

Software Requirements Specification

for

Training and Placement System

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Version 1.0

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Revision History

Name	Date	Reason For Changes	Version
Baseline	16.09.21		1.0

1. Introduction

1.1 Purpose

This Software Requirements Specification provides a description of all the functions and constraints of the Placement management System, developed for various colleges' placement cell.

The Placement Management System is for the students and companies which maintains the database for the students where all the students' records are entered including their academic details and their personal details. It will also manage the data of the Company which would comprise of the profile of the Company, eligibility criteria and the facilities or the package it provides etc.

The System would provide the facility of viewing both the personal and academic information of the student and company; it would also search for eligible students and Company and deal with the insertion and deletion of records.

1.2 Document Conventions

This document follows the Modern language Association format. Bold text has been used to emphasize section and subsection headings. Highlighting is to point out words in the glossary and bold text is used to label and recognize diagrams.

1.3 Intended Audience and Reading Suggestions

The intended audience of this document includes faculty members in the Department of T.P.O, the developers and the students looking for On-Campus placements. This will be knowledgeable to company HR to understand the college efficiently. Information displayed, and other statistical information will attract new admission and a clear picture with records will be maintained with this portal. Blog and news section will be helpful to students to get notified and plan accordingly.

The audience precisely will be:-

- Students of college where portal is implemented

- Faculty and management of college to get a statistical view.
- Companies HR which are coming for recruitment purpose
- Students aspiring to get admission to college

1.4 Product Scope

The System would store all the academic as well as personal details of the students who wish to be placed and the Companies who offer jobs to the students. The details of the Companies as well as the students may be updated or modified or deleted to keep the information up to date. Also notifications would be sent to the students about the Companies i.e. details like the Company profile, eligibility criteria for the job profile etc. Also the information regarding the Placement activities or procedure or a particular Company i.e. the selection rounds or procedure.

1.5 References

- IEEE 830-1998 standard for writing SRS documents.
- **Fundamentals of Software Engineering**, 2nd ed. by Rajib Mall.

2. Overall Description

This project is to facilitate students in college, company to register and communicate with the Placement Office. The users can easily access the data and it can be retrieved easily in no time.

2.1 Product Perspective

In various colleges, training and placement officers have to manage the students' profiles and the documents of students for their training and placement manually. Also Placement Officers have to collect the information of various companies who want to recruit students and notify students from time to time about the placements. Placement Officers also have to arrange profiles of students according to various streams and notify them according to company requirements. If any modifications or updates are required in the profile of the students or the Company, it has to be searched and done manually. Hence the Placement Management System would maintain a huge database for

the complete details of the students as well as the Companies in the Placement process which would help to save time and effort.

2.2 Product Functions

The Placement Management System is to be developed as an attempt to take a record of Companies and students by restricting a large database that would be used for each. The System would provide the facility of viewing both the personal and academic information of the students and also the company. The System would also be able to search for eligible students and companies with respect to their specifications and requirements. The eligible students would receive an email including the details of the Company, placement procedure and other details.

