Automating the Centralised Admission Process with Analytical Platform

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Abstract— Admission Processes for degree colleges conduct the admissions in courses like Medicine, Dentistry, Engineering, Pharmacy, Architecture, Homeopathy, Bachelor of Science in Nursing, Ayurveda and Allied Health Science. As there is an increase in the number of students to seek admissions in various courses, it causes a terrible pressure on the admission committee to manage and control the admission process when done manually. Hence, our proposed computer-aided system helps the administrative body in various tasks of the admission process which includes a collection of student's application forms, storing data safely and automatic sorting of data according to various categories etc. The automated computer-aided system facilitates the student to perform tasks online that include form filling and viewing the merit and eligibility list, checking the seat availability at the time of counseling. The system also provides an analytical mock test to the students. The students, who are not sure of which courses they can have a good aptitude at, can answer the same.

*Keywords—*E-admission, CET, Analytics, Admission process

I. INTRODUCTION

Selection of the career is an important decision in each individual's life. When it is time to choose the appropriate course that will head them to their career, the admission process plays a prominent role in achieving it. An admission system allocates deserving and desiring courses to the students in different colleges. Managing admissions can be a huge task for the admission committee when the entire admission process is handled manually, which is very slow and time-consuming. Conducting the process accurately, appropriately and within the time constraints becomes a complicated task. This arises the need for online-automated admission process which is unavoidable. The goal of the online admission system is to automate the current manual admission process and its operations and usage.

The purpose of our initiative is to provide support to the admission committee and candidates seeking admissions by providing a simple and rapid way of keeping the records and use them for future reference.

Online admission system for degree courses manages a collection of students' application forms, storing data securely and automatic sorting of data according to various criteria as specified by the administrative authority. Some students can have chaos about the selection of the course. Hence, our system will assist them by providing a mock test using an analytical platform.

II. RELATED WORK

Study of the admission processes in for
- IIT
- NIT
- BITSAT
- Goa CET

[1] A system for the admission of engineering colleges in Maharashtra is based on the score of Common Entrance Test (CET). This system aids students in choosing category during filling of the options form. On the single click of the button, the student can view the names of the colleges in which he/she can get admission and can also give preferences of college in which he/she would like to take admission. Most probably this system will help the students in getting the admission in the first round only thus reducing cost and time. First, the system makes the analysis of academic merit and record of student and the admission criteria of college based on the marks entered by the student. Then it does the predictions and display only those colleges in which the student has chances of getting the admission. This software makes use of data mining methodologies and knowledge discovery rules, to quickly and fairly solve the problems of predicting the college admissions. C4.5 algorithm is the statistical classifier which is used to generate decision tree by calculating the entropy of information. In this algorithm, at each node of the tree, data attribute that splits its samples into subsets which are enriched in one class or the other is selected. The normalized information gain is used to split the samples and the attribute having the highest value for the normalized information gain is used to make the decision. The algorithm then repeatedly applied to the smaller sub lists.

[2] A system is designed to manage admission process of different sections of an institution which includes Student

section, Finance, Administration etc. The manual process involving pen and paper which is inefficient and time-consuming is handled in this software using web-platform. This software consists of two units-Student unit and Admin unit. The login module, allows both admin and students to login to the system. Student needs to login using the PRN number and password provided by the authorities of an institute. In the Admin unit, administrator is responsible for entering details of fresh students and assigning them login id and also maintaining records of the students. Students and parents are notified digitally about the various announcements. The database present on a remote server is managed using results, rank and PRN number of students. This software also has counselling facility for the students.

III.   METHODOLOGY

Automating the Centralised Admission Process with Analytical Platform is designed to automate the conventional manual admission process. We have 2 modules on our website: Admin and Student.

