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Software Requirements Specification

for

Campus Recruitment System

Version 1.0 approved

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20th February 2018

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Revision History

Name	Date	Reason For Changes	Version
Campus Recruitment System Version 1.0	20/2/2018	Initial Version	1.0

1. Introduction

1.1 Purpose

The primary purpose to develop this system is to optimize the recruitment process for college. Besides, the qualified applicants could be sort by this system based on their qualifications and company requirements. Based on the applicants skills and areas of interest , the company suitable or the company in which he/she is going to place can be predicted. Another purpose of the software is to facilitate the student (in the college) and the company to register and communicate with placement office.

1.2 Document Conventions

The font used in this document is Liberation Sans having size 12. The text is made bolt for the highlighting purpose so that it can be easily differentiated. In this document, Every functionality is equally important and every requirement has its own priority.

1.3 Intended Audience and Reading Suggestions

The document is meant for the student of the college, the company and the admin will operate the system. This document will server as a reference document for the Project management and Development team who will analyze, Design and Implement the system. They will coordinate every activity that take place in the software engineering process and will be guided by Prof. K. Chandrasekaran and other staff of NITK Computer science & Engineering Department under development.

1.4 Product Scope

Campus Recruitment System enables the user to have the typical recruitment facilities and features at their disposal. It resolves the typical issue of manual staffing processes and activities into a controlled and closely monitored work flow in the architecture of the application. The objective of this application is to serve as a common meeting ground for jobseekers and company, locally. This kind of system is specifically designed for organization to help in solving staffing problems and managing human resource department activities at higher degree of optimization.

1.5 References

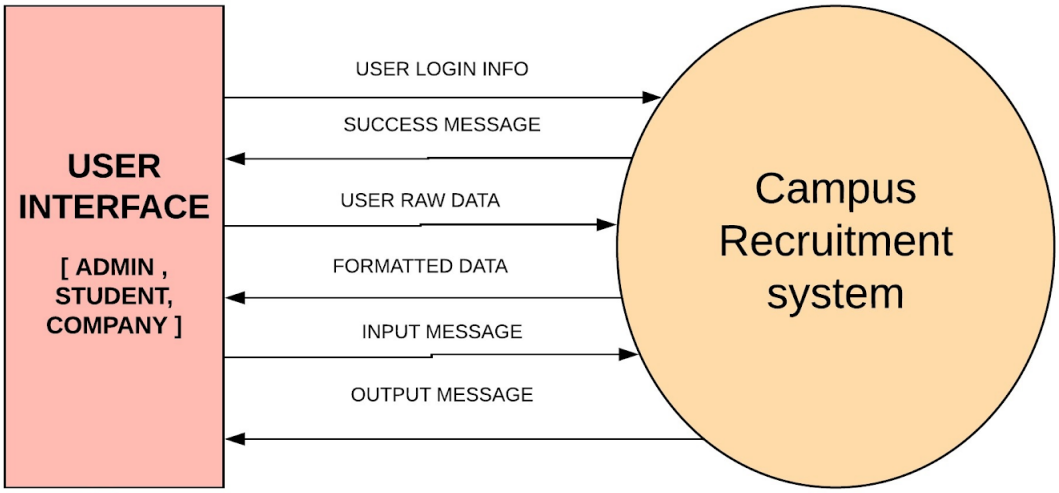
The Document refers to the following assignment submitted:

