Software Requirement Specification

for

PLACEMENT MANAGEMENT SYSTEM

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
Initial Documentation	03/03/2017	Project Assignment	1.0
Revised Documentation	12/03/2017	Changes suggested by T.A.s	1.1

Document Approval

Name	Role	Signature	Remarks

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 project focuses on designing a Placement Management System for graduating students to a pool companies from various domains.

1.2 Scope and Overview

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. This software is intended for colleges who want an efficient system for the record of their placement statistics and deliver the best services and placement opportunities to their students. 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. It will search for eligible students based on the eligibility criteria and the eligible students will receive an email including the details of the company.

2. Overall Description

2.1 Product Perspective

This project is aimed at developing an web application for the Placement Department of the Colleges. 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 time to time about the placements.
Placement Officer 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 Features

- 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 company 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 Operating Environment

The project would be developed using Python framework, MySQL and PHP. Various system configurations are as follows-

- Operating system: Debian Linux 4.4.7
- Web Server: Apache 2.4.18
- Database: MySQL 5.7
- Scripting Language: PHP: Hypertext Preprocessor and JavaScript
- Web Browser: Mozilla Firefox

2.4 User Documentation

The software product will contain a user manual that would be written to help people understand the working methodology and usage of the developed prototype system. It would be written from user point of view and thus for non-technical individuals and the level of content or terminology would differ considerably from, for example, a Developer's Manual, which is more detailed and complex. The user manual would follow common user documentation styles capturing purpose and scope of the product along with key system features and operations; step-by- step instructions for using the system including conventions, messaging structures, quick references, tips for errors and malfunctions; pointers to reference documents; and glossary of terms.

3. Functional Requirement

This section provides requirement overview of the system. Various functional modules that can be implemented by the system will be-

- **User Management System**
  - User Credential to login into the system
  - Displaying interface according to type of user
  - Company Allotment to user for specific company work only
- **Employer Specification**
  - Company name
  - Registration Date, Address, Email, Phone etc.
  - Company Industry Type
  - Company Profile
  - Employer Credential to Post Job Online
- **Job Posting**
  - Job Posting with Unique Job No and Date
  - Job Description includes (Job title, Job location, job experience, Department / Designation, Number of openings, Validity)
- **Candidate Resume Registration**
  - Resume Title
  - Candidate Name and Demographic Information
  - Address
  - Area of Interest and keywords
  - Computer Skills Technical Skills
  - Targeted Industries
  - Qualifications
  - Location Preferences
  - Resume File
  - Present Employer
  - Previous Employer
- **Scheduling Events**
  - Company Presentation dates and timings
  - Conduct Test
  - Shortlisting students on basis of cutoff.

4. Interface Requirements

4.1 User Interfaces

The user interface will be html pages on a web browser through which all user queries will be processed and required information will be displayed. The website would contain following forms-

- Login Page
- New user Registration Form
- A page displaying job postings
- Company Profile
- Student Profile
- Employer Profile

4.2 Hardware Interfaces

The software heavily depends on the database retrieval system and web server. Thus a high speed processor and a RAID hard disk is recommended to avoid loss of data and faster processing of queries. Network connection is required in order to access the web portal.

4.3 Software Interfaces

The project has been setup using LAMP (Linux, Apache, MySQL and PHP). The product will host a local Apache web server where the user interface will be displayed via the 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. The MySQL database will store the images to be displayed at the output. All images are in jpeg format.

4.4 Communications Interfaces

The requirements associated with any communications functions required by this product, including email, 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 handle by using javascripts.

5. Non Functional Requirements

5.1 Performance Requirements

1. Display information about Job Openings– Display information should be prominent and fast. If a student wants to see available job openings the system should respond quickly. Also there is requirement for sorting data according to the preferences specified by the user.

2. Usage of the result in the list - The results displayed in the list view should have various options available for student, for example- to apply for the job opening, to email related company profile etc.

3. Response Time - The queries should be processed fast enough as slow responsiveness of the website makes user look for other available alternatives. The response time of a query response is tested by performing various queries at the time of development.

4. Tracking the student's status – The students who have not been yet placed would be given preferences and frequent emails about the available job posting.

5. Tracking User Id and/or Password - The user may lose credentials for login, so recovery option should be provided.

5.2 Security Requirements

There would be a session maintained and the user would be logged out automatically after a certain period of inactivity. The site will use a self-signed certificate for hosting on https i.e. secured port. For transferring documents TLS would be used and files will be transferred over secure FTP.

