SecuDoc

1. Introduction

SecuDoc is a web-based application designed to facilitate the secure management of documents within an organization. This project aims to provide a secure platform for document upload, search, and management, ensuring data security and integrity through role-based access control (RBAC), hashing technology for sensitive data, and CSRF protection to prevent cross-site request forgery attacks.

2. Objectives

- To create a SecuDoc that ensures data integrity and confidentiality.
- To implement user authentication and RBAC to control access to documents based on user roles.
- To enable efficient document upload, search, retrieval, viewing, and sharing.

3. Methodology

a. User Authentication and Role Management:

- Secure access through user authentication.
- Implement role-based access control (RBAC) to define user permissions based on roles such as admin, manager, and user.

b. Document Upload and Management:

- Allow managers and admins to securely upload documents.
- Provide functionalities for managing uploaded documents.

c. Document Search and Retrieval:

- Enable users to search for documents using keywords, categories, and metadata.
- Ensure search results are accessible only to authorized users through secure algorithms.

d. Document Viewing and Editing:

- Provide a built-in document downloader within the application.
- Allow authorized users to manage and maintain the integrity of documents.

e. Collaboration and Sharing:

- Facilitate secure document sharing among authorized users with predefined access controls.
- Implement real-time collaboration features to prevent conflicts, and ensure document consistency.

f. User Interfaces and Oversight:

- Develop intuitive interfaces for CEOs, managers, employees, and external users with role-based document access.
- Provide centralized dashboards for CEOs, departmental views for managers, and secure access for external users, ensuring oversight and ease of use.

4. Technology Stack

- Front-End: HTML, CSS
- Back-End: Flask, Python
- Database: SQLite3

5. Security Measures

i. **Role-Based Access Control (RBAC):** Implemented using Flask's authentication and authorization features.
ii. **Password Security:** Hashing passwords using the hashlib library for secure storage.
iii. **Form Validation and CSRF Protection:** Utilizing Flask-WTF.
iv. **Logging:** Logging sensitive actions and errors using Python's built-in logging module.

6. Expected Outcomes

- A secure, efficient, and user-friendly document management system.
- Enhanced data security and integrity through robust security measures.
- Improved organizational efficiency with secure document handling, search, and collaboration.

7. Conclusion

The SecuDoc aims to provide a comprehensive solution for document management within organizations. By leveraging advanced technologies and robust security measures, SDMS will ensure secure document handling, efficient search and retrieval, and seamless collaboration, contributing to a more secure and efficient digital environment.