for plagarism check 26-02-2025.docx

by Sony phd

Development of NextGen Meeting Portal

Gaurav Dhale, Gaurav Kaple, Bhuvnesh Kale, Ankush Bhonde
Computer Science and Engineering
Shri Sant Gajanan Maharaj College of Engineering, Shegaon, India

Abstract: The *Meeting Portal is a web-based platform designed to streamline the gathering, organization, and retrieval of documents. Unlike traditional meeting management systems that focus primarily on scheduling and discussions, Meeting Portal emphasizes document security, role-based access control, and automated agenda creation. It features a hierarchical structure where Master-admins can oversee multiple departments (Funds), each managed by an administrator responsible for assigning user roles. The platform enhances document management and ensures compliance through calendar-based scheduling, automated notifications, and submission tracking. Built with Django and React.JS, this scalable and user-friendly platform improves document traceability, accessibility, and collaboration. Key advancements include enhanced organizational collaboration, secure document handling, and a fund-based hierarchy.*

Keywords: *Agenda, Document, Meeting, Fund, and Role-Based Access.*

I. INTRODUCTION

With the fast-changing environment of organizational management, the importance of effective communication and efficient processes has never been higher. As companies are more dependent on digital solutions to enable collaboration, the older ways of handling meetings and document processes are on their way out. The use of technology in organizational operations has created new solutions that promote productivity, increase accountability, and improve collaboration among team members [1, 3]. Meeting Portal is one of these solutions and is a high-level platform that streamlines the management of meeting-related documents and offers role-based access to support security and efficiency.

Development of NextGen Meeting Portal is constructed with a formalized framework consisting of three main roles: Masteradmin, Admin, and User. Each role has been created to serve specific purposes within the company, enabling distinct task division and access levels. Organizations are increasingly interested in carefully managing their private information both to ensure that it is properly handled, and also to make it more useful to their daily tasks [6]. This hierarchical model of access ensures the integrity of the document handling process, as it allows controlled access to sensitive data. The system consists of a several modules such as Dashboard, Meetings, Calendar, Notifications, Notes, Assignments, Funds, User Types, Users, Materials, and Settings, and each module plays a different role which makes the system more efficient. We consider the manipulation of hierarchically structured documents within a complex workflow system [8].

The Dashboard is a central platform for Masteradmins and Admins to view, in one place, all activities in progress, such as a list of meetings and users. The feature adds to the level of supervision and management functionality, enabling administrators to monitor user activity and document submissions efficiently. The Meetings module is also important since it enables scheduling and creating meetings in which the admin can gather documents from different types of users. This module is intended to support meetings that are structured platforms for document gathering and collaboration, not just virtual meetings.

In today's world, in an organization every meeting is considered as one of the significant tasks since interactions among the employees is important. Therefore, proper scheduling of these meetings helps in the completion of the tasks and activities of a group on time [5]. The Calendar module is a complement to the Meetings module in that it shows the agenda and meeting schedule, keeping all the participants aware of future events. This forward-looking scheduling minimizes the chances of missing deadlines or forgotten responsibilities. Notifications are important in keeping users aware of their tasks and deadlines, with reminders being automatically sent based on roles assigned. This aspect is crucial in sustaining accountability in the organization since it keeps users reminded of their duty and deadlines for submitting documents.

The Notes module facilitates collaboration between Admins and Users in the form of real-time communication that enables alignment on document needs and meeting goals. The Assignments module allows users to submit documents within given timeframes, which ensures responsibility and timely upload. This organization in the submission of documents is critical to the maintenance of the information flow as well as to guaranteeing that all required materials are uploaded for review before meetings.

The Materials module enables the creation and maintenance of documents needed for meetings. This is a critical feature since it makes it possible for the Masteradmin to specify the documents that will be required for every meeting, so that all attendees are well prepared, and the information required is easily accessible [9]. The workflow of the Meeting Portal starts with the Masteradmin defining Materials and

User Types according to company requirements. Next, a Fund is created, associating related materials with respective user roles. This organized method not only increases the efficacy of document gathering but also informs everyone with their responsibilities and deadlines.

