IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 1, April 2025
Impact Factor: 7.67

Faculty Course File Auto Generation

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Abstract: *Faculty course file auto generation is developed to optimize the assignment of subjects to faculty members and provide a unified platform for academic management. It allows the Head of Department (HOD) to efficiently distribute subjects among faculty, ensuring fair workload allocation. Teachers can log in to access their assigned subjects, create question papers, upload study materials, manage student marks, and access useful academic resources. The system integrates Firebase for secure authentication and real-time data storage, ensuring seamless access and updates. By improving administrative efficiency and academic organization, this system enhances the overall teaching and learning experience.*

Keywords: Faculty course file auto generation , Subject Assignment, Academic Administration, Teacher Portal, HOD Dashboard, Study Materials, Student Marks, Firebase Integration, Real-time Updates

I. INTRODUCTION

In modern educational institutions, efficient Faculty course file auto generation is essential for ensuring smooth academic operations. Faculty course file auto generation System is designed to streamline the assignment of subjects to faculty members and provide a centralized platform for managing their academic responsibilities.This system enables the Head of Department (HOD) to assign subjects efficiently, ensuring balanced workload distribution among faculty members. Teachers can log in to access their assigned subjects, create question papers, upload study materials, record student marks, and access relevant reference links all within a single platform. By leveraging Firebase for authentication and data storage, the system ensures real-time updates, seamless data handling, and easy accessibility. This digital solution enhances the efficiency of academic administration, reducing manual workload and improving overall productivity in educational institutions.

II. NEED OF PROJECT

The Faculty Course File Auto-Generation System is designed to streamline academic administration by automating subject assignments and centralizing faculty documentation. Traditionally, managing course files is time-consuming and inefficient, requiring manual compilation of lesson plans, assessments, and compliance reports. This system allows the Head of Department (HOD) to efficiently allocate subjects while enabling faculty to access and update academic records in one place. By leveraging Firebase for real-time data handling, it ensures secure, seamless updates. The platform also automates teaching plans, CO attainment analysis, and assessment tracking, enhancing efficiency, compliance, and continuous improvement in course management.

III. PROBLEM DEFINITION

Managing faculty course files manually is inefficient and time-consuming. This project automates subject assignment and academic file management, providing a centralized platform for faculty and the Head of Department (HOD). The system allows HODs to assign subjects efficiently while faculty members can:

- Access assigned subjects and upload/view academic documents (Vision & Mission, PEO, PO, PSO).
- Refer to the Academic Calendar and MSBTE Approved Curriculum.
- Manage lesson plans, timetables, laboratory/tutorial planning, and formative assessments (FA-TH).
- Track CO attainment, gap analysis, and action plans for improvement.

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- Organize micro-projects, assignments, unit test records, and teaching materials (notes, FAQs, PPTs, etc.).
- The system leverages Firebase for authentication and real-time data management.
- This project enhances efficiency in academic administration and is strictly for faculty use only.

IV. METHODOLOGY TO SOLVE THE PROBLEM

The Faculty Course File Auto-Generation System is developed using the following key components:

- Authentication & User Management: Faculty login via Firebase Authentication, with HOD assigning subjects.
- Subject Assignment Module: HOD efficiently distributes workload; faculty access assigned subjects in real time.
- Academic Document Management: Faculty upload/manage vision-mission, PEO, PO, PSO, CO-PO Mapping, CO Attainment, Lesson Plans, Timetables, Teaching Materials, etc.
- Automated Teaching Plan Generation: Auto-generates detailed teaching plans based on the academic calendar.
- CO Attainment & Gap Analysis: Auto-calculates CO Attainment, identifies gaps, and suggests improvement actions.
- Formative Assessment & Lab Planning: Faculty manage FA-TH, tutorials, lab planning, and assignments in one place.
- Integration with MSBTE: Provides direct links to MSBTE Academic Calendar & Approval Curriculum.
- Real-Time Data Processing & Storage: Uses Firebase Firestore for secure storage and real-time updates.
- This system ensures a centralized, automated, and efficient academic management platform for faculty members.

