

INSTITUTE BASED ERP SYSTEM AND TIMETABLE GENERATOR

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Abstract - Engineering and medical colleges have a number of departments and courses. Managing all these department and course data manually is a very difficult, ineffective and expensive task. And Most colleges have a number of different courses and each course has a number of subjects. Now there are limited faculties, each faculty teaching more than one subjects. So, managing time table manually is difficult task. The Proposed system has all the information about the students, teachers, events, library, departments and other respected information. The system allows the admin to add faculties and update user profile. These systems have easy user interface and have powerful data management system which makes this system is very useful. The system will help students for viewing the documents, timetable and receive notification.

Key Words: Admin, College, Database, Faculty, System, Students.

1. INTRODUCTION

In proposed system, the college ERP based system uses college web application which is a kind of web application which integrates all the modules and functionalities of college system on a central database that can be handled by the administrative head and access by the students and faculties with valid user id and password.

The College based ERP system contains all the details of the college system which are updated by admin only can be accessed by the students and faculties. ERP on college management system reduces the most of the human work that are done earlier to managing the college system. Timetable Generator used to generate timetable automatically.

The scope of the project includes entire system is to provide a user-friendly interface and powerful data system which make this system more useful. It Maximizes and minimizes the work load for a Faculty for a day and week specified for the efficient generation of timetable.

2. LITERATURE REVIEW

Higher education environments are extremely dynamic, where the education system has been

fundamentally changes, ERP provides a unified enterprise view of the business that encompasses all functions and departments in an enterprise database to process, monitor, and report. But implementing an ERP system requires careful exercise in strategic thinking, precision planning, and negotiations with all stakeholders [1].

Institute based ERP is a web application that integrates all the modules and functionalities of college system on a single system that can be handled by admin and can be accessed by students and faculties with valid user id and password. A college consists of different departments and classes for each course. Nowadays applications and uses of information technologies has increased than earlier, each of these individual departments has its own database to do their own functionalities. By having one main system they can interact with each other from their respected system by having valid user id and password [2].

The Collage ERP software solution will include the following primary modules/components: student, financial aid, finance, human resources, and advancement, collage data warehouse, reporting and analytics, workflow, document management, and student, faculty, and staff portal. Implementation services will include: technical services, data migration and conversion services, integration services, database management services, and system/enduser training [3].

Even though administrative work in most colleges has been computerized, the lecture timetable scheduling is mostly done manually due to its difficulties. The manual lecture timetable scheduling requires considerable time and efforts. The lecture-timetable scheduling is a Constraint satisfaction problem in which we find a solution that satisfies the problem [4].

Although a variety of solution approaches to sport timetabling problems have been proposed, the problem considered in this research differs significantly from other problems reported in literature, cf. [4,5,6,7,8]. The subject of this research is the generation of dates for games between two teams

each within a round of a table- tennis league. The games to be scheduled cannot be assigned on a weekly basis as is common e.g. for professional football leagues. Rather, the games for the non-professional table- tennis league may be spread unevenly throughout the season [5].

In one of our reviewed paper David Abramson and J Abela, Evolutionary techniques had been used to solve the time table scheduling problem. Genetic Algorithms (GAs), Evolutionary Algorithms (EAs) etc have been used with little success. We have further solved the problem using mimetic hybrid algorithm and genetic artificial immune network (GAIN) and compared the result with that obtained from GA. In this paper, we have reviewed the problem of educational time table scheduling and solving it with genetic algorithm [6].

