

EDU-WALLET

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Abstract - *The purpose of this project is to develop a digital storage space for documents such as notes, student ID cards, library cards, and certifications. The papers in the app are considered to be equivalent to the original physical documents. This will be accomplished by developing an app in which a user may establish his or her own account after completing a thorough verification procedure. In order to log in to the account, biometric authentication measures are applied, which can protect the security of documents. These documents can be stored in SQL databases. It minimizes administrative costs by reducing the usage of paper and shortening the verification process. Serves as a safe environment for document sharing. We may use this app to access essential papers at any time and from any location.*

Key Words: *digital storage, documents, notes, certifications, app development, user account, two-factor authentication, security, SQL databases, document sharing, safe environment.*

1. INTRODUCTION

The transition to digitisation has been swift in recent years, affecting a wide range of industries, including document storage. Many papers issued by government or non-government organizations are still in physical form, resulting in substantial overhead in terms of human verification, paper storage, manual audits, and so on. This makes it difficult for multiple organizations to check the validity of these papers, opening the door to the use of fraudulent documents/certificates.

To address this problem, there is a need to provide individuals with a choice of digital storage and minimize the use of physical documents. The benefits of digital storage are numerous, including the capacity to check the validity of e-documents, which eliminates the use of counterfeit papers. Individuals would also have anytime, anywhere access to their documents, which can be very convenient. Furthermore, digital storage would allow for open and interoperable architecture, creating a multi-provider ecosystem that provides choice to issuers, requesters, and individuals. This also allows rapid digitalisation across various systems.

An important aspect of the digital storage of documents is the architecture that supports a well-structured standard document format to support easy sharing of documents across departments and agencies. This would allow for

easy integration of various systems and ensure that the documents are easily accessible and shareable across different agencies.

Another critical feature of digital document storage is ensuring privacy and security through user identification and consented access to documents. This would involve the development of robust security measures to protect the documents from unauthorized access, tampering, or theft. The user authentication process would involve biometric authentication measures to protect the security of documents.

The objective of developing an application where important documents can be stored digitally is to prevent the loss or damage of vital documents. The digital storage of documents would ensure that documents are secure, easily accessible, and shareable. The main aspect of this app is to maintain the privacy and safety of the documents stored in it. The digital documents stored in the app would be treated as valid and seen as original documents in place of the physical ones.

The app would have options for uploading documents, accessing already stored documents, and sharing documents. Uploading documents would involve scanning or uploading digital copies of the documents. The app would have features that allow users to search and retrieve documents quickly and easily. Sharing documents would involve granting access to other individuals or agencies to view or access the documents. This would require the user to provide consent for the sharing of the documents.

The development of an application for the digital storage of documents would provide numerous benefits, including minimizing the use of physical documents, ensuring authenticity, improving accessibility, and enhancing security. The app would also support the interoperability of various systems, ensuring that documents are easily accessible and shareable across different agencies. To ensure the project's success, the creation of such an application will need the involvement of different parties, including government agencies, non-governmental organizations, and individuals.

2. RELATED WORK

"Digital Document Management in the Cloud" by S. S. Y. Lim, S. R. H. Lee, and J. Y. Kim [1]: This paper explores the benefits and challenges of using cloud-based solutions for digital document management. The authors discuss issues such as data privacy, security, and scalability, and provide recommendations for implementing a successful cloud-based document management system.

"A Comparative Study of Digital Document Management Systems" by C. R. Mohan, M. N. Giriprasad, and M. V. Ramesh [2]: This paper compares different digital document management systems and highlights their strengths and weaknesses. The authors evaluate systems based on criteria such as usability, performance, and security, and provide recommendations for selecting the most appropriate system.

"Secure Document Management System for Healthcare" by P. R. Sastry, S. K. Sahoo, and S. K. Patel [3]: This paper describes the development of a secure digital document management system specifically for healthcare applications. The system includes features such as patient record management, access control, and encryption, and is designed to comply with industry regulations and standards.

"Blockchain-Based Digital Document Management System" by S. N. Sharma, V. K. Tyagi, and N. K. Sharma [4]: This paper proposes the use of blockchain technology for secure and tamper-proof digital document management. The authors discuss the benefits of using blockchain for document management, such as decentralization, transparency, and immutability.