In addition, Meeting is an important part of daily life to discuss and share information. There are different kinds of methods, approaches, and techniques that have been used to hold meetings [7]. Meeting Portal facilitates optimized decision-making and business efficiency since it ensures the gathering and arranging of all critical documents in an orderly manner. Once all the assignments have been submitted by the users, Admin can prepare an agenda with details of the meeting, including meeting name and list of all the meeting documents together with their page numbers. Such an agenda works as a road map for the meeting, conducting discussions and confirming that all such topics are addressed.

After the agenda has been prepared, the admin can produce a final document combining all documents that have been submitted, with the agenda as the cover page. The final document is important to keep a record of the meeting and make the information discussed accessible to all attendees. The Meeting Portal not only makes it possible to collect documents but also organizes these documents and makes them available for reference purposes.

II. LITERATURE REVIEW

In order to address the challenges of efficiently organizing, storing, and retrieving meeting papers, the article offers the design and implementation of a Meetings Document Management and Retrieval System. It emphasizes the necessity of an object-oriented and indexing-based online application to enhance document security and retrieval. The system's goal is to improve organizational collaboration and decision-making by giving users immediate access to meeting agendas, minutes, and related materials. The authors emphasize how hypertext can be used to browse interconnected material, which eventually results in better meeting record management [1].

In response to the growing demand for scheduling systems that secure personal data, the paper provides a thorough explanation of privacy-preserving scheduling algorithms for mobile devices. It is an expansion of research on distributed constraint fulfilment, private set intersection, and secure multi-party computation, highlighting the drawbacks of traditional methods that either compromise user privacy or have scalability issues. In order to maximize privacy and efficiency for mobile scheduling scenarios, the authors provide three new methods based on homomorphic encryption that allow users to agree on mutual availabilities without disclosing their personal schedules [2].

An overview of web-based meeting scheduler applications is provided in the paper, along with a discussion of common problems with regular meeting planning, such as poor communication and time waste. While concentrating on a single application to integrate crucial features like participant availability, agenda distribution, and reminders, it examines several algorithms and systems suggested for automating the scheduling process, such as conflict detection and optimization techniques. The study reveals a gap in existing solutions, underscoring the possibility of a new online application that effectively addresses these issues [3].

Effective communication and time management are two of the main problems with traditional meeting planning that are outlined in this paper's thorough literature review of web-based meeting scheduling solutions. It covers the variety of technologies and strategies, such as automated methods and conflict detection, that are suggested to optimize scheduling efficacy. To improve overall meeting efficiency, the review highlights the shortcomings of existing applications, which frequently lack certain functionalities. This highlights the need for a single solution that includes essential features like agenda sending, participant availability, and reminders [4].

The management and efficacy of meetings in Ugandan organizations are covered in the article "Organizational meetings: management and benefits" by Bagire et al. (2015), with an emphasis on the crucial role that policy plays in determining the outcomes of meetings. It critiques the existing literature, which is primarily from Western contexts, and emphasizes the significance of management strategies that are tailored to the local situation while taking cultural factors into account. The study demonstrates that while meetings are generally regarded as beneficial for communication and conflict resolution, issues such as subpar management techniques and a failure to take appropriate action compromise their efficacy, and further research in the African setting is required [7].

As with previous studies by Tu and Hsu and Liu et al., the work presents a novel (k, n) secret document sharing (SDS) method that enhances share management by employing meaningful shares as opposed to noise-like shares. This facilitates the transfer of additional information through these significant shares in addition to making it simpler for participants to recognize and manage shares. To overcome the shortcomings of earlier methods for secret document sharing, the system proposed in this study has better embedding efficiency while maintaining the same computing complexity as Liu et al.'s SDS. By offering a practical and effective structure for sharing confidential documents, this work advances the profession [10].

