Paperless Office

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Abstract

Now a day Technology booms in the world, but many offices not adapt the technology and work in traditional manner paper-based work. Paperless office offers organizations including increased employee efficiency, productivity, and Information security. However, there are numerous sectors, particularly Government departments which are still operating under paper centric environment. For these departments paperless office could mean streamlining daily workflow. While reducing overall costs Our aim is to convert traditional office into paperless office. We have selected the regional office as an example. Here they announce construction and other projects and follow up on that this process is totally paper based. We aim to develop a system that will reduce huge amount off papers used in this process. Our solution makes the process easier for both employees of office and construction organizations. We will create web application that provide dashboard for Government employee and Construction organization. Using these dashboard users can complete all their work. Using this web application government employee can manage all project information use it effectively and construction organization can reduce their transportation and time in the process. Process became faster than current scenario. We can achieve our objective of reduction of natural resources and provide the effective solution for our problem.

Keywords: Paperless, Office space, Digital record, Web application, Government office, time, process flow*, *Authentication

Introduction

The term “paperless office” goes as far back as the 1970s. The Xerox Corporation did more to promote the term than anyone else. As far back as 1974-1975 there was a mention in the organization about the “office of the future” that would include computers, electronic mail and online information. All the tools are in place these days to make the paperless office a reality all over the world.

The fact that technologies are now beginning to look and feel more paper like is a step in the right direction. No longer are we limited by battery power, or large heavy screens. Battery and display technologies are now thinner and lighter than ever and wireless protocols make it necessary for devices to be secured to each other in order to communicate. There are many portable devices that allow persons to access, send,

read and even mark documents as if it were in paper format.

While considering the advantages of going paperless by and large there are two different ways to execute a change procedure, either a paperless recording framework or a totally paperless work process. A paperless recording framework is an electronic framework utilized for putting away archives. It can expand efficiency, lessen expenses, and take out the requirement for extra room. It is easy to actualize, simple to adjust, and generally modest. We allude to this as the Less Paper Office. The more powerful of the two paperless systems is paperless work process. Paperless work process consolidates paperless documenting framework.

Related Work

Organizations that use paper-based processes also face security risks due to paper documents that have been lost, been damaged, been misfiled, or fallen into the wrong hands. more and more companies and organizations are making the shift toward electronic filing, saving space and increasing security. Large computer servers have the ability to store mass quantities of information in a secure state and location. Digital documents stored on these servers can be easily retrieved within minutes, which increases employee productivity due to the elimination of the chore of searching for misfiled physical documents

Collaboration efforts using paper documents prove challenging at times. Employees cannot easily distribute or share paper documents compared to their digital counterparts. Organizations that have replaced paper-based processes with paperless processes performed on a computer or other device enjoy greater flexibility with digital documents. Digital documents are easier to search, share, and backup than paper documents, and they take up essentially no space. electronic files allow better access and information sharing, cost less in terms of physical space and personnel, and can increase productivity—all of which add to the bottom line.

The term paperless office evokes images of an office without paper documents; however, in reality, a paperless environment closely resembles an office utilizing integrated information systems with multiple software tools to reduce paper consumption and improve efficiency in retrieving electronic documents. Paperless environments increase office productivity and collaboration due to the ease of sharing and retrieving digital documents.

A literature review as well as questionnaire was used, with the questionnaire being the primary research tool. The articles for the Literature Review ranged from 1999-2003 and were looked at to give a general idea of what is currently being published on the subject. The questionnaire was administered among all levels of staff and structured to get feedback as to how best the less paper environment could be incorporated into the organization.

The findings from this research project suggest that most of the staff members were interested in moving towards a paperless environment. The goal should not be to get rid of paper in its entirety (this is not going to happen for a long time) but to try as best as possible to bridge the gap between the paper and digital technology [1].

We can use SLR method from software engineering. For automating SLR process, we can use Parsifal tool that will allow us to define a set of keywords, key research questions, query string etc. [1]. As per the research it is analyzed that social platforms like Facebook, WhatsApp,

Instagram etc. have very much chances to spread fake news and reviews.

In paperless office Document management system, which is responsible for creation, manipulation of records efficiently is an important feature. In this research study author discussed methodology about creation of EDMS for Kirikkale University.

