SECD2523 DATABASE

PROJECT : PHASE 2
DATABASE CONCEPTUAL DESIGN

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1 Introduction

After finishing the interview session with one of the workers from "GetMe Hired", the interviewee has provided our team a lot of relevant information regarding the improvement or enhancement that can be implemented to the current system. In order to enhance the user experience, several specific improvements and new features will be introduced to the current system. For example, a new database system will be designed in order to improve the productivity and efficiency of users. Other than that, filtering features will also be included for sorting and selecting the information needed in the database and there are still many useful functionalities to be implemented. Therefore, the data flow diagrams which visualize our team's proposed system will be created and introduced firstly. Apart from that, discussion of the proposed business and transaction requirements of "GetMe Hired" will be carried out along with the updated database conceptual design which includes the conceptual ERD and enhanced ERD (EERD) but also the data dictionary. Hence, by carrying out these processes, it will aid our team to proceed and continue with the next phase of this project later.

2 DFD

2.1 Context Diagram
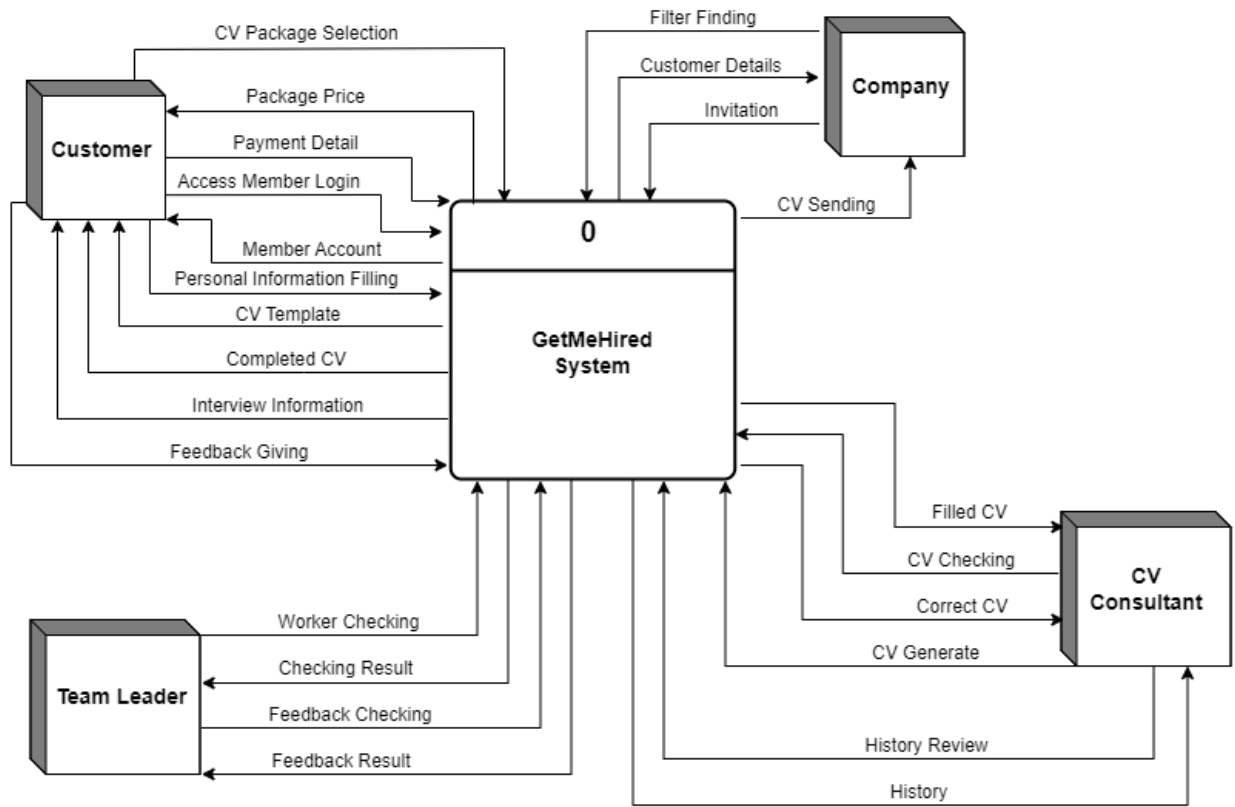
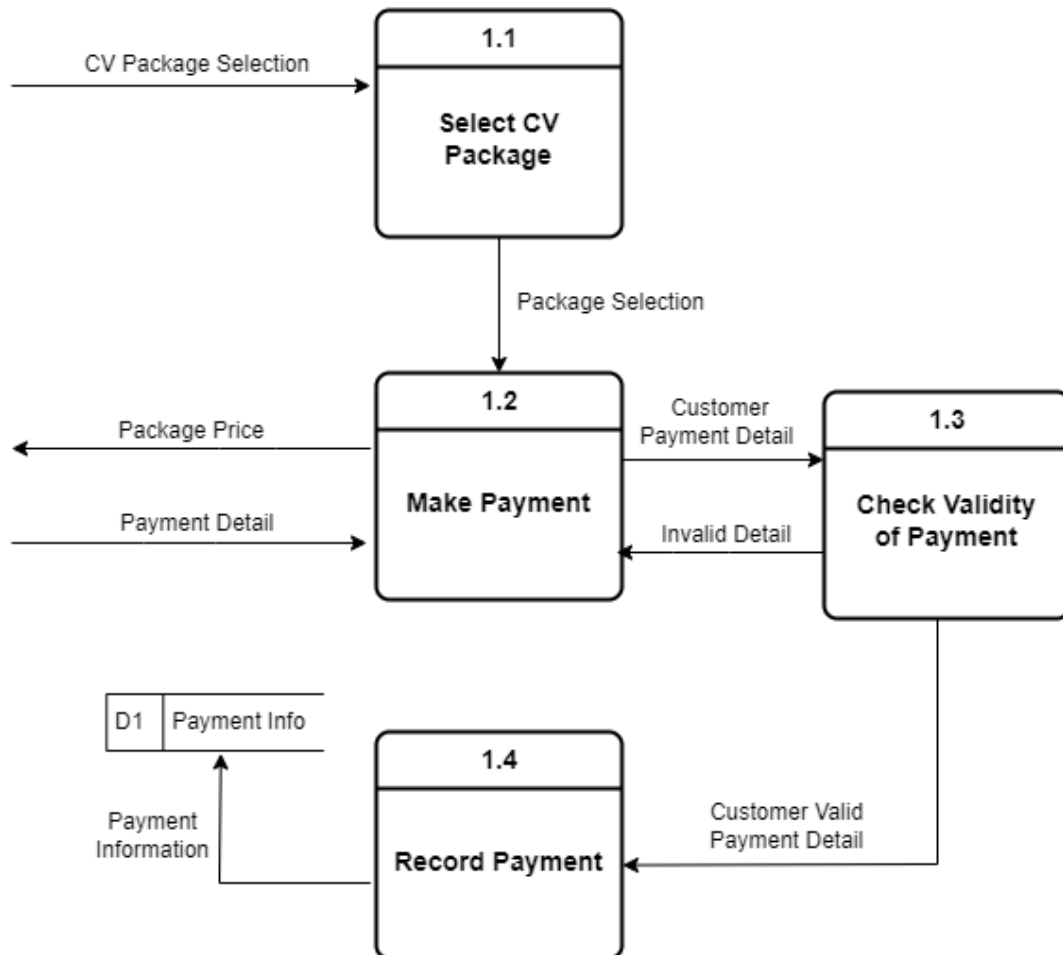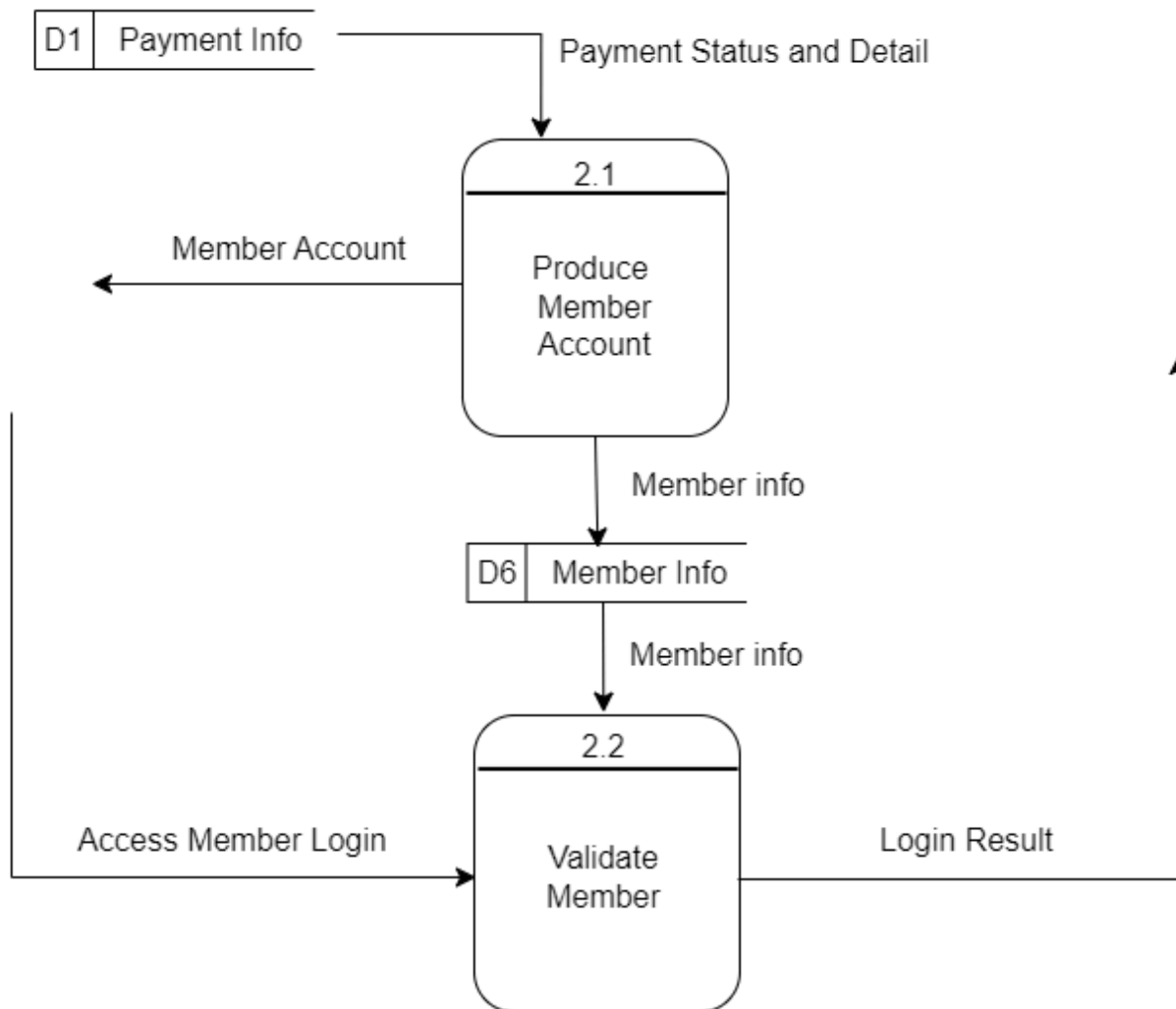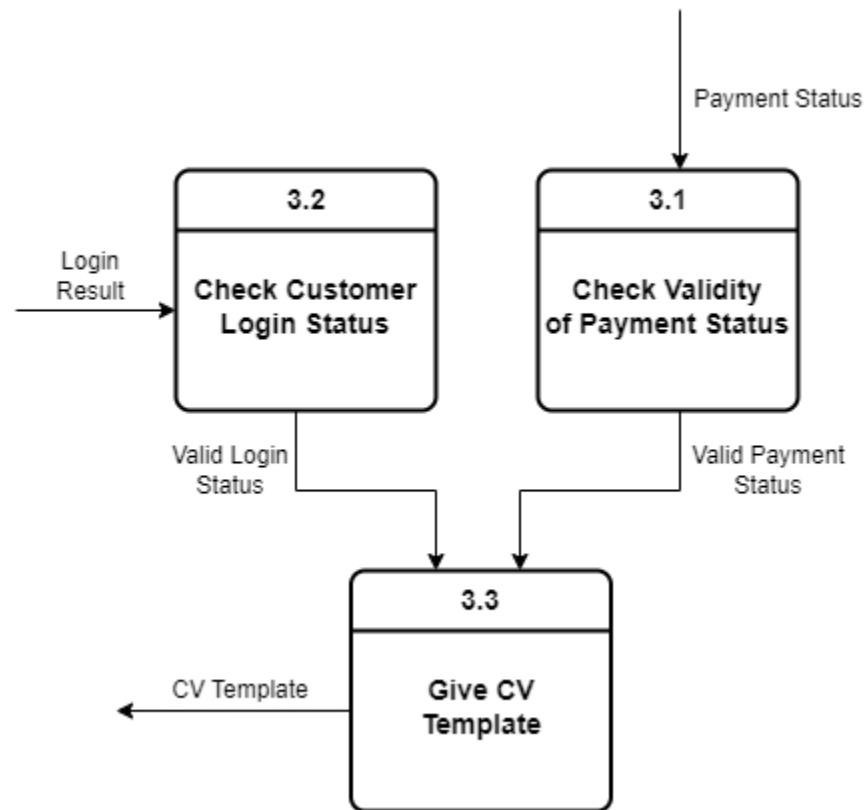## 2.2 Level 0 Diagram
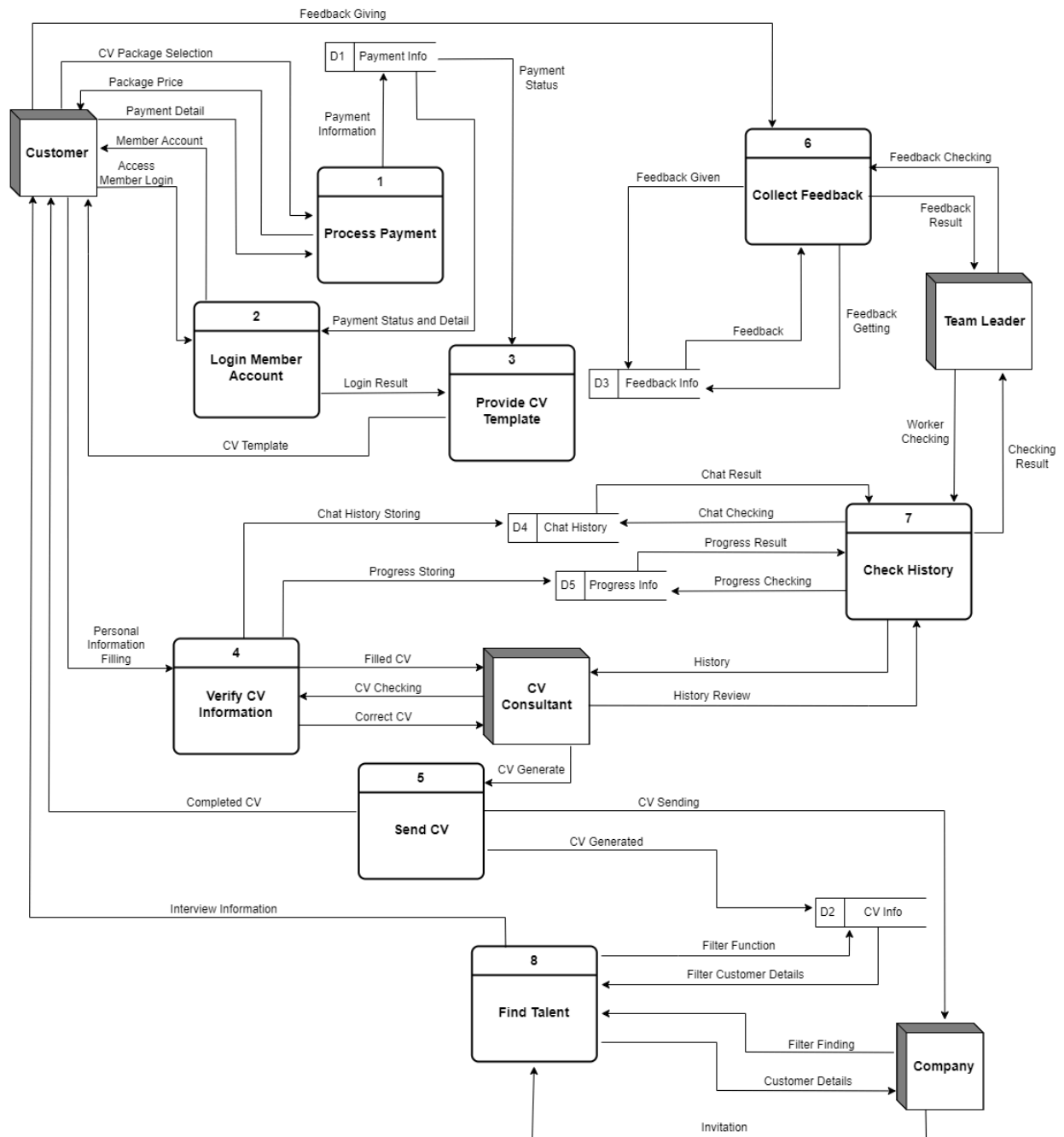
2.3 Level 1 Diagram