Assignment 1
Assignment 2
Assignment 3

2. Overall Description

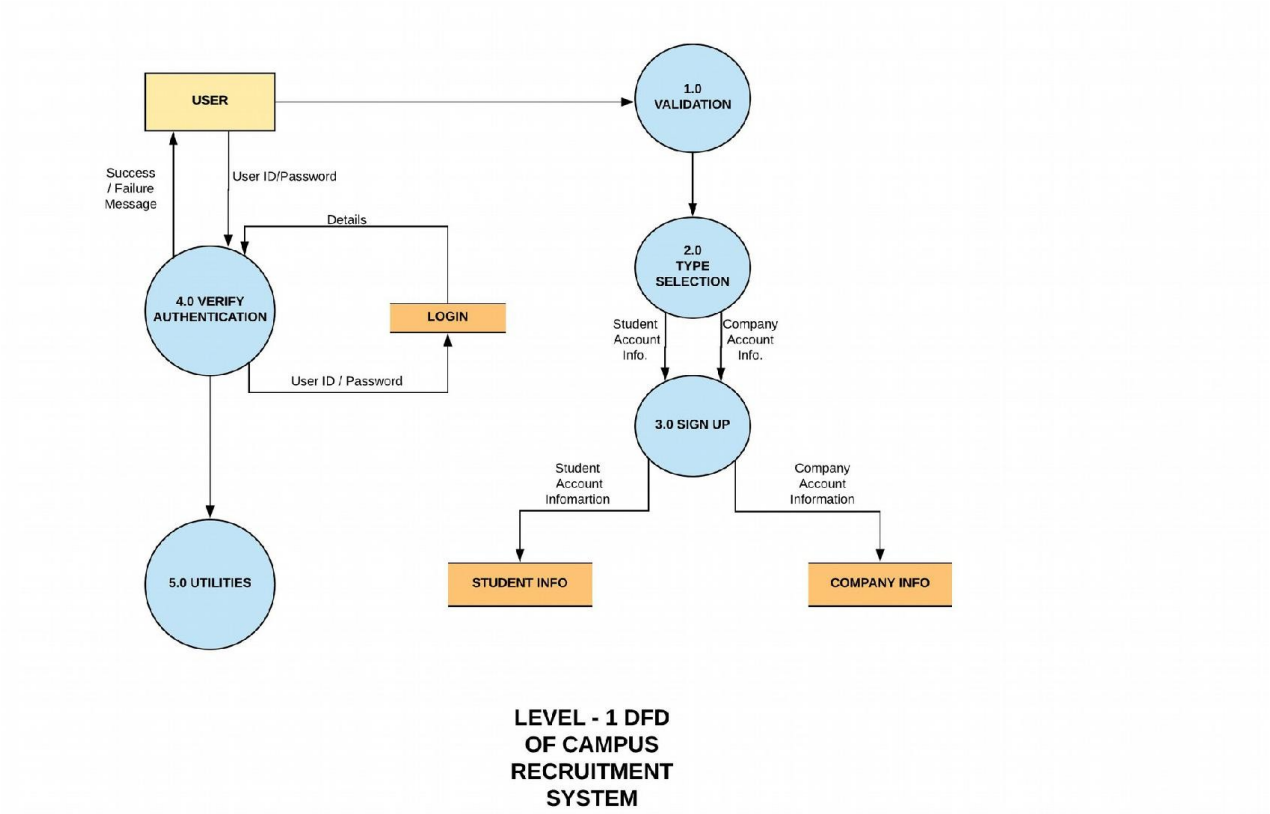
2.1 Product Perspective

In the “Campus Recruitment System ”, We will be having a user interface for the admin , student and company .The user can log In to their account. Depending on the the user , the utilities will be decided. The student can login to their respective account and can apply for the respective



post available. If the user don’t have an account then he/she can create an account and can apply or the jobs. The company can login to their account and can update the details of the jobs available. If the company don’t have an account the they can create and account and can update the job details. Admin will already be having an ID and password. The admin will login and manage the student and companies activities. After the creation or the login of the user , a successful message will be displayed to the user.

2.2 Product Functions



LEVEL - 1 DFD OF CAMPUS RECRUITMENT SYSTEM

The above DFD clearly shows various various process associated with the project and how the data flows between the entities and database.

