

## 系統需求規格書

Software Requirements Specification (SRS)

Version: 4.0

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# 1 簡介 (Introduction)

## 1.1 目的 (Purpose)

透過本學期修習的資料庫系統課程，我們希望更深入地理解資料庫的運作和流程設計，同時應用我們之前學到的網頁程式設計、網際網路技術以及各種程式語言的基礎知識。為了實現這一目標，我們計劃合作開發一個完整的線上家具交易平台，讓北科住宿學生受惠。

本系統主要目標為：

1. 使用者可以新增、修改、更新及下架商品
2. 使用者可以查看商品清單、賣出紀錄及營業收入
3. 使用者可以搜尋商品、購買商品
4. 使用者可以於訂單撰寫評論、評分

## 1.2 系統名稱 (Identification)

主系統：

1. 線上家具選購系統 (Online Furniture Selling System, OFSS)

前端子元件：

1. 商品頁面 (Product page, PP)
2. 主頁面 (Main Page, MP)
3. 購物車介面 (Shopping cart interface, SCI)
4. 商店頁面 (Shop page, SP)
5. 帳號設定頁面 (Dashboard page, DP)
6. 超級使用者管理頁面 (Admin page, AP)
7. 登入頁面 (Login page, LP)

後端子元件：

1. 留言控制器 (Comment controller, CC)
2. 商品控制器 (Product controller, PC)
3. 商店控制器 (Shop controller, SC)
4. 訂單控制器 (Order controller, OC)
5. 帳號控制器 (Account controller, AC)
6. 登入控制器 (Sign in controller, SIC)
7. 訂閱控制器 (Subscription controller, SSC)

### 1.3 概觀 (Overview)

在評估現代網頁設計的趨勢後，選擇前後端分離的架構，以確保應用具有最佳的性能和可擴展性。

在前端方面採用 HTMX。HTMX 是一個 JavaScript 函式庫，簡化了建立互動式 Web 應用的過程，保持了 HTML 的簡潔性；在後端方面，選擇 Python 作為主要的後端程式語言，並使用 FastAPI 框架來建構的 API。FastAPI 以其出色的性能和文檔生成功能而聞名，使得開發和維護 API 變得更加容易和高效。

在數據庫部分採用 Mysql。使用 docker-compose 來加速開發流程。

### 1.4 符號描述 (Notation Description)

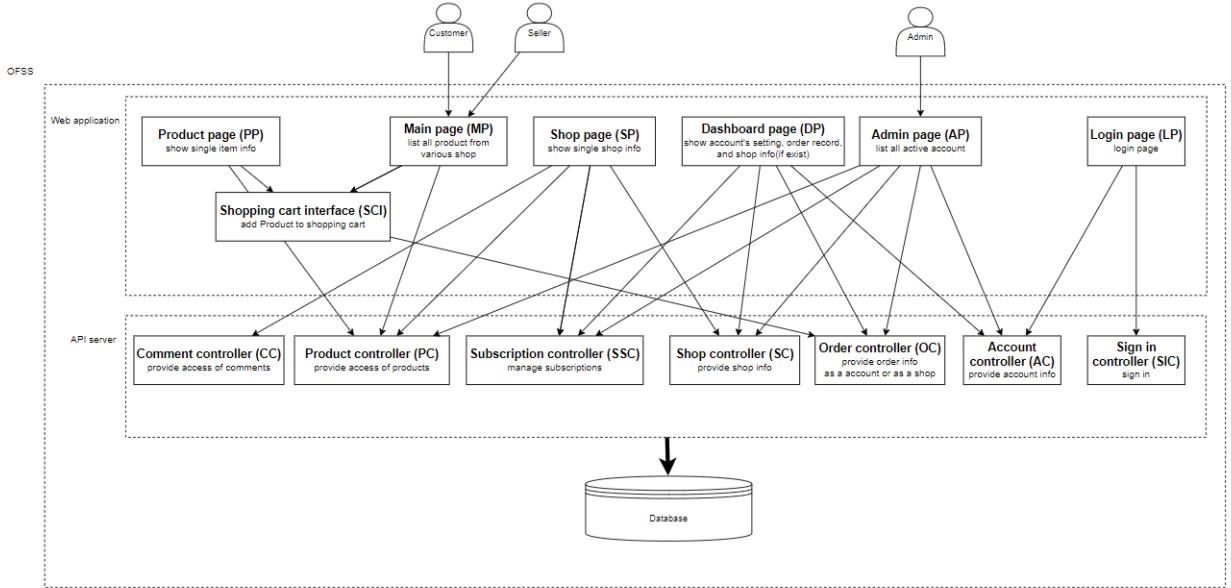
Requirement	Description
OFSS-F-nn	OFSS Functional Requirements
OFSS-N-nn	OFSS Non-Functional Requirements
OFSS-D-nn	OFSS Data Requirements
OFSS-U-nn	OFSS User Interfaces Requirements
OFSS-E-nn	OFSS External Interface Requirements
OFSS-I-nn	OFSS Internal Interface Requirements
OFSS-O-nn	OFSS Other Requirements
GUS-nn	Guest User Story
MUS-nn	Member User Story
AUS-nn	Administrator User Story