Output:

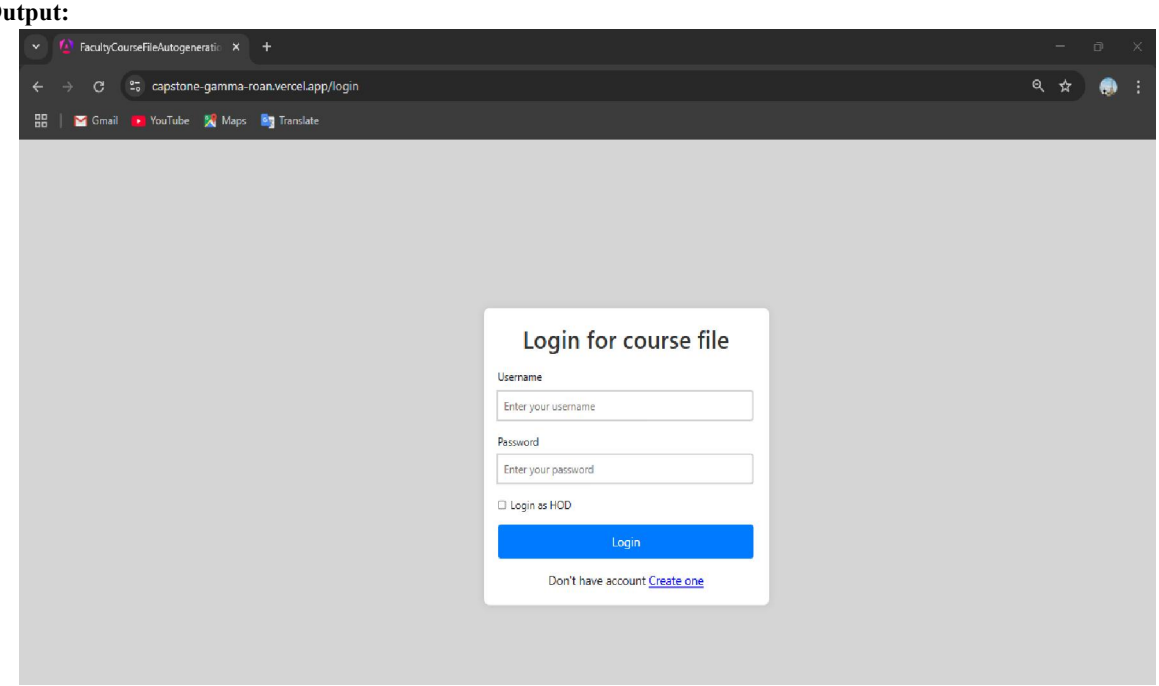

Fig. 1.Login Form

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