



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SECD2523 DATABASE

PROJECT : PHASE 2 DATABASE CONCEPTUAL DESIGN

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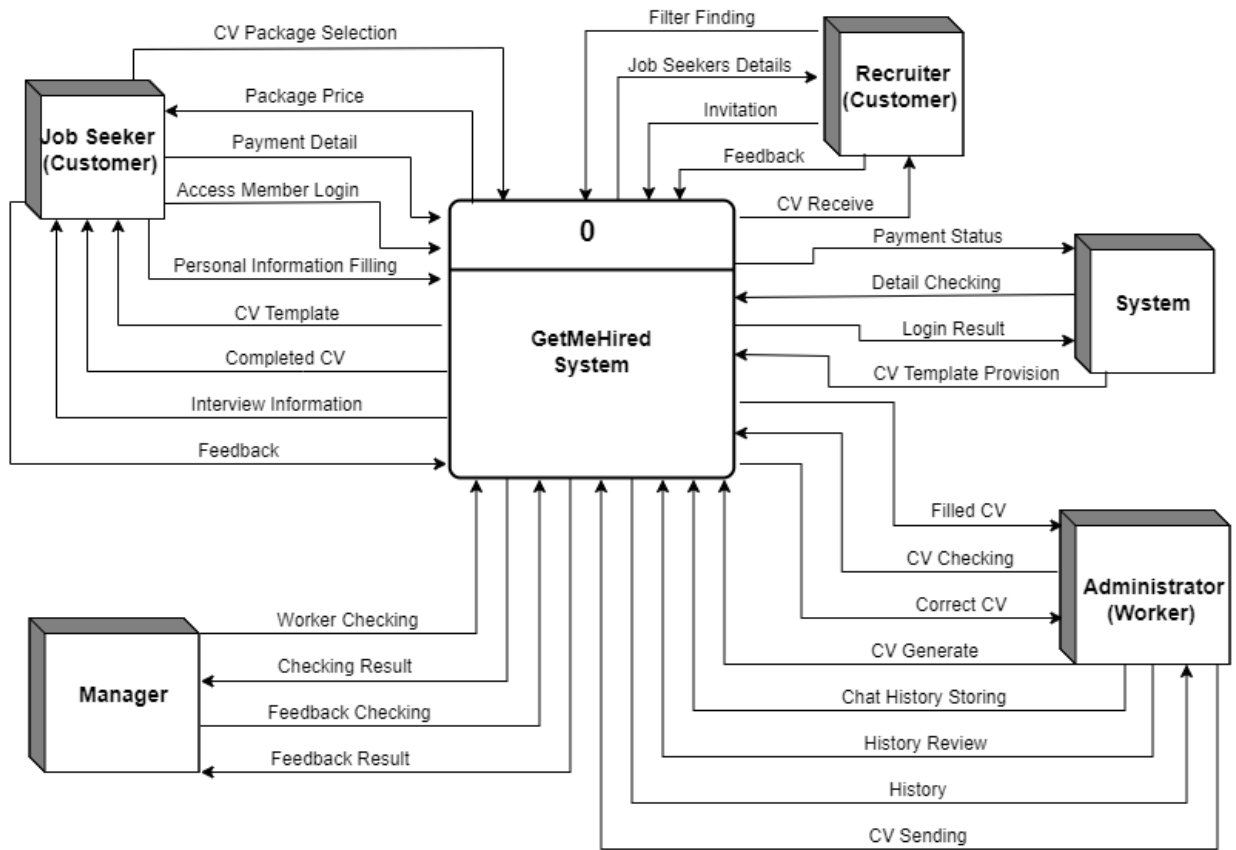
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1 Introduction

