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SECD2523 - DATABASE SEMESTER 1
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Phase 2 (P2) –

Database Conceptual Design
(ERD)

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1.0 Introduction

GetMeHired is a job search assistance platform that provides a variety of services to help job seekers find their ideal job. One of the services offered by GetMeHired is CV template distribution. However, the current process of manually distributing CV templates is time-consuming, error-prone and inefficient. Additionally, GetMeHired's current customer service system often has a late response in helping customers resolve customer issues. These delays can be caused by various factors such as a high volume of customer requests, limited staff availability or inefficient communication processes. As a result, customers may have to wait extended periods for assistance, which will lead the customer to feel frustrated and dissatisfied.

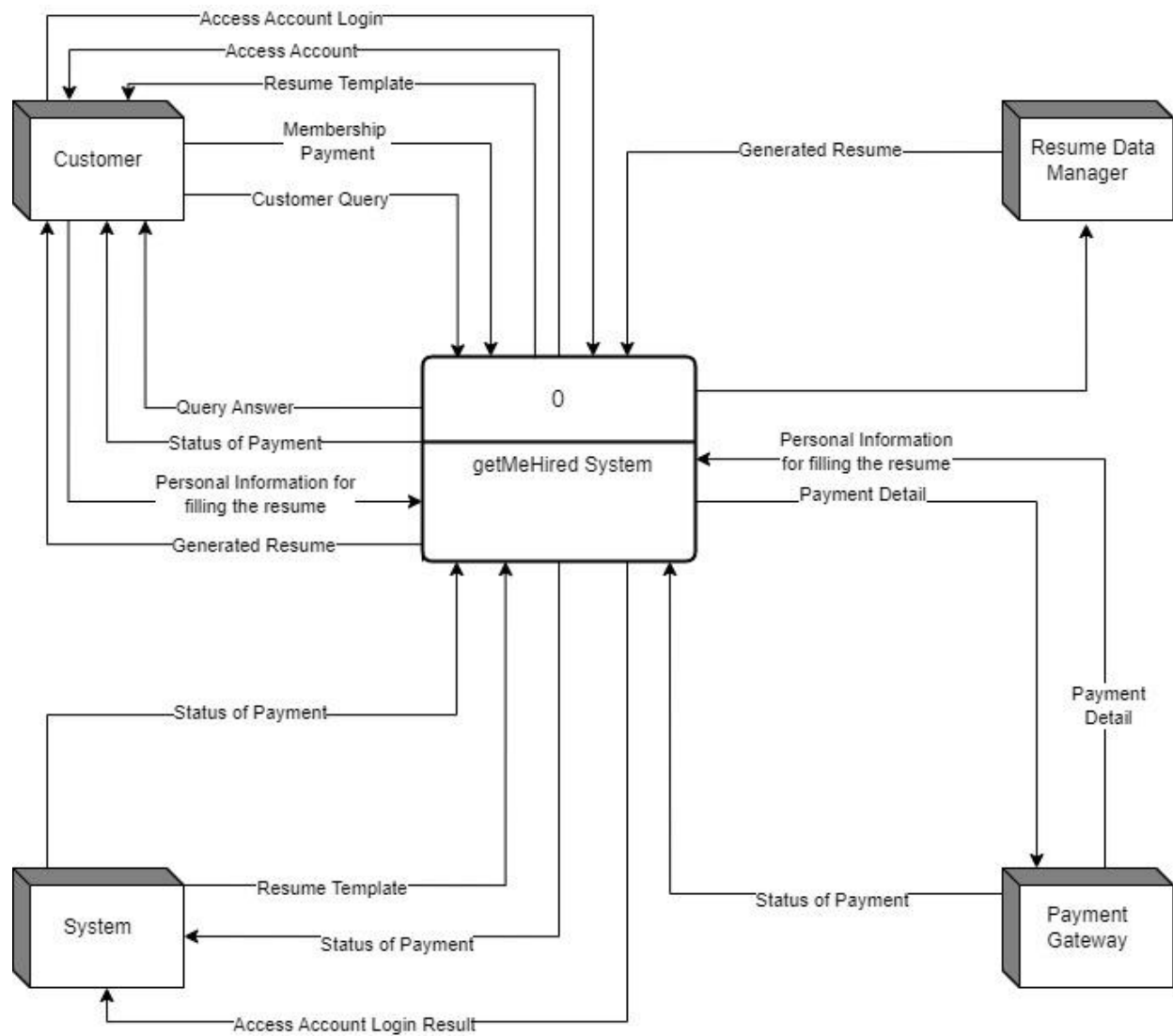
To address these problems, we propose the development of an automated CV template distribution system with an integrated AI-powered chatbot. This system will automatically send the CV template to customers upon payment. Through this method, prompt delivery will be guaranteed and manual intervention will be eliminated. The AI-powered chatbot will provide 24/7 customer support, which allows customers to receive immediate assistance whenever they need it. This AI chatbot can handle common customer inquiries and provide personalized responses, which reduces the burden on human support staff and improves the overall customer experience.

The automated CV template distribution system with an AI-powered chatbot will rely on the database to store and retrieve information about customers, CV templates, FAQ info, payment info and so on. The system will use this information to automatically deliver CV templates and also provide prompt customer support.

