Enterprise System for Engineering Institution

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ABSTRACT

In the old system, to maintain the records of the students, admin has to feed each detail of student's personal, professional information one by one. This is in-efficient and also time consuming to store all related data in the same file or in the same location, and if change is needed then accordingly the respective file has to open and changes is done. Enterprise System for Engineering Institution is to reduce the headache of the admin and also make it efficient to use the system. In this details of the students are stored in to the database so that they can easily be extracted as per choice. This is to reduce the paper work for Training and Placement Cell and generating report of each student at the end. Each student's marks are entered in to the database by admin semester wise. This will continue till last semester and each detail gets feed in the database, such that each student's progress, status, achievements and etc. are recorded. Now admin can generate report of each student showing the details of individual students. Each student has to register themselves via registration form provided by Admin, and later on student can edit there details via admin and student only can view these records. By this, if any update is required than the process is very easy.

General Terms

Training, Placement, Notification, Registration, Report, Admin, Company

Keywords

ASP.net, Training & Placement Cell, SQL server 2008, Microsoft Visual Studio

1. INTRODUCTION

The work of Training and Placement Cell is done on the papers. If any change of record is to be done, leads to search those papers and then search for the required field of student and editing is done. This is time consuming and also in-accurate. If any paper is lost then this leads to very tedious process to again recollect all data and maintain it again. Eventually this reduces accuracy and reduces consistency of system. This project is to overcome the drawback of the above. This project maintains consistency to maintain the records of each student's in an institute, by providing those fields which are required to maintain each record of student. Also accuracy is maintained by not allowing any inaccurate / noisy data to get stored in database. This project is initially implemented in Training and Placement cell, which eventually deals with records of the student. In future this project can be enhanced to the department level, such that each department uses this system to deal with records of the student. This project is initially implemented in

Training and Placement cell, which eventually deals with records of the student. Also its major advantage is online, such that anyone can access this website from anywhere. So, Students can view and feed record from anywhere, and admin can handle do the job from anywhere, even from home.

2. RELATED WORK

2.1 Using Message-oriented Middleware for Reliable Web Services Messaging

Using existing message-oriented middleware (MOM) [1] for reliable Web services messaging seems natural. In distributed systems, multiple processes interact by sending and receiving messages. In distributed architectures, the sender's messaging component can tolerate network failures by repeatedly sending a message until it is acknowledged by the receiver's messaging component; this interaction can occur even after the sending process has terminated. The receiver's messaging component can tolerate the unavailability of the receiving process by maintaining messages until the receiving process is ready.

Aspects of Reliability:

1. Middleware endpoint-to-endpoint reliability

2. Application-to-middleware reliability

3. Application-to-application reliability

MOM can be used with various technologies such as:

1. A reliable, proprietary middleware system like IBM Webpshere MQ is used for SOAP messaging; the middleware defines the transport protocol and provides the necessary distributed infrastructure.
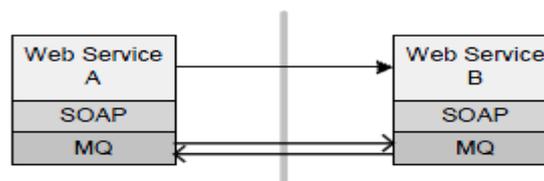
Figure 1 Reliable Messaging Implementation

2. A reliable transport protocol like HTTPR is used for SOAP messaging; a middleware system (that is, any implementation of messaging agents supporting HTTPR based on HTTP and some persistent storage capability) is required.

2.2 Work in Progress: Undergraduate Engineering Students' Perceptions of Engineering Education as an Academic Discipline

"Work in Progress" is based on the perceptions of engineering student of the national and international Engineering community; and students' expectations of job opportunities that may be available to engineering education graduates. Despite the interest of the students in this new field of study, little information about the field leads to miss concepts to the courses and becomes problematic for undergraduate engineering community. For this reason, the authors have developed a survey to capture current

perceptions that engineering students have about engineering education as an academic discipline [2].

"Work in Progress" focuses on 3 questions that were asked during survey, they are:

1. Open-Ended Definitions of Engineering Education
2. Knowledge of Current Engineering Education Departments and Sources of this Information.
3. Perceptions of the Comparative Rigor of the Engineering Education Discipline to Traditional Engineering Disciplines

The student's perception results about the engineering colleges were [3] [4]:

Table 1. Percent of definitions corresponding to each theme

Common Themes	Percent (%)
Training Engineers	24
Teaching/Learning Fundamental Concepts	17
Training Student to Teach Engineering	14
Teaching Problem Solving Skills/Critical Thinking	13
Understanding How People Learn and Teach Engineering	11
Teaching Engineering	7

2.3 Data Security Management in Distributed Computer System

In [5], research deals with data security management in distributed and client/server computer systems, placing special emphasis on access security. The proposal presents the subject of data security management in these systems by describing them, examining their vulnerable points and presenting adequate solutions. The proposal includes a survey on the subject of authorization, authentication, encryption and access control - the main components in data security management of distributed systems. A totally new layered system is designed in this research that contains total 4 layers, they are as below:

The communication layer: Deals with communication vis-à-vis the clients, receiving messages and sending replies.