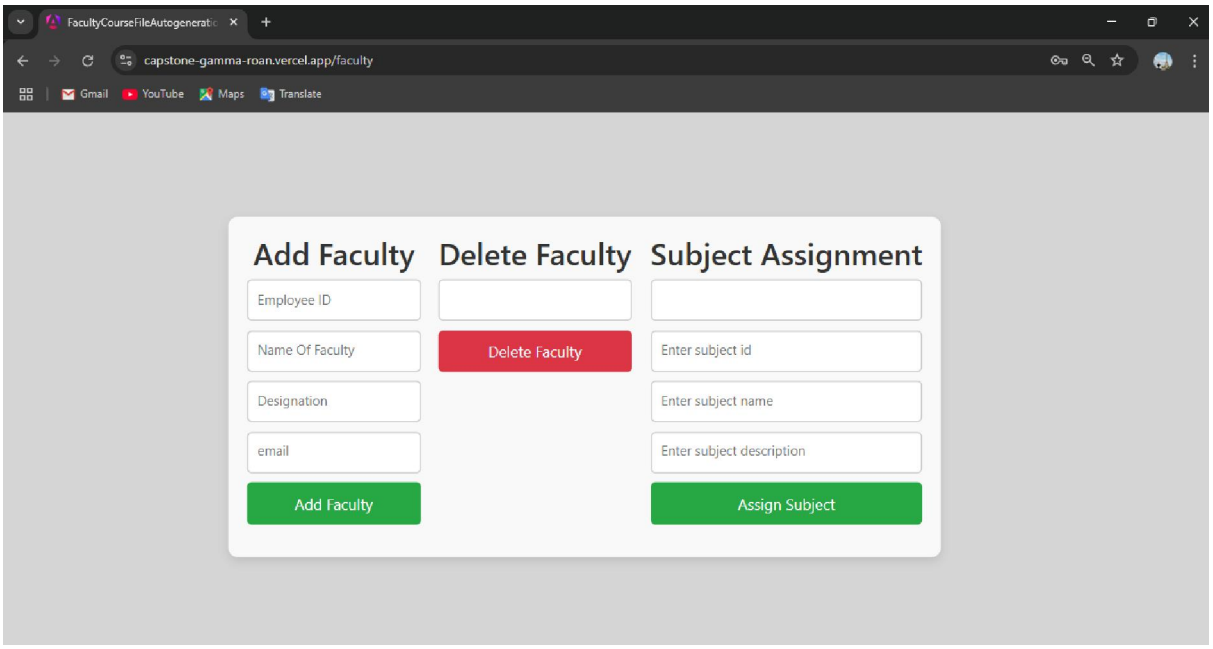
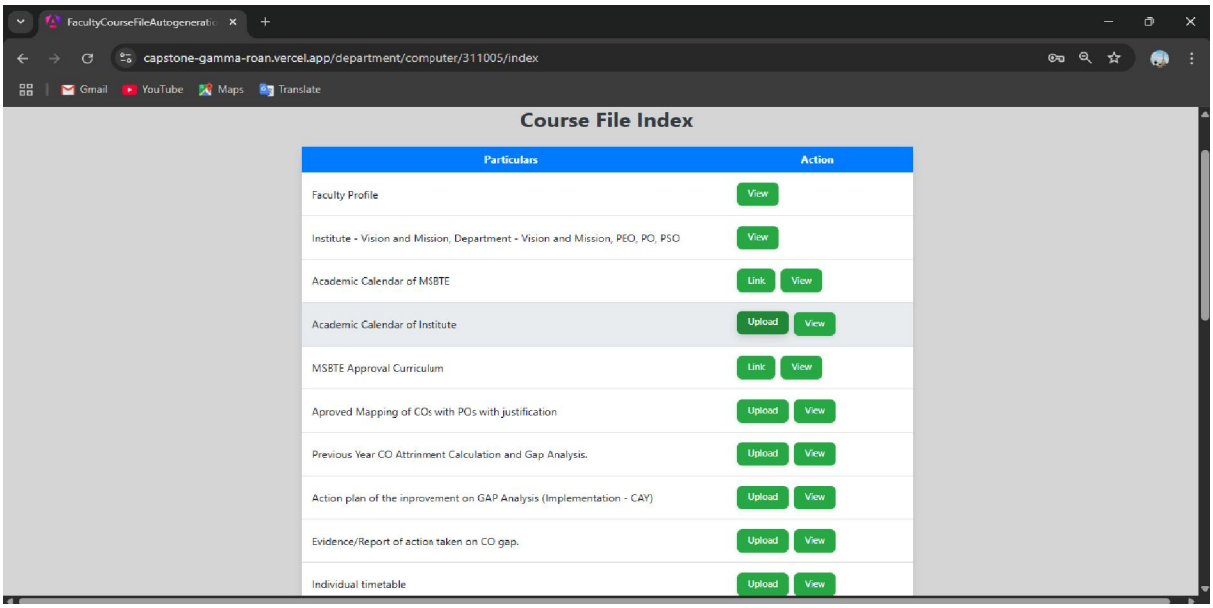