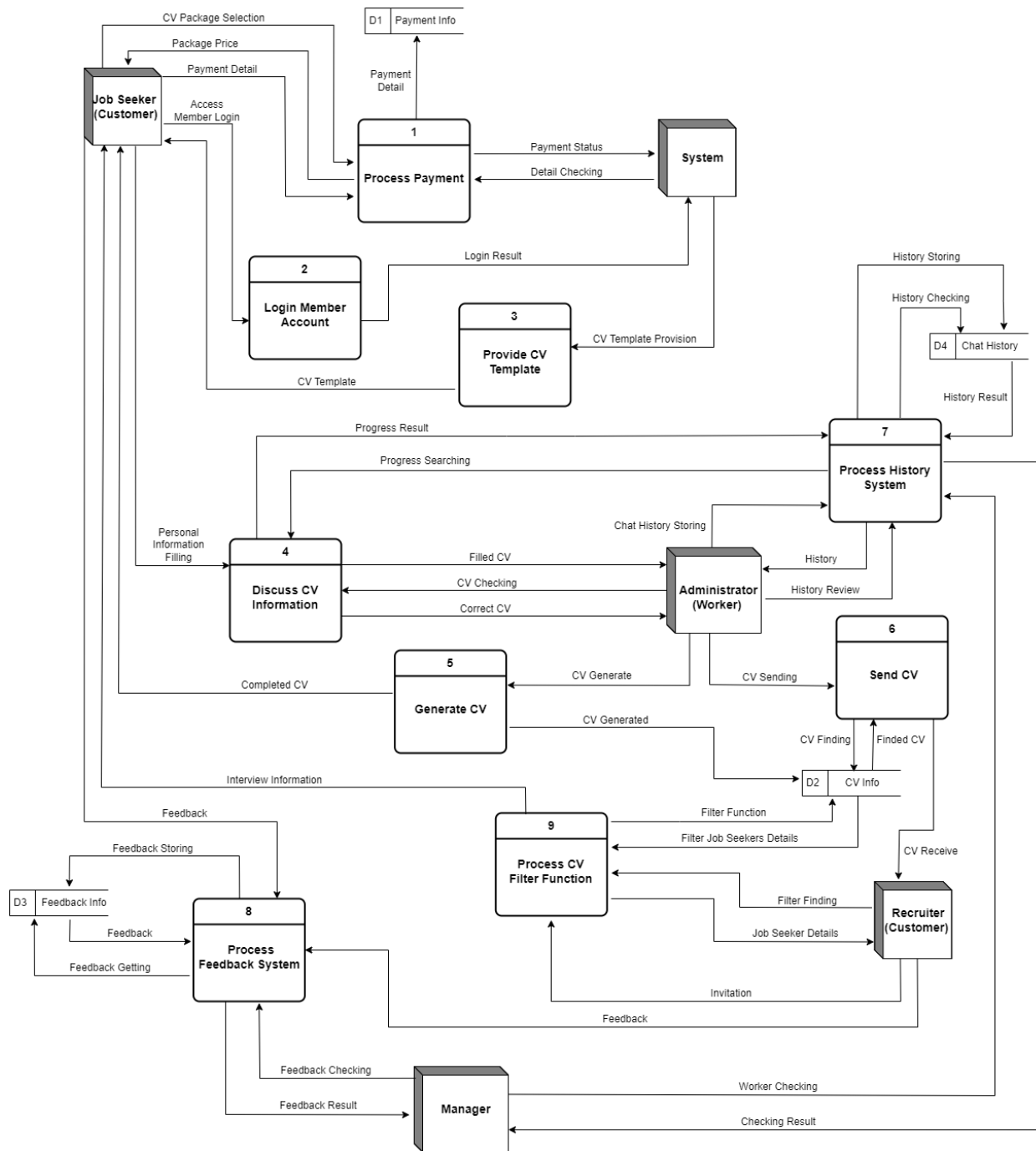
After finishing the interview session with one of the workers from “GetMe Hired”, the interviewee has provided our team a lot of relevant information regarding the improvement or enhancement that can be implemented to the current system. In order to enhance the user experience, several specific improvements 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