A. Admin Module

The Admin module has a login authentication for both Administration Head and Administration committee. The admin should open the website and log in using Admin-ID and Password. Admin has to publish the prospectus of the respective year which gets uploaded and announce the important dates regarding the admissions. The application form has to be published on the website for the students to fill it. The student information gets stored in the system. Admin verifies the form of each student and emails the admit card if details are correct else the required changes are emailed to the student. After the exam, the announcement of the result has to be done. The admin then should publish the admission form and student information gets stored in the system. The eligibility and merit lists are auto-generated by the system. The seat allocation is done by the admin on the website.

B. Student Module

A student should open the website https://e-admission.xyz. Register using valid details and set a password. Once the registration is accepted, the system will auto-generate a unique registration number for each student. The student should log in using valid email-id and password. The student should now fill the registration form along with the required documents and submit the form online. The student gets the email where Admit Card is mailed to the student if details are all valid and accepted else the required changes are mailed. After the exam, the student can check their results. S/he should fill the admission form along with the required documents. The student can then view their eligibility list and the merit list, once announced. The student can answer

the mock test. The admission seat updates can be checked on the website at the time of counselling.
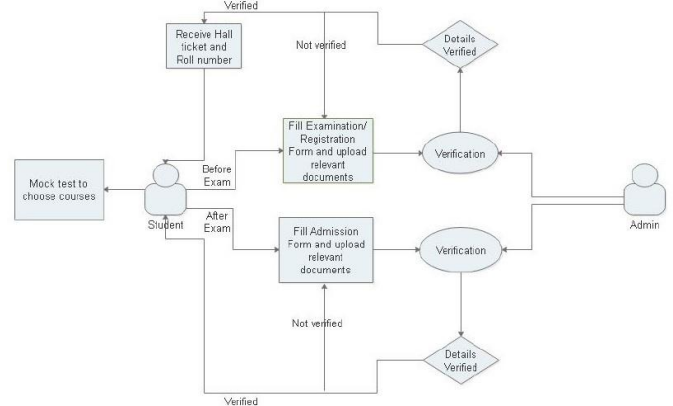

Figure 1. Process Flow

IV.   RESULTS AND DISCUSSION

A.   Student module
The main home page is shown to the student. The student can have access if he/she has an authentic account, can view prospectus, merit list, go to notice, as shown in Figure 2.

Figure 2. Home Page

The students can have the display of seat update in various colleges and courses at the time of admissions, as shown in Figure 3.

Figure 3. Admission Seat Display

The student, who is not sure of which course and branch he/she can be good at, can answer this mock test which will calculate the score and course wise display a graph, as shown in Figure 4.
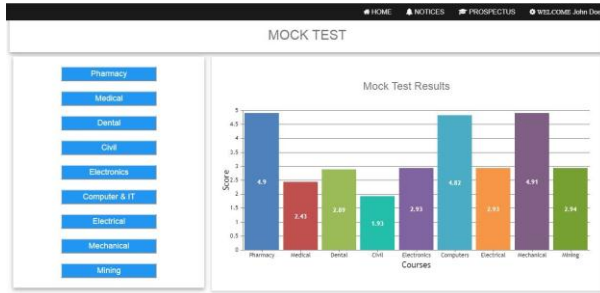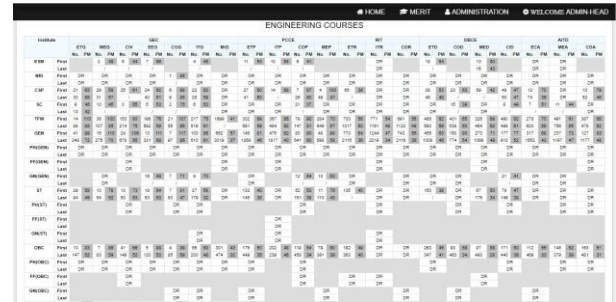
Figure 4. Analytical Mock Test