The talk layer: Deals with identification and analysis of the messages received from clients, classifies the messages and separates them into the various parameters. This layer also constructs the client's reply transmission.

The application layer: Operates on three main levels: handling requests for services regarding the user (definition, examination, deletion), handling requests for services regarding the station and handling requests for transaction services.

3. PROPOSED SYSTEM

This project is built in asp.net using c# programming language, as this language provide a lot of drag and drop options that ultimately saves a time to create User Interface for our website. With this language the User Interface becomes very easy any naive user can use it. The main advantages of this language are:

Interoperability: interaction between new application and old application.

Common runtime engine: All .net programs execute under Common Language Runtime (CLR) provides memory management, security and exception handles.

This project is going to store all the records (information) of each student, thus drastically reducing the time of Training and Placement Cell for maintaining it. With this project all the information related about student is provided by student itself, and a unique id is generated by the system after filling all the information.

Unique id shows the admitted year, last year, department, division, roll no. It is generated by the system only. It extract the current year, last year (4th year from current year), the department of student provided by themselves only, their respective roll no and the division. The implementation is shown in the below diagram.

Figure 2 Unique ID generation

The Admin department just have to check all the information provided by the student, Once any information about student found to be wrong then Admin can edit that information and simultaneously a mail is sent to all those student's whose information found to be inaccurate. This unique id is going to be same throughout the engineering years. Once student feed all the information then they cannot change anything with this system. If student found any record about him/her self to be inaccurate then it can be changed only by department Admin. Student don't have permission to change anything, once they feed then they only can view their information.

Extracting information about any student is done through this unique id. Admin can generate report with the help of unique id, this report contains personality of the student i.e. the marks of each semester, achievements, certification (if any), no of ATKT (if any). This report is very useful during the campus recruitment drive by various companies and if the student wants' to go for Post Graduation.

List of students:

Figure 3 List of students before sort listing

Admin can sort list eligible students as per the company's criteria by providing student's BE aggregate, 10th percent and 12th percent. Only Students falling in the above criteria are listed such that they can sit for the company in campus recruitment process. This process is shown in the figure 4 and figure 5.

Enter the Aggregate Marks : 60
10 Std Criteria : 60
12 Std Criteria : 60
Submit

Figure 4 Criteria selection

List of Eligible Students :

Student ID	Student First name	Student Last name	Student E-mail id
20082012CMPNA2	Anuj	Trivedi	xs@m.com
20082012ITA1	Nilesh	Yadav	yadavnilesh786@gmail.com
20082012ITA6	Avinash	Singh	mail2avinashsingh@gmail.com

Figure 5 Sorted student

News about the upcoming Company is provided by Admin department. The Admin department has the authority to upload and un-load any information related to company or Training and Placement Cell. Student's can view and download the uploaded information. This information can be related to companies, campus recruit drive, student's performance, statistics, and name of the entire placed students.

4. DICUSSION

By maintaining the records of the students, at the end report can be generated. Report shows the actual personality of the student. Such as details of semester's marks, attendance of each semester, aggregate mark, number of ATKT (backlog if any), achievements (if any). Though these records were available previously and this type of extracting of records on requirement was done before also. But this task was very tedious. Now these tasks can be very easily done, along with this many more tasks can be done in an acquire manner like extracting records by firing the query from the simple GUI. The System would reduce work for Admin and all the information about the student is maintained properly. With

Enterprise System for Engineering institution Admin do not have to worry about lost of data or improper data.

5. CONCLUSION

In this paper we design Unique ID for each student of the engineering college. We described how it is made and what terms unique id contains within it. We describe a prototype implementation. As this project is made in asp.net language, that provides better user interface and storing records we have used sol server 2008, that provide better security management. Since this is a website so any student from anywhere can fill their information, that results in saving more time of admin department. Report generation also becomes very easy as admin have to just provide the unique id of that student.

6. FUTURE WORK
Future work will involve enhancement of this project to the department level, such that each department uses this system to deal with records of the student. Also, if required then, records of staff can also be maintained accordingly .In addition more general modules can be added to the system such that it can be used by an entire organization in an efficient way, which lead to maintain each records of everyone in the organization. And maintaining records of an organization with such a secure and efficient system will improve the quality of it.

7. REFERENCES
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