Paper on proposed system for managing viva examinations

Bhumi Nandu[1], Aishwarya Pansare[2], Omkar Chavan[3] , Ichhanshu Jaiswal[4]

[1,2,3] B.E. Student, Information Technology. Vidyalankar Institute of Technology, Mumbai, India
[4] Professor, Information Technology, Vidyalankar Institute of Technology, Mumbai, India

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Abstract - *Viva timetable is an essential part of all academic institutes. Any educational institute needs to deal with all the diverse parts of the process. The distribution of batches, checking availability of externals, assigning classrooms and time slots can be tedious. The current system of viva timetable generation is manual i.e. pen and paper based. The answer to the problem of timetabling lies in creating a collection of resources that do not create conflicts with other similar collections such that a professor with knowledge of the concerned subject is at hand for that time slot. In educational institutes having a large student population, it can take a considerable amount of time to create manual solutions. The proposed system will ensure that planners find the best possible solution by verifying the timetable at every step for any possible clashes. It will handle all the data efficiently and generate reports wherever applicable to provide an illuminating overview to the people in charge of the process. The system will provide timely notifications and pertinent reminders about the scheduled events. Also, it will collect feedback from the individual so that it can be used to improve the overall experience.*

***Key Words*: Notification, Report, Remuneration.**

1. INTRODUCTION

The process of organizing vivas is one that rolls around every six months around the third quarter of the semester. There is a lot to be done in order to ensure that the entire affair goes smoothly and requires the co-ordination of many people. It must be ensured that adequate resources are allocated and all the students are taken care of while also keeping a lookout for possible errors. Since the typical intake of universities is quite large, this operation can get complicated and convoluted. Improper resource allocation and not checking for conflicts can lead to a non-ideal solution that will require revaluation and hence decrease productivity. The resources required for creating a timetable are as follows: [1]

1) Timeslot: A timeslot is a specified amount of time with a clearly defined start time and end time. It is very important that there are no conflicts with other timeslots.

2) Venue: Each viva is conducted in a room with limited seating capacity which has to be taken into consideration while assigning venues. If a venue is assigned for a particular timeslot, it cannot be used by another resource for the entire duration of the timeslot.

3) Subject: The viva for each subject has a defined duration, associated professors who are qualified to preside over the examination, the university mandated external professors and the list of students who are eligible for the subject. Managing all these requirements for the whole college can be time-consuming and requires intense co-ordination from all departments. A managing system will make this entire process smoother and provide a virtual and convenient way for co-ordination. The viva process does not end with the creation of the timetable and assignment of rooms, many processes follow after that. The time when the viva starts and ends are to be noted down and compiled into a report that reflects the entire process. Remuneration for faculty is to be calculated according to various constraints:

-Duration of viva

-Number of students/batches

-Number of vivas conducted

In order to continuously improve any system, it is necessary to acquire feedback from its users and utilize it in a progressive way to incorporate changes in the system. The system needs to constantly evolve in order to be up to date. An organization will benefit from a system that organizes and manages the entire process and promotes co-ordination without needing face to face interaction. Future students will profit from the feedback provided by their seniors and this will yield better results. Hence, the existence of such a system will be beneficial to any organization. The proposed system will help to optimize the solutions, reduce the time taken to create solutions, increase overall efficiency and decrease the need for revaluations drastically.

1.1 LITERATURE REVIEW/PREVIOUS WORK

The existing systems implemented in educational institutes are traditional systems in which all the work is mainly done manually which makes it a tedious task.

The problems with the current system

The current systems support manual processes which makes it time consuming.

It delays the process of viva examination as it is difficult to monitor the ongoing examinations using the traditional systems.

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1. Deskera[2]

Process: venues for the various exams can be defined.
It designates resources for examinations based on priority and availability of resources. It tracks costs incurred for conducting exams with various reports.

Advantages:

i.   It also takes into account practical exams for different subjects and gives the option to define whether the exam results will be shown as marks or grades.

ii. Allows to create examination timetables that fit the criteria specified.

Disadvantages: No notification reminders

2. ERP Eduschool (Exam Management System)[3]

Process: Set Time Table Form displays an on screen timetable and a tree view of the Courses and semesters. Selecting a particular semester of a course shall display the timetable, on clicking the day/period junction a pop-up screen shall enable for setting the lecturers schedule. Teacher Time Table screen allows searching for the availability of the teacher to be allocated a particular period.

Advantages:

i.   Cloud based: The module can be accessed from anywhere in the world.

ii. SMS based: SMS Alerts are provided

iii. Report Generation: Generates real time information

iv. Allows to create examination timetables that fit the criteria specified.