B. Admin Module

Merit List of the students is an important part of the admission process. The list is generated within 2 minutes by clicking on generate Eligibility and Merit list for various courses. This list is displayed as per different courses and in different categories, as shown in Figure 5.
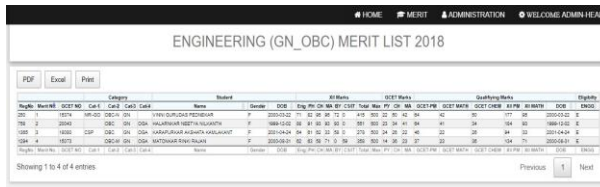

Figure 5. Merit List

Figure 6. Generated Merit List

The admission process which consists of seat allocation and cancellation by the admin is given an admission portal where the student gets admitted to the desired college and course, as shown in Figure 7.
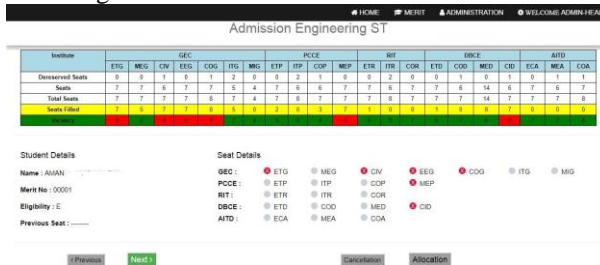

Figure 7. Seat Allocation Portal

The statistics of the admission for a particular year is available to help the admin council in an annual analysis. Figure 8 shows the range of numbers of the students in each field in each college as per courses.

Figure 8. Admission Statistics

Ratio Statistics also help the admin authority in the analysis. The colleges require this information after the admissions are over. The complete list of students with their respective categories is also generated and given to colleges. Figure 9 shows the Male: Female Ratio and Ratio as per different categories.
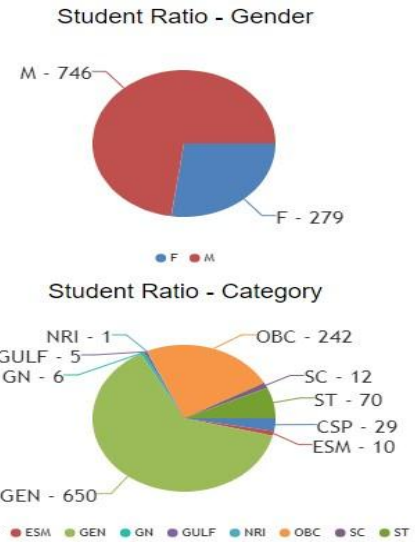

Figure 9. Ratio statistics

C. Advantages

- Convenience: The system lets the candidate fill up the form details as per his/her convenience of time and place.
- No Geographical Limits: No burden on the student who is the outstation candidates as no traveling required to collect and submit the form. Candidates can fill application form from any convenient place.
- Long Queues Eliminated: In the manual processing system, the form collection and query resolving of the student creates long queues. This problem is overcome in the automated system.
- The category selected by the student can be quickly accessed and the current seat vacancies are shown. So that the student can choose his/her course and college.
- Saves Man Power: Admission committee can have fewer people for work as some work gets done by the system. For Example, sorting of students as per merit list.

- Reduces Paper Work, as work gets done by the system.
- The data gets filtered-out automatically by the system.
- Details to filled are filled only once unlike in manual system.
- Reliable and Accurate Process: Due to limited human involvement.
- Dynamic and User-Friendly: Changes are real time as it reaches the students immediately. The process is simple and user-friendly.
- Backup of the details is maintained every year.
- De-reservation of seats is allowed.
- A mock test is provided to help student take appropriate decision.

V. CONCLUSION AND FUTURE SCOPE

An admission to degree colleges is based upon the score in common entrance test (CET). The various tasks related to the admission process is automated. To help the students choose their course, a mock test will be provided to identify their skills using analytics. Records of the student data from the well-maintained database can be obtained within a quick period and also various processing gets automated. In addition, cost and time required for the admission process will get reduced.

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