

Automated System for Placements

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Abstract

Automated system for placements automates activities of placement cell by providing opportunities to the student community to use collective intelligence to increase selection ratio and eases out process of creation of management information automatically. ASP focuses on the automation of the placement cell. It includes authorizing the resumes, communicating about the various job openings to the student community, managing the corporate relationship for inviting them for the placements as well other activities like providing corporates with student resumes, creating the placement metrics, monitoring the progress of the selection process, communicating with different users etc. .ASP provides a module for Student (Current Student), Administrator (TPO/ TnP Staff) and TnP coordinator. It manages Placement process of each Job posting individually, authenticate and activate the student profiles, send notifications to students, create list of students as per company HR Manager Job Request, provide the list of shortlisted student with resume, export data of shortlisted students to excel file based on Search Criteria, set preferences for student eligibility criteria for placement, secured Access to users, upload of cv format by the admin as per each company requirement, download of CV by the student, view news and events, update student information and their status with respect to placement, view reports of placements, calendar to be aware of date of arrival of the company, list of students that have registered for the company and various other events happening under Training and Placement.

Keywords: TnP, TPO, coordinator, Student, placements, ASP

I. INTRODUCTION

The use of Internet and World Wide Web revolutionized the provision of information and the facility for the user to take action on the information obtained. The use of Internet enables users to manage placement process. This led to a unique web based placement management system developed specifically by the placements practitioner and the software programmer to become Online Placement system. This system is an online application that can be accessed throughout the organization and outside as well with proper login provided. This system can be used as an application for the Training and Placement Officer (TPO) of the college to manage the student information with regards to placement. Students logging should be able to upload their information in the form of a CV.

ASP is an application to facilitate students in SIESGST to register and search for jobs. The TPO to take effective actions on the web as follow-on from the information they have viewed. TPO provides approval of student registration and updating. ASP system provides information on placement providers and the placements they offer so that students may view and assess their opportunities. Computer based information system are designed to improve existing system. Whatever the information, TPO has to pass to the student and he or she can inform online. Improve accuracy in result. It has user-friendly interface having quick authenticated access to documents. It provides the facility of maintaining the details of the students. It will reduce the paper work and utilize the maximum capabilities of the setup and organization as well as it will save time and money, which are spending in making reports and collecting data. It can be access throughout the organization and outside as well with proper login provided. This system can be use as an application for college to manage the student information concerning placement.

II. COMPARISON WITH PREVIOUSLY IMPLEMENTED SYSTEM

- 1) Integration with the exam cell helps us retrieve the authentic students details and marks. These details can be used directly into ASP. This eliminates the option of students filling their marks manually and then admin verifying them row-by-row. The records provided by the students may be inaccurate. This leads to inconsistency in data and misleading information. For example a company mentions eligibility criteria of as 60%. A student with 59.5% may round of his/her aggregate to 60% and may apply for the company. Due to this the number of students eligible for the company will be misleading. If only 20 students are available, due to rounding off of percent the count may increase to 25. This generates misleading information. This entire integration is not present in the current implemented system.[3][4]

- 2) We provide a separate login for CO-ORDINATOR. Co-ordinator is basically a department-level TnP head. He will be able to view only the student's specific to that branch/department only and perform all functionalities. This basically will reduce the TPO/TnP Admin workload. There is no such login available in the current system.[3][4]
- 3) Status of student's application for each company will be provided on student profile/home page. Whether he is eligible/non-eligible and placed/unplaced for a company will be the status given.[3][4]
- 4) The news & events taking place under the TnP cell will be displayed in a calendar format. If a company is coming then the particular date will be highlighted, and when you hover over the date, a pop-up screen will appear giving brief description of the company and a link to the company page in the system.[3][4]
- 5) We provide a new option called as the Subscription Option. This has never been implemented before. Once we enter the company page after viewing the news and events, there will be a subscription button at the bottom. When the student clicks the button he will be subscribed for the company. This means that the TPO/TnP Admin will have an automated interested students list for each company.[3][4]
- 6) Under the Training section of the system we are conducting online aptitude tests and important information regarding interviews and placements.[3][4]

