FACULTY OF COMPUTING
UTM Johor Bahru

SESSION 2023/2024 SEMESTER 1

SECD2523 - DATABASE

PROJECT PHASE II

Group Name : Agent P
Course : COMPUTER NETWORKS & SECURITY
Section : 02
Title : Talent System
Task : Database Conceptual Design (ERD)
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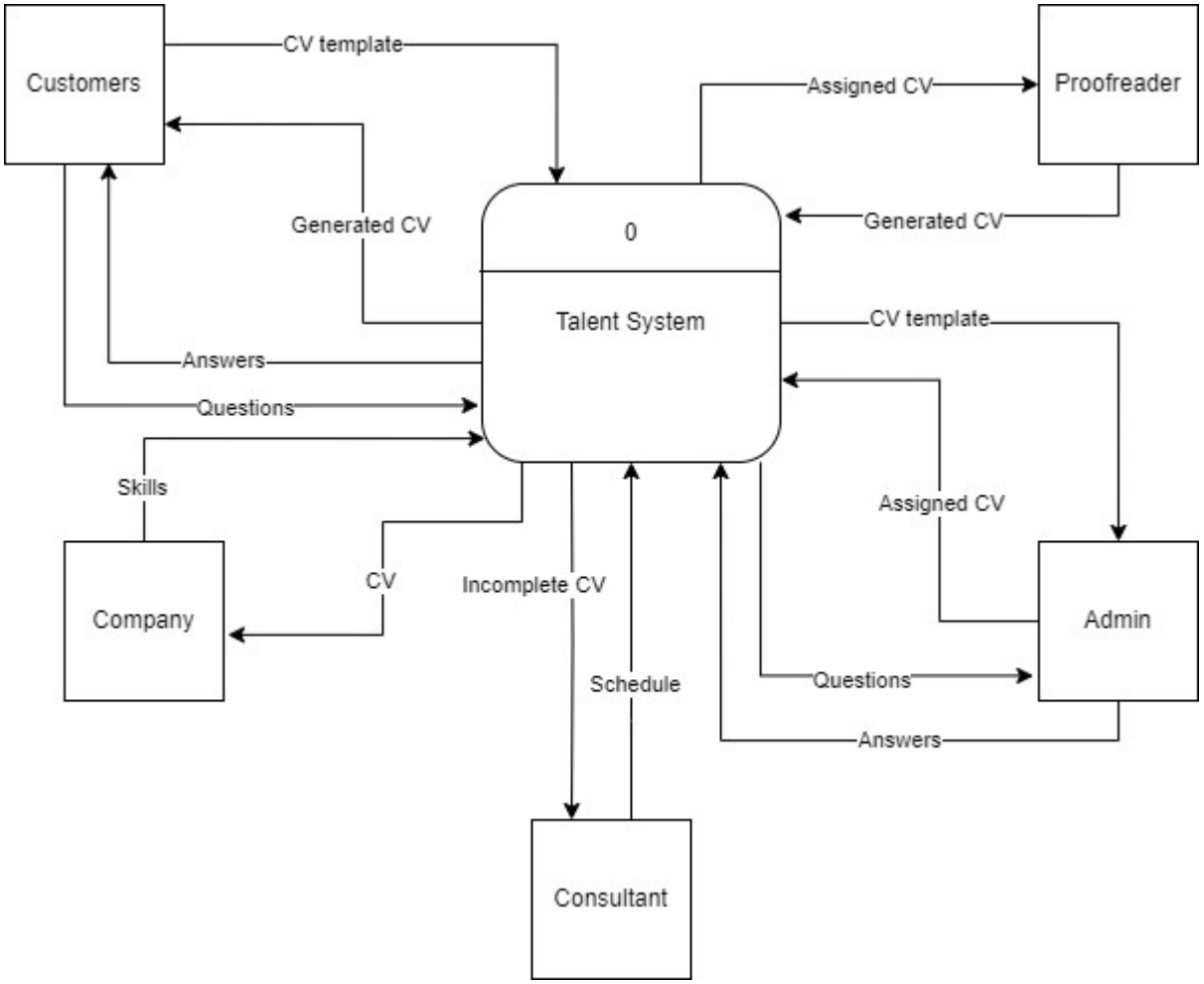
1.0 Introduction

