Software Engineering Lab Report II

CAMPUS RECRUITMENT SYSTEM

PRAJAPATI CHETAN RAMESHBHAI (16CO132)
BOBBY G. PATIL (16CO130)

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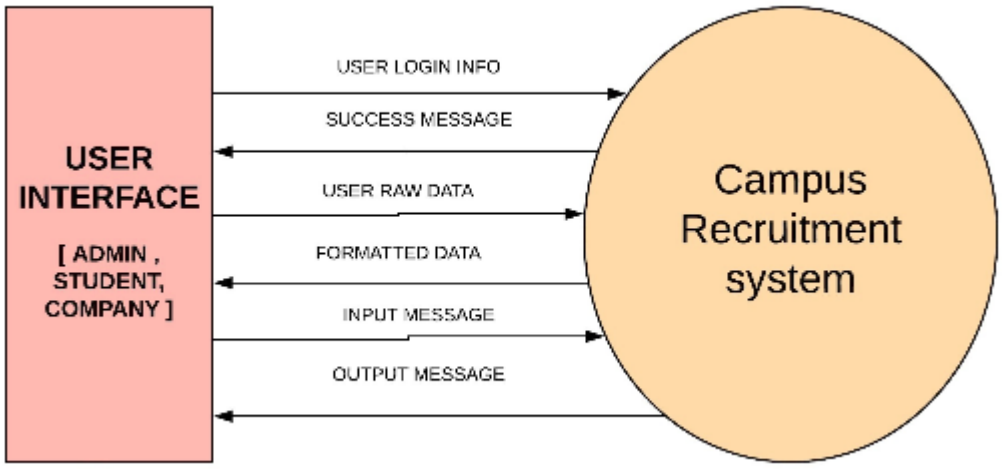
- # Context Diagram