Fig. 2.Hod Access for Add Faculty, Delete Faculty ,Subject Assignment



DOI: 10.48175/IJARSCT-24868

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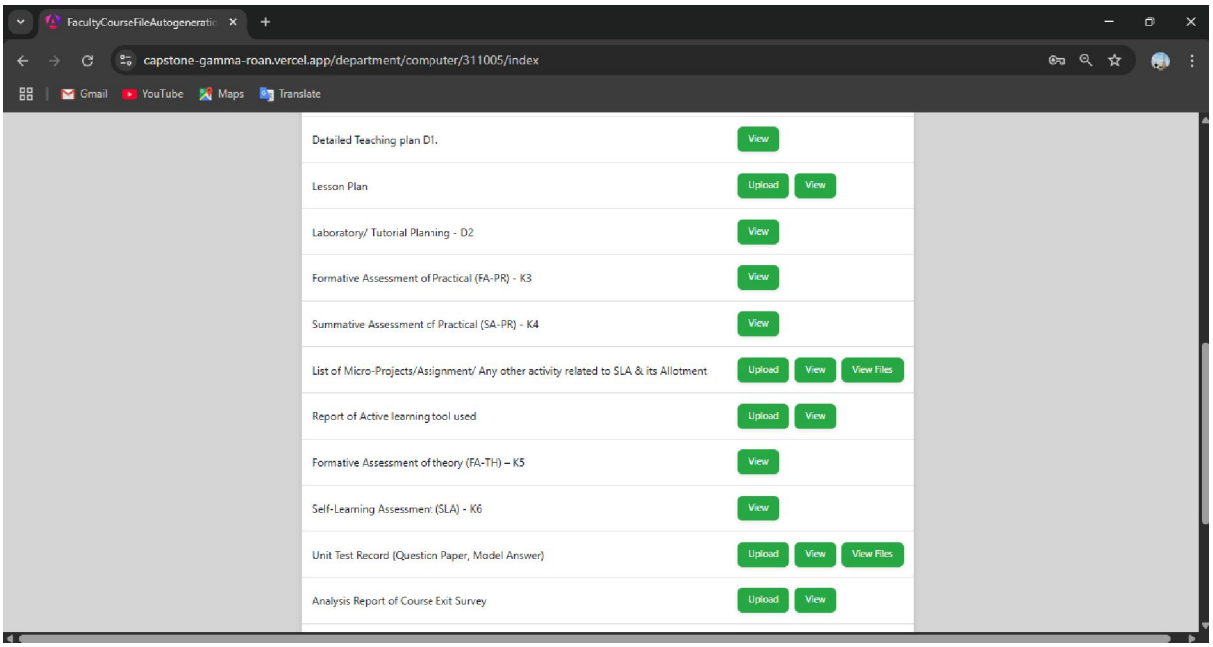

Fig. 3. Faculty Course File Index

V. CONCLUSION

Faculty course file auto generation successfully streamlines the process of assigning subjects to faculty members and provides a centralized platform for managing academic responsibilities. By enabling the Head of Department (HOD) to efficiently distribute workloads and granting teachers easy access to essential academic tasks, the system enhances overall efficiency in academic administration. The integration of Firebase ensures secure authentication, real-time data updates, and seamless accessibility, making it a reliable and user-friendly solution. Ultimately, this system contributes to better organization, improved workflow, and enhanced productivity within the educational institution.

VI. ACKNOWLEDGMENT

I would like to express my gratitude to my advisor and the project team for their valuable guidance and support during the development of this project. Special thanks to the developers and contributors of Firebase for providing a reliable and efficient platform for authentication and data storage. I also acknowledge the assistance of my peers in testing and refining the system, as well as the institutions and faculty members who provided insights and feedback to improve the project.

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