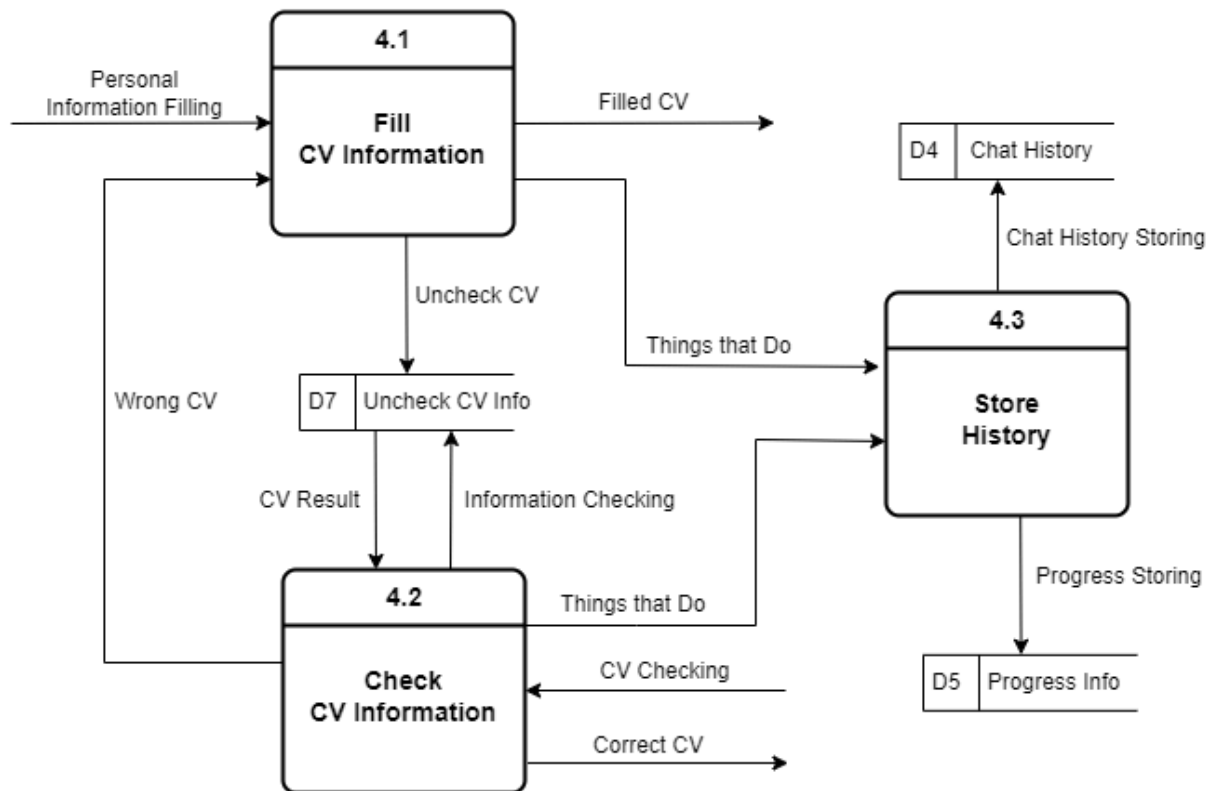### 2.3.1 Level 1 Diagram of Process Payment