1. Context Diagram

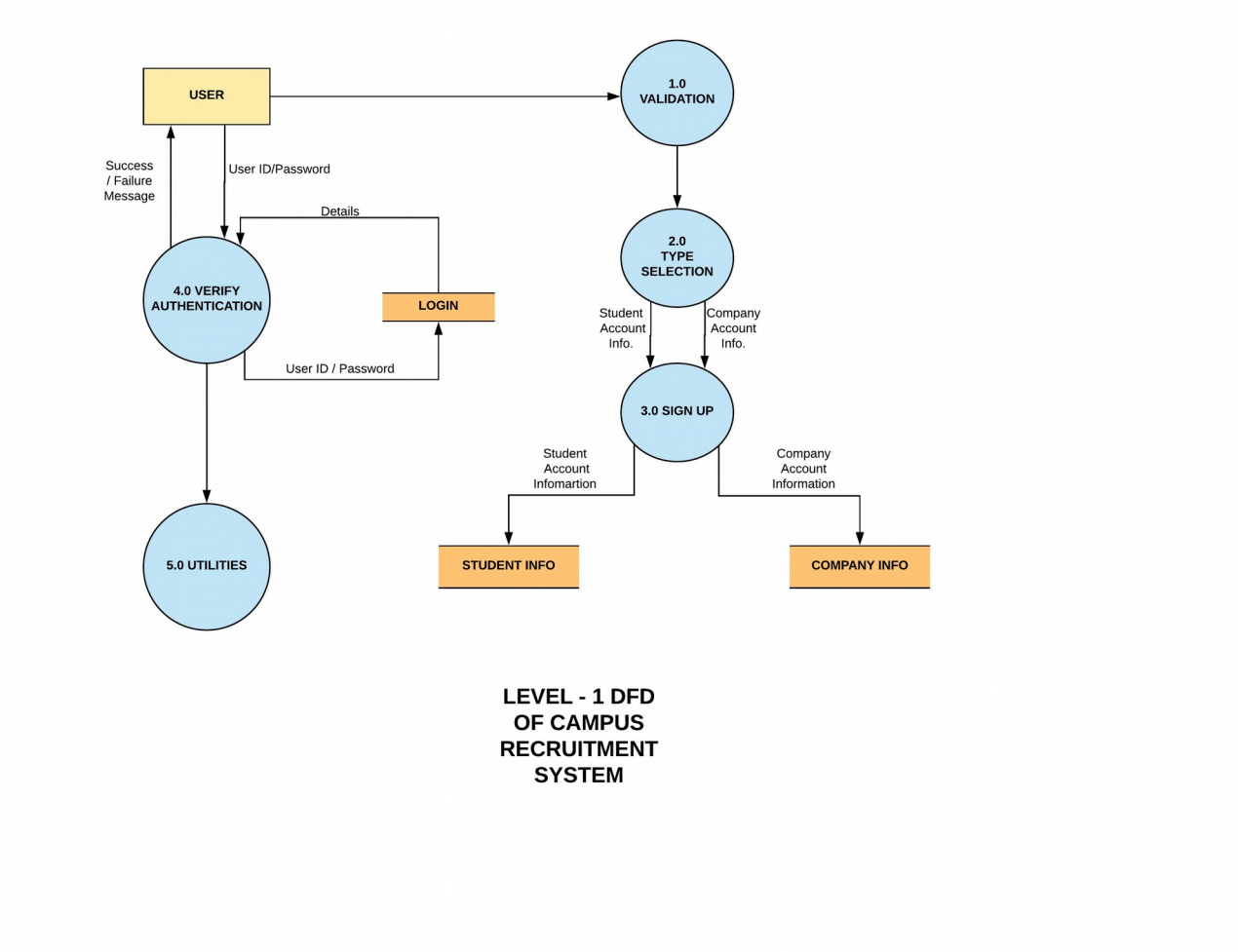


1.2Description of the entire system

- 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 thr 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.

- Data Flow Diagram

1. Data Flow Diagram



LEVEL - 1 DFD OF CAMPUS RECRUITMENT SYSTEM

2. List of Entities

Entities are source and destination of information data. Entities are represented by a rectangles with their respective names. The list of entities is given in the table :

E.ID	Entity Name	Description
E01	User (Student / Company/ Admin)	The user in the DFD can be student or company . If the user is already having account then he/she can login . After login one can apply for a suitable job he/she wants . If the user don't have an account , he/she can create the account to apply for the job . If user is company then it can upload their job details for the student or can create and account to post the job. Admin will already be having account from which it can manage the student as well as company requests.

3. List of Data Stores

There are two variants of data storage - it can either be represented as a rectangle with absence of both smaller sides or as an open-sided rectangle with only one side missing.
The list of data stores and its description is given in the table below :

D.ID	Data Store Name	Description
D01	Login	In this data store , the user-ID and the password of the user is stored . When the users try to login the input ID and password mapped to each other is checked and the corresponding message is returned.
D02	Student Information	While creating an account , the information student fill will be stored in student information data store. The information is student name , email etc.
D03	Company Information	While creating an account , the information company fill will be stored in the company information. The information is company name , email , company rank etc.

4. List of Processes

Activities and action taken on the data are represented by Circle or Round-edged rectangles. The name and description of the process is given in the table below:

P.ID	Process Name	Description
P01	Verify Authentication	This process will check whether the entered user ID and password is mapped or not by uses Login dara store. If mapped it will show success login information and will show the utilities. If not mapped the invalid login information will be shown
P02	Utilities	This process provide all the the function the user can do. For both student and company this will be different.
P03	Validation	If the user tried to login and gets the failure message then it will go for validation. If it fails then it is assumed that user don't have an account and can create new account if allowed.
P04	Type Selection	In the type selection, user have to select the type of account he wants and accordingly the information is taken from the user.
P05	Sign up	After selecting the type , in this process the information of type selected is filled and the account is created.