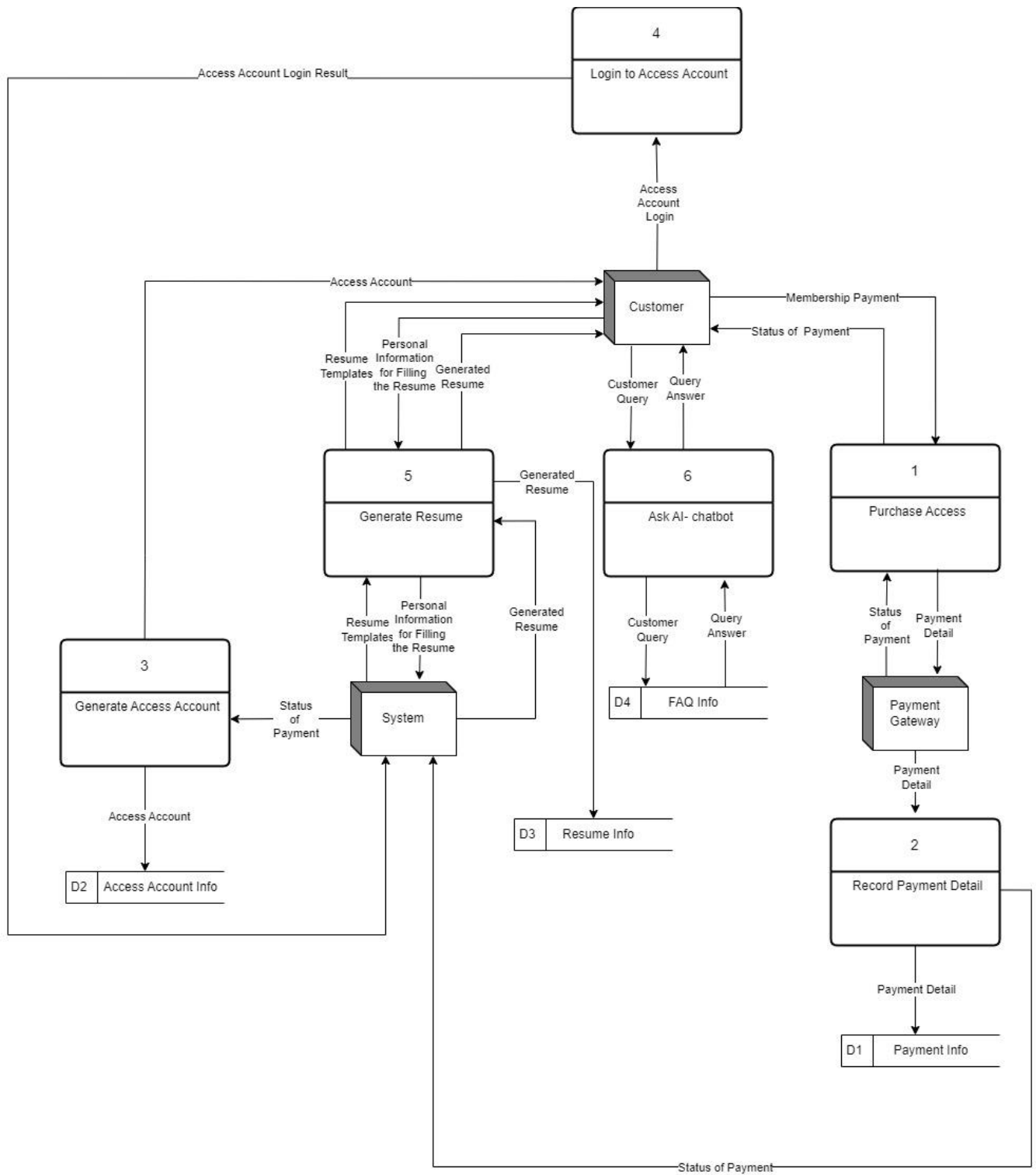
By implementing an automated CV template distribution system with an AI-powered chatbot, GetMeHired can improve its efficiency, reduce errors made by humans, enhance satisfaction and provide a responsive customer service experience. The system will also help GetMeHired to maintain its competitive edge in the job search assistance platform.