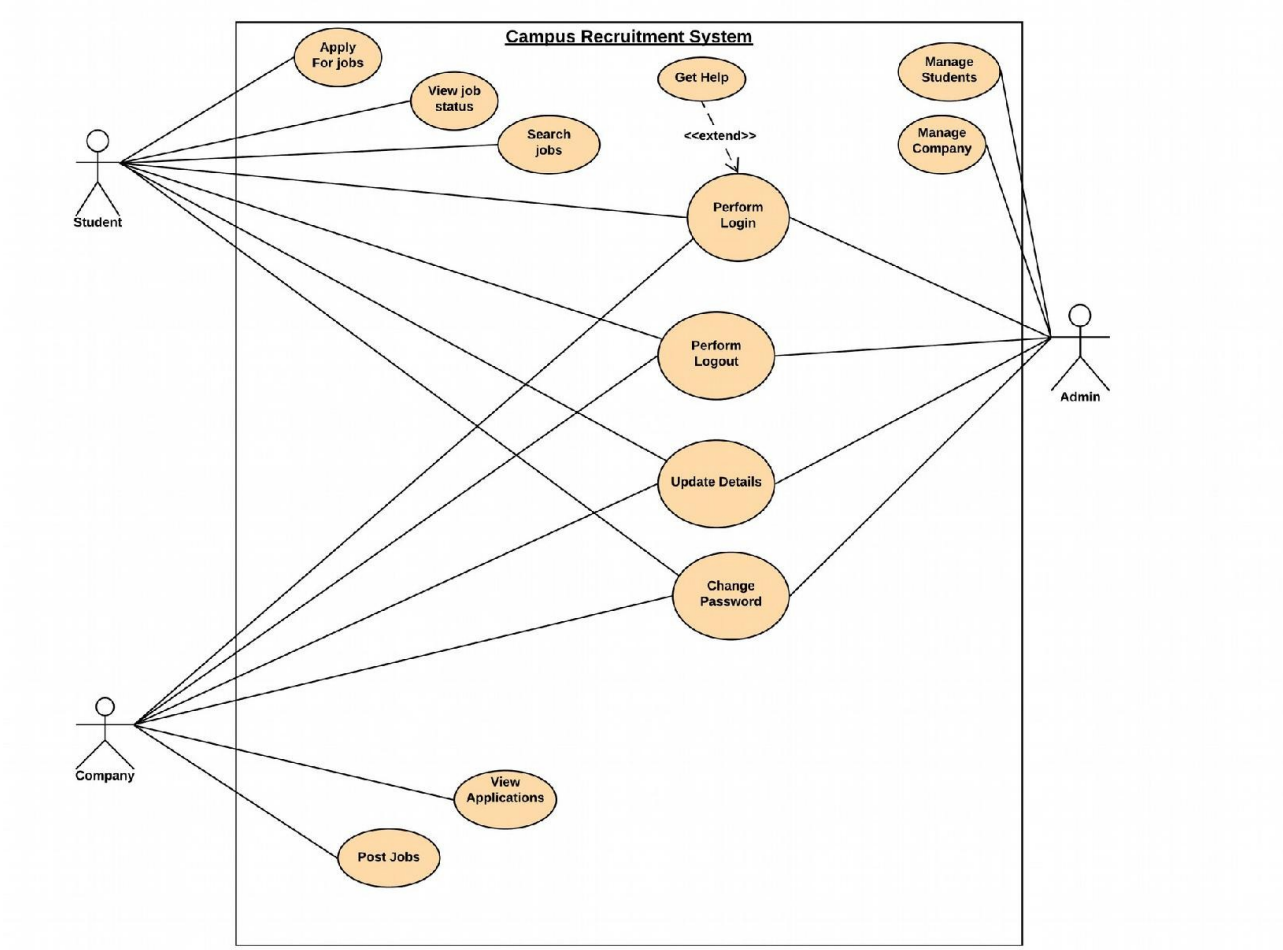
The student can create the account . If the account is already present then he/she can search for the available jobs, can view the jobs and also apply for the jobs. Further he/she can update the details, can change the password etc.

The company can create the account. If the comoany already have an account then the company can post the job and can also view how many candidates have applied for the jobs of that company.

The admin can manage the student and the company . Admin validates the account of the student . Admin validates the account of the company. Admin can also remove company and the student if found any discrepancy. Admin manages all activities of company and student.

2.3 User Classes and Characteristics

The actors and use cases are clearly shown in below **use-case** diagram.



In software and systems engineering, a **use case** is a list of actions or event steps typically defining the interactions between a role (known in the Unified Modeling Language as an *actor*) and a system to achieve a goal. The actor can be a human or other external system. In systems engineering use cases are used at a higher level than within software engineering often representing missions or stakeholder goals.

The following are the actors who perform the use cases as stated above:

S.No	Actor Name	Description / Actor's Role
01	ADMIN	Manage students & companies.
02	STUDENT	Apply for jobs, view job status & search jobs.
03	COMPANY	Post jobs & view applications of students.