III. PROPOSED SYSTEM

The proposed system aims at managing student information with regards to placement. This system is use to store information of all the students. CVs are categorized according to various streams. Various companies can access the information. Students can maintain their information and can update it. Notifications are sent to students about the companies. Students can access previous information about placement. Also the component is user friendly. Generally the TPOs of the Colleges have to face a lot of problems in management of the Students information. Various type of searching criteria for student is given as by CGPA, live kt, dead kt, internal kt and branch.

As per the proposed system, the student can view news and events, in which latest news about companies is provided. There are mainly 2 categories- Placement news and training news. In placement news the student can subscribe for a company by clicking on the Subscribe button. In the training news consist of the various workshops being conducted. Resume can be uploaded and the resume format for different companies can also be downloaded. Student can view calendar and view the same options as of news & events in a easy grid format. In the training part of the system we provide the option of downloading papers and details regarding seminars and aptitude tests.

ASP will be integrated with the exam cell, so that the marks can be taken directly for filtration by the admin. There is no need for any verification that was done earlier. It was tiresome and time consuming.

IV. IMPLEMENTATION

The entire project is built on spring framework and database schema with the help of MySQL Workbench.

A. Student:

Student is a very important entity of the ASP system. Student acts as the main user. Therefore, all the data provided to the student should be accurate as well as consistent. Asp aims at providing transparency to student regarding all placement activities. In student module, student is provided with tabs mainly news and events, student profile, resume and training. News and events tab consists of news related to companies and training activities like seminars, pre-placement talks etc. News related to companies' leads to a page, which consists of information about the company, eligibility criteria with display of company logo. Any student who wishes to apply for the company can click on subscribe button provided at the end of the page .The system will then fetch information about the student to verify if the student is eligible to subscribe. If yes, a dialogue box with a message "successfully subscribed" appears and the student details are entered into the database that has all enrolled students. If no, dialogue box with a message "not eligible" appears.

News related to training can only be viewed and for convenience its details are provided in training tab.

A student can view his/her details in student profile. The student can also upload his/her photo on the profile. A student can update his/her marks, number of live or dead kts and other details anytime. A student profile is made visible to both admin and co-ordinator, hence making verification of data easy.

A student can download resume format that has been uploaded by the admin through the resume tab. A student can then upload his/her resume as per the previously uploaded resume format by the admin. A student can also modify or update the resume document an reload it.

Student can also view calendar. Calendar has respective days of upcoming events highlighted. On clicking the highlighted date further details of the event.

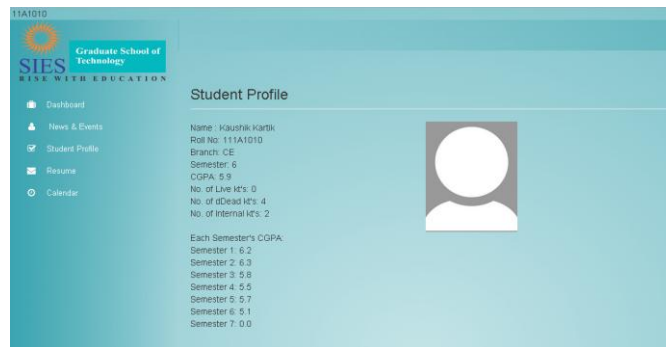


Fig. 1: Student Profile UI

In training a student can access aptitude question and interview questions of a particular company. Payment for seminars related to placement. Details like description and timings of pre-placement talks can also be obtained.