Today, universities and institutions produce and use many documents in several types. Producing, sharing, copying, and archiving documents are an important issue. Most of the institutions and universities handle these tasks manually or semi-automated. However, it is faced with many problems in practice since there is not an effective document management system. It is difficult to achieve necessary documents quickly when it is needed and to share these documents with others when it is needed. For such reasons, institutions must develop document management system app [2]

In Web application When we want to store and retrieve document that time we think about security. In this paper said about how to store and retrieve document. Here Author, said that we should store document in folder that is not accessed by publicly. For security we should follow two step 1) Render document after proper user authentication and then 2) Use Secure cache control mechanism

For retrieve document we should not use the direct URL for access of document instead of we can use a script that retrieve document from database and then send binary data to the web browser and web browser show the document and we also use cache control mechanism that is two type one is No-cache and other is No-store that is used for how web browser store data. From this we achieve the document security. [3]

Educational organization during admission process uses large amount of paper, to make admission process paperless or less-paper author proposed e-administration idea for Educational institutions. Recent increase in access to personal computer and networking systems have made it possible to perform much of cumbersome and costly paper-based administration in all organization. The aims of this study are 1). To proposed e-administration platform to educational administrators in schools and colleges. 2). To supply a platform that will allows educational administrator to work anywhere at any time.3). Support increased communications speeds between stakeholders in education [4]

In this paper author describe ways to take advantage of electronic innovations that can take the place of traditionally labour-intensive tasks. In this research paper author discussed importance of Document oriented systems in paperless office. Author proposed four types of document systems along with capabilities and features related to each of them. 1) Image Archival Systems, 2) Document Management (DM) Systems, 3) Content Management (CM) Systems ,4) Records Management (RM) Systems. By this research study, one can get to know what are the Basic components every document-oriented system must have. Author also mention other stuffs which ensure quality of document-oriented system. [5]

In this paper author said that for converting office into paperless first we need to divide our system or office into different module and functionality. In System module, author divide users into different types and it is different accessibility. Then divide module like Document module, Pending module, Host module, Public information module and Mail module etc.

Author said that core of the system development for paperless office is database. Database supply significant role for access

the information if database design is poor then overall system not work efficiently. [6]

The Paperless office concept means a change in how the technology industry, for information and management, is a "new way of working in the company". This undoubtedly brings other considerations, paradigms and feature works which affect the labour in all areas of business.

Quick and easy access to information and services of the organization. - Increase the availability of services, extension of hours of care 24 hours a day, all year. - Improving the quality and speed of service by reducing response time.[7]

As a first phase the amendment schemes and relevant Provincial Gazette promulgations were electronically captured and archived using Alchemy software (distributed by the Information Management Research Company). The captured records can be accessed from the desktop at the information counter, improving retrieval times, accuracy and customer service. It supports the organization's vision.[8]

In the present contribution authors have focused on two technical institutes of India which are premier in nature and it was expected that such institutes will show right path for others to move upon to become a paperless organization. However, the study shows that it is only a dream and can become reality if the rules and regulations set up several years ago are changed accordingly.

The opinions and perceptions were sought through well designed questionnaire from faculty members, officers, and support staff of the two institutes. In case of Technical Institute P1 the opinion for adoption of paperless office is about 65% while in Technical Institute P2 it is slightly better. In all the items related to usages of IT tools & techniques, electronic communications and keeping of records electronically, e-functioning of laboratories, E-Library thorough use of Internet. The networking of available paperless activities is excellent in both institutes.

The training and upgradation of knowledge around application of ICT tools are very much essential for having paperless office of any institution. The advantages like easy storage, time savings, user friendly, security, efficiency and accessibility will be achieved if continuous efforts by all the human resources working in any organization are streamlined

[9]

When we developed Web application that time, we need to focus on security of web application and web server to prevent from hackers. Hackers that damage our system and try to thief information and they can do many malicious activities. For that prevent from hacker we need to make our application secure using different techniques and tools.

In this paper author tell about many types of attack and prevention for that attacks. Like Threats to Web Server in this attack is Profiling, Denial of service, Unauthorized access, Arbitrary code execution, Elevation of privileges, Viruses, worms, and Trojan horses. And other attack is SQL Injection Attack, Cross Site Scripting (XSS), Cross Site Request Forgery (CSRF), Open Web Application Security Project (OWASP).

Author also Gide to developer and Verifier’s for the how to add security in the web application. [10]

Firebase is google provided database. Firebase is NoSQL database and provide Authentication, Hosting, Messaging, Analytics, Crash reporting and more SQLite is a software library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine. SQLite is

the most widely deployed SQL database engine in the world. The source code for SQLite is in the public domain. This tutorial will give you a quick start with SQLite and make you comfortable with SQLite programming. Rethink DB is a JSON document database and it has Real time push architecture, Failover in Rethink DB and JOINs

Author also give information about database model, database transaction scheduling and deadlock when access the database. [11]

For make paperful to paperless office we need a Form for the gather the information from the user. From author point of view, he said that after few years xml form takes place of html form. Author made software for making the form using xml.