Table 1: System Requirements and Descriptions

## 2 系統 (System)

### 2.1 系統描述 (System Description)

#### 2.1.1 系統架構圖 (System Architecture Diagram)



### 2.2 操作概念 (Operational Concepts or User Stories)

#### 2.2.1 Scenario 1: Guest Operational Concepts

需求	描述
GUS-01	作為訪客使用者，我可以登入會員 (SIC)
GUS-02	作為訪客使用者，我可以申請會員 (AC)
GUS-03	作為訪客使用者，我可以瀏覽商品 (PC)
GUS-04	作為訪客使用者，我可以查看商家資訊 (SC)
GUS-05	作為訪客使用者，我可以選購商品加入購物車 (OC)

Table 2: Guest Operational Concepts

### 2.2.2 Scenario 2: Member Operational Concepts

需求	描述
MUS-01	身為會員使用者，我可以瀏覽商品 (PC)
MUS-02	身為會員使用者，我可以修改帳號基本資料 (AC)
MUS-03	身為會員使用者，我可以查看訂單評論 (CC)
MUS-04	身為顧客，我可以選購商品加入購物車 (OC)
MUS-05	身為顧客，我可以在下單前輸入優惠碼 (OC)
MUS-06	身為顧客，我可以下單 (OC)
MUS-07	身為顧客，我可以追蹤訂單狀態 (OC)
MUS-08	身為顧客，我可以訂閱商店 (SSC)
MUS-09	身為顧客，我可以查看所有訂閱的商店 (SSC)
MUS-10	身為顧客，我可以收到商店發送的優惠碼 (SSC)
MUS-11	身為顧客，我可以在下訂的訂單新增評論 (CC)
MUS-12	身為顧客，我可以在下訂的訂單修改評論 (CC)
MUS-13	身為商家，我可以修改商家基本資料 (SC)
MUS-14	身為商家，我可以新增商品 (PC)
MUS-15	身為商家，我可以修改商品 (PC)
MUS-16	身為商家，我可以刪除商品 (PC)
MUS-17	身為商家，我可以查看所有訂單狀況 (OC)
MUS-18	身為商家，我可以修改所有訂單狀況 (OC)
MUS-19	身為商家，我可以發送優惠碼給訂閱用戶 (SSC)

Table 3: Member Operational Concepts

### 2.2.3 Scenario 3 : Administrator Operational Concepts

需求	描述
AUS-01	身為超級使用者，我可以新增帳號 (AC)
AUS-02	身為超級使用者，我可以修改所有帳號基本資料 (AC)
AUS-03	身為超級使用者，我可以刪除帳號 (AC)
AUS-04	身為超級使用者，我可以查看商店營業額 (SC)

