

Digital NBA

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Abstract— *The National Board of Accreditation (NBA), India was initially established by the AICTE (All India Council of Technical Education) under section 10(u) of AICTE Act, in the year 1994, in order to assess the qualitative competence of the programs offered by educational institution from diploma level to post-graduate level in engineering and technology, management, pharmacy, architecture and related disciplines, which are approved by AICTE. Keeping this concept in mind we students of Xavier Institute Of Engineering are developing a project on Criteria 3, which contains attainment process of Course and Program Outcomes(POs). The Web application have the complete digital solution for attainment of Course, COs and POs . The faculties have to enter the marks of students for various tools like Progressive class test ,Lab work ,Micro project and End Semester Exam which are used for calculation of attainment of Course. After Data Entry Attainment of Course is automatically calculated. Later on the entry would be analyzed by a mediator i.e. HOD and final list would be uploaded which would be visible to each individual including user as per their profile. Final Attainment of all Courses as well as Program Outcomes will be displayed at HOD Login.*

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I. INTRODUCTION

Our Project is about Web Application for Teachers and Students. Our aim is to make a simple and interactive web application which helps the users as well as Admin to interact with it. Our project has Teacher, Student, HOD as well as Admin panel. Teacher panel has various modules such as Login page, Profile page, Enter Marks page, Map CO/PO page, Enable Course exit form page, Final Attainment page and one for Update Password. In Login page teacher should login with their userid and password, Profile section there is short information about Teacher i.e. Assign Subjects list, Teacher ID, Teacher Name, Teacher Contact no and Teacher Email as well as Teacher can update their Contact no and email . Enter Marks page in this Teacher can fill their respective class marks.

Final Attainment page in this teachers get the final attainment of the respective assigned subjects with respect to class. Student panel has various modules such as Login page, Profile page, View Marks page, Fill Course Exit Form page and one for Update Password. In Login page student should login with their userid and password, Profile section there is short information about Teacher i.e. Enrollment Number, Student ID, Student Name, Student Contact Number, Department Name, Class Name and Student Email as well as Teacher can update their Contact no and email. View Marks page in this student can check there obtained marks in every subjects and if there will be any doubt in there marks then student can click on doubt button which is present at the same page. In Fill Course Exit Form page Student has to fill the subjects Course exit form. HOD panel has various modules such as Login page, Profile page, Teachers page, Students page, Teacher Status, Direct Attainment of PO's and one for Update Password. In Login page HOD should login with their userid and password, Profile section there is short information about HOD i.e. Department Name, HOD ID, HOD Name, HOD Contact no and HOD Email as well as HOD can update their Contact no and email . Teachers page in this HOD can check no. of teachers in their department. Students page in this HOD can check no. of students in their

National Board of Accreditation Criteria 3 3 department. In Teacher Status HOD can check the progress of teacher how much a teacher has filled the marks and also HOD can view the Filled marks.

Admin panel will add Teachers, Students, Subjects, Department, Semester, Class, Year and Manage it. It will also assign Class to Teachers Through the database we will fetch all entries from users and by grouping and sorting we will display it on Admin panel. Admin will have all rights to display , edit or modify the user panel.

II. LITERATURE REVIEW

The procedural flow of NBA Criteria 3[1] have been taken in accordance to the manual provided by National Board Of Accreditation, based on which the calculation modules are implemented. NBA came into existence as an independent autonomous body with effect from 7th January 2010 with the objectives of assurance of quality and relevance to technical education, especially of the programs in professional and technical disciplines, i.e., Engineering and Technology, Management, Architecture, Pharmacy and Hotel Management and Catering Technology, through the mechanism of accreditation of programs offered by technical institutions

Sachin Patil, Amrutha G.E[6], talks about Accreditation process of Undergraduate Engineering Programmes under TIER-II in “A Review of NBA Accreditation for Undergraduate Engineering Programmes (TIER-II)”. The higher education system in India has witnessed a remarkable growth, particularly in the last two decades, to become the third largest system in the world. The number of institutions in the country has increased from around 30 in 1950 to more than 20,000 colleges. The number of universities has increased from around 20 to more than 500 universities awarding degrees. The challenge is to ensure its quality along with expansion. To meet this challenge, All India Council for Technical Education (AICTE) has established National Board of Accreditation (NBA) in the year 1994, for periodic evaluations of technical institutions and programs according to specified norms and standards as recommended by AICTE council. India which was a provisional member of Washington Accord since 2007, became a permanent member in 2014.