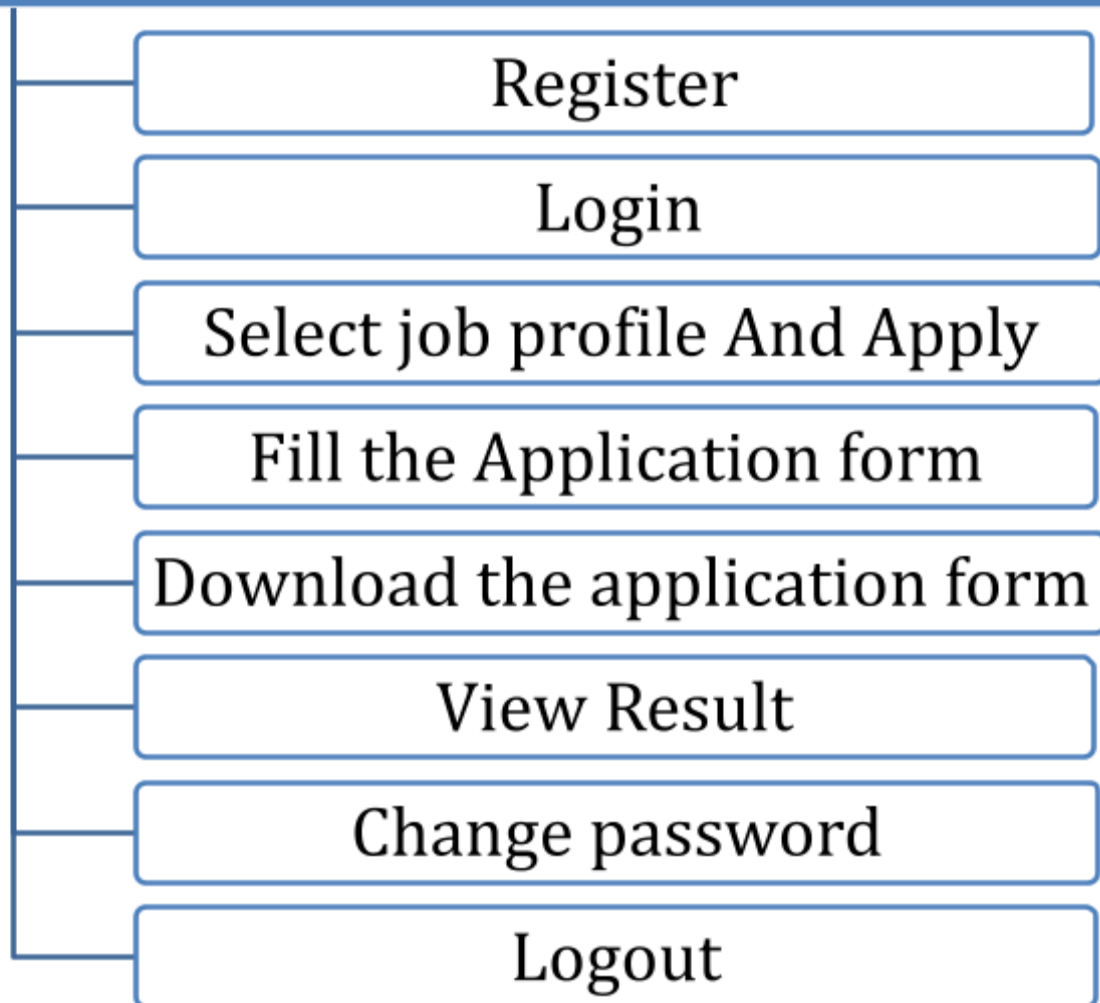
2.3 User Classes and Characteristics

The major User classes in the System would be :

1. Student

- New Student needs to sign up or register giving complete details
- They can submit resumes and update profile information.
- They can register for a particular Company.