The following section describes the Use Cases with Pre and Post Conditions:

S.No	Use case Name	Description	Pre-condition	Post condition
01	Perform Login	User(admin,student or company) can perform login.	User having account	Login successful
02	Perform Logout	User(admin, student or company) can perform logout.	User logged in	Successfully logged out
03	Update Details	User(admin, student or company) can update their details.	User logged in	View details
04	Change Password	User(admin, student or company) can change passwords.	User having password.	Password is reset.
05	Manage Company	Admin can manage companies	Existing admin & atleast one company	Validated by admin & company can continue with it's account
06	Manage Students	Admin can manage students	Existing admin & atleast one student	Validated by admin & student can continue with it's account
07	Apply for jobs	Student can apply for job	Job should be there posted by company & student must be eligible for job	Applied for job successfully & wait for response from company
08	View Job Status	Student can view job status	Student must have successfully applied for job.	Viewed job status & can accept job if selected else can apply for other job.
09	Search jobs	Student can search for job	Student must have account & logged in.	Can find a job or not.
10	Post Jobs	Company can post jobs	Company must have account & logged in.	Student can now apply for jobs.
11	View Applications	Company can view applications of students.	Atleast one student must have applied.	Company can react to applications.
12	Get Help	User can get help for login	User should have tried for it or just get help if does not know how to login	User will now login using this help.

2.4 Operating Environment

The campus recruitment system shall be deployed on a smartphone like oppo-f3, moto-G5-Plus and server running on android the Operating System Version abc.efg. SQLite Database shall be used to maintain the databases. The system shall be accessed & downloaded from google playStore. It can run without wifi even.

The system will be built with the help of following softwares:

Sr. No.	System	Development Environment	Description
1.	Campus recruitment System	IDE (Android Studio)	• Android Studio is the official Integrated Development Environment (IDE) for Android app development, based on IntelliJ Idea. On top of IntelliJ's powerful code editor and developer tools, Android Studio offers even more features that enhance your productivity when building Android apps, such as: • A flexible Gradle-based build system • A fast and feature-rich emulator • A unified environment where you can develop for all Android devices • Instant Run to push

			changes to your running app without building a new APK • Code templates and GitHub integration to help you build common app features and import sample code • Extensive testing tools and frameworks • Lint tools to catch performance, usability, version compatibility, and other problems • C++ and NDK support • Built-in support for Google Cloud Platform , making it easy to integrate Google Cloud Messaging and App Engine. • In Android Studio , Java Language would be used.
2.	Campus Recruitment System	Database(SqLite)	SQLite in android will be used for saving data to a database is ideal for repeating or structured data, such as contact

			Information. We used SQLite in development & coding part for storing database. We used SQLite in Integration and testing part if during testing software fails or more databse to be added .
3.	Campus Recruitment system	Java(Programming Environment)	Java is a programming Language originally Developed by Sun Microsystems and released in 1995. James Gosling, Patrick Naughton, Chris Warth, Ed Frank and Mike Sheridan developed Java at Sun Microsystems,Inc. in 1991. This Language was initially called “Oak” but was renamed “Java” in 1995. Platform Independent : The Write-Once-Run-Anywhere ideal has not been achieved (tuning for different platforms usually required), but closer than with other languages.

2.5 Design and Implementation Constraints

The following Design and Implementation Constraints are applicable for the Campus Recruitment System:

1. The system is designed to be the cross platform supportable. The system is supported on a wide range of hardware and any android platform which is having any verison of android built into the system. This application is being developed using android studio; hence it is extremely portable

2. To prevent multiple students of the same speciality to log-in onto same company portal. Request, a workflow system needs to be designed which routes the company vacancy Requests to students.

3. System is expected to store maximum 64GB of data.

4. Initially system will be available on android system with versions greater than 5.1. Then the system will be available for even ios mobiles and even on PCs and Laptops.

5. In order to assist students for selecting a company and preparing for interview for that company , a machine learning algorithm will be designed and trained on a training data-set to predict which skills will be required for students and also if student is eligible for company, this algorithm will continue to be trained on previous recorded data sets of students to improve the quality of predictions.

6. The database shall be maintained by admin and who have not logged in for last 1 year would get archived onto a parallel database. Restoring of students data is beyond the scope of the project and would need to be managed by admin.

7. As the system is supposed to be used by students and company as well, care needs to be taken from a usability perspective in terms of font sizes and ease of system usage.

8. Also UI is made with particular animations so that company can find it good for uploading jobs and interact with students. Even more and more companies and students use this app is the aim.

2.6 User Documentation

The following documents shall be prepared:
1. Installation Guide
2. User Manual for end users
3. Even video tutorials of installation of campus recruitment will be provided as DVD.