5. List of Data Flows

Movement of data is shown by pointed arrows. Data movement is shown from the base of arrow as its source towards head of the arrow as destination. The data flows and description is given in the table below:

DF.ID	Data Flow	Description
DF01	User Id / Password	The data entered by the user will be given from user to the verification. After that this information will be checked with the available database.
DF02	Success / Failure Message	After checking the user ID and password if it is mapped with available data , a success message is sent else failure message will be sent to the user.
DF03	Details	This data flow will give the mapped information message that is whether the ID and password is mapped with available or not.
DF04	Student Account Information	The data entered by the student is given from the sign up process to the database. The data can be accessed

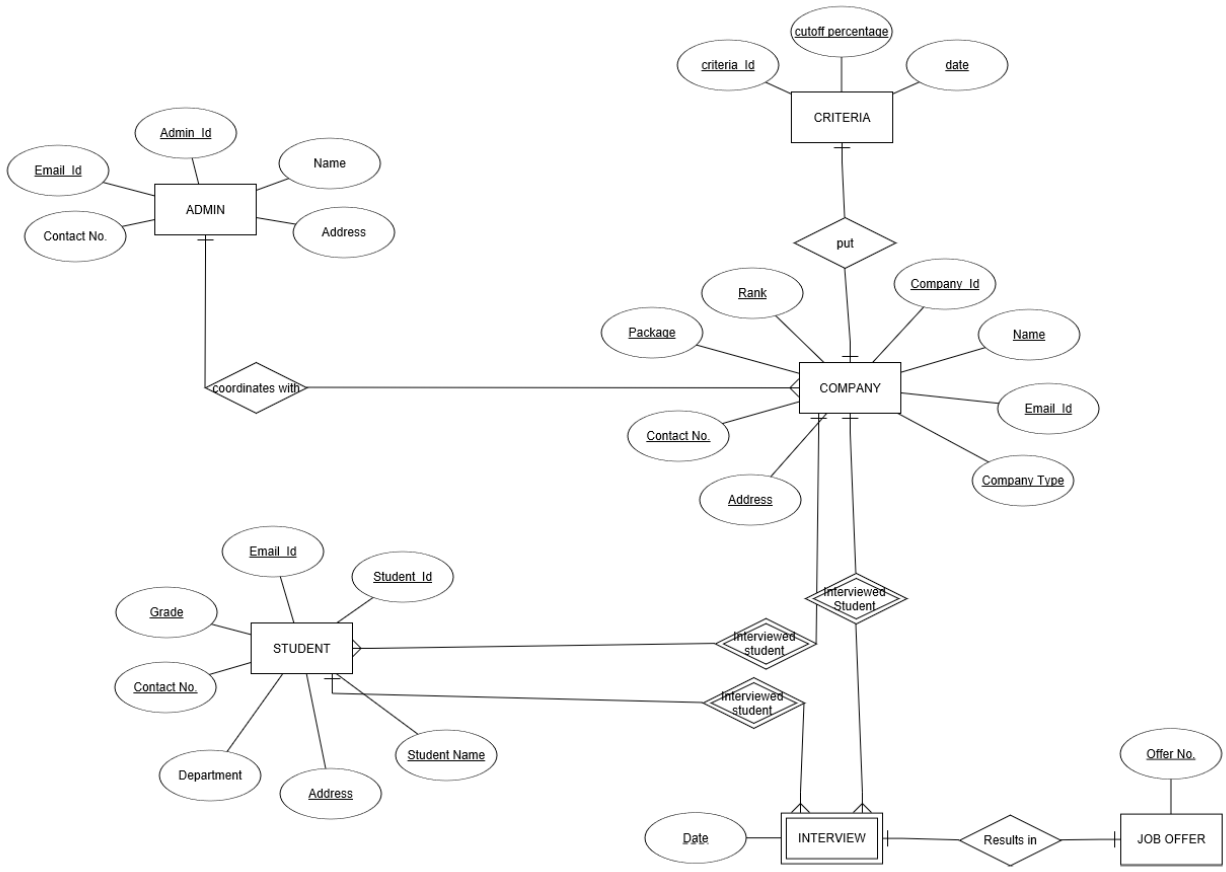
		whenever required .
DF05	Company Account Information	The data entered by the company is stored to the company information data store. The data can be accessed whenever required.

- # Entity Relationship Diagram

An **entity–relationship model** (**ER model** for short) describes interrelated things of interest in a specific domain of knowledge. A basic ER model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between instances of those entity types.

1. ER-Diagram

ER Diagram of campus recruitment system is shown below.