Table 4: Administrator Operational Concepts

### 2.3 功能性需求 (Functional Requirements)

Requirement	Description
OFSS-F-01	LP 需要 SIC 登入系統
OFSS-F-02	LP 需要 AC 新增帳號
OFSS-F-03	AP 需要 AC 取得、新增、修改及刪除帳號
OFSS-F-04	DP 需要使用 AC 查看帳號
OFSS-F-05	DP 需要 OC 取得已下訂的訂單
OFSS-F-06	DP 需要 SC 取得、新增及修改商家
OFSS-F-07	DP 需要 SSC 取得已訂閱商家
OFSS-F-08	SP 需要 SC 取得商家資訊
OFSS-F-09	SP 需要 SSC 取得已訂閱用戶
OFSS-F-10	SP 需要 PC 取得商品
OFSS-F-11	SP 需要 CC 取得訂單評價
OFSS-F-12	MP 需要 PC 取得商品
OFSS-F-13	SCI 需要 OC 取得、新增修改及刪除購物車中的商品
OFSS-F-14	PP 需要 PC 取得商品詳細資訊

Table 5: System Requirements and Descriptions

## 2.4 非功能性需求 (Non-Functional Requirements)

### 2.4.1 效能需求 (Performance Requirements)

Requirement	Description
OFSS-N-01	資料表的設計應符合正規化
OFSS-N-02	資料表的設計應考慮更新資料時的效能

Table 6: System Requirements and Descriptions

### 2.4.2 資安需求 (Security Requirements)

Requirement	Description
OFSS-N-03	使用 JWT 驗證使用者
OFSS-N-04	使用 fastapi-csrf-protect 增加安全性
OFSS-N-05	使用 fastapi 提供的 middleware 增加安全性

Table 7: System Requirements and Descriptions

## 2.5 資料需求 (Data Requirements)

Requirement	Description
OFSS-D-01	顧客資訊需包含 user_uuid、ID、姓名、密碼、email、手機、地址及使用狀態 (enable/disable)
OFSS-D-02	商家資訊需包含 store_uuid、user_uuid、名稱、簡介、訂閱者清單、商家評論、歷史訂單資訊清單及使用狀態 (enable/disable)
OFSS-D-03	商品資訊需包含 item_uuid、store_uuid、名稱、簡介、價錢、圖片 url(或數個) 及存貨數量
OFSS-D-04	訂單資訊需包含每筆的 transaction_uuid、user_uuid、每一個商品的 item_uuid 和交易數量、交易描述、實際交易金額及交易時間戳

Table 8: System Requirements and Descriptions

## 2.6 介面需求 (Interface Requirements)

### 2.6.1 使用者介面需求 (User Interfaces Requirements)

Requirement	Description
OFSS-U-01	商品瀏覽介面
OFSS-U-02	購物車介面
OFSS-U-03	搜尋介面
OFSS-U-04	會員登入及註冊介面
OFSS-U-05	訂單查詢介面
OFSS-U-06	商店管理介面
OFSS-U-07	帳號管理介面

Table 9: System Requirements and Descriptions

### 2.6.2 外部介面需求 (External Interface Requirements)

Requirement	Description
OFSS-E-01	使用者透過 HTTP 通訊協定
OFSS-E-02	webpage 使用 HTMX

Table 10: System Requirements and Descriptions

### 2.6.3 內部介面需求 (Internal Interface Requirements)

Requirement	Description
OFSS-I-01	AP 能查看帳號資訊
OFSS-I-02	AP 能查看商店營業資訊 (e.g. 營業收入)
OFSS-I-03	DP 能查看帳號
OFSS-I-04	DP 能查看商店
OFSS-I-05	DP 能查看訂單
OFSS-I-06	DP 能查看訂閱
OFSS-I-07	SP 能查看商品
OFSS-I-08	SP 能查看商店
OFSS-I-09	SP 能查看訂閱
OFSS-I-11	MP 能顯示所有商品
OFSS-I-12	MP 能篩選所有商品
OFSS-I-13	SCI 能加入商品
OFSS-I-14	SCI 能送出訂單
OFSS-I-15	SCI 能使用 coupon
OFSS-I-16	PP 能查看商品
OFSS-I-17	PP 能查看評論
OFSS-I-18	PP 能按讚評論
OFSS-I-19	LP 能登入