In the 21st century, writing a good CV is very important for current fresh graduates and job seekers since most companies now use ATV to track CVs. GetMe Technology PLT provides the best solution for this problem.GetMe Technology PLT is a business that has been around since 2019.This company is the creator and also the owner of the website "GetMe Hired.io," which generates and evaluates CVs for its clients based on the package to which the customers have subscribed.However ,it is difficult for the GetMe Technology PLT company to provide the highest quality services to their customers because of the challenges that they face. The lack of a proper system for companies that are employing workers in their company and also for proofreaders who evaluate clients' CVs is one of the primary challenges faced by the GetMe Technology PLT. It makes things more difficult for the clients, as well as for the companies who collaborate with GetMe Technology PLT in some way.Proofreaders also face some difficulties since they will receive the CVs filled by the customers via an email platform which is not efficient. Managing CVs in using an email inbox can become very disorganized, especially when the number of CVs increases. GetMe Technology PLT is currently using WhatsApp manually as their primary communication channel in order to respond to questions from consumers and also to resolve issues that customers have had with the payment process. WhatsApp might be suitable for small-scale customers, but it would become a major problem if it came to managing a large number of customers. Because of this, some of the customers may experience a delay in order to get a response.

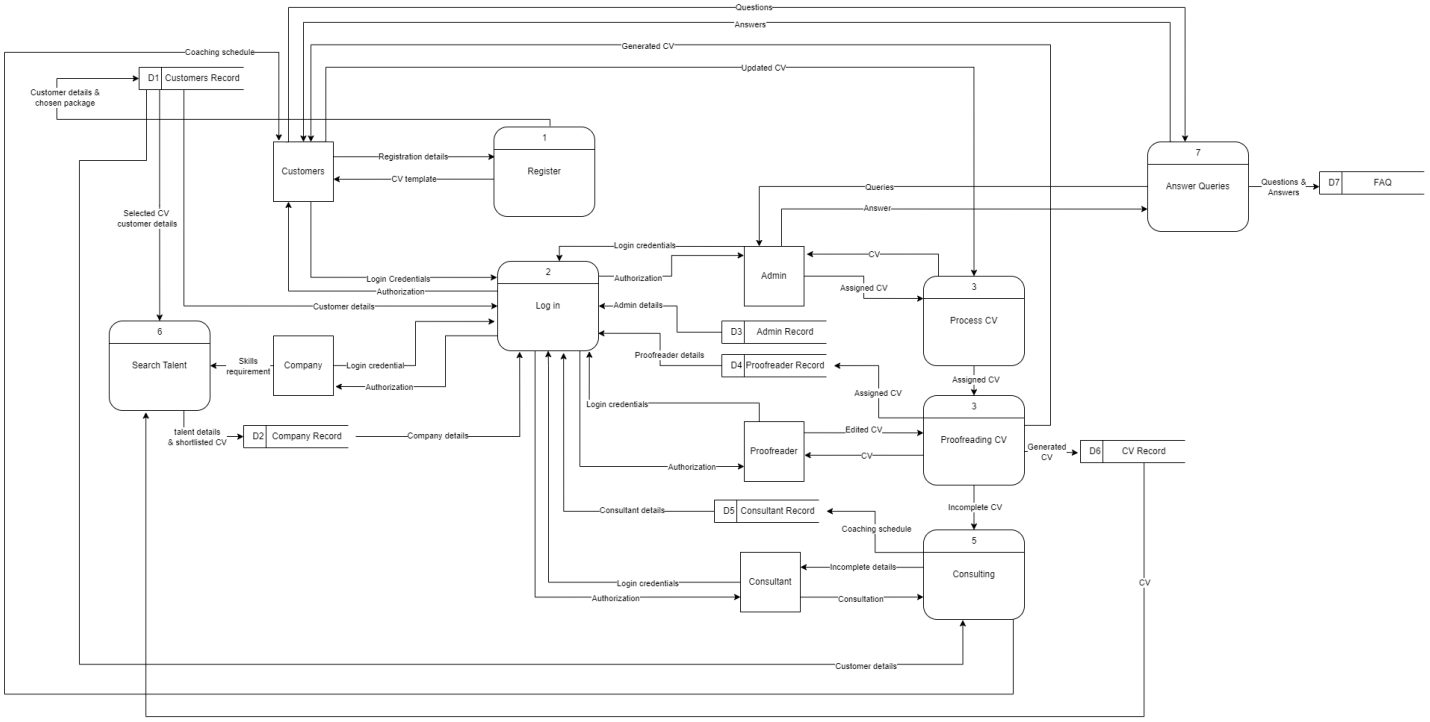
Thus to address the problem, we propose a new system for GetMe Technology PLT.In this new system there will be Automated CV Template Forwarding which after the customer makes the payment, a system will automatically send the CV templates chosen by the customer to their email that they have filled earlier.Secondly, there will be a platform for the admins to share information on a regular basis.Thus, admins will be able to communicate between themselves and have an effective information sharing platform. This will help both the customers and the sales support team as any sales support can help any customer at any given time rather than only one sales support knowing the problem of the specific customer.Furthermore,There also will be a platform for communication between the admins and users.With a platform specifically made for this communication, the customer may put more attention to the notification of the platform and prioritize the messages sent.In the new system, there will be a library system for the companies in collaboration with to headhunt their preferred candidate.This library system will provide the company's recruiter with the customer's resume and the skills they have. This will make it easier for the company to find the person most suitable to them. Customer data will always be available in the library so even if they have landed a job, the recruiter can anytime message the customer and they can discuss it between themselves.Finally,there will be all consultants to consult users if they have a problem with their CV.When customer send out their filled up CV template and the proofreader finds some problems in their CV , customers can receive a consultation to solve the problem and generate a full CV.Hence will all the new features , the system can work much better than the current system and satisfy the customer more.