Parul Jain, Mukesh Kumar Mishra[5] proposes to enhance the quality and standard in technical education in “Accreditation of Engineering Education: A Comprehensive Assessment Plan”. NBA accreditation, a process of benchmarking of academic quality of an engineering education program or diploma engineering education program by an accreditation agency, has been introduced. India is a signatory nation of Washington Accord through National Board of Accreditation. Now, accreditation has become compulsory for quality assurance, recognition of graduates globally, recognition by the stakeholders, for branding and for expansion of the program. However, very few programs have been accredited so far in India. Outcome Based Education is the central feature of accreditation which focuses on outcomes. It is a student centered approach which measures student performance or outcomes in terms of knowledge, skills, and attributes.

Shivakumar Ramchandra, Samita Maitra and K Mallikarjuna Babu[1] focuses on outcome based education which gives a chance for an overall learning where an engineering graduate gets trained in all the program outcome laid by the National Board of Accreditation, India. This ensures that a graduate not only possess a sound knowledge in the specific program they also can have a global mobility and acceptance. In order to attain the program outcome the curriculum for the program is designed in a manner that the students get trained in all the 12 Program outcomes. The courses are taught to the students by various teaching methodologies like class room teaching, laboratory experiments, seminar and projects. Each course is designed with specific CO's and each CO is mapped to the PO. The attainment of CO's is quantified by assessing students. Their performance is tabulated and analysed using MS Excel software. The quantification methodology involves detailed question paper articulation wherein each question is mapped to a CO and its corresponding PO. Thus considering continuous internal evaluation data one can measure the attainment of CO and the PO for a batch of students. The level of attainment also can be easily varied based on the level of the course and efficiency of the student.

III. PROPOSED METHODOLOGY

The flow of our project is dependent on four modules. The first stage of our process is admin panel followed by teacher, student and hod panel.

Admin panel will add Teachers, Students, Subjects, Department, Semester, Class, Year and Manage it. It will also assign Class to Teachers. The detailed flow diagram shown in Fig. 1



Fig.1 Admin Panel Flow Diagram

Teacher panel has various modules such as Login page, Profile page, Enter Marks page, Map CO/PO page, Enable course exit form page, Final Attainment page and one for Update Password. In Login page teacher should login with their user id and password, Profile section there is short information about Teacher i.e. Assign Subjects list, Teacher ID, Teacher Name, Teacher Contact no and Teacher Email as well as Teacher can update their contact no and email. Enter Marks page in this manner can fill their respective class marks i.e. PT1 marks, PT2 Marks, Microproject Marks, Practical Marks, ESE Marks and after filling all the marks the main file will get Generated. Map CO/PO page in this teacher has to map subjects CO's to PO's, PT1 Questions should map with CO's, PT2 Questions should map with CO's. Enable course exit form page in this page teacher can enable course exit form of the respective assigned class. Final Attainment page in this teachers get the final attainment of the respective assigned subjects with respect to class. The detailed flow diagram shown in Fig. 2



Fig.2 Faculty Panel Flow Diagram

Student panel has various modules such as Login page, Profile page, View Marks page, Fill Course Exit Form page and one for Update Password. In Login page student should login with their user id and password, Profile section there is short information about Teacher i.e. Enrollment Number, Student ID, Student Name, Student Contact Number, Department Name, Class Name and Student Email as well as Teacher can update their contact no and email. View Marks page in this student can check their obtained marks in every subject and if there will be any doubt in their marks then student can click on doubt button which is present at the same page. In Fill Course Exit Form page student has to fill the subjects course exit form. The detailed flow diagram shown in Fig. 3



Fig.3 Student Panel Flow Diagram

HOD panel has various modules such as Login page, Profile page, Teachers page, Students page, Teacher Status, Direct Attainment of PO's and one for Update Password. In Login page HOD should login with their userid and password, Profile section there is short information about HOD i.e. Department Name, HOD ID, HOD Name, HOD Contact no and HOD Email as well as HOD can update their contact no and email. Teachers page in this HOD can check no. of teachers in their department. Students page in this HOD can check no. of students in their department. In Teacher Status HOD can check the progress of teacher how much a teacher has filled the marks and also HOD can view the Filled marks. The detailed flow diagram shown in Fig. 4



Fig.4 Student Panel Flow Diagram

IV. CONCLUSION

Almost all institutions directly assess the calculations and other procedures manually according to the guidelines provided by the National Board of Accreditation. In this method average PO data is obtained from every selected course is used to evaluate overall achievement of program outcomes. The success of this process due to tedious and continuous effort of faculties and HOD's of department for accreditation while providing first rate engineering curriculum delivery in parallel to the faculty requirement and university as a whole.

As per current, CO-PO are measured simultaneously. Since PO statements provide general information, they are difficult to measure. The development of the Digital NBA application is to help increase the efficiency, performance and reduce time required for the required procedures of the accreditation process.

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