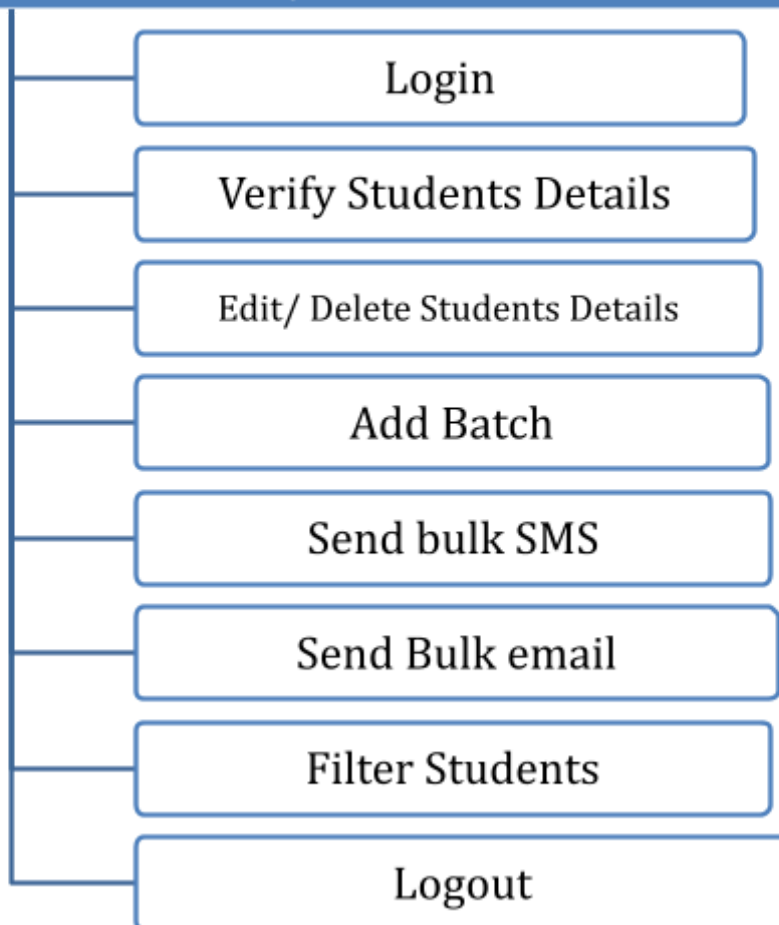
1) Student Module



2. Administrator

- The Admin has the supreme power of the application
- Admin provides approval to the Student and the Corporate registration
- Admin is responsible for maintaining and updating the whole system.
- Admin has the responsibility to notify the Company for any application from a student.
- Admin has to notify the students regarding any changes in the procedure or selection.

2) Admin Module



3. Company

- The Company has to notify the Admin or the Placement officer.
- The Company initially has to sign up.
- The Company may shortlist the students who applied. They may use their details (academic as well as personal).

3)Company Module

Register

Login

Fill Job details

Select Exam date

Publish Result

Download Report

Change Password

Logout

2.4 Operating Environment

This web application can be deployed on linux or a windows machine with Apache Server and MySQL server.

- Minimum RAM 512MB
- 20GB Storage Space.
- Intel Dual Core Processor
- Internet Connectivity with Ports configured

This application can be accessed by the user through a machine having any web browser with html javascript support and flash to get video content. The client devices must preferably have browsers like IE9 or above, Mozilla Firefox (version 3.5 or above) or Opera 10 or chrome (version 29 or above) or safari installed in their OS and must have enabled flash content to get videos output. Specified versions are preferred to get HTML5 output.

The portal can be accessed through a mobile or PDA with internet access and a web browser supporting html javascript output.

2.5 Design and Implementation Constraints

Design Constraints :

1. **Security** : The files in which the information regarding securities and portfolios should be secured against malicious deformations.
2. **Fault Tolerance** : Data should not become corrupted in case of system crash or power failure.

2.6 User Documentation

User documentation components such as user manuals, on-linehelp, and tutorials will be delivered along with the software. Manual can be downloaded along the CMS package. Other tutorials and support forms will be made available in case to report any bug or other support related issues. A simple how it works page will be included in the package in html static page format.

2.7 Assumptions and Dependencies

- We are assuming that the user should have some basic knowledge of computers.
- Job seekers should be from any field.

3. External Interface Requirements

3.1 User Interface

The Training and Placement System user interface is created with the users i.e students and companies alike, keeping in mind. The color schemes are selected in such a way that the users do not have any contrast issues and are soothing to the eye. The application current status should be easily accessible to the user.

The home screen of the system will show the register and sign in button and admin login option with the name and logo on the top of the page. Further down the page after the login buttons will be a notice board and contact, support, faq and live support buttons. Upon clicking the buttons the page will be directed to the respective pages and each page will have a back option and go to the home button except the home page.

3.2 Hardware Interface

The program will communicate with the hard drive (the file system and database) via the appropriate PHP code. The user can communicate through the browser using a keyboard and a display through a graphical interface displayed on the user's screen.

Client Side :

Processor	RAM	Disk Space
Dual Core 1Ghz	512 MB	20 GB

Server Side :

Web Application Server	Weblogic	JBoss:	Websphere
Database Server	Oracle	Microsoft SQL Server	DB2

3.3 Software Interface

The software interface uses a LAMP (Linux, Apache, MySQL and PHP) set-up.

Operating system : Debian Linux 4.0

WebServer : Apache 2.2.4

Database : MySQL 5.0

Scripting Language : PHP, Hypertext Preprocessor and JavaScript

Web Browser: Mozilla Firefox

The product will host a local Apache web server where the user interface will be displayed via the Mozilla Firefox web browser. The scripting language PHP will define image placement, size and overall set-up. PHP will also be used to create background colors, border colors and text display. JavaScript will be used to control client-side interactions (i.e. sound output when image is clicked). The MySQL database will store the images and sounds to be displayed at the output. All images are in jpeg format..

3.4 Communication Interfaces

The requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Communication standards that will be used, such as FTP or HTTP. Communication security or encryption issues will be handled by using javascripts.

4. System Features

The following sections will introduce the requirements of the system from the point of view of users and will introduce a number of decisions that have been made regarding implementation. These sections also attempt to somewhat describe the role of each user group in the system, discussing their individual roles through the functions they can perform.