2.3.2 Level 1 Diagram of Login Member Account

2.3.3 Level 1 Diagram of Provide CV Template

2.3.4 Level 1 Diagram of Verify CV Information

2.3.5 Level 1 Diagram of Send CV
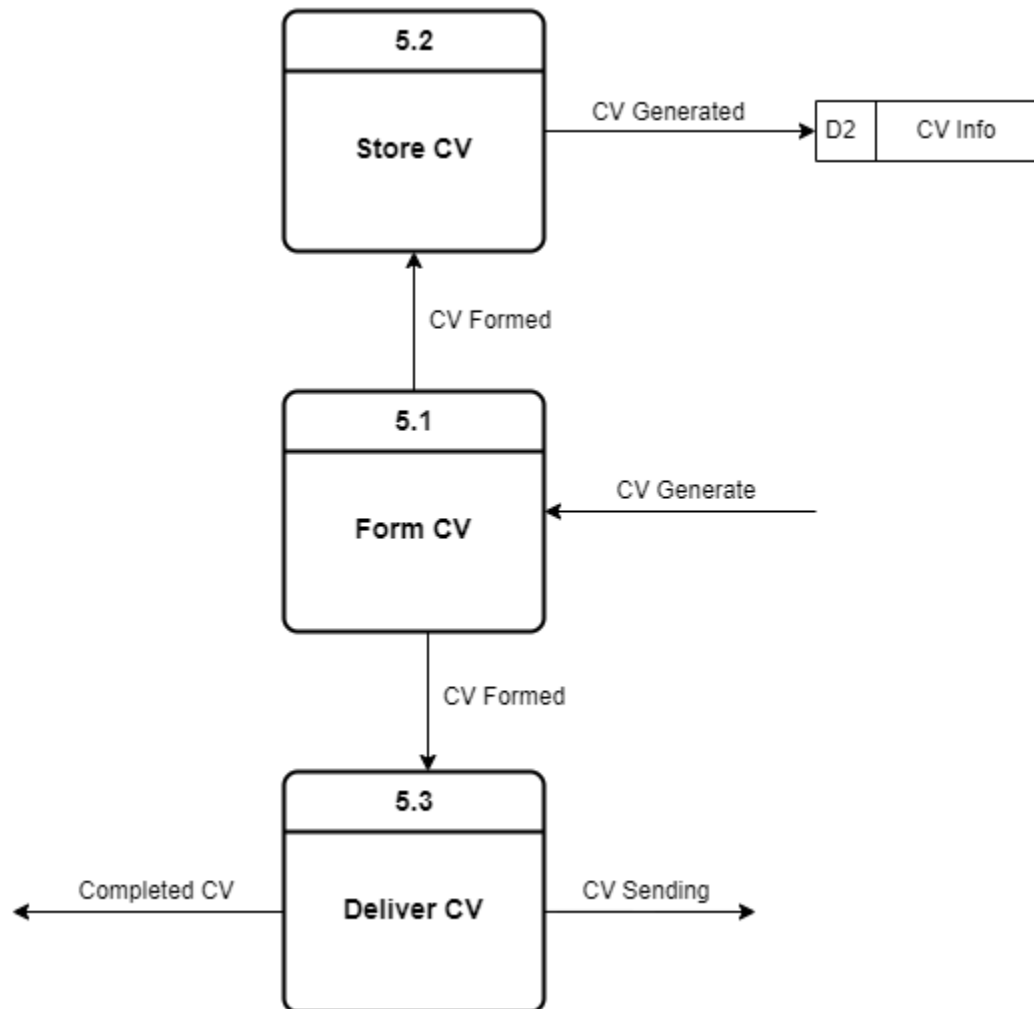
2.3.6 Level 1 Diagram of Collect Feedback
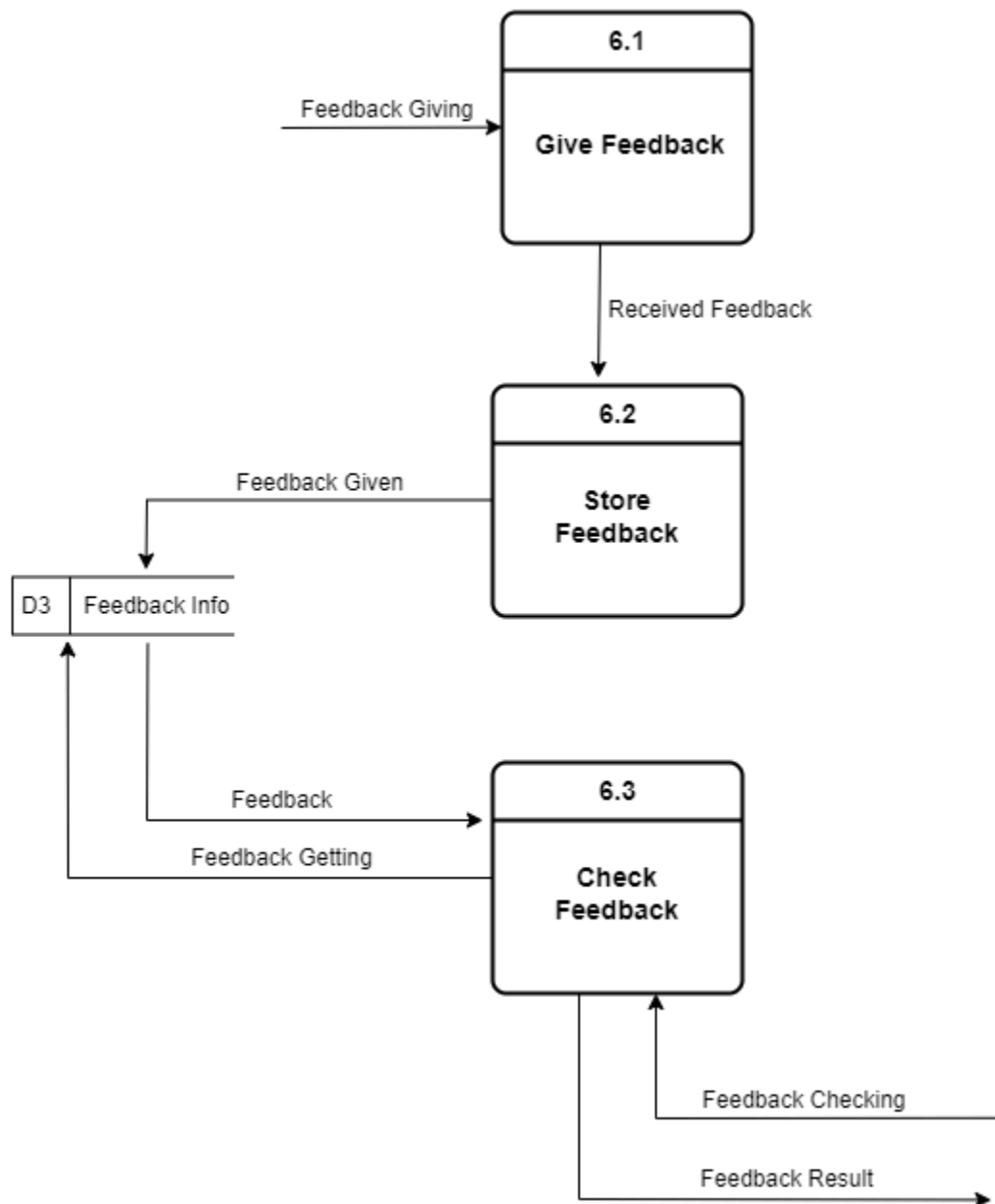
2.3.7 Level 1 Diagram of Find Talent
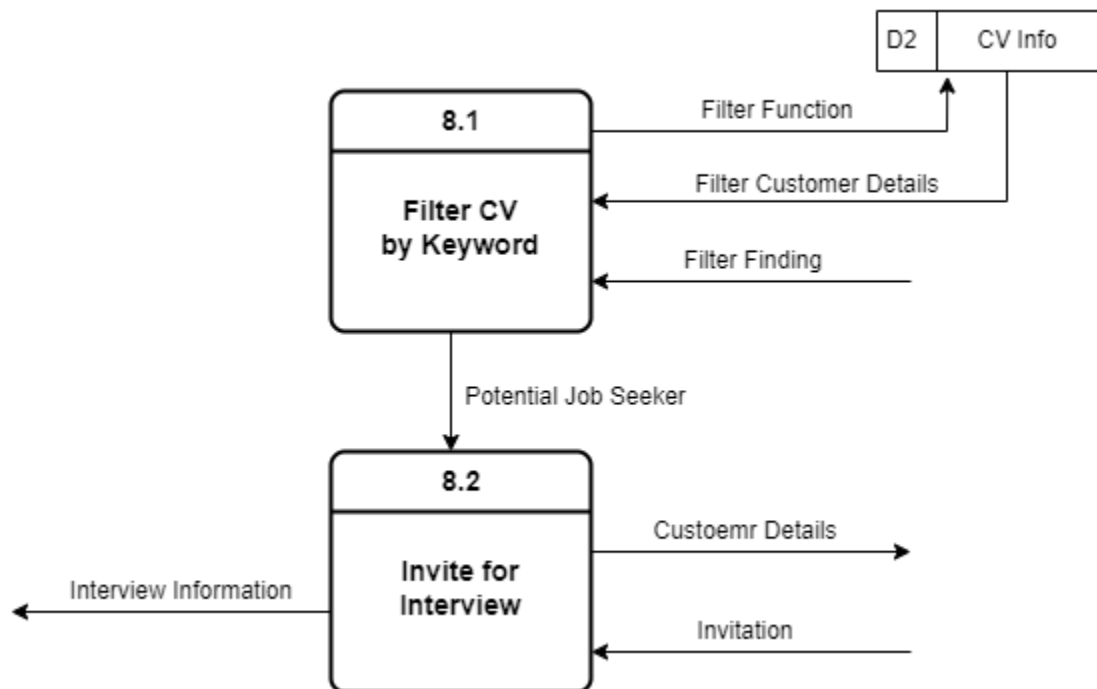
3 Data & Transaction Requirement

