Automatic and Effective Allocation for Examination Seats Using Android Application

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Abstract— *This paper is dedicated to simplify the task of manually seating arrangement of students in an examination hall. To develop an android app for automatic examination seating arrangement to reduce the manual work of staff. A PDF which containing student exam number with paper code and subject name is sent by the university will be received by the admin staff and will be converted into suitable format. Then an algorithm will be used to automatically allocate the students to the suitable block according to their strength. Then the staff will randomly be allocated to particular block. Alternate staff allocation will be done according to department. The students and the staff will receive a notification regarding the block where they have been assigned. In this paper we can further add features to improve the flexibility.*

Keywords— *Android, MySQL Database, Parsing, PHP*

I. INTRODUCTION

In every engineering institute held the examination at a regular interval of time. Allocating the students to different blocks according to their strength is the main job .But manually allocating of students is a hectic job for the staff. So
to remove this disadvantage this paper is designed to eliminate the manual work of the staff. We are going to design an android application for this.

In this a database will be maintained with student record with their seat number, staff database and the number of blocks database. When the subject PDF will be sent by the university to the college the admin will process this PDF. An algorithm will be fired and the arrangement of seat will done.
This information will be sent to the android application of the staff and student. They first need to login in. The staff and students will get the notification that which block they are allocated too. The students and staff need not to search different floors or building as they will get the notification about it.
Various algorithms are used for the process of sorting, natural selection etc. As the paper is all about decision making so various algorithms related to decisions will be used to produce as efficient output.

This application can be greatly used in every institution for any kind of exam or in future for event management. It decreases our time and makes the procedure very systematic.
This paper focuses on improving the efficiency of the seat allotment system and the tedious task of manually allocating seats to each individual. And also for students to easily find their class rooms for exam so that they can reach the examination hall at time.

II. LITERATURE REVIEW

In the previous paper submitted by Aashti Fatima Alam "automatic seating arrangement tool for examinations in universities/colleges" [1] used the C/C++ language.

In that they have used the tool which automatically arrange student according to their seat number. They used Dev C++ compiler which is an integrated development environment distributed under the General Public License for programming in C & C++. It is bundled with a free compiler called MinGW.

In this paper the main drawback was the notification system. As the seating arrangements are done by the help of tools but then also the students need to go to the notice board to look for their block number. So that drawback was removed in the proposed paper.

In second paper that is "A study on automatic allocation of membership functions for fuzzy modelling" we studied about the genetic algorithm which is used for automatic function.

III. PROBLEM DEFINITION

As we know that during the examination the exam coordinator has to look to the strength of students giving a particular

paper. After that he has to allocate them to the class rooms or block according to their strength. So this is a hectic task for him as well as the other staff with him.

So to make their task easy we will design an application that will automate the task of assigning the students to particular block. But with that we need a condition that a particular branch should not have the same branch staff

IV. PROPOSED SYSTEM

In the proposed system we are going to develop an application in android along with back end in PHP. In this there will be multiple databases containing related information about student, teachers and number of classrooms.

During the examination time a PDF is sent by the university to college. This PDF is parsed into a suitable format. Then an algorithm is used to check if the condition if yes then automatic allocation is performed. The algorithm is selected depending on the situation such as for natural selection etc

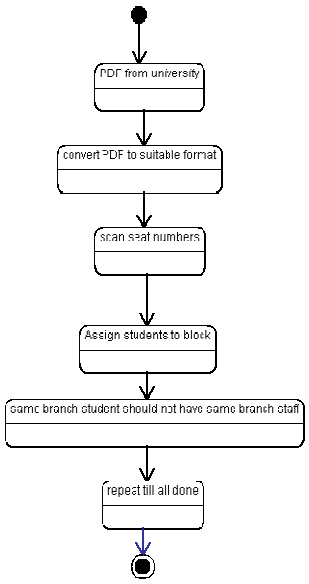
The allocation is performed along with detail like number of student, block size, paper code. The staff allocation is also done randomly but the same department staff will not be allocated to same department. When the process is done then the notification will be sent to the staff regarding the block they are allocated.

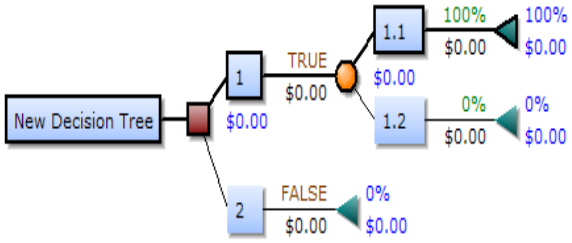
The same message is also send to the students that which block they are assigned to and on which building or floor.

So they need not to search different buildings. The above diagram shows in short the flow of the project in simple way.

V. ALGORITHMS

Decision Tree- A decision tree is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences, including chance event outcomes, resource costs, and utility. It is one way to display an algorithm. Decision trees are commonly used in operations research, specifically in decision analysis, to help identify a strategy most likely to reach a goal, but are also a popular tool in machine learning.





The above diagram explains about how a decision tree works. It basically helps to determine strategies to reach our goal.

Naïve Bayes Algorithm-Naive Bayes is a conditional probability model: given a problem instance to be classified, represented by vector representing some *n* features (independent variables), it assigns to this instance probabilities for each of *K* possible outcomes or classes.

The problem with the above formulation is that if the number of features *n* is large or if a feature can take on a large number of values, then basing such a model on probability tables is infeasible. We therefore reformulate the model to make it more tractable. Using Bayes' theorem, the conditional probability can be decomposed as

$$P(C_k|x)= P(C_k) P(x|C_k)/p(x)$$

In plain English, using Bayesian probability terminology, the above equation can be written as

Posterior=prior*likelihood/evidence

VI. ADVANTAGES

1) The main advantage is that it's feasible and reduces the manual work.
2) Everyone will be notified time to time about their seating allotment.

VII. FUTURE SCOPE

In the future we can use different strategies to find block number of students who does not have that android phone or no internet connectivity. We can also use the message facilities facilities for students who don't have an android smart phone or else we can mail them.

VIII. CONCLUSION

Here by we conclude that this paper will reduce the work load of the staff. This application further can be adapted by different institutes to reduce their work. It can be used further

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