"Digital Document Management in Education" by M. N. R. Narayanan and S. Prakash [5]: This paper discusses the benefits of using digital document management systems in educational institutions. The authors describe how digital document management can improve administrative processes, enhance student engagement, and reduce costs.

"Digital Document Management for Government Agencies" by T. K. Das and R. K. Singh [6]: This paper describes the development of a digital document management system for government agencies, with a focus on security and privacy. The system includes features such as document version control, audit trails, and access control, and is designed to comply with government regulations and policies.

"Mobile Digital Document Management System" by S. S. Y. Lim and S. R. H. Lee [7]: This paper describes the development of a mobile app for digital document management, with features such as biometric authentication and cloud storage. The authors discuss the

benefits of mobile document management, such as increased flexibility and accessibility.

"Digital Document Management for Small and Medium Enterprises" by A. K. Ramanathan and P. M. Kamalakannan [8]: This paper discusses the benefits of using digital document management systems for small and medium enterprises, including improved efficiency and cost savings. The authors provide recommendations for selecting and implementing a document management system that meets the needs of SMEs.

"Digital Document Management and Archiving" by M. A. Mohtashami and A. M. Rostami [9]: This paper explores the challenges and opportunities of digital document management and archiving, with a focus on preserving digital documents for long-term use. The authors discuss issues such as data integrity, authenticity, and preservation, and provide recommendations for developing effective document archiving strategies.

"Digital Document Management and Workflow Automation" by M. H. Chakraborty and S. K. Bose [10]: This paper discusses the benefits of combining digital document management with workflow automation, which can streamline business processes and improve efficiency. The authors describe how workflow automation can be used to automate tasks such as document review and approval, and provide recommendations for selecting a document management system that supports workflow automation.

"Digital Document Management for Legal Professionals" by R. V. K. Prasad [11]: This paper explores the benefits of using digital document management systems in the legal profession. The author discusses how document management can improve case management, reduce costs, and increase collaboration among legal professionals.

"Digital Document Management and Knowledge Management" by J. J. Xu and X. H. Hu [12]: This paper describes the relationship between digital document management and knowledge management, which can help organizations leverage their intellectual capital. The authors discuss how document management can support knowledge creation, sharing, and reuse, and provide recommendations for integrating document management with knowledge management.

"Digital Document Management and Electronic Signatures" by M. Z. Hussain and R. A. Rahman [13]: This paper discusses the benefits of using electronic signatures in digital document management systems, which can improve security and reduce processing time. The authors describe how electronic signatures work, and provide recommendations for selecting a document management system that supports electronic signatures.

"Digital Document Management for Remote Work" by M. A. Rahman and A. K. M. Kamruzzaman [14]: This paper explores the benefits of using digital document management systems for remote work, which has become increasingly important in the wake of the COVID-19 pandemic. The authors discuss how digital document management can support remote collaboration, reduce costs, and improve efficiency.

"Digital Document Management for Environmental Sustainability" by J. W. Chung and S. Y. Lee [15]: This paper discusses the role of digital document management in promoting environmental sustainability, by reducing paper usage and minimizing waste. The authors describe how document management can support green initiatives, and provide recommendations for developing sustainable document management practices.

3. PROPOSED METHODOLOGY

The primary objective of this project is to design and develop a digital document wallet that allows users to access and store all their important documents in a single secure location. The security and privacy of the documents are ensured by implementing proper registration and verification processes. Users can register for the service using their email or phone number and will be provided with a unique one-time password for verification purposes. Additionally, biometric authentication can be used as an extra layer of security.

The programme was built with asp.net for the front end and mysql for the back end. It is made up of four primary modules:

User Input, Sign Up and Login, and Dashboard.

The User Input module enables new users to register by entering their desired username, password, and phone number.

The Sign Up module enables users to sign up for the service and verifies their details, providing a secure and seamless registration experience.

The Login module enables registered users to log in to the application securely by entering their username and password. This module ensures the confidentiality and privacy of the user's personal information and documents.

The Dashboard module is the main interface of the application, which is displayed once the user has successfully logged in. The user can access and manage all of their stored documents from the dashboard. Overall, this project aims to provide a secure and convenient solution for users to store and manage their important documents.