2.0 DFD (to-be)

2.1 Context Diagram

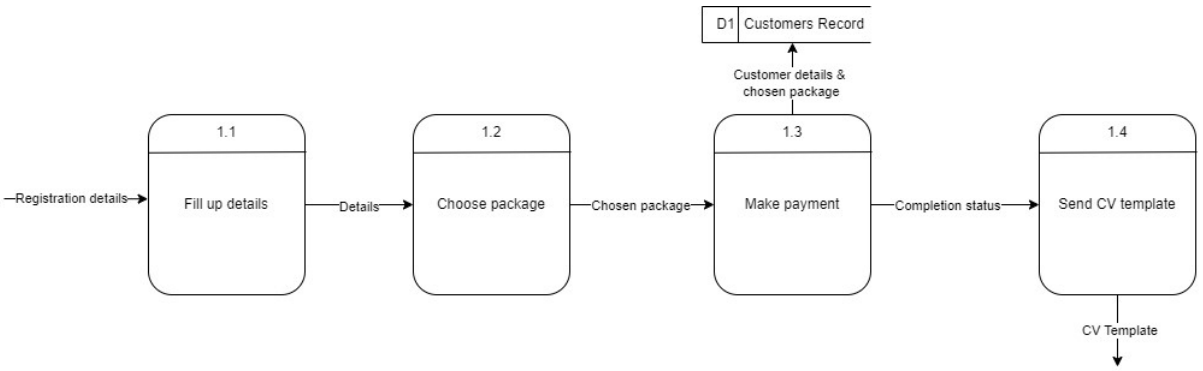


2.2 Diagram 0

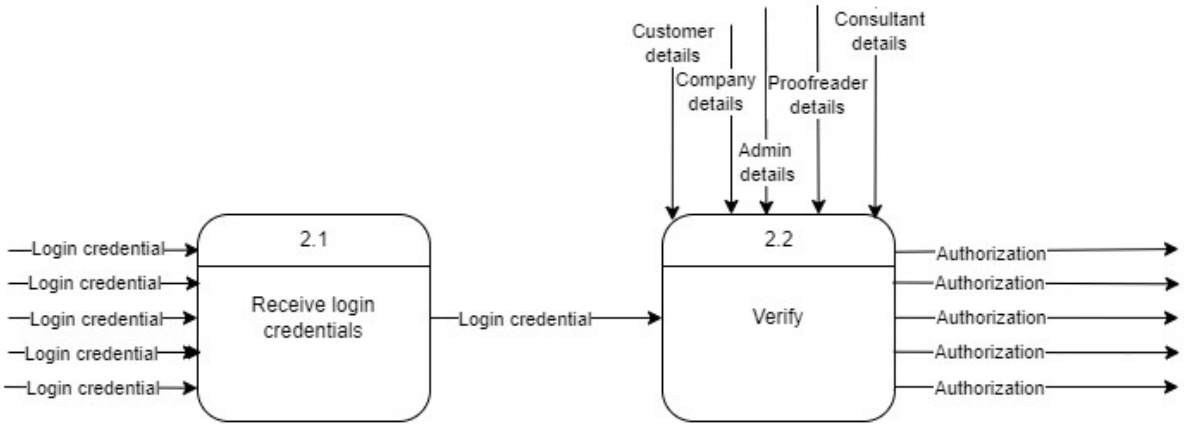

Questions
Answers
Generated CV
Updated CV
Coaching schedule
D1 Customers Record
Customer details & chosen package
Customers
Registration details
CV template
1
Register
7
Answer Queries
Questions & Answers
D7 FAQ
Queries
Answer
Selected CV customer details
Login credentials
CV
Admin
Login Credentials
Authorization
2
Log in
Authorization
Assigned CV
3
Process CV
Customer details
Admin details
D3 Admin Record
6
Search Talent
Skills requirement
Company
Login credential
Authorization
Proofreader details
D4 Proofreader Record
Assigned CV
Login credentials
3
Proofreading CV
talent details & shortlisted CV
D2 Company Record
Company details
Proofreader
Edited CV
CV
Generated CV
D6 CV Record
Authorization
Consultant details
D5 Consultant Record
Incomplete CV
Coaching schedule
5
Consulting
Incomplete details
Consultant
Login credentials
Authorization
Consultation
CV
Customer details