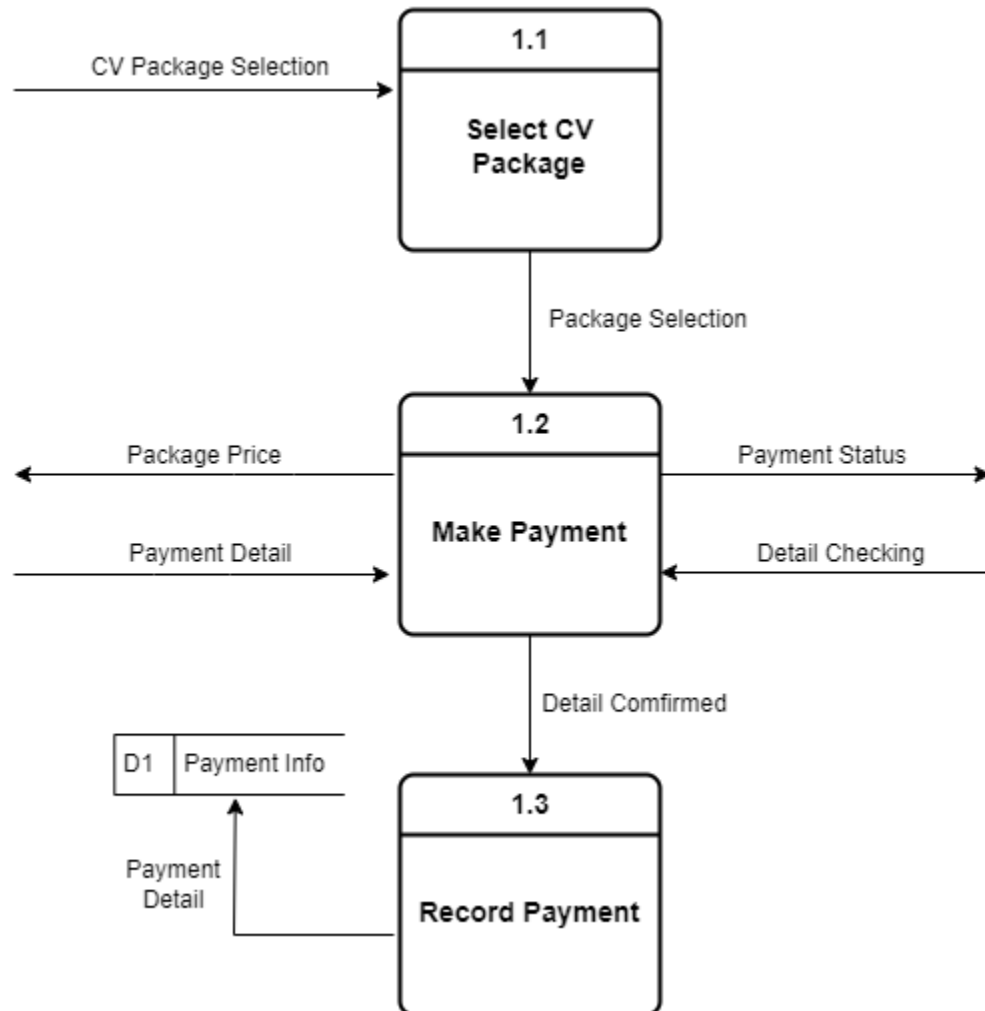


2.2 Level 0 Diagram

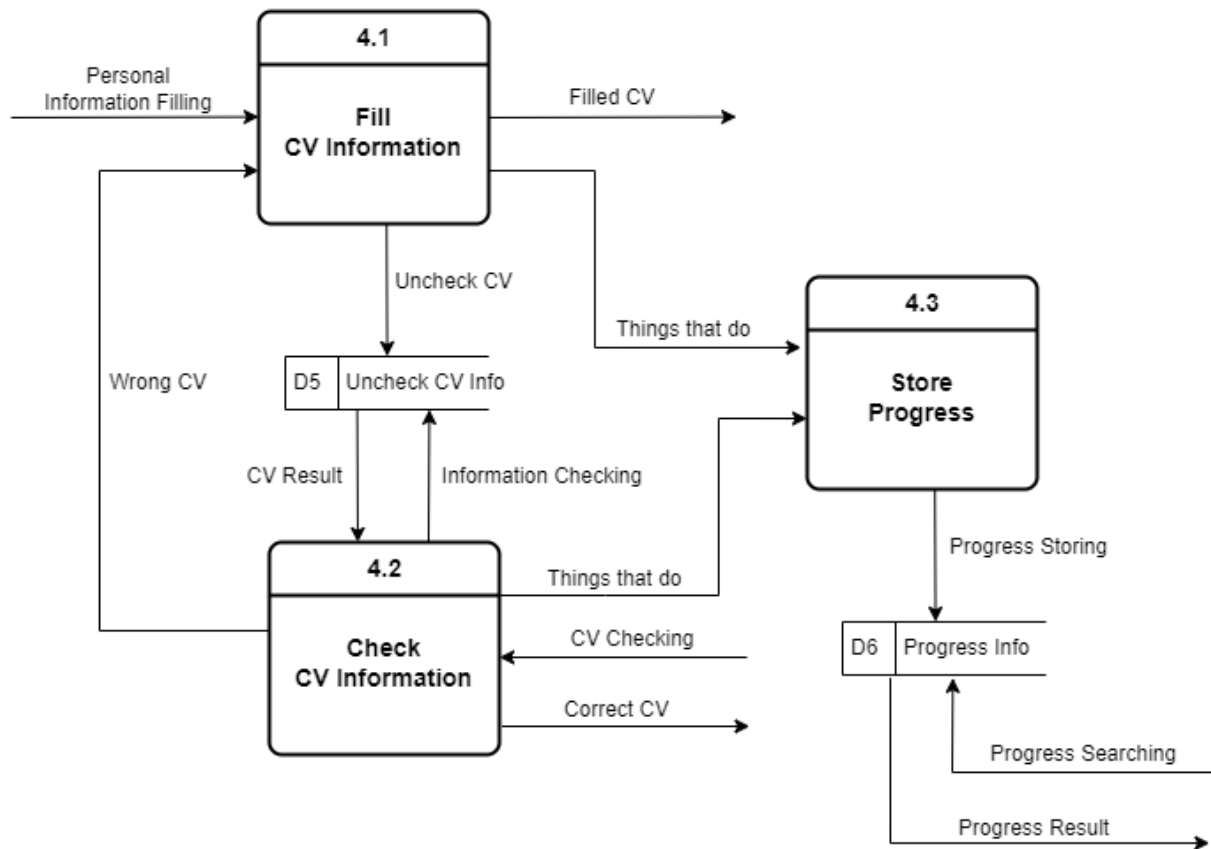


2.3 Level 1 Diagram

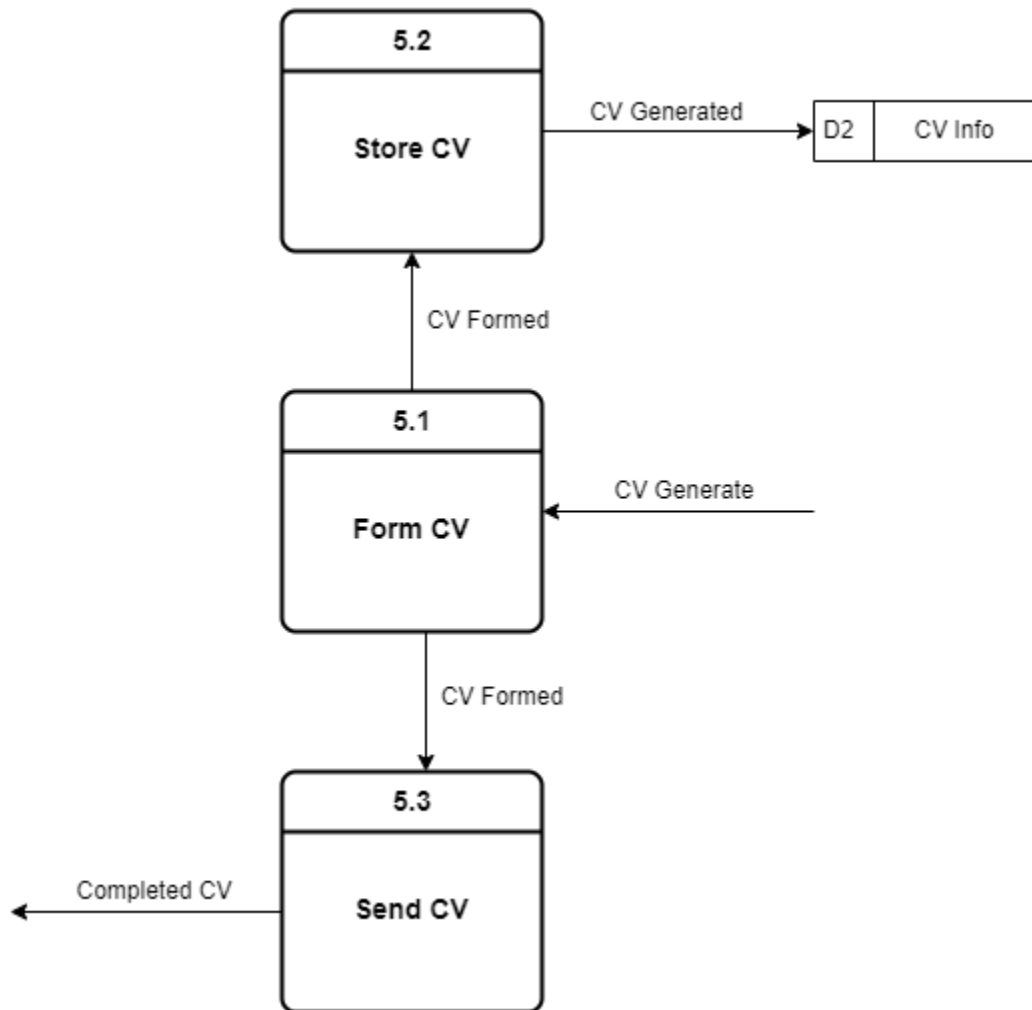