4.1 Notice Boards with Placement Notifications

The Notice Boards section is the more important module of the System as it provides updates to the students regarding the Companies that would come to Campus or that would be coming in the next few weeks. It would also provide brief information about the Company and also the details of the Job Profile, package etc. The details of a particular Company would be given later or in another section. This section would just provide the necessary details to let the students know the Company.

Priority : It has a very high priority because only if It is available and the details of the upcoming Companies are mentioned, only then will the students be able to apply for them.

Benefit : The benefit of this would be that the students would be aware of the upcoming Companies and be able to apply for them.

4.2 Register

The College or students and the Companies have to register with all their documents that the Administrator would verify. Only after thorough verification would the college or student and the Company are allowed to register. These documents would also be maintained by the Administrator for future reference. The documents should be maintained at least till the placement activities of the particular company or students are not completed. While registering the company and students should give their complete details i.e. academic or professional and personal details.

4.3 Login

- Videos
- Upcoming Placement Activities
- Managing queries
- Report generation
- Registration
- Maintaining Statistics
- Report Generation
- Blog to manage posts and updates
- System Feature 2

4.4 Unique Features

This section tells some unique features of our project :

- **Links** = In our project links provide users to read about how to get hired to specific companies.
- **Books** = Online important books provided to users, which users can easily download directly from our website.
- **News** = The latest news about which company, what requirements are available, their availability and when they come for a specific job.

- **Advertise** = We try to advertise other important links about jobs but we are not sure to do this but we think on that.
- **Speed** = Because we use oracle the speed to extract and translate data is becoming very fast and becoming very flexible.
- **Expertise article** = We also publish latest articles by expertise on the latest trend and on the latest technologies.

4.5 Validation

On completion of each form the system will use a set of validation functions to check if the student has put information of the right type in each field.

4.6 Make Recommendations

The system will make recommendations which jobs to give priority while choosing based on their exam ranks and marks.

4.7 Statistics

If the training office wishes, they should be able to view statistics gathered by the system regarding applications. These statistics should be displayed on a page with individually expandable sections, such as extending the number of applications received from the past year to the past two years, if the admin wishes to show this data to the users on the homepage of the product.

4.8 Report generation

The system supports generation of error reports and the client can view the reports and can keep record of the errors if the user brings up any issue regarding the errors.

4.9 Record Maintenance

The system also must keep track of the statistical reports of daily activities of the Student Registration Process.

Maintenance

4.10 Website Management

The administrators or developers can add features and make changes to the site according to their requirements.

4.11 Network Management

The connection between the server, the client and the user is secured and maintained according to the hosting site and certification protocols.

4.12 Updates

The developers will be asked to make security updates on the system regularly to maintain a secure and safe environment.

5. Other Non-functional Requirements

Usability :

- The software must have a simple and User friendly Interface.
- The navigation to various pages should make it more convenient to the users so as to save time and confusion.

5.1 Performance Requirements

- The users must get the response within seconds. i.e. the response time of a particular function should be minimum.
- Completely separate business login at server side from the student interface ensures good performance.
- The system would exhibit high performance because it would be well optimized. The business logic would be clearly separate from the User Interface.

5.2 Safety Requirements

- Any user when typing their password, it will be shown as ‘*’ on the screen to ensure safety.
- The users will be given an option to recover their password in case they forget their password. The users will be able to send an email to their registered mail and generate a new password through the link sent to their mail.
- The payment gateway is secured by ‘VeriSign’ and ‘VISA’ to make the payment more secure.

5.3 Security Requirements

Security Requirements Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below. Specific requirements in this area could include the need to:

1. Utilize certain cryptographic techniques
2. Keep specific log or history data sets
3. Assign certain functions to different modules
4. Restrict communications between some areas of the program
5. Check data integrity for critical variables
6. Later versions of the software will incorporate encryption techniques in the user/license authentication process.
7. The software will include an error tracking log that will help the user understand what error occurred when the application crashed along with suggestions on how to prevent the error from occurring again.
8. Communication needs to be restricted when the application is validating the user or license. (i.e., using https).

5.4 Software Quality Attributes

- Reliability
- Availability
- Updates
- Portability

5.5 Business Rules

5.5.1 Business Rules for Master CV and Verification

- The eligible students are required to fill in the Training and Placement Master CV and also upload their photograph in the space provided in the form.
- It is expected that a student does not add any ambiguous or fraudulent information in his/her resume. Resume checks will continue throughout the placement process. If, on verification, any discrepancies are found, the student would be debarred from placements. Also strict disciplinary action may be taken.