2.0 DFD (to-be)

2.1 Context Diagram

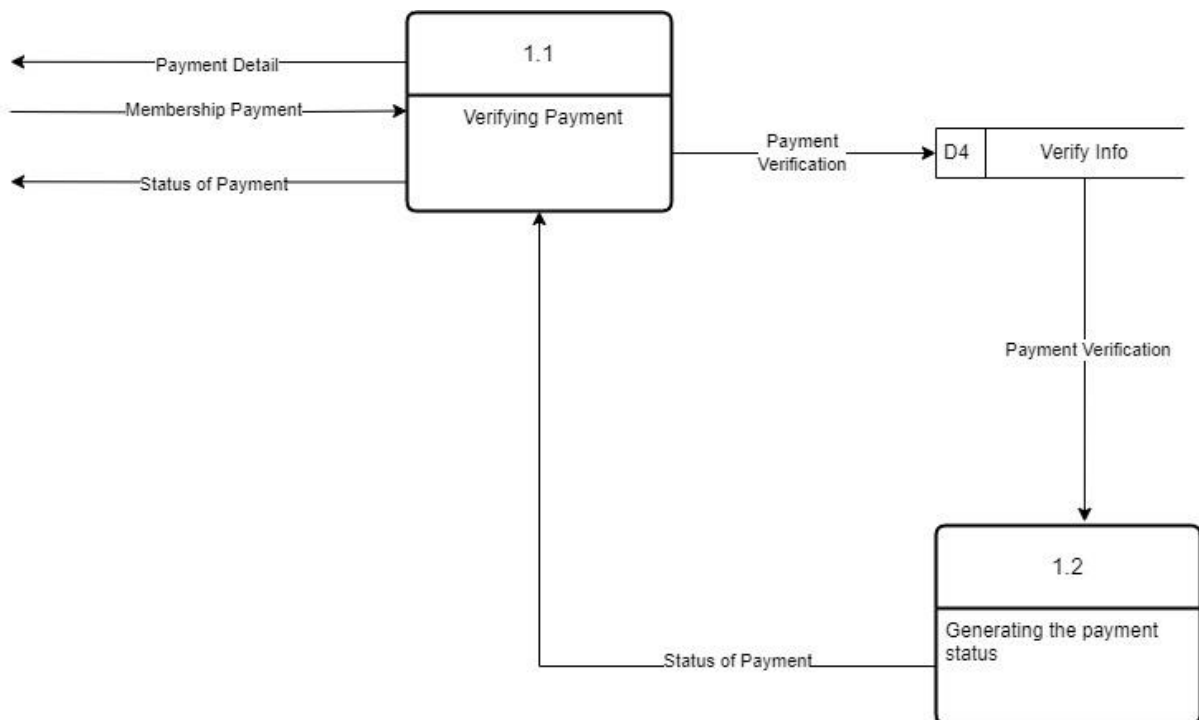


2.2 Level 0 Diagram

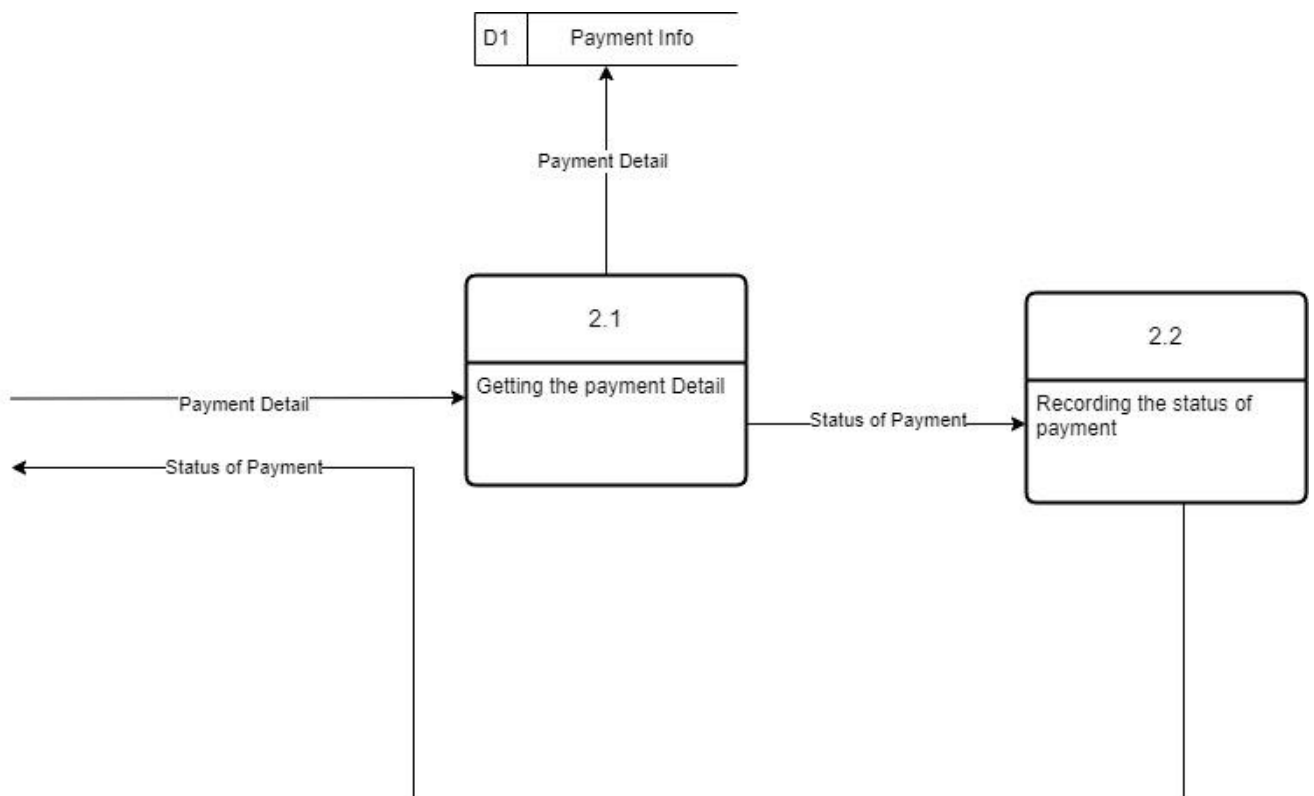


2.3 Level 1 Diagram

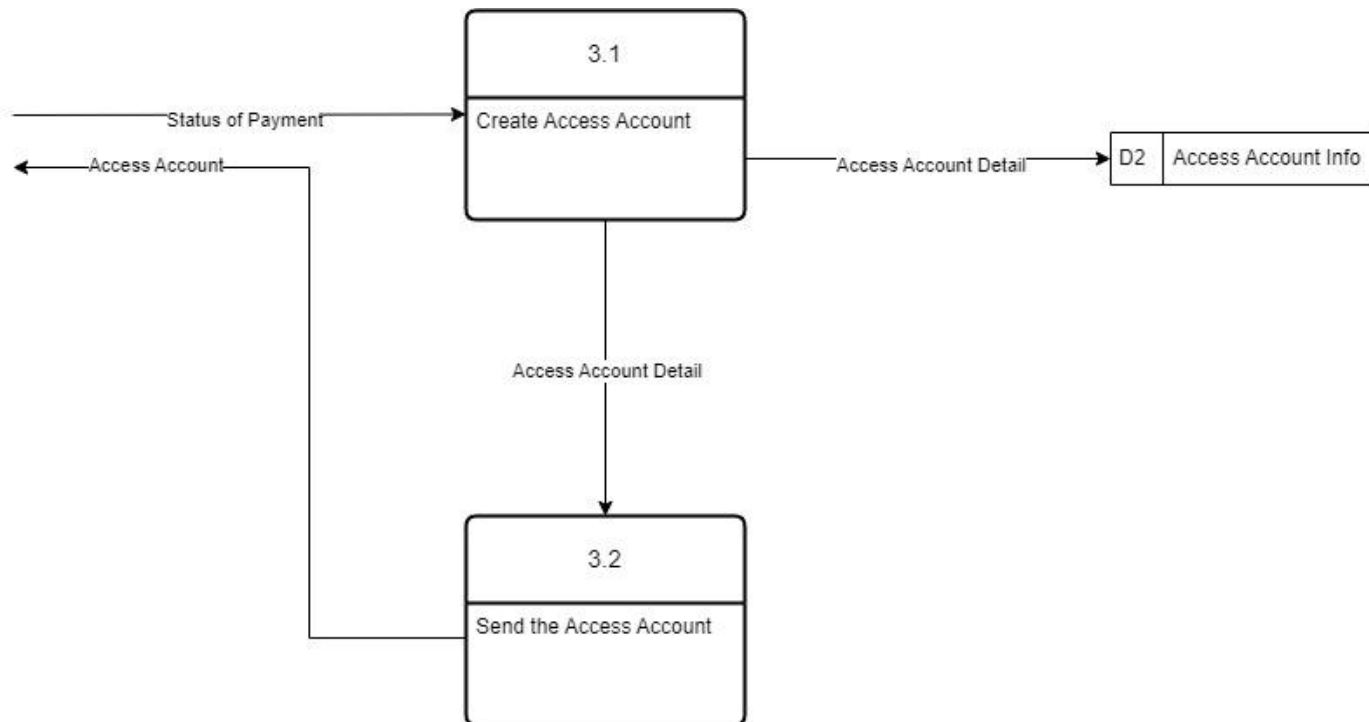
2.3.1 Process 1: Purchase Access



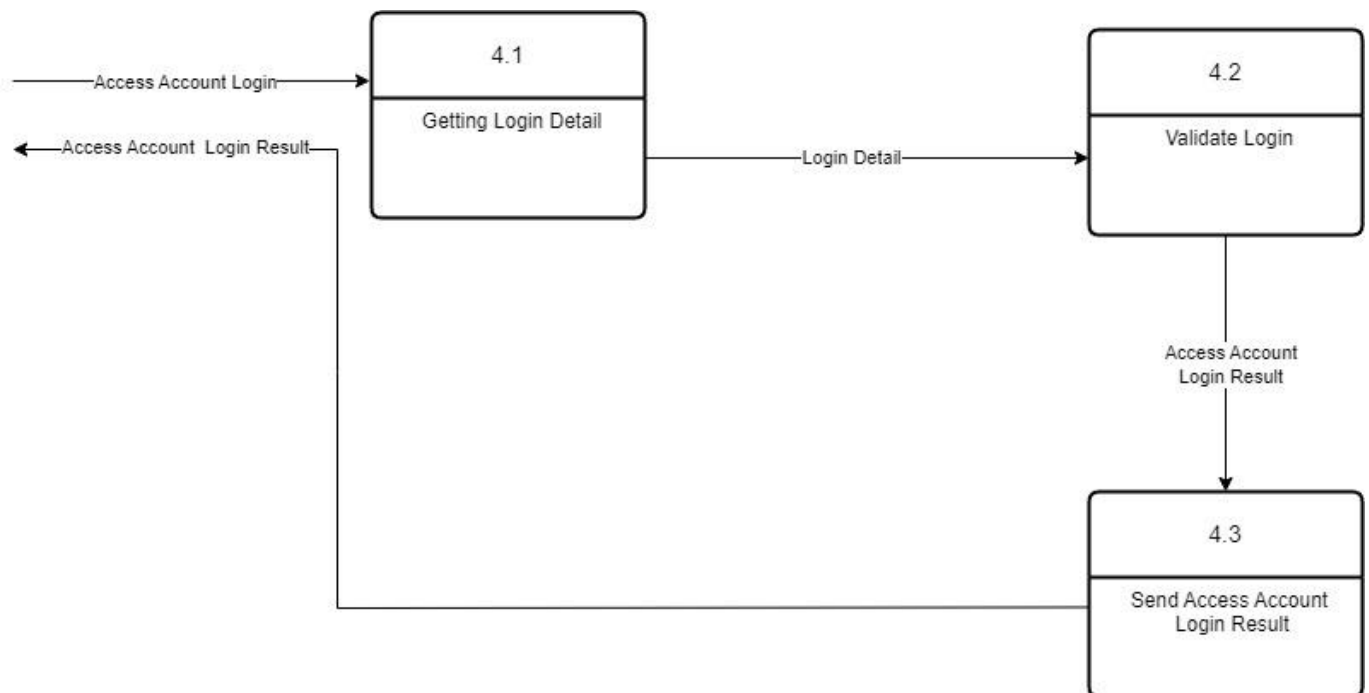
2.3.2 Process 2: Record Payment Detail



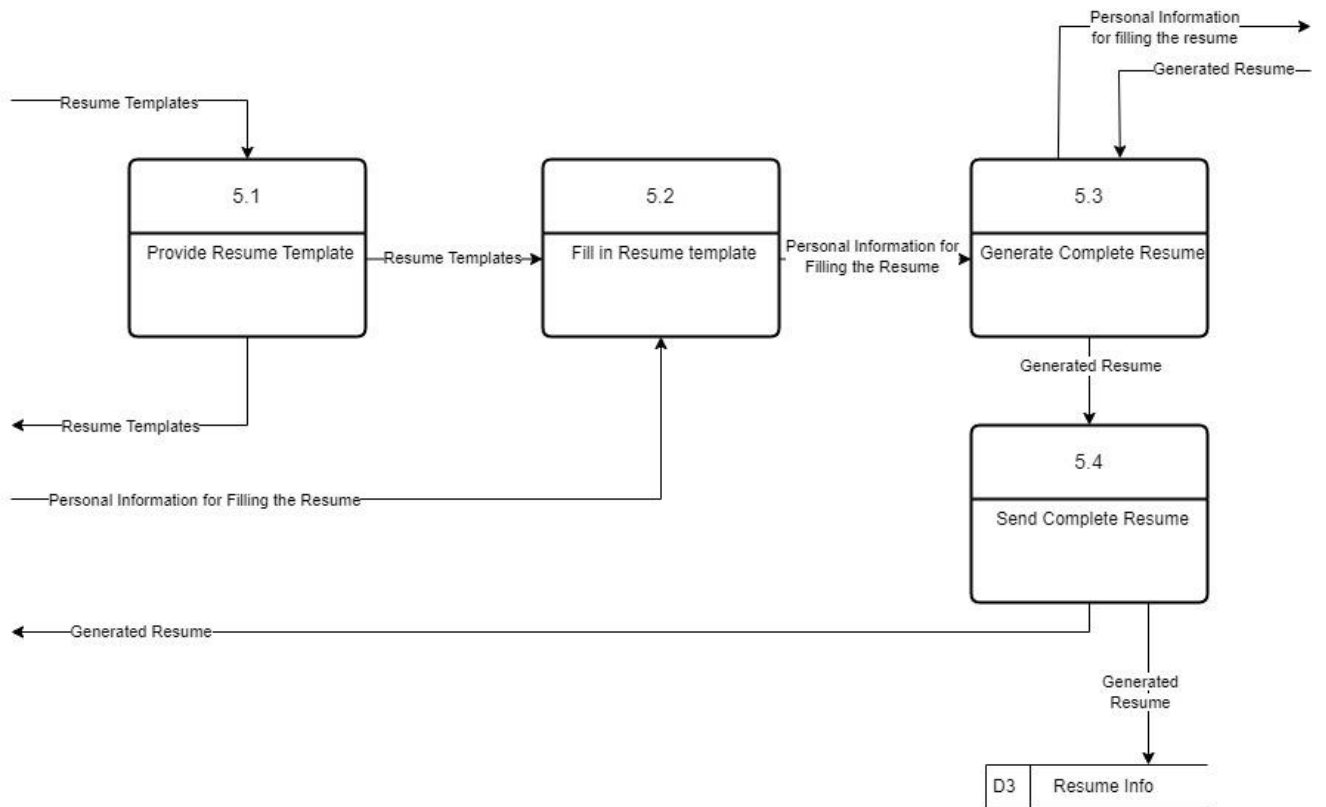
2.3.3 Process 3: Generate Access Account



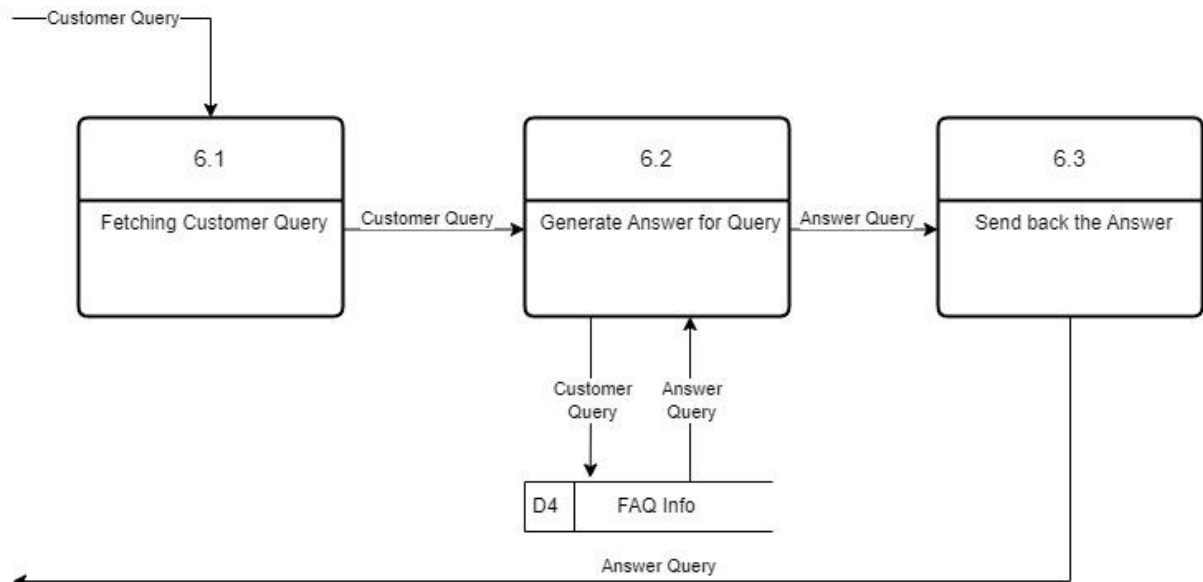
2.3.4 Process 4: Login to Access Account



2.3.5 Process 5: Generate Resume



2.3.6 Process 6: Ask AI-chatbot



3.0 Data & Transaction requirement

3.1 Proposed business rule

1. The order can be placed by only one user
2. One user can place one or more orders
3. One user can make at least one payment
4. Payment can be made by only one user
5. The user can purchase one or more product
6. The product can be purchased by zero or more user
7. The product can request one or more access
8. The access can be requested by one or more product
9. The user can ask only one chatbot
10. The chatbot can be asked by zero or many users
11. The user can receive minimum one and maximum eight resume template
12. The resume template can be received by one or more users
13. The user can fill in zero or more resume
14. The resume can be only filled by one user

3.2 Proposed data & transactional

Data Requirement

User

Someone who makes an order in GetMeHired is called a user. The information of users such as users name, and phone number are stored as data. Every user has their own username and password.