In order to enhance efficiency and security, the study presents a comprehensive examination of existing document management and automatic meeting scheduling approaches in organizational contexts. It references several important studies that address scheduling optimizations and temporal conflicts, including the Distributed Multi-Event Scheduling

framework and systems based on Open Constraint Programming. The evaluation also discusses information security in meeting management, emphasizing secure document handling and encryption techniques to prevent data leaks. In general, the literature emphasizes how important it is to improve meeting management systems' automation and organization [11].
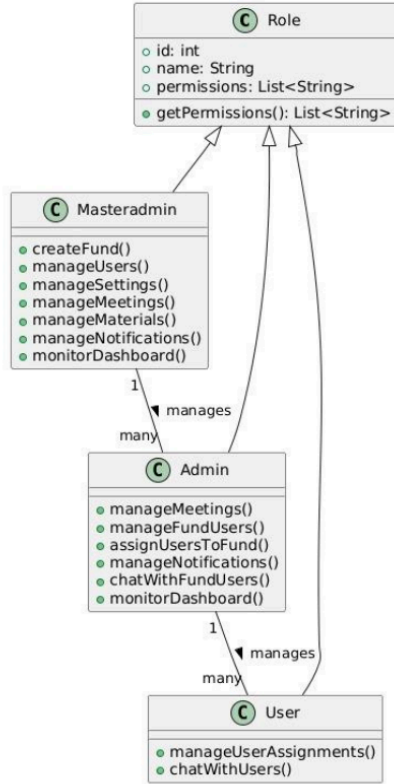

Fig. 1. Role based access (RBAC)

III. RESEARCH METHODOLOGY

The research methodology for the study adopts a systematic procedure to design and develop an effective meeting document management system. The methodology is segmentalized into various phases ensuring systematic development and testing of the Meeting Portal system.
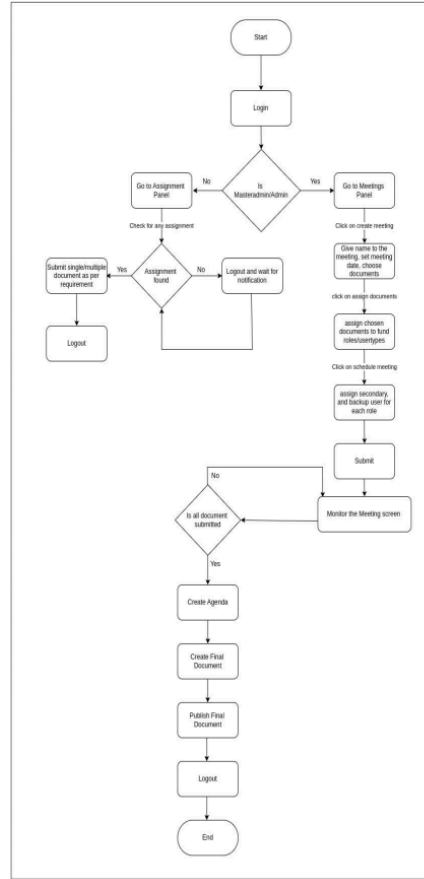

Fig. 2. Meeting lifecycle

A. Research Design:

This research applies the applied research philosophy, seeking the development of an organizational document management system that operates on the concept of a role-based document control. The work is built along a qualitative as well as a quantitative approach that involves the inclusion of system development and user acceptance methods. It seeks to complement the use of conventional document management systems with a streamlined process of document submission, approval, and retrieval using organizational hierarchy.

B. Data Collection Methods:

To establish a thorough perception of the problem in current document management systems, the following methods of data gathering were utilized:

  o   Literature Review: An in-depth review of currently available document management systems, i.e., Paperless Office, Content Management Systems, and Business

Document Management, was carried out to determine their shortcomings in dealing with meeting documents. This led to the establishment of the research gap and outlining the objectives of the system.

o System Requirement Analysis: The information gathered was reviewed to establish the functional and non-functional requirements of the Meeting Portal system being proposed. Some of the important requirements were hierarchical management of users, tracking document submissions, and automatic generation of meeting agendas.