5.5.2 Application Rules

- All applications to the companies are to be made only through online system of the Training and Placement System. If a student does not apply on website for a particular company, he/she will not be allowed to participate in the selection process of that company.
- A student can apply to a maximum of 10 companies (default) on campus. A warning would be issued as one crosses 8 applications.
- After a student has exhausted his/her quota of 10 applications and desires to make further applications :
 - 1) He/she will be required to approach his/her concerned authority and Head & obtain in writing a letter certifying the need of the student to obtain more applications in a standard format.
 - 2) Only on receipt of such a request, would T&P consider and add 5 more applications to the student quota of applications.

5.5.3 Business Rules for Withdrawing an Application

The student may withdraw his/her application from a company on campus subject to the following rules and regulations :

- The student can withdraw his/her application to a company only if the last date of application of that particular company is not over.
- The student may withdraw from any or all companies without any limits, but only before the last date of application to company/companies concerned.
- The student may also reapply to a company that he/she had earlier withdrawn from, provided he/she has not exceeded his/her application quota & application deadline for the company is not over.

5.5.4 Business Rules for Selection Process

- One student is allowed to secure only one job if the gross package is more than 4lakh per annum. If the gross amount offered is less than or equal to 4 lakh per annum, he/she is eligible to apply for a company whose gross amount is more than 4 lakh per annum. And therefore after one secures a job with gross greater than 4 lakh per annum, one would be automatically deregistered from that day onwards.
- As more than one company would be visiting the campus, there may be a possibility that one student secures more than one job on the same day. Therefore :
 - ❖ Each eligible student will be required to fill up his/her individual preferences in advance for each placement day, ranking the companies he/she has applied to/has been shortlisted on a particular day, in the descending order of his/her choice. The preferences are editable till a day before by 23:59 hrs.
 - ❖ These preferences shall be used in case:

- ☐ The student gets selected in more than one company on the same placement day.
- ☐ Company wants to make an on the spot offer to the student before the selection procedure for the day is over.

- In case a student gets selected in 2 or more companies on the same day, then the company ranked higher in the preference order of the student will be the one where the student would be finally considered placed.
- In case a company decides to offer the student an on the spot job offer before the entire placement process for that day is over then he/she will not be allowed to appear further for the placement process of the other companies which were ranked lower in preference than the company that made on the spot offer. The student will, however, be allowed to appear in such companies/companies, which were higher in preference order than the one which offered the job.
- In case a student does not fill the preference order for a placement day, then the allotment will be down by the electronic system and he/she will not be allowed to continue to appear for the placement process of the other companies.
- In case a company does not give its final selection list on the same day it visits the campus, then the students will be allowed to appear in other companies visiting on subsequent days till they finally get selected. However, if a student has already been selected by a company that came on the subsequent day & the company that deferred its decision also makes an offer to him/her later on, then :

- ☐ In case more than one result of selected student(s) comes on the same day, then the student will be given an option to choose between company of the previous day and the company of the day.
- ☐ In case the result of the company (which deferred its selection process) gives its result on a day later than the day when the student was selected by another company, this late offer will be rejected and the company would be informed.

5.5.5 Pre Placement Offers policy

- All pre placement offers extended to any student have to be routed through the placement cell. If one likes the offer, one is advised to accept the offer. Such students who accept it would be deregistered from the on campus placement process.
- In case the candidate rejects the offer within one week of the release of PPO, he/she is treated as a normal candidate.
- In case the candidate neither accepts nor rejects the PPO within one week of the release of PPO, he/she would be allowed to appear for the on campus placement process till such date that the company visits the campus. After that day, he/she would be deregistered.

5.5.6 Student Conduct and Disciplinary Policy

- Absenteeism rules and policy:

❖ For absenteeism in any test, interview or any selection process which an applicant has to attend as part of a company's recruiting procedure the following minimum penal action would apply:

- ☐ Absence of first time – Fine of Rs.1000
- ☐ Absence of second time Fine of Rs2000
- ☐ Absence of third time – Debarred from oncampus placement

❖ Re-Registration requests would be allowed from 10AM – 5PM on working days only. Reregistration can take up to half a working day after receipt of the stamped payment voucher from the bank.

