantages. Electronic documents are easy to revise, store, and retrieve. Paper documents, on the other hand, are light, flexible, portable, and easier to read and annotate. In this section we discuss previous research of paper use and desktop organization

Documents form an integral part of our everyday activities. We use documents in both paper and digital forms, with each form having its own strengths and weaknesses. Paper documents are easy to produce, handle, read and port where as digital documents are easy to store, search, edit and retrieve. In the digital world we are surrounded by files, folders, and email. Despite this abundance of digital information, the idea of a paperless office remains a myth today as it was decades ago. It seems that as we have much

more access to information we need to print that information "in order for us to read it and make more sense of it". Instead of thinking about technology as a means to get rid of paper we can find novel ways to use technology to augment our use of paper, to support the management and organization of our paper space.

In the digital world, document management systems augment the computer's typical file system and help the user to better organize and make use of their digital documents. They enable users to store, retrieve, and use their documents more easily and powerfully than they can do within the file system itself. These systems are effective for managing the digital document space, but what about the paper space? While in the realm of the paper world, managing paper documents is a typical activity performed by information workers which receives no computer support. Therefore, users develop their own strategies for organizing their paper documents. As the number of papers multiplies on the desk, the organizing task becomes more difficult and demands more cognitive effort to maintain. Many users end up having dozens of papers split across several stacks on the desk.

Figure 2: Example of a cluttered desk

1) Documents should be grouped according to their task-related context.
2) A DMS should support defragmentation of related documents that originate from different sources (email and the different file formats).
3) Grouping and regrouping of documents should be easy to perform.
4) A DMS should allow flexible and custom restructuring of document.

4. Proposed Work

This section covers solution architecture in detail including terminology used, high level architecture diagram, document identification scheme, document issuance lifecycle, document sharing scheme, and some examples,

4.1 Electronic Document or E-Document

A digitally signed electronic document in XML format issued to one or more individuals (Aadhaar holders) in appropriate format compliant to DLTS specifications.

Examples:
- Degree certificate issued to a student by a university.
- Cast certificate issued to an individual by a state government department.
- Marriage certificate issued to two individuals by a state government department.

4.2 Digital Repository

A software application complying with DLTS specifications, hosting a collection (database) of e-documents and exposing a standard API for secure real-time access. While architecture does not restrict the number of repository providers, it is recommended that few highly available and resilient repositories be setup and encourage everyone to use that instead of having lots of repositories.

4.3 Digital Locker

A dedicated storage space assigned to each resident, to store authenticated documents. The digital locker would be accessible via web portal or mobile application.

4.4 Issuer

An entity/organization/department issuing e-documents to individuals in DLTS compliant format and making them electronically available within a repository of their choice.

4.5 Requester

An entity/ organization/ department requesting secure access to a particular document stored within a repository.

Examples:
- A university wanting to access 10th standard certificate for admissions
- A government department wanting to access BPL certificate
- Passport department wanting to access marriage certificate

4.6 Access Gateway

A software application complying with DLTS specifications providing an online mechanism for requesters to access an e-document in a uniform way from various repositories in real-time. Gateway services can be offered by repository providers themselves. While architecture does not restrict the number of repository providers, it is suggested that few resilient and highly available central gateway systems be setup and requester

5. Analysis of problem

Digital document is any electronic media content (other than computer programs or system files) that are intended to be used in either an electronic form or as printed output. Originally, any computer data were considered as something internal — the final data output was always on paper. However, the development of computer networks has made it so that in most cases it is much more convenient to distribute electronic documents than printed ones. And the improvements in electronic display technologies mean that in most cases it is possible to view documents on screen instead of printing them, thus saving paper and the space required to store the printed copies.

5.1. Structure of the digital document

5.1.1. Digital Documents: This contains the URI's of the documents issued to the teacher by departments.

5.1.2. Uploaded Documents: This subsection lists all the documents which are uploaded by the user. Each file to be uploaded should not be more than 10MB in size. Only pdf, jpg, jpeg, png, bmp and gif file types can be uploaded.

5.1.3. My Profile: This section displays the complete profile of the user as available in the UIDAI database.

5.1.4. Students: This section displays the students' names and the number of documents issued to the user by the issuer.

5.1.5. Teachers: This section displays the requesters' names and the number of documents requested from the user by the requesters.

6. Implementation

6.1.1. Admin Module
Admin module is the important module of the project because it monitor whole database of teacher and students. With this module admin will be able to view the teacher and student information and behavior report. Admin module is an important module in our system, who manage all others module such as teacher module, student module.