2. List of Entities and Attributes

ET.ID	Entity	Description	List of Attributes and type
ET01	ADMIN	Admin is responsible for maintaining the whole system. Admin provides approval for student and company registration. Admin can delete any profile. Admin can send mail to student and company.	Admin_id (int) Name (string) Email_id (string) Address (string) Contact No. (string)
ET02	STUDENT	Student of the college is one of the user of this application. New student needs to sign up with basic details. Reregistered student can login using unique username and password. Student can submit resume and update profile information.	Student_id (int) Name (string) Email_id (string) Address (string) Department (string) Contact_No. (string) Grade (string)
ET03	COMPANY	Company of the college is one of the user of this application. New Company needs to signup. Company can search the all of the students' information. Company can upload job details so students can apply.	Company_id (int) Name (string) Email_id (string) Rank (int) Package (unsigned long long int) Contact_No. (string) Address (string) Company_type (string)
ET04	CRITERIA	Criteria is the entity in relationship with company as shown in ER Diagram. So criteria describes the criteria put by company for the student to be eligible for placement.	Criteria_id (int) date (string) cutoff_percentage (float)
ET05	JOB OFFER	Job Offer is entity in relationship with Interview, Student, Company i.e. if student gets & accepts job offered by company then jobNo. will be incremented accordingly.	Offer_No. (int)

ET06	INTERVIEW	Interview is a weak entity. A **weak entity** is an **entity** that cannot be uniquely identified by its attributes alone.	Date (string)

3. Relational Model

1. ADMIN (Admin_id, Name, Email_id, Address, Contact No.**)**
eg. (1, Gaurav, gaurav@gmail.com, Delhi , 9999999999 **)**

2. STUDENT (Student_id **,**Name ,Email_id ,Address ,Department ,Contact_No. , Grade **)**
eg. (3, Mahesh, mahesh@gmail.com , Mumbai , CSE, 8888888888, A+ **)**

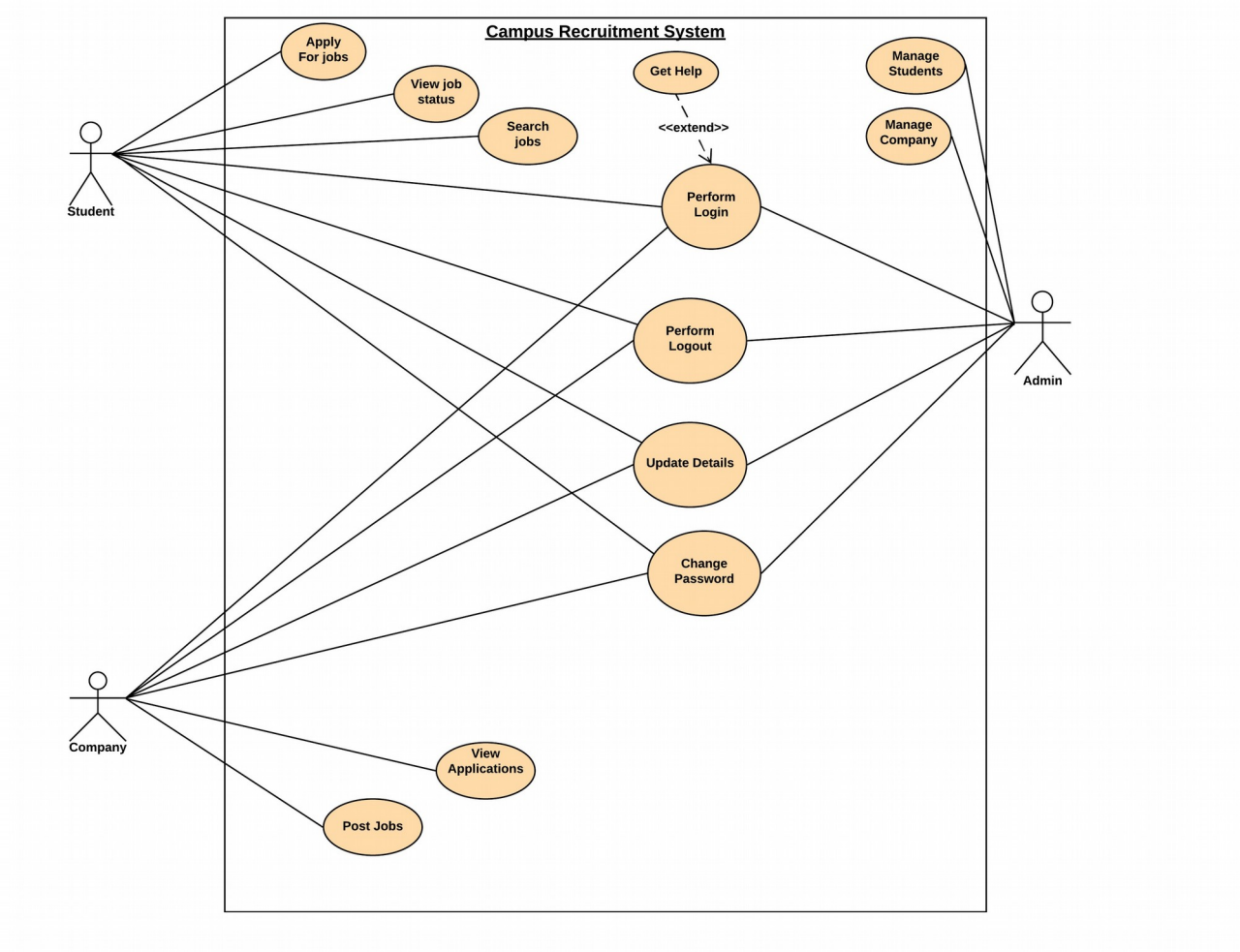
3. COMPANY (Company_id**,** Name, Email_id, Rank, Package, Contact_No., Address, Company_type**)**
eg. (2, Sanampuri, sanam@gmail.com , 11, 5000000, 7777777777, AB**)**