2.3 Child diagram

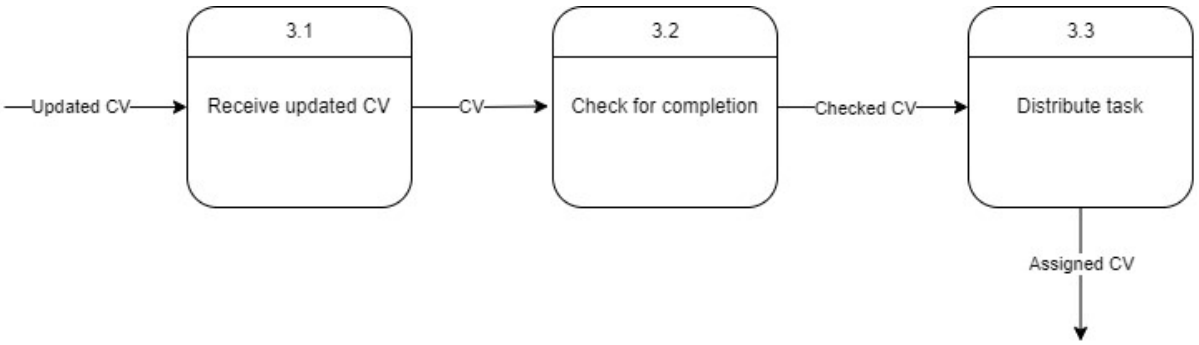
2.3.1 Child 1 : Register



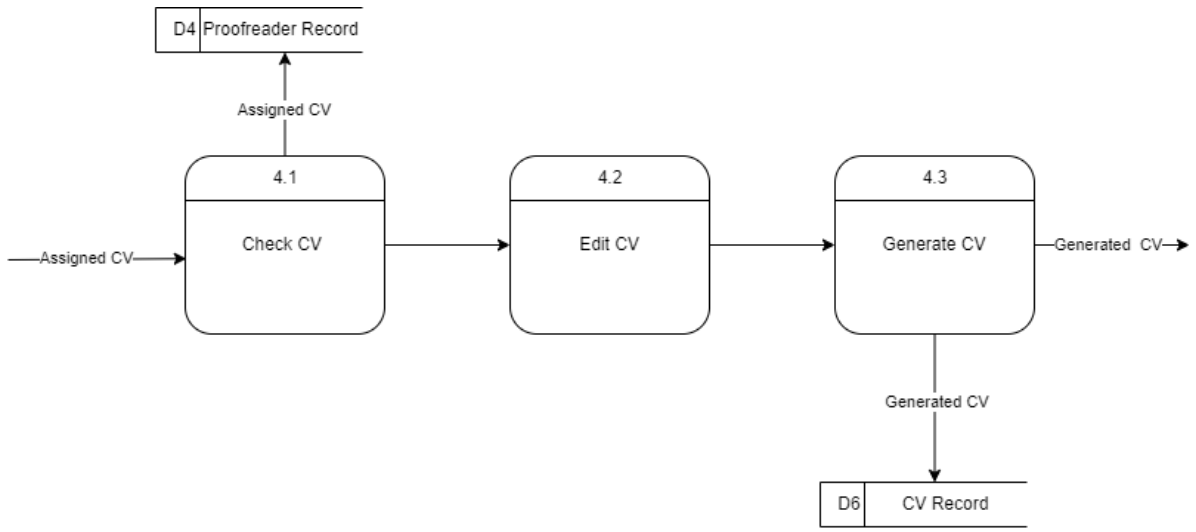
2.3.2 Child 2 : Log in



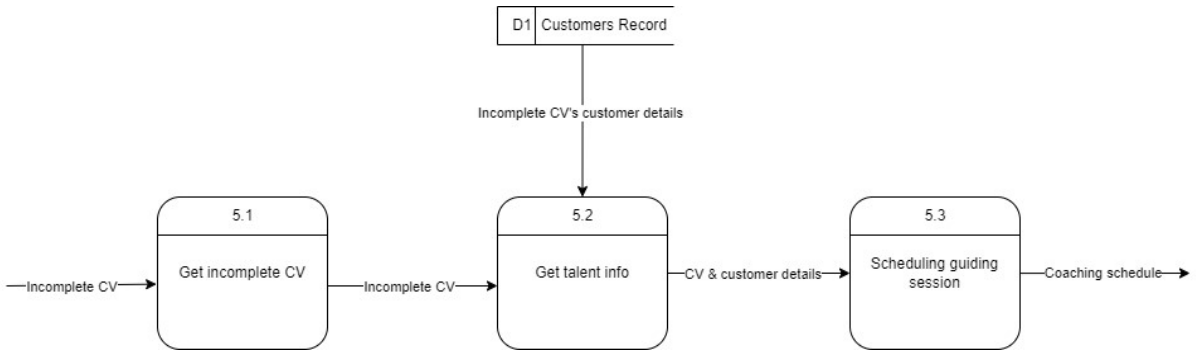
2.3.3 Child 3 : Process CV



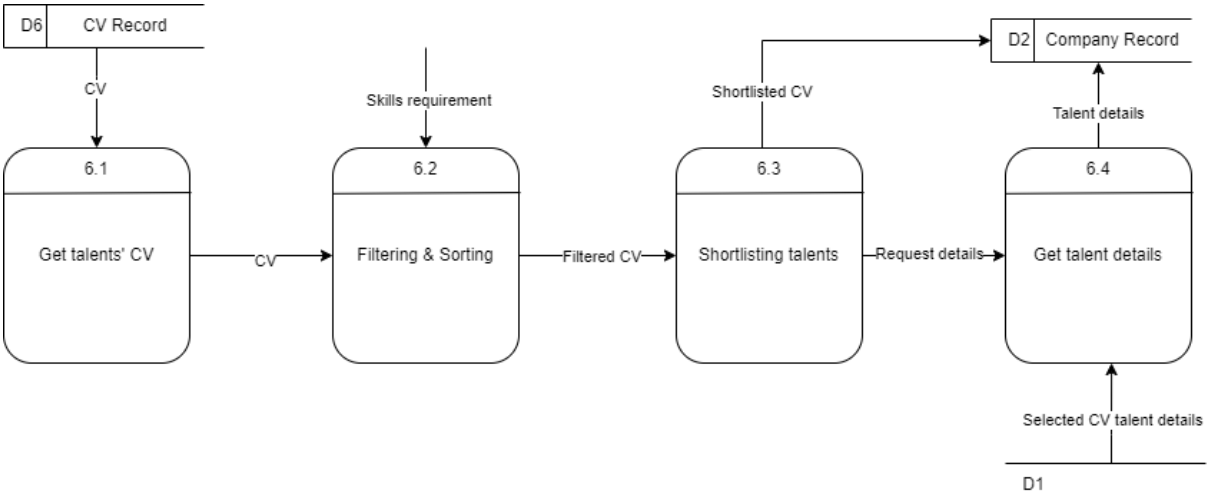
2.3.4 Child 4 : Proofreading CV



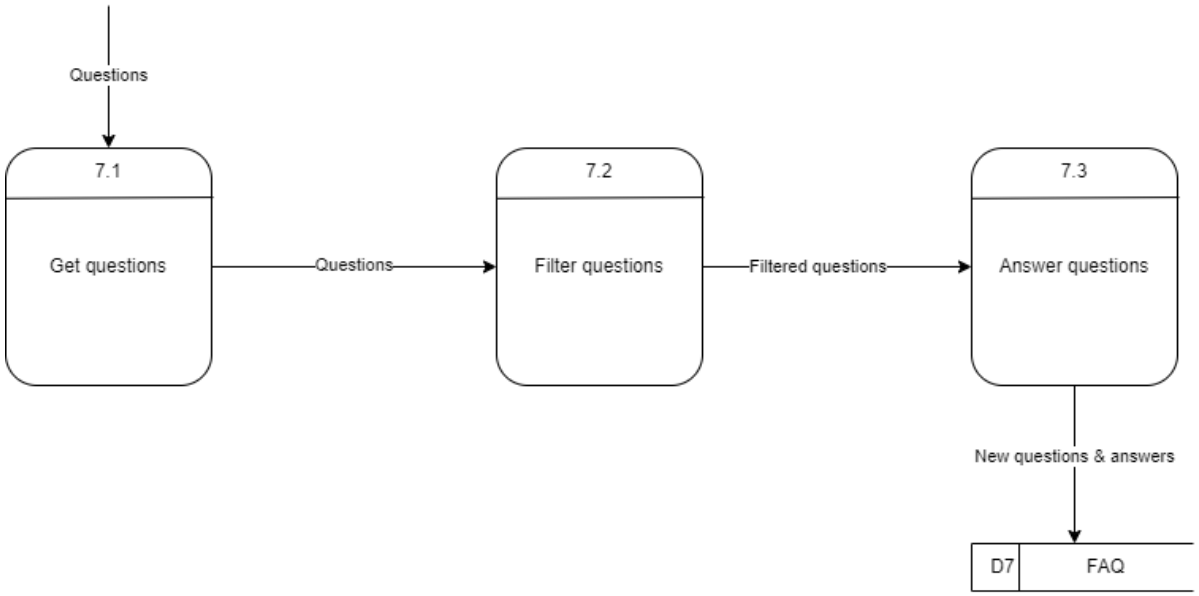
2.3.5 Child 5 : Consulting



2.3.6 Child 6 : Search talent



2.3.7 Child 7 : Answer queries



3.0 Data & Transaction requirement

3.1 Proposed business rules

1) Each customer has zero or more CV
2) Each company can view at least one CV
3) Each CV can be viewed by one or many companies
4) Each company hire at least one customers
5) Each customer will be hired by only one company
6) Each consultant consult at least one customer
7) Each customer consulted by only one consultant
8) Each customer can ask zero or more questions
9) Question can be asked by one or many customers
10) Each admin answer at least one question
11) Each questions answered by at least one admin
12) One admin will assign one or many proofreader
13) Each proofreader will assigned by only one admin