3.1 Proposed Business Rule

1. Each customer may purchase one CV package.
2. Every customer may provide one CV draft information.
3. One customer may only request one CV generating status.
4. Each customer may make a payment.
5. Each customer can only receive one CV.
6. Each payment is owned by one CV package.
7. Each worker can generate at least one CV.
8. Each worker can receive at least one CV draft.
9. Each customer can only submit one CV draft.
10. Each company can obtain at least one final CV.
11. This website operates 24 hours except for maintenance.

3.2 Proposed Data & Transactional

Transactions are referred to the operations in a database which are data entry, data delete/updates and data queries. In our project there are several transactions requirement:

Data Entry:
1. Enter the details of customers
2. Enter the details of CV package
3. Enter the details of payment
4. Enter the details of CV information
5. Enter the details of CV draft
6. Enter the details of CV generating status
7. Enter the details of CV
8. Enter the details of worker
9. Enter the details of company
10. Enter the details of feedback
11. Enter the details of chat history

Data Updates/Deletion:
1. Update the details of customers
2. Update the details of CV package
3. Update the details of payment
4. Update the details of CV information
5. Update the details of CV draft
6. Update the details of CV generating status
7. Update the details of CV
8. Update the details of worker
9. Update the details of company
10. Update the details of feedback
11. Update the details of chat history

Data Queries:
1. List the details of customers
2. List the details of CV package
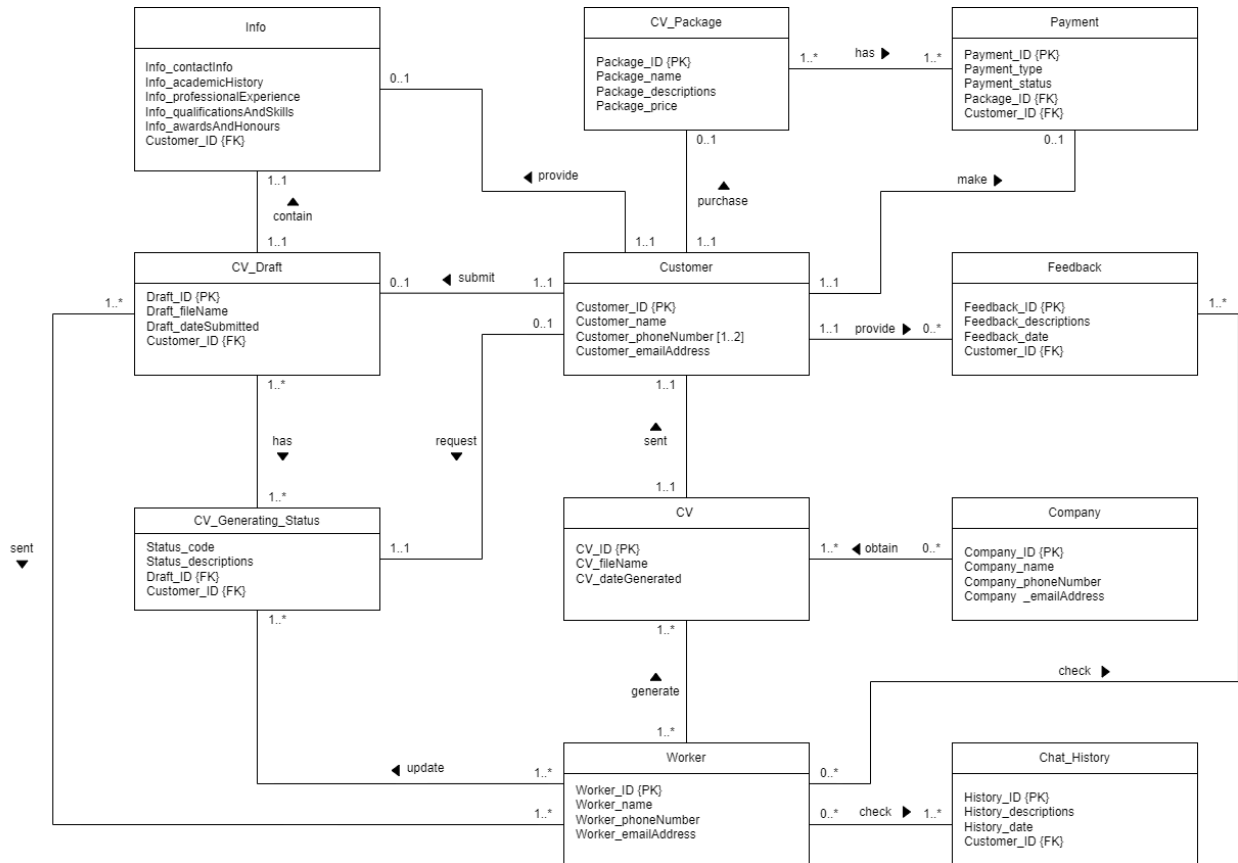3. List the details of payment
4. List the details of CV information
5. List the details of CV draft
6. List the details of CV generating status
7. List the details of CV final
8. List the details of worker
9. List the details of company
10. List the details of feedback
11. List the details of chat history