This xml form is separated from the presentation and data. When create form that give xml code for form and then parse this form using XSLT that translate the form into html and xml code. Advantage of this form is this is separated from the representation for that this is use in desktop, PDA and another device. For store the data he is use the oracle database. Using this software user create form, edit form, merge form and use the predefine template. For implement this software use JSP, JavaScript, X-form.

Author also implement the version control for when someone edit the form that time new version of form is created and record the time and date of last edited form.[12]

Broadly, electronic payment systems can be classified into four categories: online electronic cash system, electronic cheque system, online credit card payment system, and smart cards based electronic payment system. Each payment system has its advantages and disadvantages for the customers and merchants. Author highlight the analysis of the security levels in relationship with fraud vulnerability, and determine how this relationship affects or boosts the confidence of the users.

This research paper discusses a complete review of the different types of electronic payment systems in terms of online payment processes, authentication mechanisms, and authentication types. The paper further demonstrates the application of the different authentication mechanisms and types in the categories of the electronic payments system highlighted. Finally, analysis reveals that electronic payment systems with authentication mechanisms involving two or more authentication factors tend to be more secured, reduced fraud vulnerability, and boost users' confidence in using electronic payment systems.[13]

The Office of the future (paperless office) has been the buzzword since 1980 and quiet a number of technologies has automated office functions but has not yet erased paper usages. In this work, Soft cabin that actualized the intention of the paperless society was developed. The software with its friendly nature approaches the soaring situation of paper consumption with a common-sense strategy by creating a ―less-paper office workflow which is a platform to attaining a digital based repository system for any organization. Soft cabin was developed using as a prototype the conventional record-keeping system for ex-students and present students records in the Computer Science department Babcock University.

This software is recommended for school officers, administrators and other office management units on bigger companies. This research provides room for further study in extending the digitization project to Libraries and Administrative offices. Also, the system can be expended to handle special cases of withdrawals, suspension or dismissal of students to be

reflected in report page. We are open to remarks that are focused on the enhancement of the performance of the software and ensuring that all the overall system works optimally. [14]

Loophole of Existing Solutions

- Most of the work done for Health and education sector.
- Current system use in government and small and medium institution are paper based
- System are only used for particular tasks
- Not available through internet you have to go to institute for access information
- Only for office employee are able to use not available for customers
- Lack of information about technology, older technology used for development

Methodology

Python is the most popular language for first-time learners for a reason. The language relies on common expressions and whitespace, which allows you to write significantly less code compared to some other languages like Java or C++. Not only that, but it has a lower barrier of entry because it's comparatively more similar to your everyday language so you can easily understand the code. Python offers a vast range of library tools and packages, which allows you to access much pre-written code, streamlining your application development time. Python also offers amazing web frameworks like Django and Flask, which we'll dive into later in the article.

Django is an open-source python web framework used for rapid development, pragmatic, maintainable, clean design, and secure websites. A web application framework is a toolkit of all components needed for application development. Django provide inbuilt security for XSS, CSRF, SQL injection and other attack. Django provide many batteries.

SQLite is a software library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine. It means you can store your records without worrying about the data structure such as the number of fields or types of fields to store values.

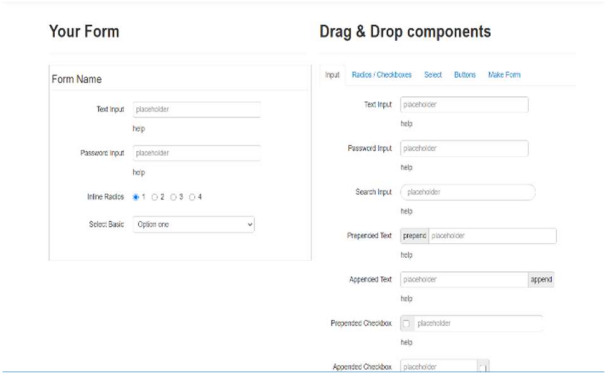

Figure:1 Form creator snapshot 1

System will be able to show the available projects detail on dashboard to all applicants. The system is responsible for storing and maintaining information of construction organization. Applicant can apply for available projects and government employee analyze the application and allocate the projects to organization. This process now become more efficient and time saving. We analyze that earlier this process was very time consuming and require more human efforts.

Conclusion:

We have review past research that has been done on 'Paperless office', from that we are able to get required information about workflow, design and imp lementation of our project. Paperless office idea comes into reality by implementing web application that satisfy our objective and

functional requirement. The application is not only Environment friendly but also time saving, cost reducing & Easy to use for both construction organization and many more sectors.

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