Order

Every order has data which includes orderID, date, and time placing order.

Payment

Every payment has paymentID and payment method as their data.

Product

Every product has productID, product name, price, access status, and access duration inside the product data

Access

Every access has data that includes accessID, and access name.

Chatbot

Every chatbot has chatbotID, keyword, and answer that stored inside the chatbot data

Resume template

Every resume template has templateID, template file name as their data

Resume

Every resume has data such as resumeID, name of user, self description of user, phone number of user, email of user, complete home address of user, website, type of education, name, and result of user. It will also include the top 3 skills of the user, the two experiences of the user and inside the experience, it has a name, year, and description of the experience.

Transaction Requirement

Data Entry

Enter the detail for the user

Enter the detail for the order

Enter the detail for the payment

Enter the detail for the product

Enter the detail for the access

Enter the detail for the chatbot

Enter the detail for the resume template

Enter the details for the resume

Data Update / Deletion

Update / deletion the detail for the user

Update / deletion the detail for the order

Update / deletion the detail for the payment

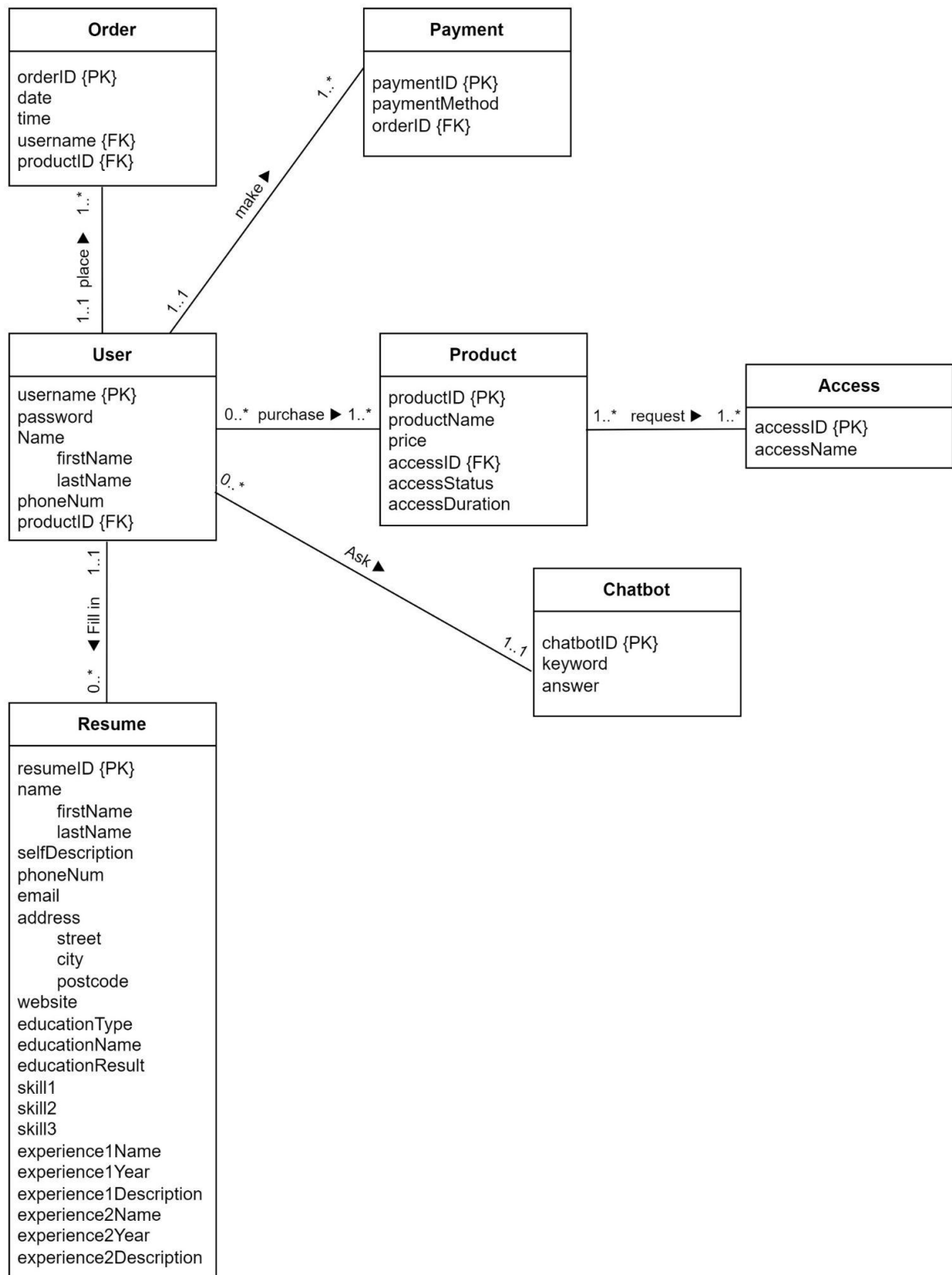
Update / deletion the detail for the product
Update / deletion the detail for the access
Update / deletion the detail for the chatbot
Update / deletion the detail for the resume template
Update / deletion the details for the resume