4 Database conceptual design

4.1 Conceptual ERD

Info
- Info_contactInfo
- Info_academicHistory
- Info_professionalExperience
- Info_qualificationsAndSkills
- Info_awardsAndHonours
- Customer_ID {FK}

CV_Package
- Package_ID {PK}
- Package_name
- Package_descriptions
- Package_price

Payment
- Payment_ID {PK}
- Payment_type
- Payment_status
- Package_ID {FK}
- Customer_ID {FK}

1..*   has ▶   1..*

0..1

0..1

0..1

◀ provide

▲ purchase

make ▶

1..1 contain 1..1

CV_Draft
- Draft_ID {PK}
- Draft_fileName
- Draft_dateSubmitted
- Customer_ID {FK}

0..1   ◀ submit   1..1

Customer
- Customer_ID {PK}
- Customer_name
- Customer_phoneNumber [1..2]
- Customer_emailAddress

1..1

Feedback
- Feedback_ID {PK}
- Feedback_descriptions
- Feedback_date
- Customer_ID {FK}

1..1   provide ▶   0..*

1..*

1..*

0..1

1..1

1..*

has ▼

request ▼

sent ▲

1..1

1..1

CV_Generating_Status
- Status_code
- Status_descriptions
- Draft_ID {FK}
- Customer_ID {FK}

1..*

1..1

CV
- CV_ID {PK}
- CV_fileName
- CV_dateGenerated

1..*   ◀ obtain   0..*

Company
- Company_ID {PK}
- Company_name
- Company_phoneNumber
- Company _emailAddress

sent ▼

1..*

generate ▲

1..*

check ▶

◀ update   1..*

1..*

Worker
- Worker_ID {PK}
- Worker_name
- Worker_phoneNumber
- Worker_emailAddress

0..*

0..*   check ▶   1..*

Chat_History
- History_ID {PK}
- History_descriptions
- History_date
- Customer_ID {FK}

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4.2 Enhanced ERD (EERD)

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5 Data Dictionary

5.1 Description of Entities

Entity	Description	Occurrence
Customer	General term describing all the customers (job seeker) in "GetMe Hired"	Each customer registers their accounts Each customer may purchase one CV package and makes payment for it Each customer may provide their information to be included in the CV draft Each customer submits a CV draft and request their CV generating status Each customer receives the CV generated and may provide many feedback based on the services provided by "GetMe Hired"
CV_Package	General term describing all the provided CV package by "GetMe Hired"	Each CV package may purchased by one customer Each CV package has one or many payment
Payment	General term describing all the payment made by customers	Each payment may made by one customer Each payment owned by one or many CV packages
Info	General term describing all the data that have been filled by customer in their CV draft	Each Info may provided by one customer Each Info is included in one CV draft

CV_Draft	General term describing all the draft that have been submitted by the customer to "GetMe Hired"	Each CV draft may submitted by one customer Each CV draft contains one Info Each CV draft is sent to one or many workers. Each CV draft has one or many CV generating status
Worker	General term describing all the workers of "GetMeHired"	Each worker receives one or many CV drafts Each worker updates one or many CV generating status Each worker generates one or many CV Each worker checks one or many chat histories Each worker checks one or many feedbacks
CV_Generating_Status	General term describing the current status of generating CV	Each CV generating status is requested by none or one customer Each CV generating status is updated by one or many workers Each CV generating status is correspond to one or many CV drafts
Chat_History	General term describing all the chat history between worker and customer	Each customer chat history can be checked by none or many workers

CV	General term describing all the generated CV by the workers	Each CV is generated by one or many workers Each CV is sent to one customer Each CV may obtained by none or many recruiter
Feedback	General term describing all the feedback given by customer	Each customer feedback is provided by one customer Each customer feedback is checked by none or many workers
Company	General term describing all the Company (recruiter) that used "GetMe Hired"	Each company obtains one or many CV

5.2 Description of Relationship

Entity	Multiplicity	Relationship	Multiplicity	Entity
Customer	1..1 1..1 1..1 1..1 0..1 1..1 1..1	Purchase Make Provide Submit Request Receive Provide	0..1 0..1 0..1 0..1 1..1 1..1 1..*	CV_Package Payment Info CV_Draft CV_Generating_Status CV Feedback
CV_Package	1..*	Has	1..*	Payment
CV_Draft	1..1 1..* 1..*	Contain Has Sent	1..1 1..* 1..*	Info CV_Generating_Status Worker
Worker	1..* 1..* 0..* 0..*	Update Generate Check Check	1..* 1..* 1..* 1..*	CV_Generating_Status CV Chat_History Customer Feedback
Company	0..*	Obtain	1..*	CV