14) Each proofreader generate one or more CV
15) CV generated by only one proofreader

3.2 Proposed data & transactional

Data requirement

1) **Customer**

   Customers will select and purchase a package to get a CV template. The information of users such as name, contact number, ID, email are stored as data. Each customer has their own username and password.

2) **CV**

   Each CV has its own ID, the customer’s ID , and the proofreader's ID. Then, the description of the CV and the skills that customers have.

3) **Company**

   These companies have their name, ID, contact number, email, address. Each company has their username and password. Then, the jobs that are provided by the company.

4) **Consultant**

   The consultant has their ID and password to login to the system. Each consultant has a name, email, and address. The qualification and availability will be given by the consultant to the customer to know more about them.

5) **Q&A**

Questions and answers will be asked by the customer and answered by the admin which contains questions' ID and answers' ID and their description respectively.

6) **Admin**

Each admin has their name, contact number, email, address, position. They have their ID and password to login to the system.

7) **Proofreader**

Each proofreader has a name, contact number, email, address, availability time to give to the customer. They have an ID and password to login as usual. Proofreaders have the CV ID that they generate to customers.

Transaction Requirement

Data Entry

- Enter the details of the customers
- Select the package for the CV
- Enter the details of the company
- Enter the details of the consultant
- Enter the details of the Admin
- Enter the details of the proofreader
- Enter the question lists
- Enter the answers for the questions
- Enter the details for the CV

Data Update / Deletion

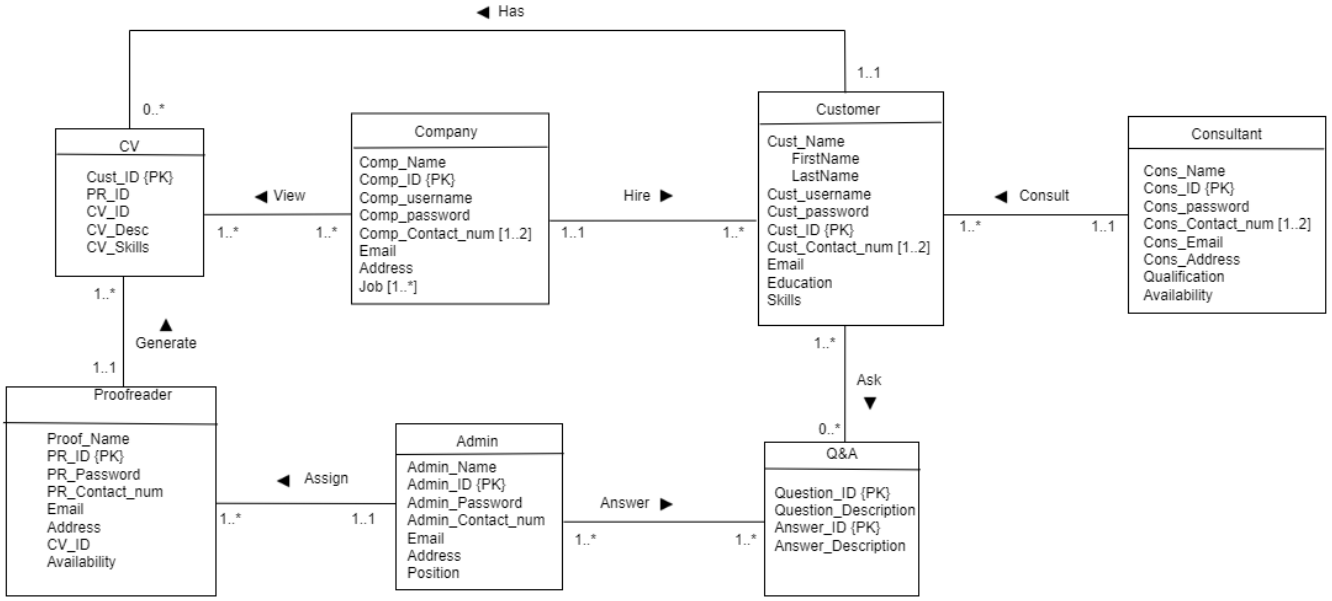
- Update / deletion the details of the customers
- Update / deletion the details of the company
- Update / deletion the details of the consultant
- Update / deletion the details of the admin
- Update / deletion the details of the proofreader
- Update / deletion of the question and answers
- Update / deletion of the question and CV