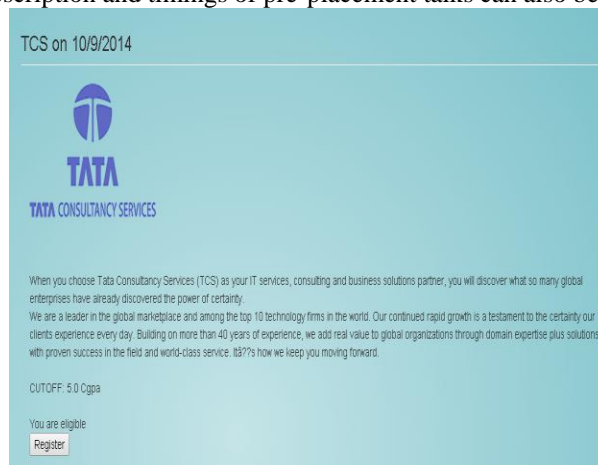
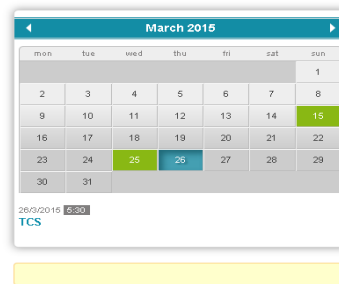


Fig. 2: Company page on Student login

Calendar



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Logout

Fig. 3: Calendar Grid

B. Admin:

Admin is also provided with five tabs mainly news and events, view database, resume, calendar and training. News and events can be added or removed by the admin by simply clicking on add or remove option at the bottom of the page. On clicking add, admin is directed to another page where the admin can mention about the event and description including time ,date and venue of the event.

Admin can upload resume format as per the company requirement so that the student can just fill in the details in that particular file making the process easier and simpler. Admin can also download resumes which student has uploaded. This enables admin to verify if the document uploaded by the student is as per the desired format and satisfies the requirement. Admin can also add events to the calendar. The date of the event will be highlighted and will be visible to the student. Details of the events like seminar and company can also be provided. This ensures that students are aware of all the activities taking place in the college with respect to placement.



Fig. 4: Eligible Student List on Admin login



Fig. 5: Database Filtration

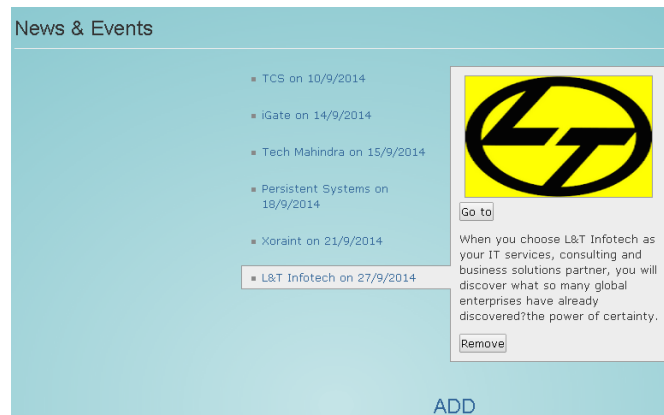


Fig. 6: News and Events with Edit option on Admin side

C. Co-Ordinator:

Co-ordinator can access information only related to their respective branch. Placement reports of each branch are generated as per the number of students placed. The co-ordinator can then analyse the reports and take appropriate action like uploading more number of test papers, asking students for company preference etc. coordinator can also upload necessary documents that are required for training the students for interview and aptitude tests of various companies. A forum is also provided for students to post questions and answers can be provided by respective co-ordinators.

D. Asp Using Hibernate:

Hibernate is an object-relational mapping framework for the Java language, providing a framework for mapping an object-oriented domain model to a traditional relational database. Hibernate solves object-relational impedance mismatch problems by replacing direct persistence-related database accesses with high-level object handling functions. Hibernate's primary feature is mapping from Java classes to database tables (and from Java data types to SQL data types). Hibernate also provides data query and retrieval facilities. It generates SQL calls and relieves the developer from manual result set handling and object conversion.