- ❖ A fine of Rs.500 would be imposed on students who are absent in pre-registered placement events :

If for whatever reasons the student remains absent from any stage/round of selection process he/she would be immediately deregistered from T&P and would not be allowed to take part in the placements till he/she gets himself/herself re-registered.

- ❖ Impersonation in tests or any kind of malpractice is a serious offence. Such students would be deregistered immediately and also will be referred to the concerned authorities for disciplinary action.
- ❖ A list of companies coming on-campus for recruitment would be put up on the T&P website. Students must not apply to any of these companies off-campus, as under an accord of mutual understanding

between the firms, companies would notify T&P whenever they receive an off-campus application from any of the students. In all such cases suitable action as per the institute rules would be initiated apart from the candidates being deregistered.

- ❖ Students would not be allowed to appear in the final selection process (test/GD/interview etc.) of companies they have not applied to through the T&P system or have not been shortlisted in those companies. Students must refrain from contacting personnel of such companies when they are on-campus. Violation of this will attract deregistration and suitable disciplinary action.

6. Other Requirements

6.1 Maintainability

The user will be able to reset all options and all stored user variables to default settings.

6.2 Reliability

Some of the attributes identified for the reliability is listed below:

- All data storage for user variables will be committed to the database at the time of entry.
- Data corruption is prevented by applying the possible backup procedures and techniques.

6.3 Usability Requirements

Some of the usability requirements identified for this system are listed below:

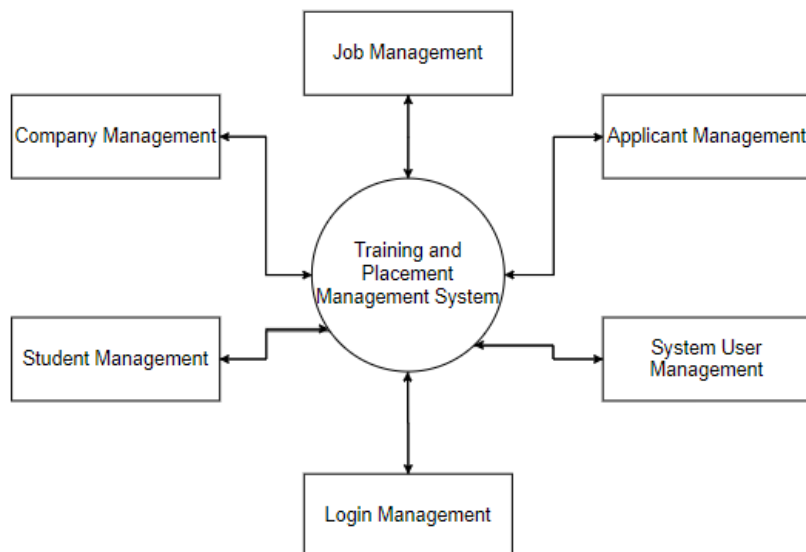
- A logical interface is essential to an easy to use system, speeding up common tasks.
- Error prevention is integral to the system and is provided in a number of formats.