Data Query

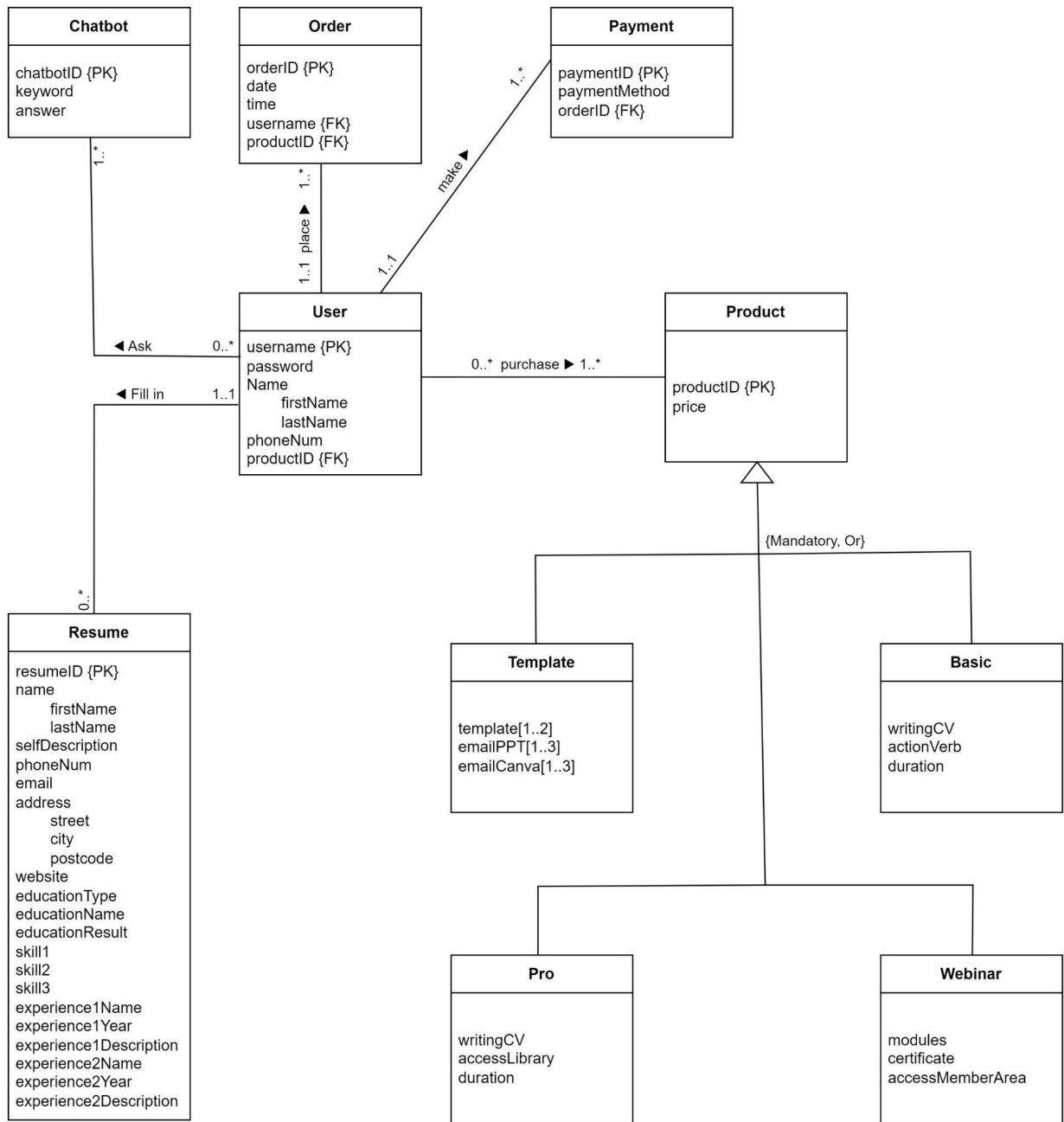
List the detail of the order made by user
List the detail of payment made by user
List the detail of product purchased by user
Identify the payment of each user
List the most popular product based on number of purchases
Display the detail of each user who made payment
Display the total revenue generated from all payments

4.0 Database conceptual design

4.1 Conceptual ERD



4.2 Enhanced ERD (EERD)



5.0 Data dictionary

5.1 Description of Entity

Entity	Description	Occurrence
User	Hold customer's information	-User login the getmehired system -User access their account -User provide information to system -User ask question to system -User purchase CV template -User get the CV template package
Order	Hold information of customer order	-Order has placed by user after they made payment
Resume	Hold information of customer's resume details	-User fill in the resume details after they made payment
Payment	Hold information of user payment	-Each payment made by one customer
Product	Hold customer purchased product information	-Customer purchase the CV template package, the product is generated
Access	Hold the access information when customer made payment	-Customer access the CV template after they made payment
Chatbot	Hold the information of user queries	-Chatbot pop out the prepared answers after user send queries questions

5.2 Description of Relationship

Entity	Multiplicity	Relationship	Multiplicity	Entity
User	1..1	place	1..*	Order
	1..1	make	1..*	Payment
	0..*	purchase	1..*	Product
	0..*	ask	1..1	chatbot
	1..*	receive	1..8	template