4. IMPLEMENTATION

The implementation of this project involves several stages:

1. Requirement gathering: The requirements of the project were gathered by conducting surveys and interviews with potential users to identify their needs and preferences. The features required for the app were identified and documented.
2. Design and development: The app was designed and developed using ASP.NET for the frontend and MySQL for the backend. The three modules, User Input, Sign Up, and Dashboard were created.
3. Testing: The app was thoroughly tested to ensure that all features were working properly and all possible security loopholes were addressed.
4. Deployment: The app was deployed to a server and made available for download on app stores.
5. Maintenance: Regular maintenance and updates are provided to ensure that the app remains secure and functional, and new features can be added based on user feedback.

Some of the implementation details are as follows:

1. To maintain the security of the documents, the app requires two-factor authentication (2FA) while login in. A time-based algorithm generates the 2FA code, which is then transmitted to the user's registered phone number or email address.
2. The app uses SQL databases to store the documents, and the databases are encrypted to ensure the privacy and security of the documents.
3. The app provides an option for users to upload their documents and categorize them for easy access.
4. The app provides a dashboard for users to view and manage their documents. Users can also share their documents with others through a secure link or QR code.
5. The app provides an option for biometric authentication for additional security. This can be enabled in the app settings.
6. The app has a search function that allows users to easily locate specific documents.
7. The app allows users to download and print their documents for official use.

8. The app provides regular updates and security patches to ensure that it remains secure and functional.



Fig: System Architecture

5. RESULTS

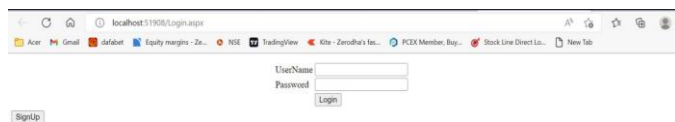


Fig: Login Page

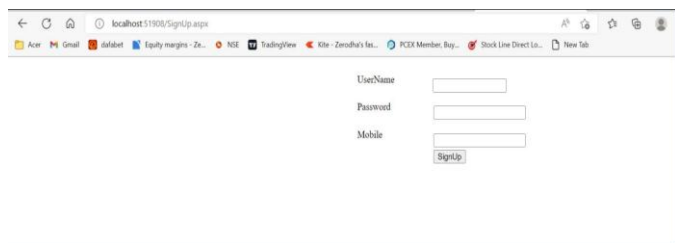


Fig: Signup Page



Fig :OTP Verification

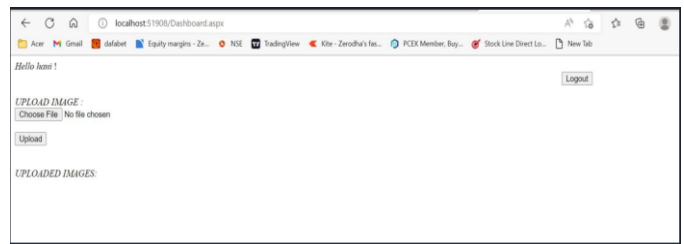


Fig :Dashboard

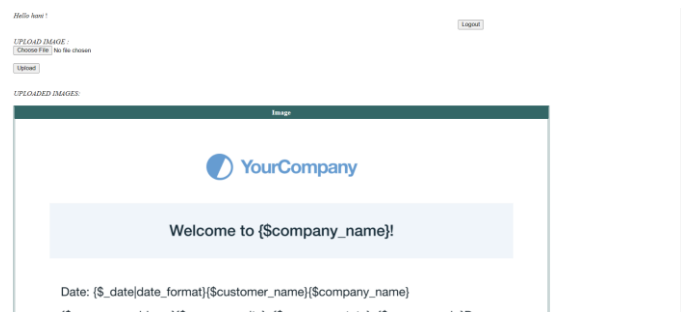


Fig: Results

6. CONCLUSION

Finally, the creation of a digital document storage space allows users to access all of their important papers in one location while also protecting the privacy and security of those documents. With the rising use of technology and the desire to reduce the usage of physical documents, the creation of such an application has the potential to have enormous advantages for people, organizations, and society as a whole. The implementation of biometric authentication measures and the use of SQL databases provide an additional layer of security to safeguard against unauthorized access. The use of an open and interoperable architecture can also facilitate the rapid digitalisation of various systems, leading to increased efficiency and reduced administrative overhead.

In the future, the integration of additional features such as watermarks on document photos and integration with messaging applications can further enhance the functionality of the application. Overall, the development of a digital document storage space has immense potential to improve the way we store and access our essential documents, making our lives easier, and more secure.

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