5.3 Description of Attributes

Entity	Attributes	Description	Data Type	Constraint	Multi-valued
Customer	Customer_ID	Uniquely identifies a customer	VARCHAR 2(15)	PRIMARY KEY	no
	Customer_name	Name of customer	VARCHAR 2(30)	NOT NULL	no
	Customer_phone Number	Phone number of customer	VARCHAR 2(12)	NOT NULL	yes
	Customer_email Address	Email address of customer	VARCHAR 2(30)	NOT NULL	no
CV_Package	Package_ID	Uniquely identifies a package	VARCHAR 2(15)	PRIMARY KEY	no
	Package_name	Name of package	VARCHAR 2(30)	NOT NULL	no
	Package_descript ions	Description of package	VARCHAR 2(4000)	NOT NULL	no
	Package_price	Price of package	DECIMAL (8,2)	NOT NULL	no
Payment	Payment_ID	Uniquely identifies a payment	VARCHAR 2(15)	PRIMARY KEY	no
	Payment_type	Type of payment	CHAR(1)	NOT NULL	no
	Payment_status	Payment status	CHAR(1)	NOT NULL	no
	Package_ID	Referenced package ID	VARCHAR 2(25)	-FOREIGN KEY REFERENCE CV PACKAGE	no
	Customer_ID	Referenced customer ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no

Info	Info_contactInfo	Contact information that filled in CV template	VARCHAR 2(4000)	NOT NULL	yes
	Info_academicHi story	Academic history that filled in CV template	VARCHAR 2(4000)	NOT NULL	yes
	Info_professional Experience	Professional experience that filled in CV template	VARCHAR 2(4000)	-	yes
	Info_qualificatio nsAndSkills	Qualifications and skills that filled in CV template	VARCHAR 2(4000)	-	yes
	CV_awardsAnd Honours	Awards and honors that filled in CV template	VARCHAR 2(4000)	-	yes
	Customer_ID	Referenced customer ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
CV_Draft	Draft_ID	Uniquely identifies a CV draft	VARCHAR 2(15)	PRIMARY KEY	no
	Draft_fileName	File name of CV draft	VARCHAR 2(40)	NOT NULL	no
	Draft_dateSubmi tted	Date submitted the CV draft	DATE	NOT NULL	no
	Customer_ID	Referenced customer ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
Worker	Worker_ID	Uniquely identifies a "GetMe Hired" worker	VARCHAR 2(15)	PRIMARY KEY	no
	Worker_name	Name of worker	VARCHAR 2(30)	NOT NULL	no
	Worker_phoneN	Phone number of	VARCHAR	NOT NULL	yes

	umber	worker	2(12)		
	Worker_emailAddress	Email address of worker	VARCHAR2(30)	NOT NULL	no
CV_Generating_Status	Status_code	Code of status for generation of CV	VARCHAR2(15)	NOT NULL	no
	Status_descriptions	CV generating descriptions	VARCHAR2(100)	NOT NULL	no
	Customer_ID	Referenced customer ID	VARCHAR2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
	Draft_ID	Referenced CV draft ID	VARCHAR2(15)	-FOREIGN KEY REFERENCE CV DRAFT	no
Chat_History	History_ID	Uniquely identifies a customer chat history	VARCHAR2(15)	PRIMARY KEY	no
	History_descriptions	Title of chat history	VARCHAR2(4000)	NOT NULL	no
	History_date	Date of chat history	DATE	NOT NULL	yes
	Customer_ID	Referenced customer ID	VARCHAR2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
CV	CV_ID	Uniquely identifies CV generated	VARCHAR2(15)	PRIMARY KEY	no
	CV_fileName	File name of CV	VARCHAR2(40)	NOT NULL	no
	CV_dateGenerated	Date generated the CV	DATE	NOT NULL	no
Feedback	Feedback_ID	Uniquely identifies a customer feedback	VARCHAR2(15)	PRIMARY KEY	no
	Feedback_descri	Feedback	VARCHAR	NOT NULL	no

	ptions	descriptions of customer provides	2(4000)		
	Feedback_date	Date customer gives the feedback	DATE	NOT NULL	no
	Customer_ID	Referenced customer ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
Company	Company_ID	Uniquely identifies a recruiter	VARCHAR 2(15)	PRIMARY KEY	no
	Company_name	Name of recruiter	VARCHAR 2(30)	NOT NULL	no
	Company_phone Number	Phone number of recruiter	VARCHAR 2(12)	NOT NULL	yes
	Company_email Address	Email address of recruiter	VARCHAR 2(30)	NOT NULL	no

6 Summary

In conclusion, the proposed system has taken account of the expectations and concerns from the users of the current system in "GetMe Hired". Nevertheless, some of the useful features provided in the current system are maintained and new features or functionalities are provided and introduced in order for the improvement and enhancement of the user experience. Therefore, a more user-friendly system for "GetMe Hired" will allow the efficiency and reliability for the stakeholders for organization in the company status.

Based on the information gathered and collected, the analysis of user requirements and recommendations has been carried out in order to produce this proposed system. A lot of ideas and opinions have helped our team to determine the main focus for improvement. For example, the proposed "GetMe Hired" system will include the functionalities of storing chat history, filtering features of CV generated and efficiency and effectiveness checking of the users and stakeholders and others.

Therefore, our team has an expectation that the system stakeholders will undoubtedly gain benefits which enhance the efficiency and productivity of the system. A win-win situation will then be fulfilled for all stakeholders which includes the customer, workers and recruiter and thus develop a more acceptable, adequate and favorable user experience.