5.3 Software Quality Attributes

5.3.1 Availability-

The system should be available at all times, meaning the user can access all the time, only restricted by the down time of the server on which the system runs. In case of a of a hardware failure or database corruption, a replacement page will be shown. Also in case of a hardware failure or database corruption, backups of the database should be retrieved from the server and saved by the administrator. Then the service will be restarted. It means 24 X 7 availability.

5.3.2 Reliability-

The system provides storage of all databases on redundant computers with automatic switchover. The reliability of the overall program depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes. Thus the overall stability of the system depends on the stability of container and its underlying operating system.

5.3.3 Maintainability-

A commercial database is used for maintaining the database and the application server takes care of the site. In case of a failure, a re-initialization of the program will be done. Also the software design is being done with modularity in mind so that maintainability can be done efficiently.

5.3.4 Portability-

The application is Java and php scripting language based. So the end-user part is fully portable and any system using windows and linux should be able to use the features of the system, including any hardware platform that is available or will be available in the future.

An end-user may use this system on any OS, either it is Windows or Linux. The system shall run on PC, Laptops and PDA etc.

6. Specific Requirements

6.1 Author Book

6.2 Tabular Analysis

6.3 Graphical Analysis

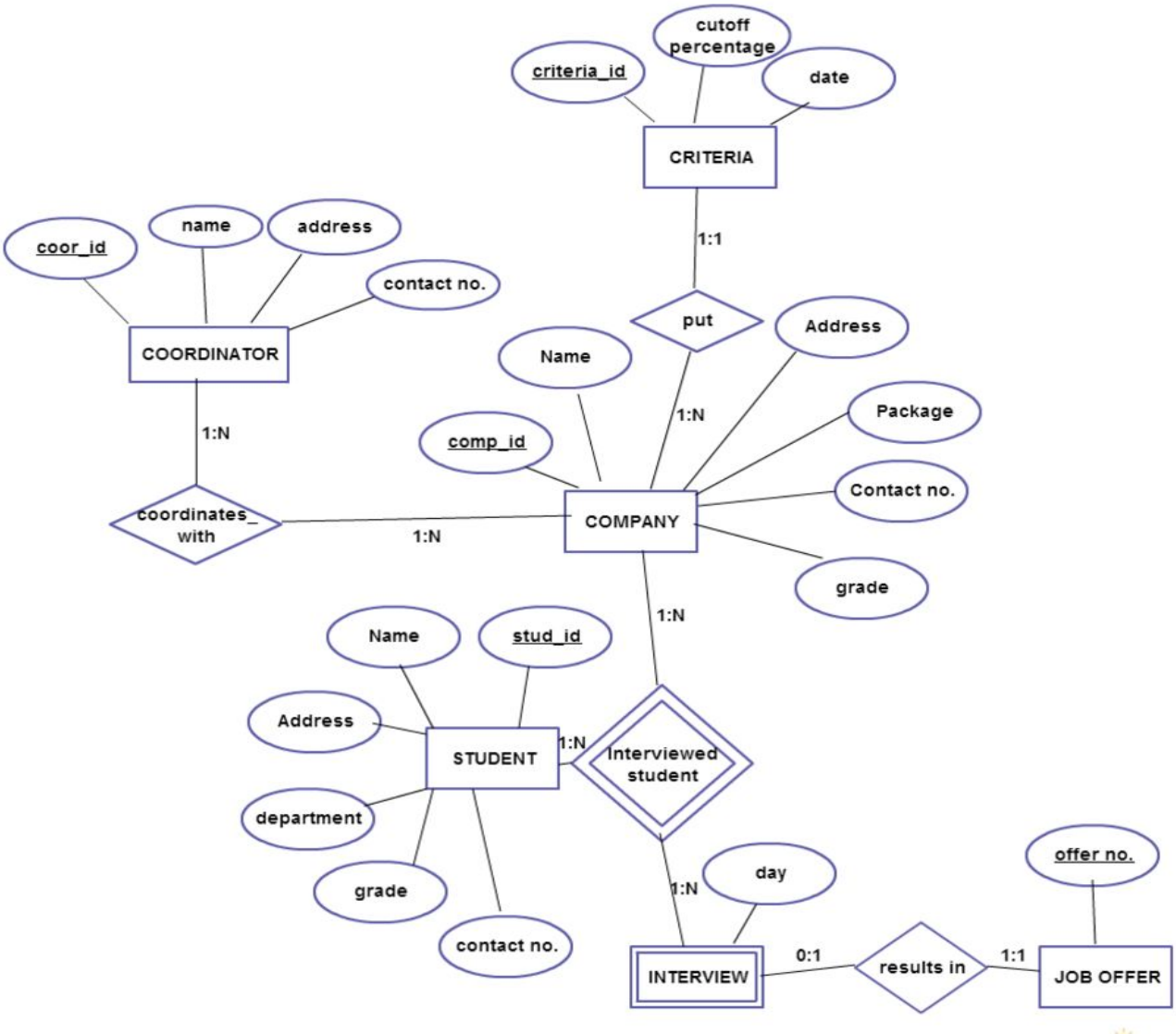

Fig1. Entity Relationship Diagram

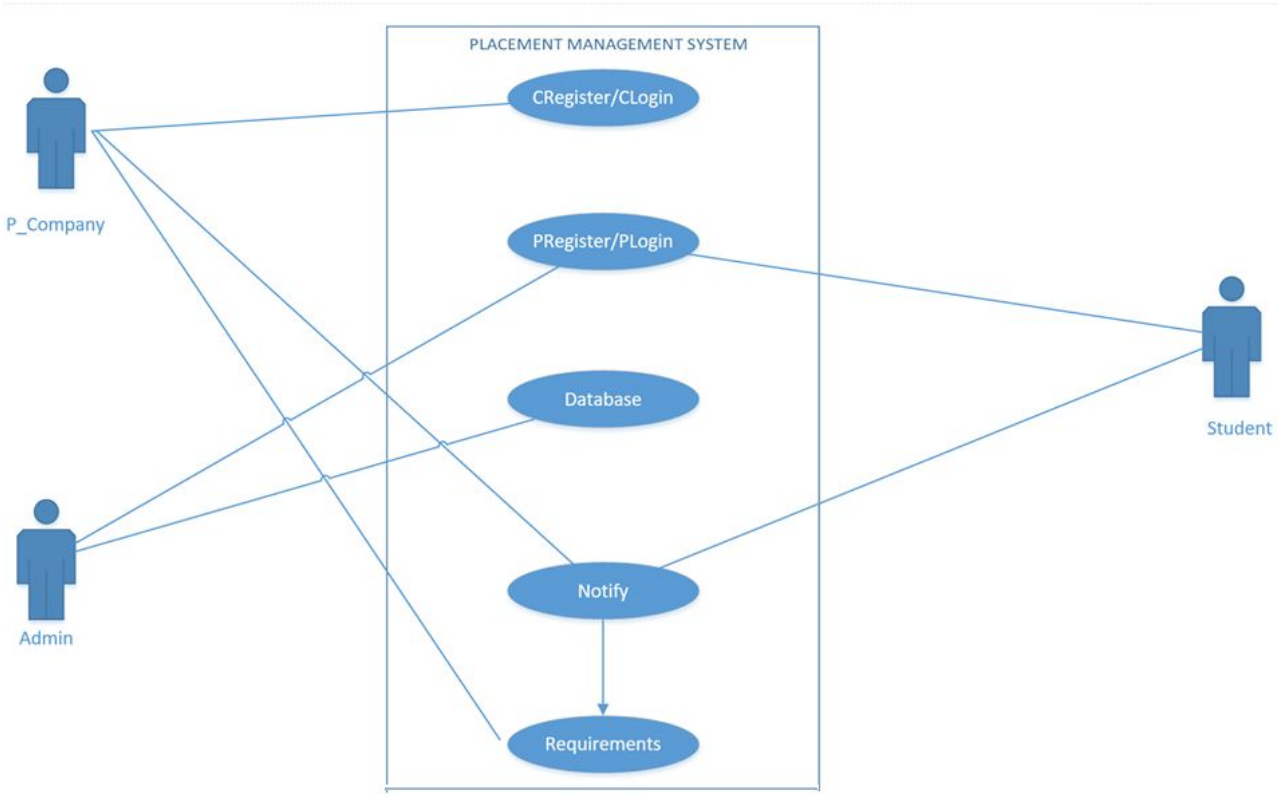

Fig2: Use Case Diagram

6.4 Express Analysis

7. Dependencies

From user perspective the only requirement is a web browser that supports HTML5 technology with javascript enabled. On the server side the system will require MySql Server, MySql client, Apache server with PHP enabled.

8. Limitations

The system will be tested on localhost while the real world scenario will have more challenges to deal with, prominently with the handling of large queries. So an efficient algorithm and indexing may be required.

9. Acceptance Criteria

The deliverable product must meet certain criteria. If the criteria is not met , the client need not accept the product . The client will sign off the SRS as the requirements for each iteration are gathered.
For the Software Requirements Specification to be accepted by the client the document should be Complete, Consistent, Clear, Concise and Correct. The software product will be accepted by the Client provided the following minimum standards are met:-

- Tar file containing source code and user manual
- SRS documents
- Test plan documents and
- Test case and Driver(if any).