2.3.1 Level 1 Diagram of Process Payment



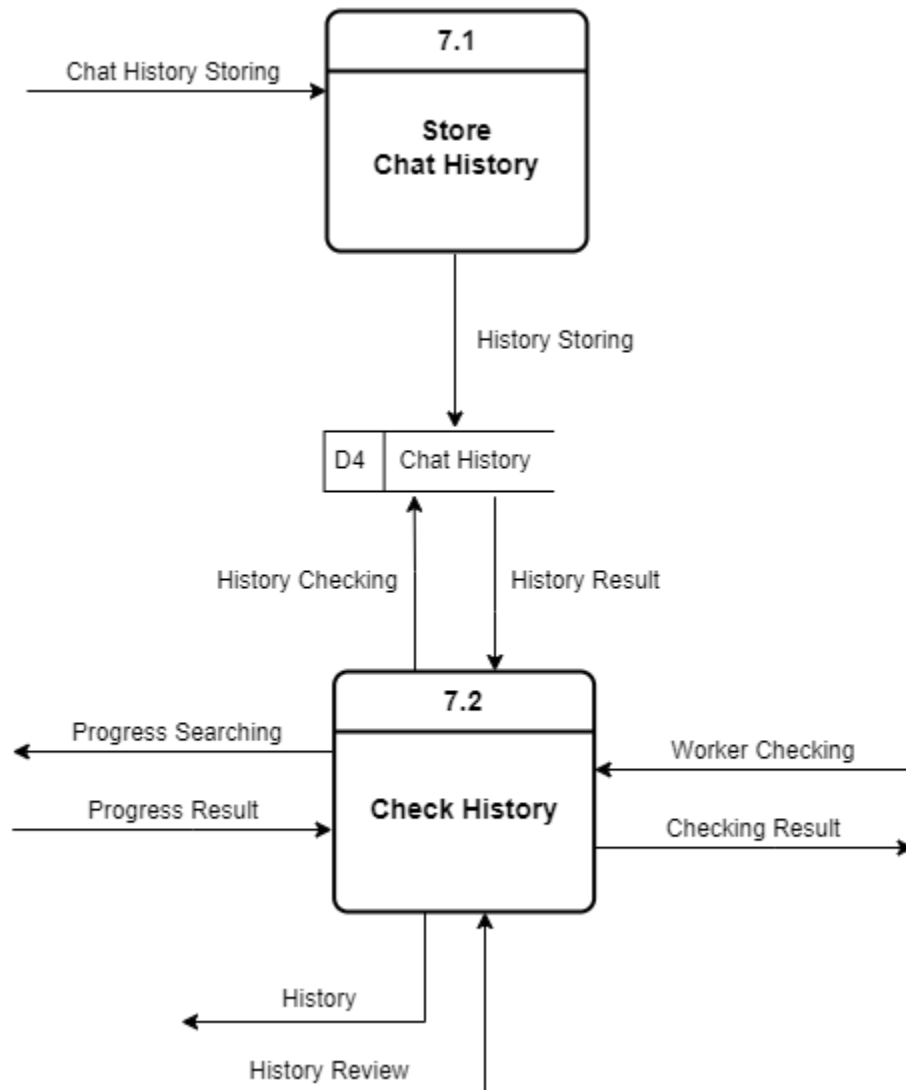
2.3.2 Level 1 Diagram of Discuss CV Information