2.7 Assumptions and Dependencies

The Key Assumptions are:

1. The services is offered for only NITK students. So right now whole system is designed based on only one college.

2. There will be one authorised student for a particular id. So id will be unique.

3. There will be one authorised company for a particular id. So all ids will be unique.

4. Student can fill maximum 30 applicaton form for jobs in a company.

5. A Machine Learning Algorithm to assist students for selecting a company and preparing for interview for that company will be implemented to predict which skills will be required for students and also if student is eligible for that company

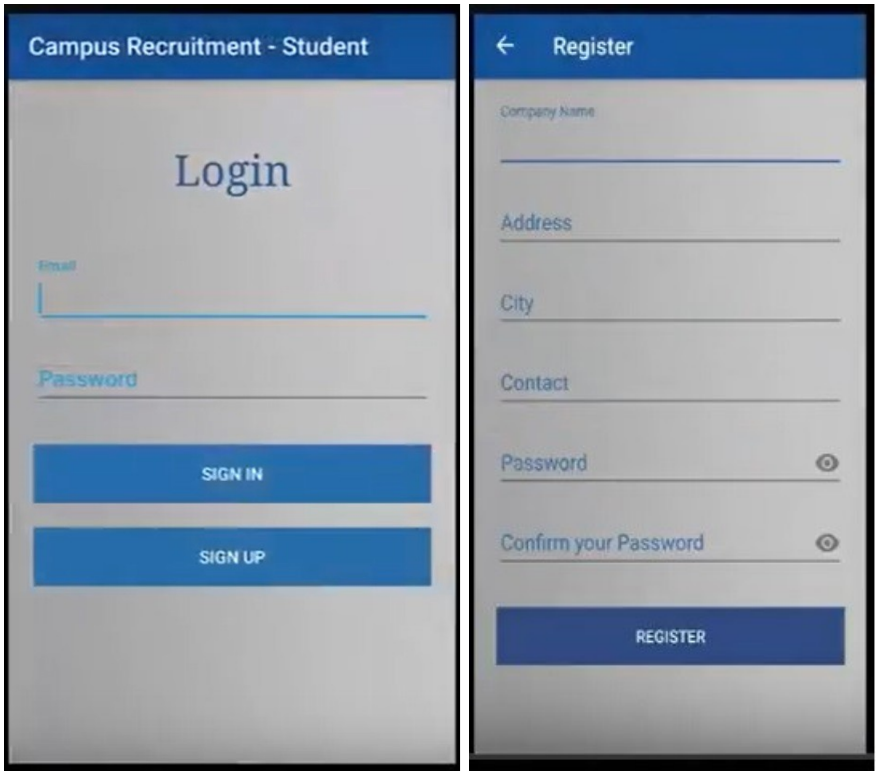
6. The services can be qualified in terms of volumes of data, trends, frequency of updating in order to give an introduction to the technical system.