Appendix A: Glossary

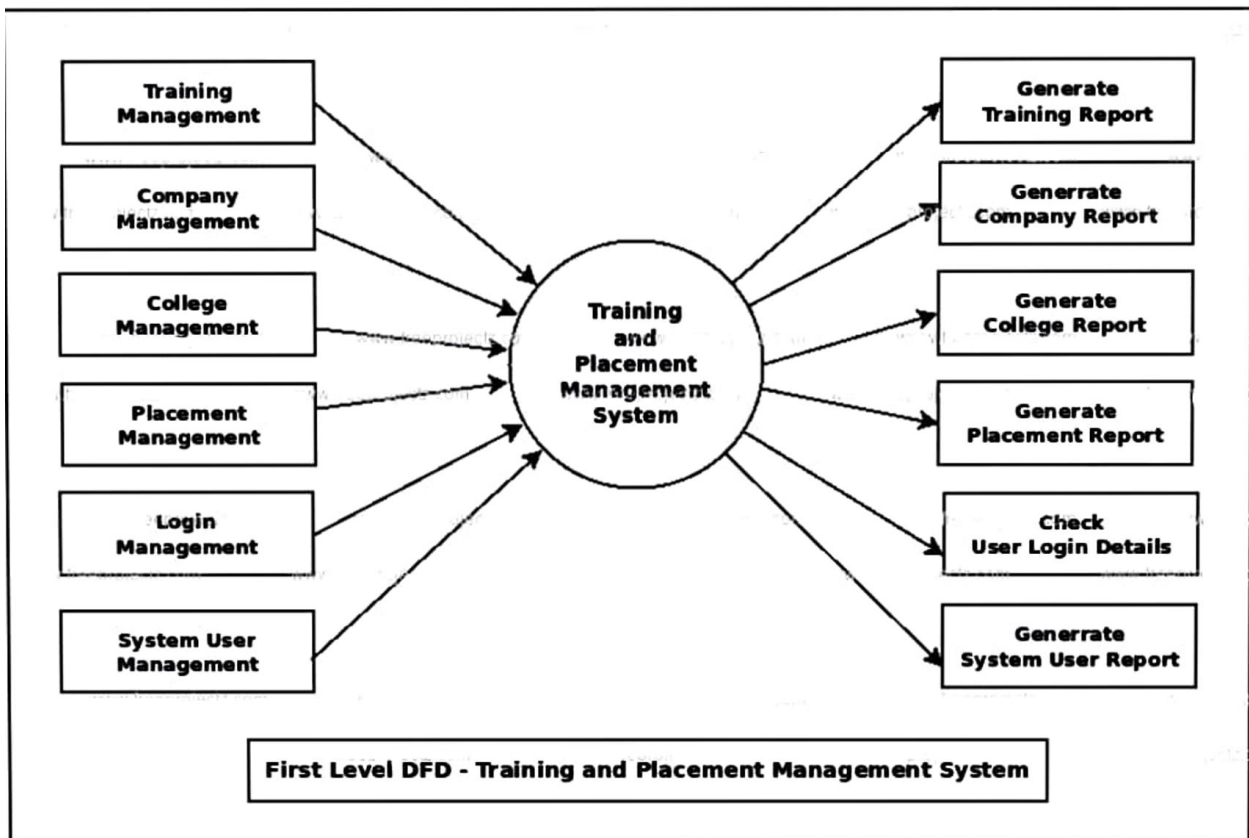
Abbreviation	Full Form
XHTML	Extensible HyperText Markup Language
HTML	HyperText Markup Language
MB	MegaByte
GB	GigaByte
TB	TeraByte
GHz	GigaHertz
WAS	WebSphere Application Server
RAM	Random Access Memory
DB2	<i>International Buisness Machine Database 2</i>
OS	Operating System

Appendix B: Analysis Models

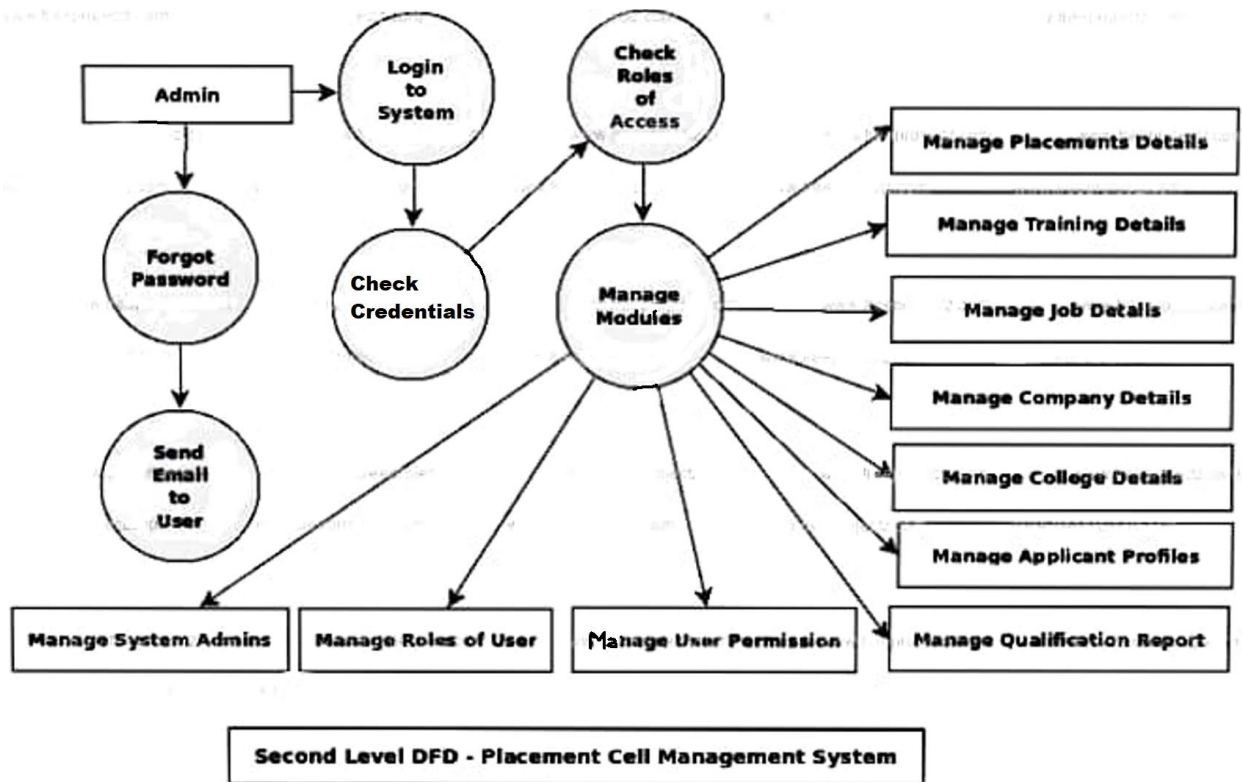
Data flow Diagram :