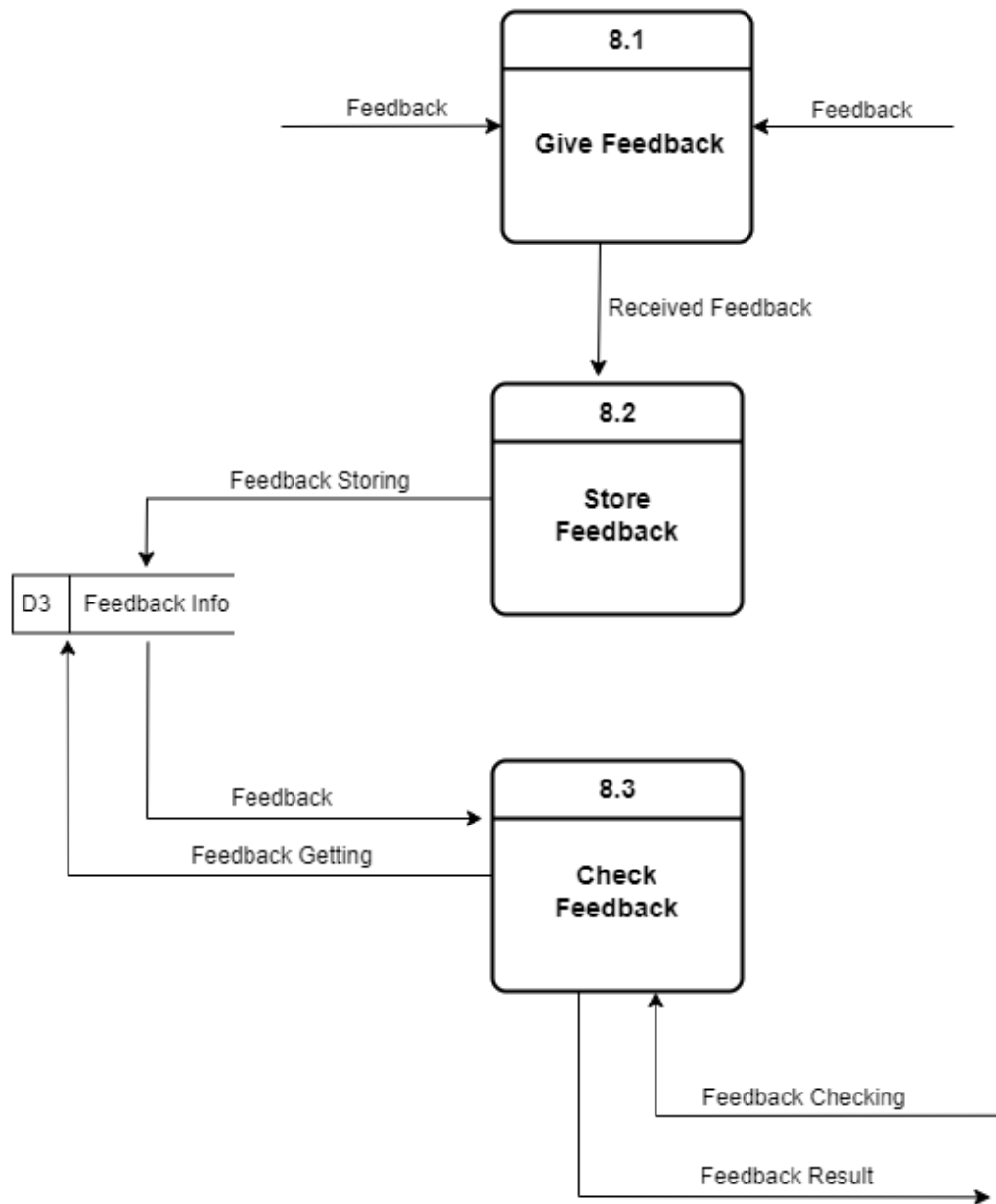
2.3.3 Level 1 Diagram of Generate CV



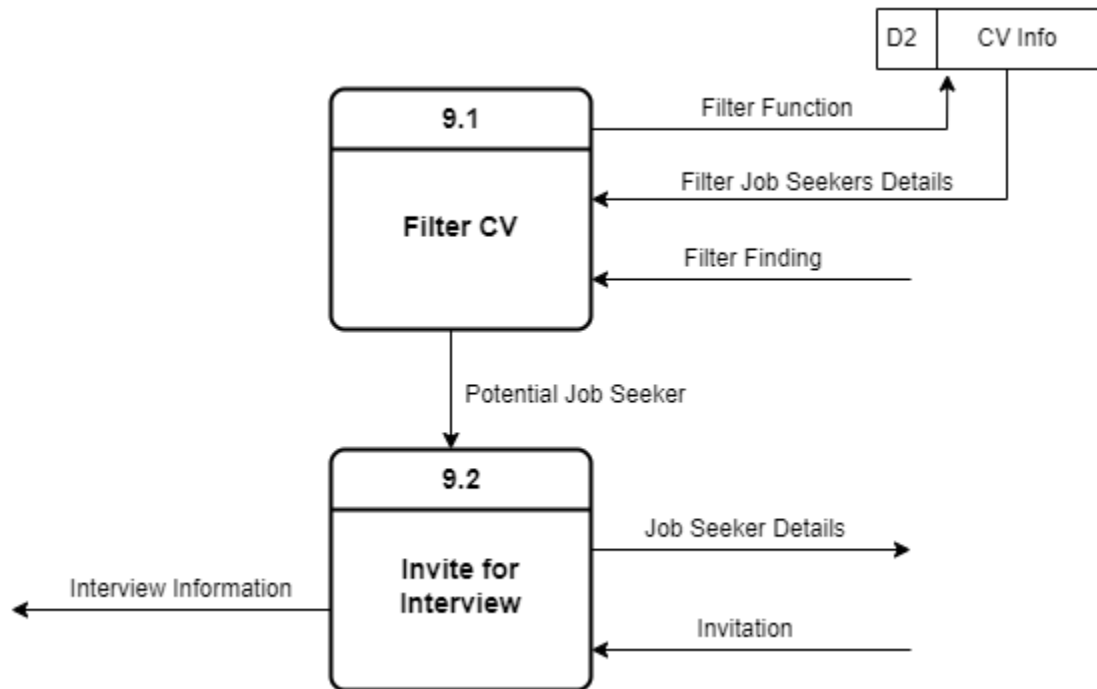
2.3.4 Level 1 Diagram of Process History System



2.3.5 Level 1 Diagram of Process Feedback System



2.3.6 Level 1 Diagram of Process CV Filter Function



3 Data & Transaction Requirement

3.1 Proposed Business Rule

1. Each customer can purchase one CV Package.
2. Every customer can choose at least one CV template.
3. Every customer has to provide at least one CV draft information.
4. One customer can only request one CV generating progress.
5. Each customer can make a payment.
6. Each customer can only receive one CV Final.
7. Each payment is owned by one CV package.
8. Each administrator can generate at least one CV Final.
9. Each administrator can receive at least one CV draft.
10. Each customer can only submit one CV draft.
11. Each recruiter can obtain at least one final CV.