3.SYSTEM DESIGN

A. System Architecture

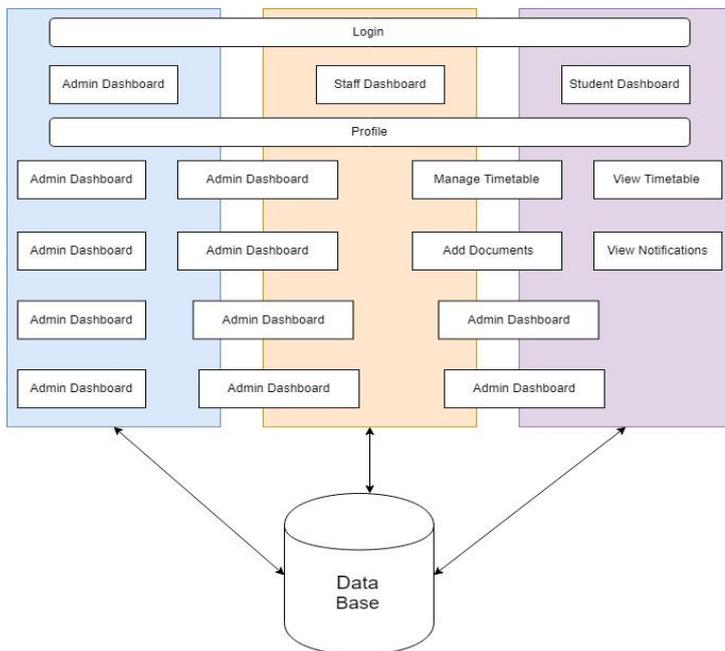


Fig 1. System Architecture

The architecture comprises of various modules as given in the fig 1. There are 3 major categories in which the whole architecture is divided. These are admin, staff and student. The admin roles are user management, staff management and feedback. The role of staff includes student management, timetable, notification and document management. The role of

Student includes Viewing Notifications, Documents and Timetable and also Generating Exam Form Receipts and update student's data. The 3 tiers comprise of presentation layer, application logic layer and data layer.

B. System Flowchart

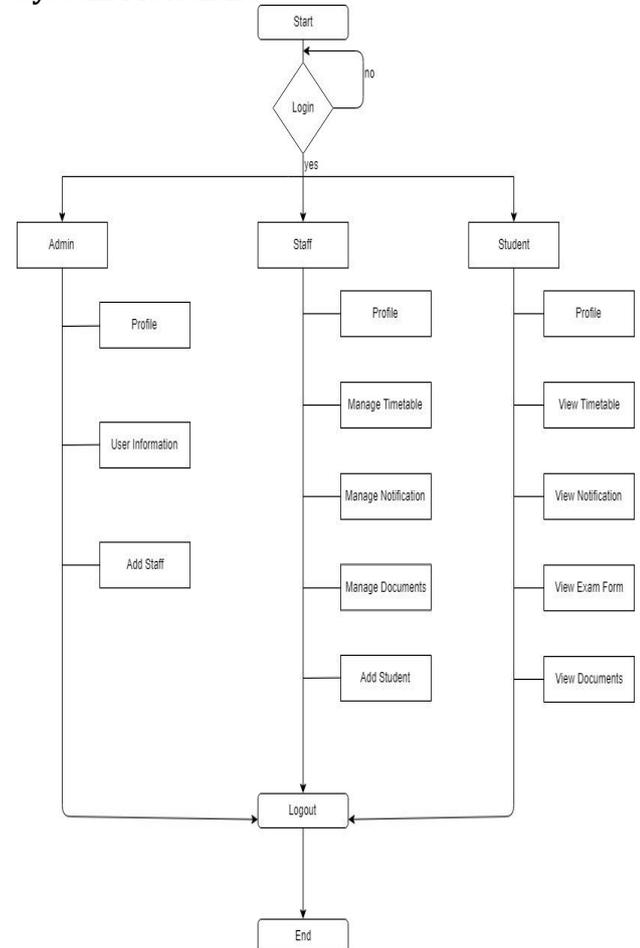


Fig 2. Flowchart

C. Modules

There are Three Modules in the system.

1. **Admin Dashboard:** The admin has control over all the modules of the system. The admin adds faculty or staffs in the database. It takes feedback about the staff from students.

Features:

- Profile
- User Information
- Add Staff

2. **Staff Dashboard:** The staff adds student in the system. It also manages documents,

syllabus, timetable and can also update its profile.

Features:

- Add Students
- Manage Notification
- Manage Timetable
- Manage Documents
- Profile

3. **Student Dashboard:** The student can view documents, notifications, timetable and can also update his profile.

Features:

- View Notification
- View Timetable
- View Documents
- View Exam Form
- Profile

4.RESULT ANALYSIS

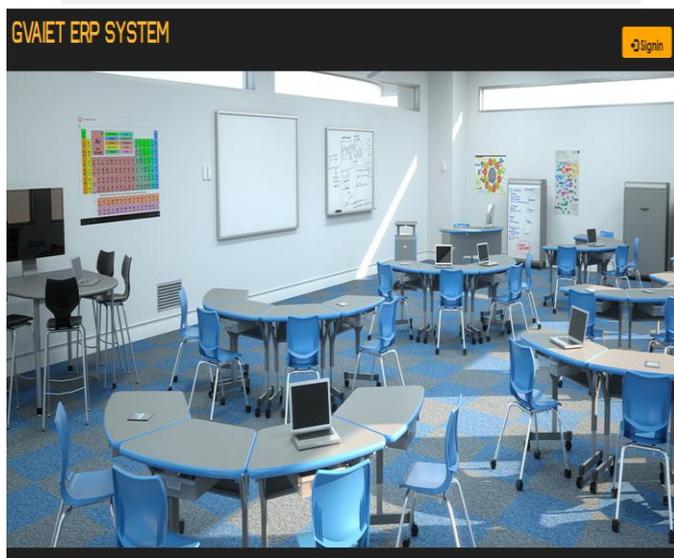


Fig 3.Home page

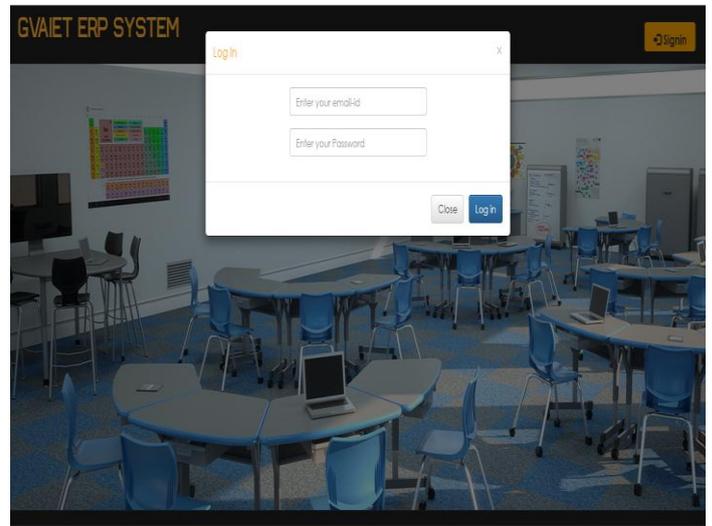


Fig 4. Login page

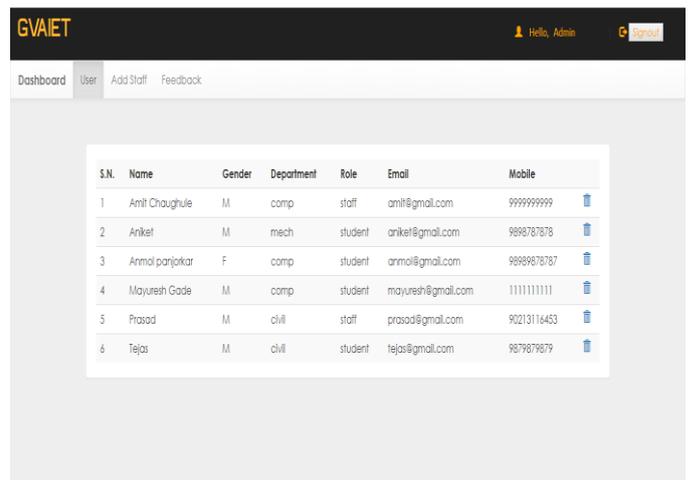


Fig 5. Admin Dashboard

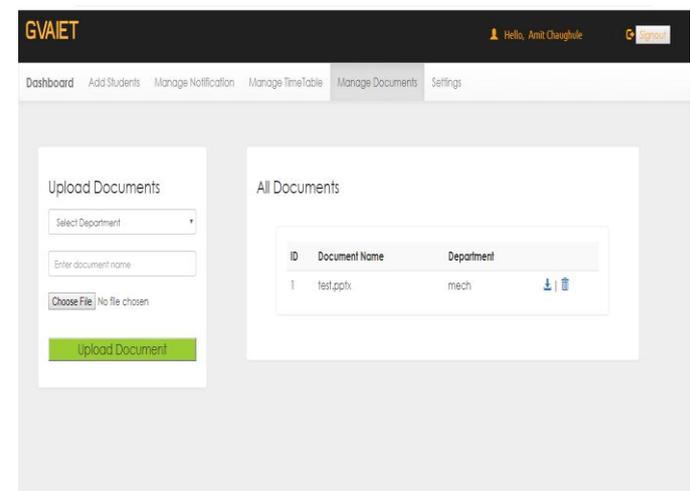


Fig 6. Staff Dashboard

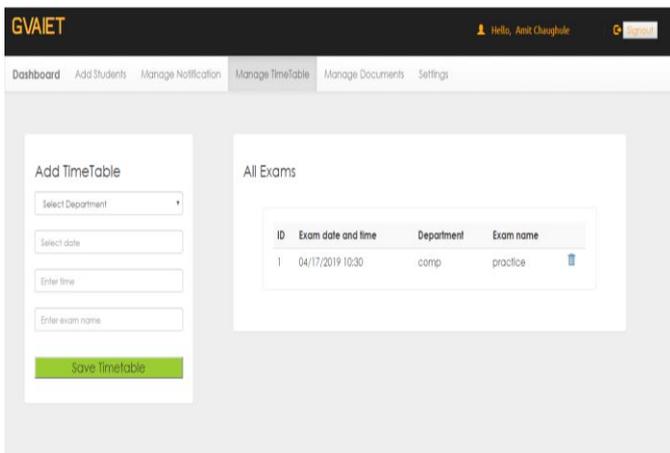


Fig 7. Manage Timetable

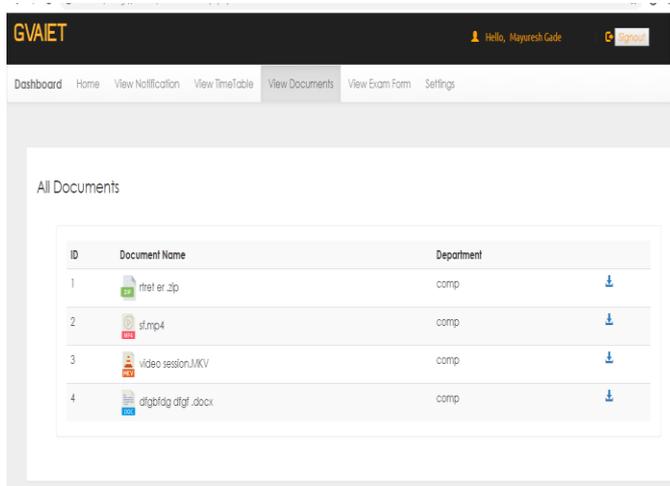


Fig 8. Student Dashboard

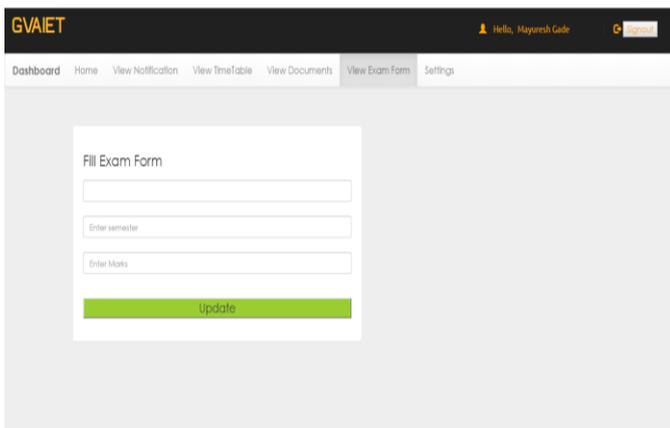


Fig 9. Exam Form

man power needed to perform different tasks by reducing the paper work's needs. If all the works are done by using computer there will be less occurrence of errors. Moreover, it makes storing and retrieving of the information very easy so work can be done speedily and in time.

REFERENCES

- [1] Avinash Gutte, Nikhil Kate, Ajayraj Hulikere and Shrikant Kokate, "E-College: An ERP for Educational Institute".
- [2] Vivek Anand, Adarsh Poojary, Rafiur Mondal, Pooja Prajapati, "ERP System for College".
- [3] Sagar Pawar, Gaurav Geet, Pavan Sonawane, Chetan B. Barhate, "College ERP System".
- [4] Saritha M, Pranav Kiran Vaze, Pradeep, Mahesh N R, "Automatic Time Table Generator".
- [5] Dirk C. Mattfeld, Herbert Kopfer, Jon Schonberger, "Automated Timetable Generation for Rounds of a Table-Tennis League".
- [6] Prof Er. Shabina Sayed, Ansari Ahmed, Ansari Aamir, Ansari Zaeem. "Automated Timetable Generator"

5. CONCLUSION

The college-based ERP system provides information about the users based on their profiles and role in the system. It makes the college information system more efficient and convenient. It reduces the