

# Automatic Exam Seating Arrangement System

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**Abstract** - Exam Seating Arrangement is specially design for automation of exam system. This system deals with the Seating Arrangement process of exam online instead of manually. This application will be used for the automatic seating arrangement of seats on the basis of number of students, number of classes and number of benches in a class. While an extensive body of research exists regarding the delivery of course knowledge and material, much less attention has been paid to the performance effect of seating location within a classroom. This study examines the effects of seating location and seating type on student performance.

**Key Words:** Admin, Exam seating, Allotment, Examination hall

## 1. INTRODUCTION

Exam Seating Arrangement is specially design for automation of exam system. This system deals with the Seating Arrangement process of exam online instead of manually. This application will be used for the automatic seating arrangement of seats on the basis of number of students, number of classes and number of benches in a class. While an extensive body of research exists regarding the delivery of course knowledge and material, much less attention has been paid to the performance effect of seating location within a classroom. This study examines the effects of seating location and seating type on student performance.

In existing way of arranging seating for examination, a dedicated person is require ed. At first this person have to collect the information about students such as names, which students appeared for exam. This person should also have knowledge about all class rooms all benches in the classroom. Someone should have to write seat no. on all the benches. Then a person should allot each seat to each student manually and this process is indeed very lengthy and tame taking also he would have to stick these paperwork to notice board where students can see. Students have to come before about an hour of examination to see their seats. This also time consuming as well as lengthy.

To overcome this, we have developed an website which will update the details and display location of seat, where a dedicated person is required to fill in information, upload the data to the server where a real-time server updates all the data and students can know their location automatically by

entering their roll no. in field. We are using database to save student information.

## 2. Literature review

The environment of the school building and the classrooms play a very important role in a student's day. The following review of literature reveals some of the research that has been done to show which areas in the school and classroom environments are the most beneficial towards the behavior and education of the students. To better understand the different areas that are of importance to this topic, the review of literature has been divided into seven sections. School building environment, classroom environment, seating preference, classroom spatial needs, seating arrangement, the classroom environment and special needs students, and case studies. Student's degree of territoriality based on gender and seat preference in different types of classroom arrangements was studied by Kaya and Burgess. The types of classroom arrangements included rows of tablet-arm chairs, U-shaped, clusters, and rows of tables with individual chairs. The study was carried out through a survey at a large public institution in the southeast region of the United States.

Their results indicated that students who preferred seats at the end of rows of tables with individual chairs and tablet-arm chair arrangement had higher scores on claiming a particular seat than those who preferred middle seats in a row [11]. In rows of tables with individual chair arrangement, students who preferred seats at the end of rows also had more need to define their own territory than students who preferred middle seats in a row. No significant results were found in the U-shaped and cluster layouts. Females had higher scores on claiming a classroom particular seat than males regardless of seating arrangement.

This study also found that in classroom settings where students are required or elect to bring several items to class, for example, a backpack, jacket, and handbag, in addition to notebooks and textbooks, defining one's own territory may become increasingly important as a means of comfortably engaging in active learning. These studies were done in a college level classroom, and may be contradictory if the same studies were done at the elementary. The views on the arrangement of classrooms and seating arrangements have changed over the past few decades. In the 70's the classroom setting was mostly focused on the traditional row

set-up classroom. Weinstein found that there was a tremendous surge of interest in determining the influence of the school setting on students [1, 2].

### 3. PROBLEM STATEMENT

Most of the institutions are becoming unwilling to centralized examination system day by day. One of the major causes is that with the increasing number of students ,courses and departments ,it becomes almost unmanageable to allocate proper exam seats. It is quit difficult to properly allocate the seats among a large number of students whenever the students are from different subjects. We have to follow some pre conditions for proper allocation of exam seats. The best use of the seats should be confirmed.

To get rid of these hassles, some institutions encourage decentralized the exam system instead of the centralize exam system. They offer the course teachers to arrange the exams individually for the students of the same course. But it is very hard for a course teacher to manage quality examination while conducting exam this way. For maintaining central examination some institutions offer one room for one exam to get rid of this hassle of preparing a seating plan. As a result the quality of examination as well as examination becomes questionable for lots of the educational institutions. This exam seating and room assignment. Our research objective is to find out the solution of exam seating or room assigning problems to prevent cheating in exams.

### 4. SYSTEM REQUIREMENT

- A. Software Requirement:-
  - Operating System:- Windows 7/8/8.1/10
  - Language:- PHP script Language
  - Xamp-Win32-1.8-5vc
- B. Hardware Requirement:-
  - RAM:- 2 GB
  - Hard Disk Space:- 1GB

### 5. WORKING OF SYSTEM

Every section has unique functionalities in which it will perform their specific task. While performing a task administrator having a full authority to access and display the data. If user authentication is invalid that time administrator unable to access the data.