6.1.2. Teacher Module
Teacher module is work under the admin module who view the student details and upload document and all year student list. Sending the email when teacher can access our information. Teacher can access student documents, update profile, change password.

6.1.3. Student module
Student module is deal with information of student. Student who has added in to the system successfully can only able to access the system with their valid user name and password. First student should login into the system by entering ID and password. Student should update your information such as name, branch, year, contact no, email and upload document, etc. by clicking on update details. The change password field

id used by the student if he/she need to change his/her password. After completing task successfully by click on the Logout, students can successfully logout from the system.
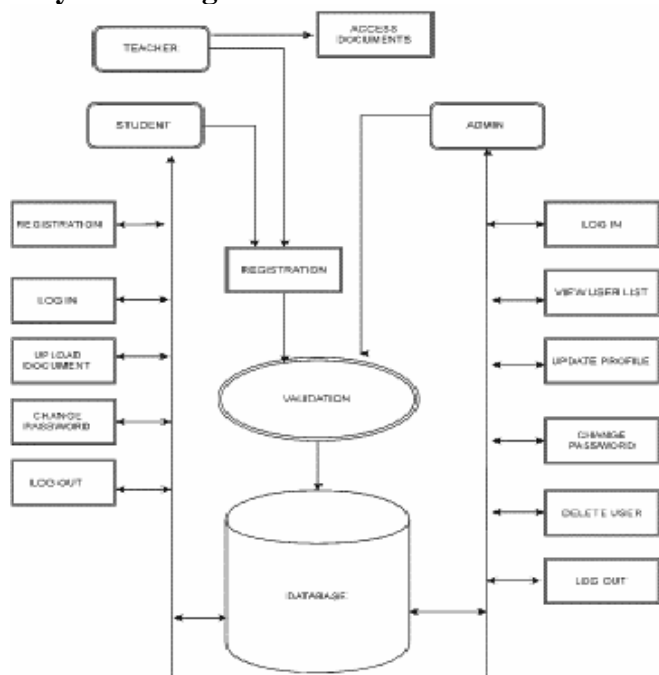
7. System Design

Figure 3: Data flow diagram of Modules

8. Applications

8.1 College/School

Student/teacher also can store document like certificate and many other important document. Thus they can access these document online for anywhere. so this reduce the chance of loss important certificates.

8.2 Business

People can store there document files etc. in encrypted format there is no loss of data as, the application store the data on the server. This system provides highly data storage for these documents.

8.3 Many other Organization and Personal use :

All other document which are necessary for us, which can be handle and access through this system easily and securely.

9. Advantages

1) Ensures Easy availability of document.
2) Reduces the use of physical document and fake document.
3) Provide a secured access to document issued by the Teacher.
4) Provide fast access to Document anytime and from anywhere.
5) Ensure complete Privacy of Resident data
6) Enable easy sharing of document across department

10. Disadvantages

It can be access only if you have done Registration Process

11. Conclusion

This thesis introduces Digi Doc services and shows how could be use it. The goal of this service is to eliminate the use of physical documents enable sharing of verified electronic documents across the governments agencies. Digi Docs is to ensure safe custody of the important documents such as PAN card; Aadhar Card etc. which determines the nationality of the Citizens of India electronically. This move would in turn result in much more transparency, authenticity and eradication of red tapism and corruption to the maximum extent possible. This is a refreshing move towards making India a digitized economy' and thereby ensuring broadband connectivity in the rural areas. Thus, for the program to be a success, it becomes imperative that there is absolute coordination between the departments and utmost commitment on the part of ministries.

12. Future Scope

Secure Digi Doc is an advanced application .The files are uploaded and encrypted internal or external memory in mobile by using AES Encryption technique. There my be chance o losing if files are corrupted in mobile. To overcome this, the future scope may be that , the files can be stored in cloud like iCloud ,Google, Gmail etc .so that we can able to access files from anywhere and are secured. The files are updated in cloud with encryption and large number of files can be stored. A user can access with a secured pin from anywhere if necessary. The AES encryption further can be used with 192 bots or 256 bits key size.

1) URI or Uniform Resource Indicator is an authentication of your loaded documents from respective department or agencies. For example Income Tax Department will verify your PAN. After verification, you will only see the URL not the image. You just need to click and share with the agency of your choice while sharing.
2) It is linked to your Aadhar Card Number.
3) Currently you will store upto 10MB of space.

However, later on it will be increased to 1GB.

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