C. System Development Approach:

Agile Software Development Model was used for system implementation. This model supports iterative development, testing, and improvement based on user input. The major steps involved in the development process are:

o Requirement Analysis: Determining the major features like role-based access, fund-based hierarchy, agenda preparation, document submission, notifications, and final document generation.

o System Architecture Design: Developing a modular design for efficient handling of documents and managing user roles. The system comprises several modules such as Meetings, Assignments, Notes, Dashboard, and Calendar, to promote scalability and ease of maintenance.

o Development: It was developed on a Django backend and React.js frontend to guarantee scalability, real-time responsiveness, and secure handling of data. The backend is responsible for handling user authentication, document storage, and meeting workflows, while the frontend offers an interactive and user-friendly interface.

o Testing & Validation: The system was thoroughly tested, comprising unit testing, integration testing, and user acceptance testing (UAT). Testing included ensuring secure role-based access, document integrity, and effective execution of workflow.

D. Implementation and Evaluation:

The final system was implemented in a controlled setting to be tested. User input was gathered to assess usability, efficiency, and reliability.
The assessment considered:

o Effectiveness of role-based access control in managing meeting documents.
o Ease of document submission and retrieval for various user roles.
o Automation effectiveness in agenda generation and document consolidation.
o Overall user satisfaction with the system's functionality.

IV. RESULT

Meeting Portal is a state-of-the-art, role-based meeting management platform that consolidates document gathering and meeting planning in a modular architecture. With three unique roles—Masteradmin, Admin, and User—the portal isolates functions into administrative modules (Dashboard, Meetings, Calendar, Notifications, Settings, Materials, User type, and Funds) and collaborative modules (Notes and Assignments) to make sure that sensitive operations are controlled by authorized staff only. Masteradmin creates core elements like document templates (Materials) and user roles (User types), whereas Admins book meetings by choosing materials, assigning roles (secondary and backup users included) and monitoring document submission. This design not only improves efficiency and accountability in operations but also strengthens security by restricting access to key functions. Initial assessments show that the Meeting Portal successfully minimizes administrative overhead and presents scalability and integration potential with current enterprise software, laying a strong groundwork for future improvements like in-depth analytics and adaptive notification systems.
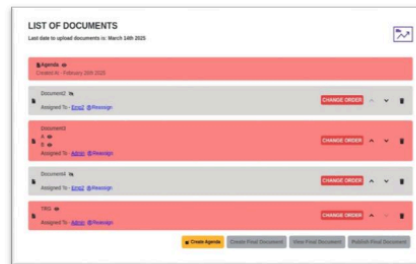

Fig. 3. Meeting monitoring screen

Fig. 4. Meeting Agenda

V. CONCLUSION

The Meeting Portal project offers a solid solution to organizations wanting to automate their document collection and collaboration process. Providing role-based access and a suite of modules, it is effective in meeting management, assignment, and user-to-user interaction. The systematic organization of meetings, assignments, and notifications makes every participant active and responsible, thereby creating a better-organized and efficient workflow.

The Meeting Portal project was created to meet the urgent need for proper organization, storage, and convenient access to meeting documents in organizations. Through the development of a web application, the system enables users to check meeting agendas conveniently and sign up for meetings online, making it easier to participate. Users can browse minutes of interest with ease, improving their ability to remain informed and active.

Furthermore, the adoption of a calendar-based scheduling tool facilitates time management through the use of reminders on future deadlines and meeting schedules to inform all parties involved. By doing so, it avoids tardiness in filing documents and encourages better coordination across team members. Automated reminders and alerts also encourage time efficiency with reminders to stakeholders to avoid last-minute deadlines being missed. The focus on accessibility and organization not only maximizes workflow effectiveness but also enhances collaboration between workers, ultimately culminating in increased productivity and organizational performance.

VI. FUTURE SCOPE

The future direction of the Meeting Portal project involves the incorporation of advanced security features to safeguard sensitive documents and user information, in accordance with industry standards and regulations. Furthermore, extending the platform to be accessible on all devices, such as mobile and tablet applications, will improve user convenience and interaction. Having real-time collaboration capabilities will enable users to co-author documents effortlessly, further enhancing the effectiveness and efficiency of the meeting preparation process. These changes will make Meeting Portal a full-fledged solution for organizations that want to optimize their document collection and collaboration processes.