Applications using Hibernate are portable to supported SQL databases with little performance overhead. Mvc model in spring framework has been used. Hibernate resolves the problem of mapping model to MySQL database. Hibernate allows creation of tables in spring itself with its respective table created in MySQL simultaneously. This eliminates the need to create tables separately and then again create a model in spring with respect to that particular table. Queries can be used in hibernate and retrieval of data is also simplified. The function, which we have used in our application, is list record. Applications using Hibernate are portable to supported SQL databases with little performance overhead

```

@Override
public void removeRecord(T className,Integer id) {
    logger.info("class name :: "+className.getClass().getSimpleName());
    Object login = (T) sessionFactory.getCurrentSession().load(className.getClass(), id);
    if (null != login) {
        sessionFactory.getCurrentSession().delete(login);
    }
}

@Override
public List<T> listRecord(String className) {
    logger.info("List record"+className);
    String query = "from "+className;
    return sessionFactory.getCurrentSession().createQuery(query)
        .list();
}

@Override
public void addRecord(T typeObject) {
    Transaction tx=null;
    try {
        logger.debug("Before saveorUpdate");
        sessionFactory.getCurrentSession().save(typeObject);
        logger.debug("After saveorUpdate");
    } catch (HibernateException hex) {
        logger.debug("After saveorUpdate2");
        logger.debug("Hibernate Exception {}", hex.getMessage());
    }
}

@Override
public void updateRecord(T typeObject) {
    try {
        sessionFactory.getCurrentSession().update(typeObject);
    } catch (HibernateException hex) {
        logger.debug("Hibernate Exception {}", hex.getMessage());
    }
}
}

```

Fig. 7-10: Hibernate Example of Record

V. BENEFITS OF USING SPRING FRAMEWORK

Following is the list of few of the great benefits of using Spring Framework:

- 1) Spring enables developers to develop enterprise-class applications using POJOs. The benefit of using only POJOs is that you do not need an EJB container product such as an application server but you have the option of using only a robust servlet container such as Tomcat or some commercial product.
- 2) Spring is organized in a modular fashion. Even though the number of packages and classes are substantial, you have to worry only about ones you need and ignore the rest.
- 3) Spring does not reinvent the wheel instead, it truly makes use of some of the existing technologies like several ORM frameworks, logging frameworks, JEE, Quartz and JDK timers, other view technologies.
- 4) Testing an application written with Spring is simple because environment-dependent code is moved into this framework. Furthermore, by using JavaBean-style POJOs, it becomes easier to use dependency injection for injecting test data.
- 5) Spring's web framework is a well-designed web MVC framework, which provides a great alternative to web frameworks such as Struts or other over engineered or less popular web frameworks.
- 6) Spring provides a convenient API to translate technology-specific exceptions (thrown by JDBC, Hibernate, or JDO, for example) into consistent, unchecked exceptions.

- 7) Lightweight IoC containers tend to be lightweight, especially when compared to EJB containers, for example. This is beneficial for developing and deploying applications on computers with limited memory and CPU resources.
- 8) Spring provides a consistent transaction management interface that can scale down to a local transaction (using a single database, for example) and scale up to global transactions (using JTA, for example).[1]

VI. CONCLUSION

In today's world, smooth functioning of an organization cannot simply rely on paper work. Manual operation of a department makes functioning of that department error prone and time consuming. The users however demand a fast and efficient system. In existing system, most of the work is done manually. Students submit their marks through paper or Google forms. In the current placement system the students are not aware of placement activities due to lack of communication. The proposed system- ASP will help in eliminating all the drawbacks of the current online system and also automate most of the manual work the faculties used to conduct.[4][3]

VII. FUTURE SCOPE

The system has been designed at the maximum possible excellence. Still we accept some drawbacks, as it is a human effort. The system cannot provide the sms integration where the students will get notifications through sms alerts about various news in TnP. The program is coded in spring framework, which will be very useful for future enhancement. There is scope for improvement of the system. Apart from these there is scope for generating many more features. This software can be extended easily without affecting the functionality. In the future, we can also provide automated mailing system. We can also create a module where the payment for workshops n seminars can be done. System for NEFT can be implemented.

VIII. ACKNOWLEDGEMENT

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