Data Query

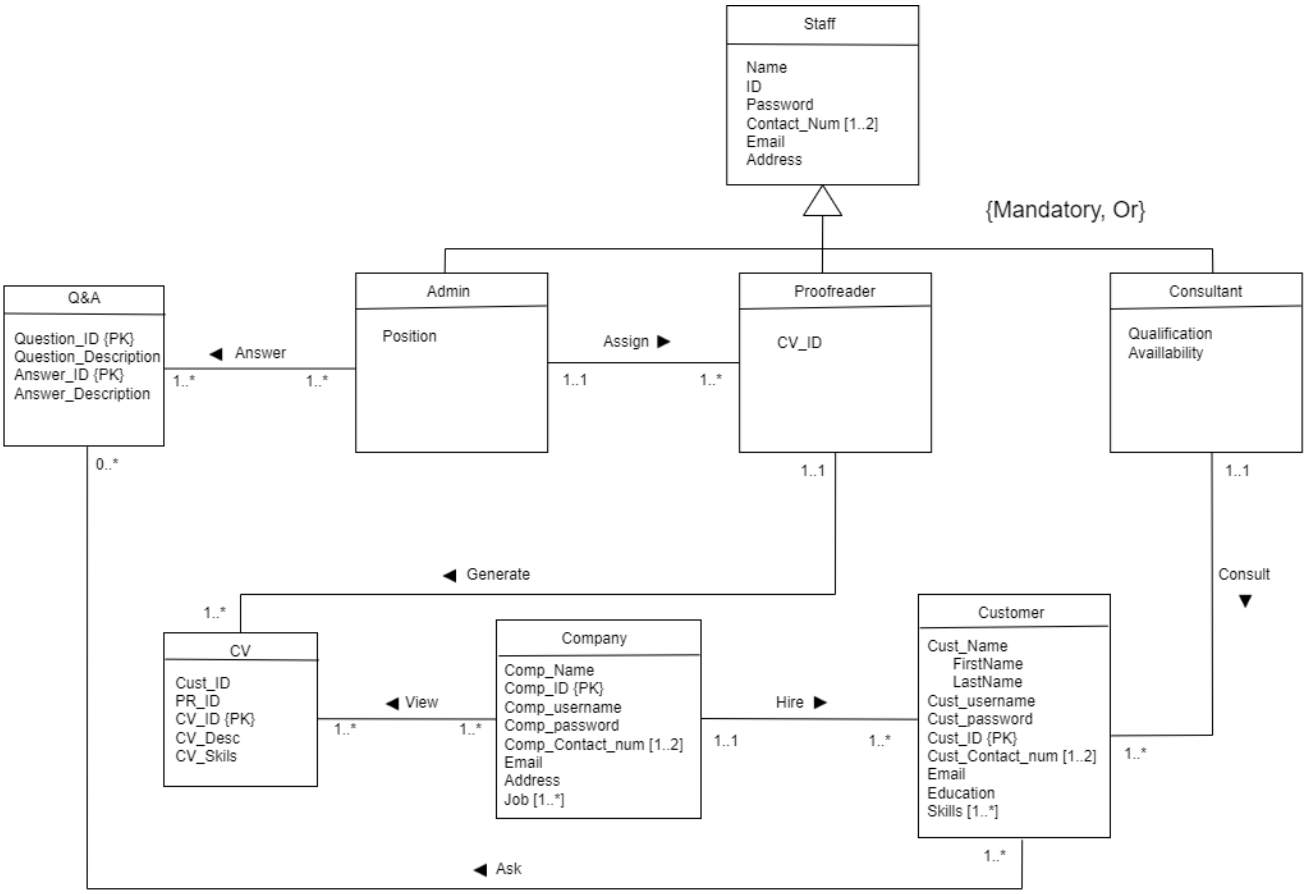
- List the packages of the CV for customers
- List the questions asked by customers
- List the answers replied by admin