- # Use Case Diagram

A **use case diagram** at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well.

1. Use case Diagram ID: Use case Diagram Name

Diagram



List of Use cases

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

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.

List of Actors

An **actor** in the Unified Modeling Language (UML) "specifies a role played by a user or any other system that interacts with the subject."

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.

List of Associations / Generalizations / Relationships (include or exclude)

In UML modeling, a relationship is a connection between two or more UML model elements that adds semantic information to a model. In the product, you can use several UML relationships to define the structure between model elements. Examples of relationships include associations, dependencies, generalizations, realizations, and transitions.

S.No	Association	Type (Association or Generalization or include or exclude)	Description
01	User (admin,company ,student) to perform login	Association	User can perform login
02	User(admin,com pany,student) to perform logout	Association	User can perform logout
03	User(admin,com pany,student) to update details	Association	User can update their details.
04	User(admin,com apny,student) to change password	Association	User can change password.
05	Admin to manage students	Association	User can manage all activities of students.
06	Admin to manage company	Association	User can manage all activities of companies.
07	Student to Apply for jobs	Association	Student can apply for jobs after login.
08	Student to View Job Status	Association	Student can view job status.
09	Student to Search jobs	Association	Student can search for jobs to apply for that company or job.
10	Company to View Applications	Association	Company can view applications of students.
11	Company to Post Jobs	Association	Company can post jobs.

12	Get help to Perform login(use case to usecase)	Extend	If user does not know how to login then he can get help.

- ## Summary

So our project is campus recruitment system which is basically to facilitate student in college , company to register and communicate with placement office .The users can access easily to this and the data can be retrieved easily in no time. In the main page there are options for a new register, a registered student to directly login using username and password, submit resume. In the student registration form,we can give personal details, educational qualifications, and professional skills and upload resume. The job details of the placed students will be provided by the administrator. The administrator plays an important role in our project. They provide approval of student registration and updating.So we are making android application for campus recruitment system .
In this report we have created the Context diagram , DFD , entity relationship diagram and the use case diagram . Data flow diagrams shows us how data moves between different processes in a system.ER diagram provides us the information about the entities begin used in the system. The use case diagram that is drawn gives graphical representation of the system .These diagrams makes the code generation for the system easier.