12. 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 templates
3. Enter the details of CV packages
4. Enter the details of CV draft information
5. Enter the details of CV generating progress
6. Enter the details of CV draft
7. Enter the details of CV final
8. Enter the details of worker
9. Enter the details of recruiter
10. Enter the details of payment
11. Enter the details of customer feedback
12. Enter the details of customer chat history

Data Updates/Deletion:

1. Update the details of customers
2. Update the details of templates
3. Update the details of CV packages
4. Update the details of CV draft information

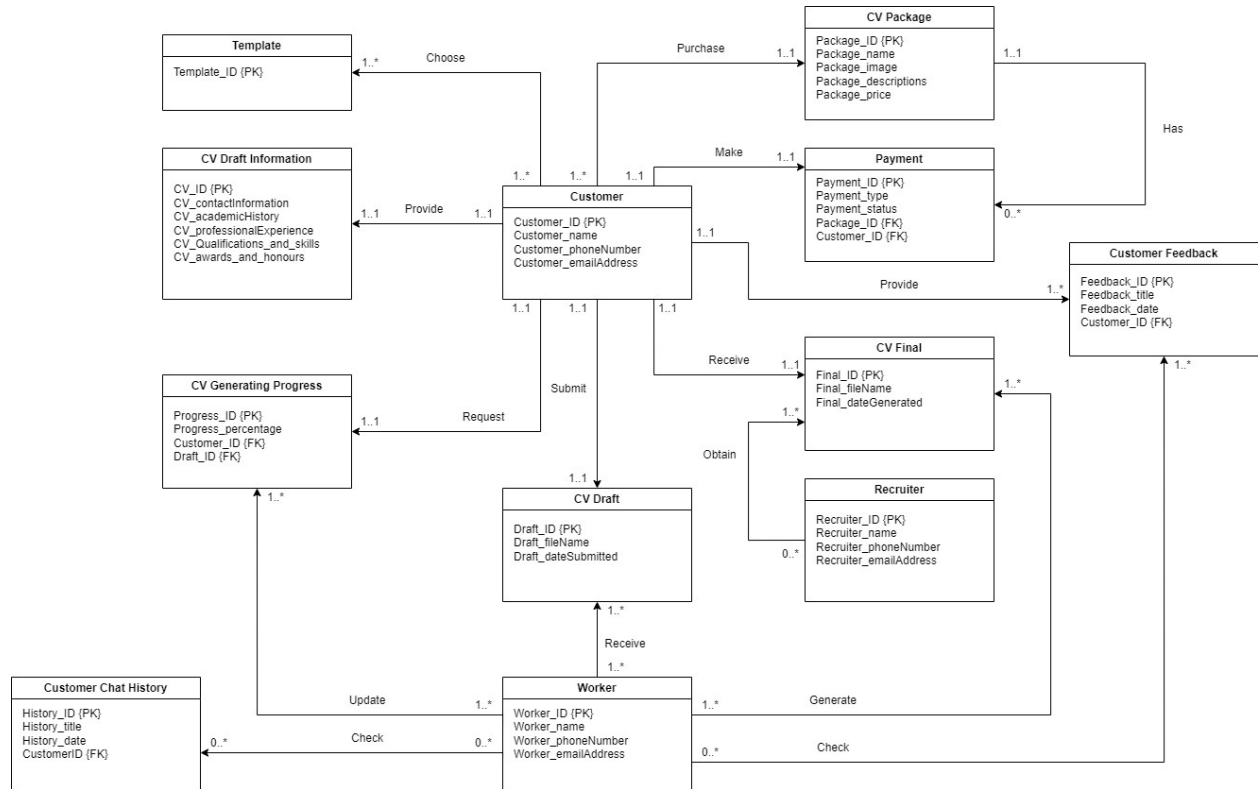
5. Update the details of CV generating progress
6. Update the details of CV draft
7. Update the details of CV final
8. Update the details of worker
9. Update the details of recruiter
10. Update the details of payment
11. Update the details of customer feedback
12. Update the details of customer chat history