	1..1	fill in	0..*	resume
Product	1..*	request	1..*	Access

5.3 Description of Attributes

Entity	Attributes	Description	Data Type	Null	Multi-valued
Product	productID	Uniquely identify a product ID (PK)	VARCHAR2(10)	No	No
	price	product price	NUMBER(5,2)	No	No
Template	template	customer purchased template	VARCHAR2(10)	No	1..2
	emailPPT	customer's email to send the PPT template	VARCHAR2(30)	No	1..3
	emailCanva	customer's email to send the canva template	VARCHAR2(30)	No	1..3
Basic	writingCV	trigger the CV writing service	VARCHAR2(30)	No	No
	actionVerb	powerful action verbs on cv	VARCHAR2(20)	No	No
	duration	duration of basic CV writing service	NUMBER(2)	No	No
Pro	writingCV	trigger the CV writing service	VARCHAR2(30)	No	No
	accessLibrary	full access library of CV service	VARCHAR2(10)	No	No
	duration	duration of pro CV writing service	NUMBER(2)	No	No
Webinar	modules	cover 4 modules of webinar	VARCHAR2(20)	No	No
	certificate	certificate of completion of webinar	VARCHAR2(20)	No	No
	accessMemberArea	full access member for whole CV service	VARCHAR2(20)	No	No
User	username	Uniquely identify a usernamet (PK)	VARCHAR2(10)	No	No
	password	user account login password	VARCHAR2(30)	No	No
	Name firstName lastName	Name of customer in system First name of customer in system Last name of customer in system	VARCHAR2(30) VARCHAR2(15) VARCHAR2(15)	No No No	No
	phoneNum	phone number of customer	VARCHAR2(20)	No	No

	productID	Foreign key of Product which uniquely identify an product id (FK)	VARCHAR2(10)	No	No
Chatbot	chatbotID	Uniquely identify a chatbot (PK)	VARCHAR2(10)	No	No
	keyword	a keyword that triggered the answer	VARCHAR2(30)	No	No
	answer	corresponding answer is pop out after the keyword is triggered	VARCHAR2(80)	No	No
Order	orderID	Uniquely identify an order (PK)	VARCHAR2(10)	No	No
	username	Foreign key of User which uniquely identify an username (FK)	VARCHAR2(10)	No	No
	productID	Foreign key of Product which uniquely identify a product id (FK)	VARCHAR2(10)	No	No
	date	date of order	TIMESTAMP	No	No
	time	time of order	TIMESTAMP	No	No
Payment	paymentID	Uniquely identify a payment id (PK)	VARCHAR2(10)	No	No
	paymentMethod	user online payment method	VARCHAR2(20)	No	No
	orderID	Foreign key of Order which uniquely identify an order id (FK)	VARCHAR2(10)	No	No
Resume	resumeID	Uniquely identify a resume id (PK)	VARCHAR2(10)	No	No
	name	Name of customer filled in resume	VARCHAR2(30)	No	No
	firstName	First name of customer filled in resume	VARCHAR2(15)	No	No
	lastName	Last name of customer filled in resume	VARCHAR2(15)	No	No
	selfDescription	Self description of customer filled in resume	VARCHAR2(100)	No	No
	phoneNum	phone number of customer filled in resume	VARCHAR2(20)	No	No
	email	email of customer filled in resume	VARCHAR2(30)	No	No
	address	address of customer filled in resume	VARCHAR2(30)	No	No
	street	street of customer filled in resume	VARCHAR2(15)	No	No
	city	city of customer filled in resume	VARCHAR2(15)	No	No
	postcode	postcode of customer filled in resume	VARCHAR2(15)	No	No
	website	customer's profile website	VARCHAR2(30)	No	No
	educationType	customer's education type	VARCHAR2(30)	No	No
	educationName	customer's education name	VARCHAR2(30)	No	No
	educationResult	customer's education result	VARCHAR2(30)	No	No

	skill1	customer's first skill	VARCHAR2(30)	No	No
	skill2	customer's second skill	VARCHAR2(30)	Yes	No
	skill3	customer's third skill	VARCHAR2(30)	Yes	No
	experience1Name	customer's first experience name	VARCHAR2(30)	No	No
	experience1Year	customer's first experience year	NUMBER(4)	No	No
	experience1Description	customer's first experience description	VARCHAR2(30)	No	No
	experience2Name	customer's second experience name	VARCHAR2(30)	Yes	No
	experience2Year	customer's second experience year	NUMBER(4)	Yes	No
	experience2Description	customer's second experience description	VARCHAR2(30)	Yes	No

6.0 Summary

The conceptual design phase for the automated CV template distribution system at GetMeHired focused on creating a comprehensive and well-structured data model to support the system's functionality. Throughout this phase, we meticulously crafted a context diagram, level 0 diagram, level 1 diagram, business rules, entity relationship diagram, enhanced entity relationship diagram and data dictionary.

From our analysis, we have revealed that the current manual CV template distribution process is time-consuming, error-prone and inefficient. This leads to delays, dissatisfaction and a potential loss of competitive advantages for GetMeHired. To address these issues, we proposed an automated CV template distribution system that automatically sends CV templates to customers upon payment, and also developed an integrated AI-powered chatbot which provides 24/7 customer support to handle common customer inquiries.

By completing the database conceptual design phase, we have established a solid foundation for the system's database, ensuring that it can store, manage and retrieve the data required effectively for optimal system performance. This well-structured data model plays a vital role in supporting the automated CV template distribution system with an integrated AI-powered chatbot for customers. As a result, this will enhance customer satisfaction and firm GetMeHired's competitive edge in the job search assistance platform.