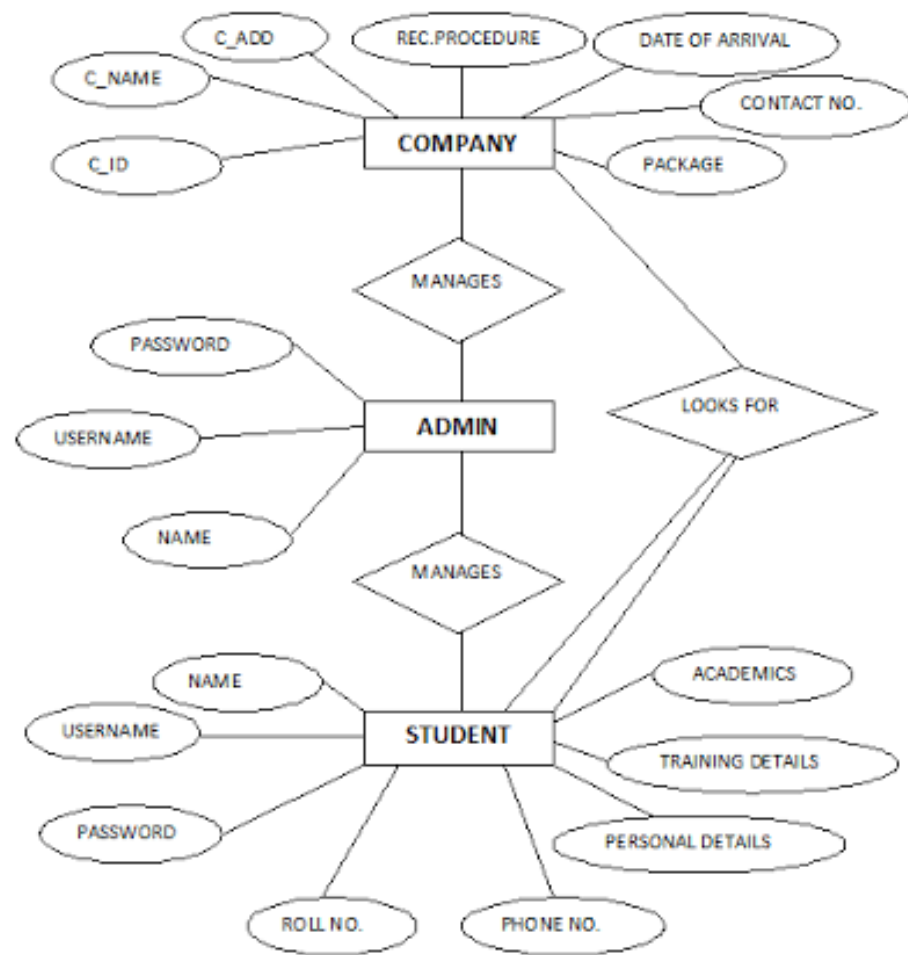
DFD Level 0



DFD Level 1



DFD Level 2



ER Diagram

Contributions

Roll 38 - Module 4, Module 5, DFD 2

Roll 39 - Module 2, Module 3, DFD 1

Roll 48 - Module 1, Module 6, DFD 0

Roll 60 - -----

Roll 61 - -----