Data Queries:

1. List the details of customers
2. List the details of templates
3. List the details of CV packages
4. List the details of CV draft information
5. List the details of CV generating progress
6. List the details of CV draft
7. List the details of CV final
8. List the details of worker
9. List the details of recruiter
10. List the details of payment
11. List the details of customer feedback
12. List the details of customer chat history

4 Database conceptual design

4.1 Conceptual ERD



```

classDiagram
    class Customer {
        Customer_ID PK
        Customer_name
        Customer_phoneNumber
        Customer_emailAddress
    }
    class Worker {
        Worker_ID PK
        Worker_name
        Worker_phoneNumber
        Worker_emailAddress
    }
    class Manager {
    }
    class Administrator {
    }
    class CV_Package {
        Package_ID PK
        Package_name
        Package_image
        Package_descriptions
        Package_price
    }
    class Payment {
        Payment_ID PK
        Payment_type
        Payment_status
        Package_ID FK
        Customer_ID FK
    }
    class CV_Draft {
        Draft_ID PK
        Draft_fileName
        Draft_dateSubmitted
    }
    class CV_Final {
        Final_ID PK
        Final_fileName
        Final_dateGenerated
    }
    class Recruiter {
        Recruiter_ID PK
        Recruiter_name
        Recruiter_phoneNumber
        Recruiter_emailAddress
    }
    class Customer_Feedback {
        Feedback_ID PK
        Feedback_title
        Feedback_date
        Customer_ID FK
    }
    class CV_Generating_Progress {
        Progress_ID PK
        Progress_percentage
        Customer_ID FK
        Draft_ID FK
    }
    class Customer_Chat_History {
        History_ID PK
        History_title
        History_date
        CustomerID FK
    }

    Customer "1..*" --> "1..*" CV_Package : Choose
    Customer "1..*" --> "1..1" CV_Package : Purchase
    Customer "1..1" --> "1..1" Payment : Make
    Customer "1..1" --> "0..*" Payment : Provide
    Customer "1..1" --> "1..1" CV_Draft : Submit
    Customer "1..1" --> "1..1" CV_Generating_Progress : Request
    Worker "1..1" --> "1..1" CV_Draft : Receive
    Worker "1..1" --> "1..1" CV_Final : Obtain
    Worker "1..1" --> "1..1" CV_Generating_Progress : Update
    Worker "1..1" --> "0..*" Customer_Chat_History : Check
    Manager <|-- Administrator
    Manager <|-- Worker
    CV_Package "1..1" --> "1..1" Payment : Has
    CV_Package "1..1" --> "1..1" CV_Final : Generate
    CV_Package "1..1" --> "1..1" Recruiter : Check
    CV_Draft "1..1" --> "1..1" CV_Final : Obtain
    CV_Final "1..1" --> "1..1" Customer_Feedback : Provide
    CV_Final "1..1" --> "1..1" Recruiter : Generate
    CV_Final "1..1" --> "1..1" Recruiter : Check
    CV_Generating_Progress "1..1" --> "1..1" Customer_Feedback : Provide
    CV_Generating_Progress "1..1" --> "1..1" Recruiter : Generate
    CV_Generating_Progress "1..1" --> "1..1" Recruiter : Check
    
```

5 Data Dictionary

5.1 Description of Entities

Entity	Description	Occurrence
Customer	General term describing all the customers (job seeker) in “GetMe Hired”	<p>Each customer registers their accounts</p> <p>Each customer purchases one CV package and makes payment for it</p> <p>Each customer chooses one or many CV templates and fills in them by providing the CV draft information</p> <p>Each customer submits a CV draft and requests their CV generating process</p> <p>Each customer receives the final CV and provides one or many feedback based on the services provided by “GetMe Hired”</p>
CV Package	General term describing all the provided CV package by “GetMe Hired”	<p>Each CV Package can be purchased by one or many customers</p> <p>Each CV Package has none or many payment</p>
Payment	General term describing all the payment made by customers	<p>Each payment made by one customer</p> <p>Each payment owned by one CV package</p>
Template	General term describing all the CV template created by “GetMe Hired”	Each templates provided to be chosen by many customers