#### Administrator:

In administrator panel, it having a unique id and password so that whenever it want to access the data that time admin must have to enter valid user id and password. After an authenticable id and password authentication process takes place. So that admin can fill up all the requirements regarding to seats allocation. After allocating a specific classrooms, buildings, exam dates and paper in a given

section admin will upload a data in a server so that students will access the data.

Step 1: Two types of data sets are needed for exam seating, one is room information having room id, size of columns and rows; another is exam information with subject id and number of students. By processing room and exam information it will calculate total number of seats and students.

Step 2: When the amount of extra seats is greater than any room capacity, then it may possible of having one or more extra room. In this step it will search those rooms, which will be kept empty at the time of exam.

Step 3: Our main concept is to distribute column to the subject so at first it needs to calculate the number of columns and the capacity or number of rows for each column. To prevent copying from other it tries to ensure at least one column distance among students having same query set. That is why it will also calculate maximum usable column and its capacity for any subject.

Step 4: Then it will allot columns to the subjects. By using a combination of column size (row) we can ascertain the set of columns which will be assigned to subjects. After that it will provide a set of columns for each subject. In best case extra seats are not required, but in worst case it may require to assign some extra seats to subject for getting a set of column for exam seating.

Step 5: It have subject having different column size and number. We have also room identity which is represented by column number and row number as column size. So the common attribute is column size. By using this it assigns room and column number to the subject by maintaining one column distance between the columns having the same subject. After completing the column and room distribution it will provide a complete seating solution for the exam.

### 6. MODULE DESCRIPTION

#### 6.1 Amin Login Page

This is an admin login page that allows admin to control all the system data. For this purpose administrator must have the valid user id and password. So that administrator 2will be able to accesses all the data of the system. Administrator have that authority to keep the data secret from the unauthorized user. System administrator is always responsible for manipulation of various data from the system. After successfully login administrator will be able to other stuff relate to examination such as physical structure allocation, faculty allocation with respect to exam. Also administrator will be able to change password.

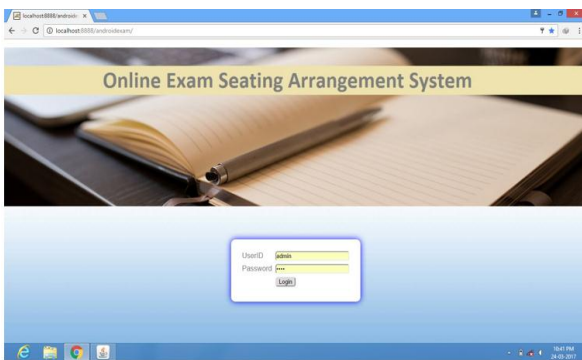


Figure1:-Login page

### 6.2 Physical structure

After clicking on physical structure following figure open .It shows the structure of class in which it contain name of department ,how many class department contain ?, what is the capacity of one class ? and show the total capacity of all classes

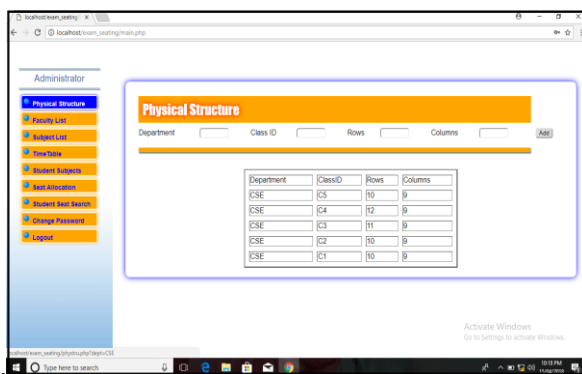


Figure2:- Physical structure

### 6.3. Faculty list

After clicking on faculty list following figure will open. It shows the name of the faculty in each department with respect to their faculty id.



Figure3:- Faculty List

### 6.4.Subject List

In subject list page it contain all information about the subject of all semester and their respective code.

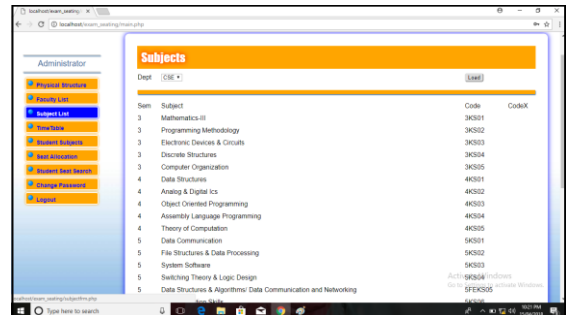


Figure4:-subject list

### 6.5. Time Table

In this page we can add the date , shift , semester and the paper of that day we can only arrange the seats of upcoming paper .