REFERENCES

[1] I. C. Obagbuwa, O. J. Oyelade, O. O. Oladipupo, D. O. Aborisade, and I. T. Ewejobi, "Design and Implementation of Meetings Document Management and Retrieval System," *Journal of information Science*, vol. XX, no. X, pp. 1-14, 2012.

[2] S. Saranga, D. Ranaa, S. Patela, and D. Savaliy, "Meetings through the cloud: Privacy-preserving scheduling on mobile devices,"*Journal of Information Security and Applications*, vol. XX, no. X, pp. 1-14, 2023

[3] S. Thalawattha and D. Vidanagama, "A Survey on Web-based Meeting Scheduling Application," in *Conference Paper*, Jan. 2021.

[4] C. H. Kao and S. T. Liu, "Development of a Document Management System for Private Cloud Environment," *Procedia – Social and Behavioral Science*, vol. 73, pp. 424-429, 2013.

[5] A. Djedović, E. Žunić, D. Alić, S. Omanović, and A. Karabegović, "Optimization of the Business Processes Via Automatic Integration with the Document Management System," in *2016 IEEE International Conference on Business Informatics (CBI)*, 2016, pp. 117-122.

[6] E. Badouel and M. Tchoupé Tchendji, "Merging Hierarchically Structured Documents in Workflow Systems," *Electronic Notes in theoretical Computer Science*, vol. 203, pp. 3-24, 2008.

[7] V. Bagire, J. Byarugaba, and J. Kyogabiirwe, "Organizational meetings: management and benefits," *Journal of Management Development*, vol. 34, no. 8, pp. 960-972, 2015.

[8] A. Djedović, E. Žunić, D. Alić, S. Omanović, and A. Karabegović, "Optimization of the Business Processes Via Automatic Integration with the Document Management System," in 2016 *IEEE International Conference on Business Informativs (CBI)*, 2016, pp. 117-122.

[9] S. Saranga, D. Ranaa, S. Patela, and D. Savaliy, "Document Management System Empowered by Effective Amalgam of Blockchain and IPFS," *Journal of Information Security and Applications*, vol. XX, no. X, pp. 1-14, 2023.

[10] C, -N. Yang, P.-Y. Tsai, and Y. Liu, "A (k, n) secret document sharing with meaningful shares," *Journal of Information Security and Applications*, vol. 62, 2021, Art. no. 102973.

[11] T. Athaya, S. Munira, A. Zaman, S. A. Hossain, and Col. A. B. M. Humayun Kabir, "A Proposed Algorithm and Architecture for Automated Meeting Scheduling and Document Management," in 2018 *21st International Conference of Computer and Information Technology (ICCIT)*, Dhaka, Bangladesh, 2018, pp. 1-6.

for plagarism check 26-02-2025.docx

7%	**5**%	**6**%	**2**%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Tasbiraha Athaya, Sirajum Munira, Afsana Zaman, Syed Akhter Hossain, Col A B M Humayun Kabir. "A Proposed Algorithm and Architecture for Automated Meeting Scheduling and Document Management", 2018 21st International Conference of Computer and Information Technology (ICCIT), 2018 Publication	**2**%
2	Submitted to Tshwane University of Technology Student Paper	**1**%
3	ir.kdu.ac.lk Internet Source	**1**%
4	Ching-Nung Yang, Po-Yu Tsai, Yanxiao Liu. "A (k, n) secret document sharing with meaningful shares", Journal of Information Security and Applications, 2021 Publication	**1**%
5	ijarsct.co.in Internet Source	**1**%
6	coek.info Internet Source	<**1**%
7	www.coursehero.com Internet Source	<**1**%

8   Ganvir, Ruchika, and Vishwanath Mahalle. "An overview of secure friend matching in mobile social networks", 2015 International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS), 2015.
Publication   <1 %

9   core.ac.uk
Internet Source   <1 %

10   emrbi.org
Internet Source   <1 %

Exclude quotes	Off	Exclude matches	< 8 words
Exclude bibliography	On		