CV Draft Information	General term describing all the data that have been filled by customer in CV draft	Each CV draft information provided by one customer
CV Draft	General term describing all the draft that have been submitted by the customer to “GetMe Hired”	Each CV draft submitted by one customer
Worker	General term describing all the workers of “GetMeHired”	<p>Each worker receives one or many CV draft submitted by customers</p> <p>Each worker updates one or many CV generating progress corresponding to the CV draft they handled</p> <p>Each worker checks none or many customer chat histories.</p> <p>Each worker generates one or many final CVs</p> <p>Each worker checks one or many customer feedback</p>
CV Generating Progress	General term describing the current progress of generating CV	<p>Each CV generating progress is requested by one customer</p> <p>Each CV generating progress is updated by one or many workers</p>
Customer 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 Final	General term describing all the generated final CV	<p>Each final CV is generated by one or many workers</p> <p>Each final CV is received by one customer</p> <p>Each final CV is obtained by</p>

		none or many recruiter
Customer Feedback	General term describing all the feedback given by customer	Each customer feedback is given by one customer Each customer feedback is checked by none or many workers
Recruiter	General term describing all the recruiter that used “GetMe Hired”	Each recruiter obtains one or many final CV

5.2 Description of Relationship

Entity	Multiplicity	Relationship	Multiplicity	Entity
Customer	1...*	Purchase	1...1	CV Package
	1...1	Make	1...1	Payment
	1...*	Choose	1...*	Template
	1...1	Provide	1...*	CV Draft Information
	1...1	Submit	1...1	CV Draft
	1...1	Request	1...1	CV Generating Progress
	1...1	Receive	1...1	CV Final
	1...*	Provide	1...*	Customer Feedback
CV Package	1...1	Has	0...*	Payment
Worker	1...*	Receive	1...*	CV Draft
	1...*	Update	1...*	CV Generating Progress
	0...*	Check	0...*	Customer Chat History
	1...*	Generate	1...*	CV final
	0...*	Check	1...*	Customer Feedback
Recruiter	0...*	Obtain	1...*	CV Final

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	no
	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_image	Icon image for package	VARCHAR 2(252)	NOT NULL	no
	Package_descriptions	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

Template	Template_ID	Uniquely identifies a CV template	VARCHAR2(15)	PRIMARY KEY	no
CV Draft Information	CV_ID	Uniquely identifies a CV draft information	VARCHAR2(15)	PRIMARY KEY	no
	CV_contactinformation	Contact information that filled in CV template	VARCHAR2(4000)	NOT NULL	yes
	CV_academicHistory	Academic history that filled in CV template	VARCHAR2(4000)	NOT NULL	yes
	CV_professionalExperience	Professional experience that filled in CV template	VARCHAR2(4000)	-	yes
	CV_Qualifications_and_skills	Qualifications and skills that filled in CV template	VARCHAR2(4000)	-	yes
	CV_awards_and_honours	Awards and honors that filled in CV template	VARCHAR2(4000)	-	yes
CV Draft	Draft_ID	Uniquely identifies a CV draft	VARCHAR2(15)	PRIMARY KEY	no
	Draft_fileName	File name of CV draft	VARCHAR2(40)	NOT NULL	no
	Draft_dateSubmitted	Date submitted the CV draft	DATE	NOT NULL	no
Worker	Worker_ID	Uniquely identifies a “GetMe Hired” worker	VARCHAR2(15)	PRIMARY KEY	no
	Worker_name	Name of worker	VARCHAR2(30)	NOT NULL	no
	Worker_phoneNumber	Phone number of worker	VARCHAR2(12)	NOT NULL	yes
	Worker_emailAd	Email address of	VARCHAR	NOT NULL	no

	dress	worker	2(30)		
CV Generating Progress	Progress_ID	Uniquely identifies a CV generating progress	VARCHAR 2(15)	PRIMARY KEY	no
	Progress_percentage	CV generating progress percentage	DECIMAL (5,1)	NOT NULL	no
	Customer_ID	Referenced customer ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
	Draft_ID	Referenced CV draft ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CV DRAFT	no
Customer Chat History	History_ID	Uniquely identifies a customer chat history	VARCHAR 2(15)	PRIMARY KEY	no
	History_title	Title of chat history	VARCHAR 2(100)	NOT NULL	no
	History_date	Date of chat history	DATE	NOT NULL	yes
	CustomerID	Referenced customer ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
CV Final	Final_ID	Uniquely identifies a final CV	VARCHAR 2(15)	PRIMARY KEY	no
	Final_fileName	File name of final CV	VARCHAR 2(40)	NOT NULL	no
	Final_dateGenerated	Date generated the final CV	DATE	NOT NULL	no
Customer Feedback	Feedback_ID	Uniquely identifies a customer feedback	VARCHAR 2(15)	PRIMARY KEY	no
	Feedback_title	Title of customer gives feedback	VARCHAR 2(100)	NOT NULL	no

	Feedback_date	Date customer gives the feedback	DATE	NOT NULL	no
	Customer_ID	Referenced customer ID	VARCHAR 2(15)	-FOREIGN KEY REFERENCE CUSTOMER	no
Recruiter	Recruiter_ID	Uniquely identifies a recruiter	VARCHAR 2(15)	PRIMARY KEY	no
	Recruiter_name	Name of recruiter	VARCHAR 2(30)	NOT NULL	no
	Recruiter_phone Number	Phone number of recruiter	VARCHAR 2(12)	NOT NULL	yes
	Recruiter_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.