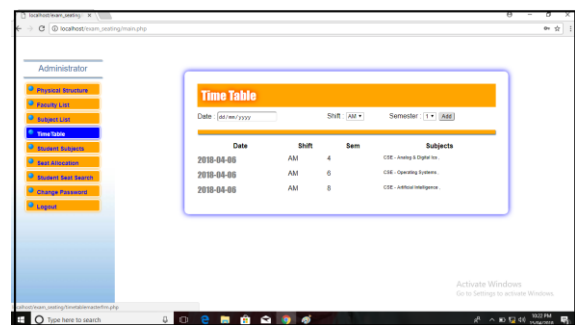


Figure5:- Time table

### 6.6. Student Subject

Following figure shows that which semester will contain which subject after selecting semester and department click on the show button after clicking on show the next will appear then add the roll no of student.

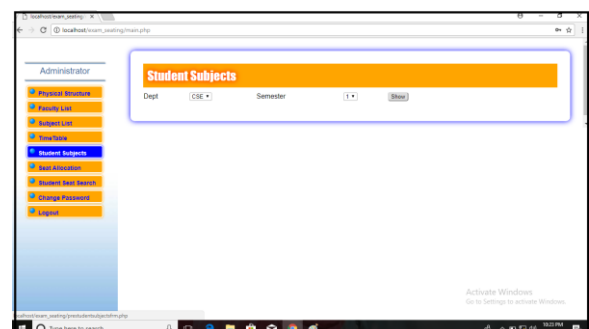


Figure6:- student subject

### 6.7. Seat allocation

In this page following figure that what is the strength of total classes and after clicking on start allocation , it shows the arrangement of students roll number wise.

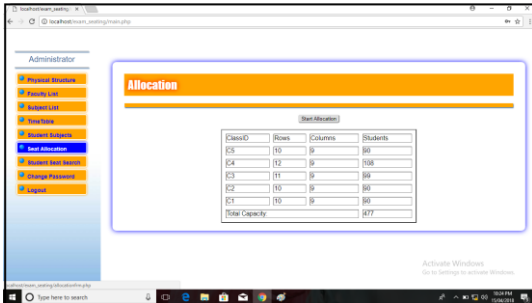


Figure7:- seat allocation

### 6.8. Student seat search

In Student Seat Search page if any student is not able to see his seat then admin can search the student by entering his/her roll number and find out the seat of student easily. Following figure shows the working of Student Seat search.

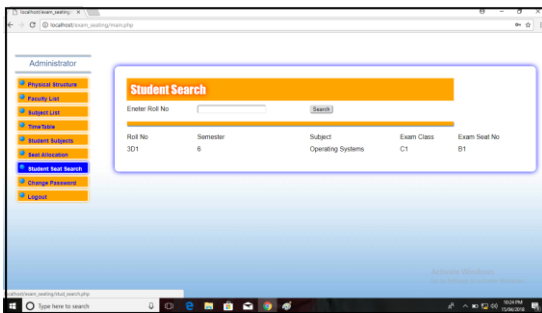


Figure8:- Student seat search

### 6.9. Chnage password

If admin want to change the password then after clicking on change password button the following figure shows the given window.

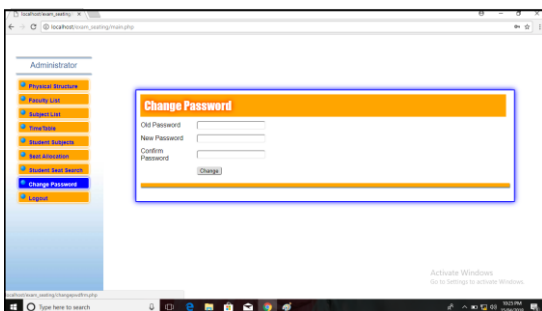


Figure9:-Change Password

## 7. ADVANATAGE AND FUTURE SCOPE

- As compared to existing system our system take very less time to execute all the data and display on the student's panel.
- This system reduces a lot of burden to the people in examination department. While any exam will be going to conduct in that time examiner have to check the entire classroom and also count the number of desk and benches on its own. Also according to exam time table examiner create all these data on its own. So that's why creating this application is very helpful for the exam controller.
- The randomizing of students roll numbers is going to be very effective.
- The system that has created take the backup of previous data for future purpose. The newly advance system has developed which take backup automatically as soon as the data of examination is generated its store the data related to time table in the form of html file that will use for printouts, hard copy manual further use.
- It can be used in various colleges, institutes, school and university level also.
- All types of exam can be conducted under this system so that there is no any specific limit of students.
- In the future system will be generated that after conducting an exam on university level that exam seats will be allocated dynamically so that only administrator must have to fill the data.
- With the help of 3D graphics, it will shows the class architecture more effectively.
- While implementing a project on university level, system will add number of colleges at a time. So that different college administrator will be having an authority to conduct their exam
- We can create android application too

## 8. CONCLUSION

As per the given proposed system, seats can be allocate dynamically in a classroom. In an admin panel, there are number of section in which every section has a unique functionality. On the basis of which , students class id, roll, building, subject and respective shift. Son that these information is going to very helpful for the admin. For the security purpose there is change password section in which admin having an authority to change the password. One of the important part in admin panel is that it will display only tomorrows paper and also it will provide a backup plan of the existing paper that will be very useful for conducting next paper.

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