4.0 Database Conceptual Design

4.1 Conceptual ERD



4.2 Enhanced ERD



5.0 Data dictionary

Entity Name	Attributes	Description	Data type & Length	Nullity
Company	Comp_Name	Name for company	varchar2(50)	No
	Comp_ID {PK}	Unique ID for company	varchar2(20)	No
	Comp_username	Username for company for authentication	varchar2(20)	No No
	Comp_password	Password for company to authentication	varchar2(20)	No
	Comp_contact_num [1..2]	Contact number of the company	number(12)	No
	Comp_Email	Email for company	varchar2(50)	No
	Address	Address of the company	varchar2(100)	No
	Job [1..*]	Jobs offered by the company	varchar2(50)	No
Customer	Cust_Name	Name of the customer	varchar2(50)	No
	FirstName	Name of the customer	varchar2(25)	No
	LastName	Name of the customer	varchar2(25)	No
	Cust_username	Username of customer for authentication	varchar2(20)	No
	Cust_password	Password of customer for authentication	varchar2(25)	No
	Cust_ID {PK}	Unique ID for customer	varchar2(20)	No
	Cust_Contact_Num [1..2]	Phone number of customer	number(12)	No
	Cust_Email	Email of the customer	varchar2(50)	No
	Education	Highest education level of the customer	varchar2(50)	No
	Skills [1..*]	Skills of the customers have	varchar2(50)	No
Proofreader	Proof_Name	Name of proofreader	varchar2(50)	No
	PR_ID {PK}	Unique ID for authentication	varchar2(20)	No
	PR_Password	Password for authentication	varchar2(20)	No
	PR_Contact_num	Phone number of proofreader	number(12)	No
	Email	Email of the proofreader	varchar2(50)	No
	Address	Address of the proofreader	varchar2(100)	No
	CV_ID	Unique ID of CV	varchar2(20)	No
	Availability	Available time slot	Date	No

Admin	Admin_Name Admin_ID {PK} Admin_Password Admin_Contact_num Email Address Position	Name of admin Unique ID for authentication Password for authentication Phone number of admin Email of the admin Address of the admin Position held by admin	varchar2(50) varchar2(20) varchar2(20) number(12) varchar2(50) varchar2(100) varchar2(20)	No No No No No No No
Q&A	Question_ID {PK} Question_Desc Answer_ID {PK} Answer_Desc	Unique ID of question Description of question Unique ID of answer Description of question	varchar2(20) varchar2(150) varchar2(20) varchar2(150)	No No No No
CV	Cust_ID PR_ID CV_ID {PK} CV_Desc CV_Skills	Unique ID of the CV's customer Unique ID of the CV's proofreader Unique ID of the CV Description of the CV Skills of the customer	varchar2(20) varchar2(20) varchar2(20) varchar2(150) varchar2(50)	No No No No No
Consultant	Cons_Name Cons_ID {PK} Cons_password Cons_Contact_num Cons_Email Cons_Address Qualification Availability	Name of consultant Unique ID for consultant Password for authentication Phone number of consultant Email of the consultant Address of the consultant Qualification held by the consultant Available time slot	varchar2(50) varchar2(20) varchar2(20) number(12) varchar2(50) varchar2(100) varchar2(50) Date	No No No No No No No No

6.0 Summary

In this phase we have created the Data Flow Diagram of the “To Be” system which has the context diagram , 0 diagram and the child diagrams.we also identify the proposed business rule , data requirements , transaction requirement , both conceptual and enhanced ERD and finally the data dictionary.In this “To Be” system we have added all the new features to support the current system and overcome the problem faced by the current system.

Hence by completing this phase , we have identified the structure of the new system which has the automated CV template forwarding feature , a platform for the admins to share information on a regular basis , a platform for communication between the admins and users , a library system for the companies to headhunt for talented workers and consultants to consult users.Thus this well structured system design plays an important role for the new system to work more efficiently than the current system and satisfy the customer more.

7.0 Reference

1) Van Nguyen, M., Min, B., Dernoncourt, F., & Nguyen, T. (2022, July). Joint extraction of entities, relations, and events via modeling inter-instance and inter-label dependencies. In Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (pp. 4363-4374).

2) Chang, H., Xu, H., van Genabith, J., Xiong, D., & Zan, H. (2023). JoinER-BART: Joint Entity and Relation Extraction with Constrained Decoding, Representation Reuse and Fusion. IEEE/ACM Transactions on Audio, Speech, and Language Processing.

3) Sehgal, S., Gupta, R. S., Wlodarski, M., Bilaver, L. A., Wehbe, F. H., Spergel, J. M., ... & Starren, J. B. (2022). Development of Food Allergy Data Dictionary: toward a food allergy data commons. The Journal of Allergy and Clinical Immunology: In Practice, 10(6), 1614-1621.