3. External Interface Requirements

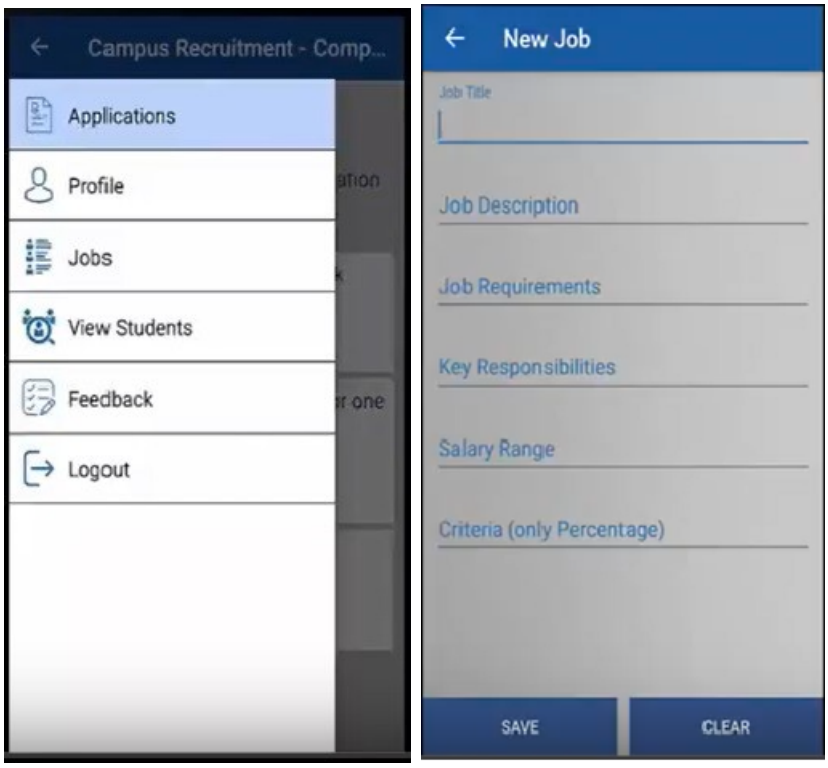
3.1 User Interfaces

The user interface section defines the way various stakeholders interact with the system. All the screens will be developed to work on android mobile. Error messages will appear as a popup on the screen. The maximum size of error message will be 40 characters. Buttons will there to make the navigation simpler.

A first time user of the mobile should see the login screen when he/she will open the android application. If the user has not registered to the, then he/she should be able to redirect to the sign up page from login screen. Every user should have the profile where he/she can apply for the job.
After the creation of account the user can login to the application and will be able to apply for the jobs.



Similarly, here will be the same option for the login of the company where the company can signup and login. An Admin should also be log in to the web portal where he/she can administer the system by managing the student and company using the application. After performing log in the user will be able to see the side menu as shown in the figure below.



User can select the particular section and can perform the respective task. There is an option to add the jobs for the company where the companies can add the vacancies for their companies they have. The interface is shown above.

Also here will be a feedback form where the user can give his/her feedback about the application which is shown below.

3.2 Hardware Interfaces

Since the mobile application does not have designated hardware, it does not have any hardware interface. The hardware connection between the database server and application is managed by the underlying operating system on the mobile phone.

3.3 Software Interfaces

The system is self-contained and no data is supposed to share with the third party. The communication of the mobile application between the database consist of both reading and modifying the data, while the communication between the database and the mobile application consists of only reading operation.

3.4 Communications Interfaces

The communication between the different parts of the system is important since they depends on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating system for the mobile application.

4. System Features

4.1 System Feature and Priority Matrix

Following given is the system features and their priority matrix:

Sr. No.	Feature	Priority
1.	Create an Account	High
2.	Log in	High
3.	Apply for Jobs	Medium
4.	View job status	Low
5.	Search jobs	Low
6.	Change Password	Low
7.	Manage student	High
8.	Manage Company	High
9.	Post jobs	High
10.	View Application	Medium
11.	Call for Interview	Medium

Functional Requirements

Following table describes the functional requirement:

Feature	Remark
Update Information	This functionality will update the information of the student.
Change Password	This functionality is used to change the password of account.
View job status	This functionality is used to view the job status of the student.
Maintain Student	This functionality is used by admin to maintain the student account information and manage them properly.
Maintain Company	This functionality is used by the admin to maintain the company account information and manage them properly.
Add job details	This functionality is used to add the information related to the job.
Make interview call	This functionality is used to make an interview call to the selected student for interview round.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

1. The completely separate business logic at admin side from the student interface ensures good performance.

2. The system exhibits high performance because it is well optimized. The business logic is clearly separate from the UI.

3. System should be able to scale to many users concurrently.
4. The response time of processes is as follows:
   Student Registration max 10 seconds
   Company Registration max 15 seconds
   Company Job posting max 15 seconds
   Student applying for job max 20 seconds

5. System is available 24 by 7.

5.2 Safety Requirements

1. Errors will be minimized and an appropriate error message that guides the user from
   an error will be provided.
2. Validation of users input is highly essential.
3. The time taken to recover from the error is less than 10 second.

5.3 Security Requirements

1. The system is provided a high level of security and integrity of the data held by the System.
2. only authorized personnel such as admin can gain access to the to the private data and only the user with valid username and password is allowed to view its user page.

5.4 Software Quality Attributes

1. The key software quality attributes are Availability, Reliability and usability.
2. As the system is expected to be 24/7 working. High availability is important.
3. A simple but quality user interface is developed to make it easy to understand and required less training.
4. The error message displayed is more descriptive and can be easily understood.

5.5 Business Rules

1. System shall be available only for the particular college.
2. All the users shall access the system using a login/user-id and password. The login-id/password will be managed in a secured manner.
3. Each student can get recruitment only in one company.
4. Once company selected the candidate, it cannot be rejected otherwise company will be blacklisted.
5. Each student can have only one account.