Disadvantages: Requires training sessions respective to each module

3. Eduware(Time Table Module) [4]

Process: Generate schedules for all staff members for various classes of associated courses on a particular day and periods. Changes can be easily made in the timetable when it is necessary

Advantages:

i.   SMS/Email Facility

ii. The eduWare school software directly connects with the online web portal so time table of school and exam schedules can be accessed any time.

iii. Customizable Reports

iv. Can handle data of 5000 students

Disadvantages:

i.   Requires training sessions

ii. Support is not provided 24x7

4. Mastersoft[5]

Advantages:

i.   integrated with modern technologies like Feepayr, a portal for online fees payment

ii. Manual work reduces considerably

iii. Generates reports/ receipts/ drafts for all modules

iv. 24x7 online and offline support

Disadvantages:

i.   Requires training series

ii. Limited timetable customization

5. Open EDUCAT[6]

Process: The software enables the admin to monitor the building capacity and enables them to allocate the groups or students in the right room. The scheduling software handles the complexity of time, size and last minute intervals. The software has reporting features. With reporting, it is easy to generate important documentation.

Advantages:

i.   Drag and Drop Based Design

ii. Instant Notification

iii. Integrated with Calendar

iv. Mobile Application available

Disadvantages: Support is not provided 24x7

6. EduSEc[7]

Process:. It is an open source management software for institutes. Data of students can be given as input and then be used for creating and assigning time tables. Core functions like admissions & fees, time table & attendance, exam & placement management, alumni, SMS & Email notifications are included in this system

Advantages:

i.   Open Source

ii. No cost involved

iii. Report features included

iv. SMS & Email notifications

Disadvantages:

  i.   No support
  ii. SQL vulnerabilities
  iii. Does not support bulk user addition

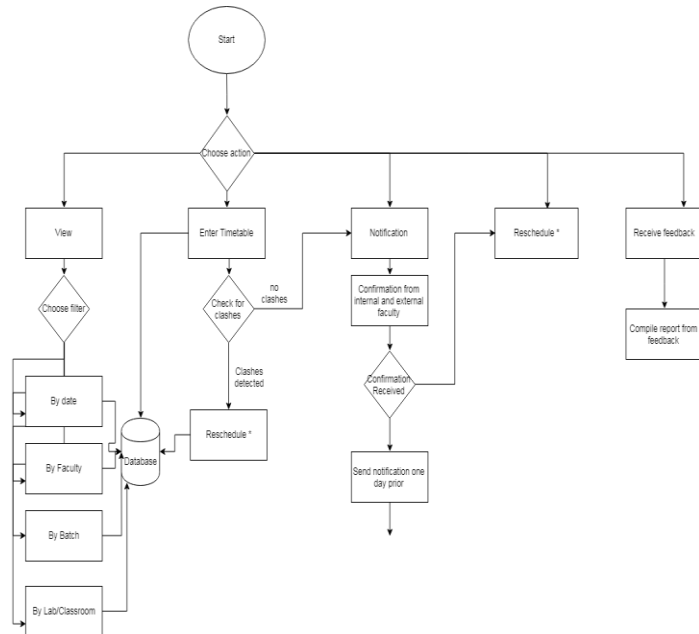## 1.2 ROLES AND RESPONSIBILITIES

FIG 1: System flow diagram

1) Admin

Admin will have control over the entire management system. Admin can create, update or delete any files in the system He will have the responsibility of approving timetable and authorizing notifications and reminders.

2) Faculty

Faculty can view timetables and request reschedules.

3) Student

Student can only access view module

2. PROPOSED FEATURES

Main modules of the system:

1) Conflict inspection

This module is the most important. It will ensure that there are no conflicts between timeslots, venues and other resources and reduce redundant activities. In case a conflict is detected, it will be immediately covered by the reschedule module

2) Reschedule

This module will be activated in case of conflict between resources. It will ensure that an ideal solution is achieved without wastage of time as the conflicts will be realized and reassigned instantly.

3) View

View module will provide a comprehensive and scalable view of the operation of the entire organization. It will be possible to see the examination ongoing in a particular venue or at a particular timeslot. It will also be possible to filter the data by venue, subject, professor, timeslot, students.

4) Report

A report will be generated that will represent the data in a clear and concise format. The report format will be scalable. It will promote transparency and provide an insight into the operation of the organization for the concerned party.

5) Remuneration

As mentioned beforehand, the process includes calculating the exact amounts of compensation to be provided to the professors who will be participating in the vivas. It is based on certain factors and will be reflected in the report.

6) Reminders

A reminder will be sent to concerned parties before the scheduled event so that everything runs smoothly and on time. Also, in case of any reschedules due to unforeseen circumstances a notification will be broadcasted so the probability of miscommunication is reduced.

2.1. APPLICATION/FUTURE SCOPE

The main purpose of this system is to reduce the complexities involved in the management of the viva organization. It can be used by institutions with large intake that require effective management of their student population.

3. CONCLUSIONS

The end result of the implementation of this project will lead to reduce the workload of the faculty members and the exam coordinators. Apart from this the professors and students will receive notifications of the upcoming examinations 24 hours prior and will ease the rescheduling process of the examination.

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