Table 11: System Requirements and Descriptions

## 2.7 其他需求 (Other Requirements)

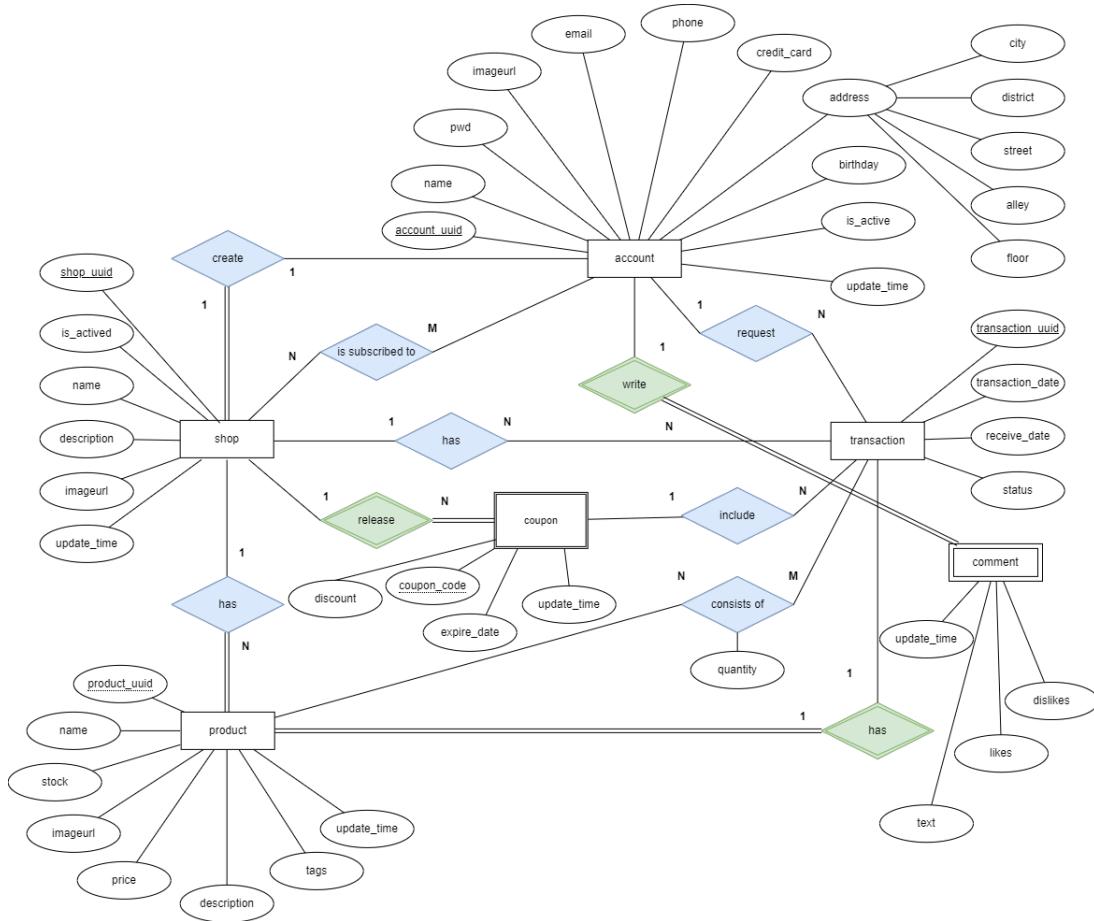
### 2.7.1 安裝需求 (Installation Requirement)

Requirement	Description
OFSS-O-01	使用 docker-compose 建置 database 和部署應用程式

Table 12: System Requirements and Descriptions

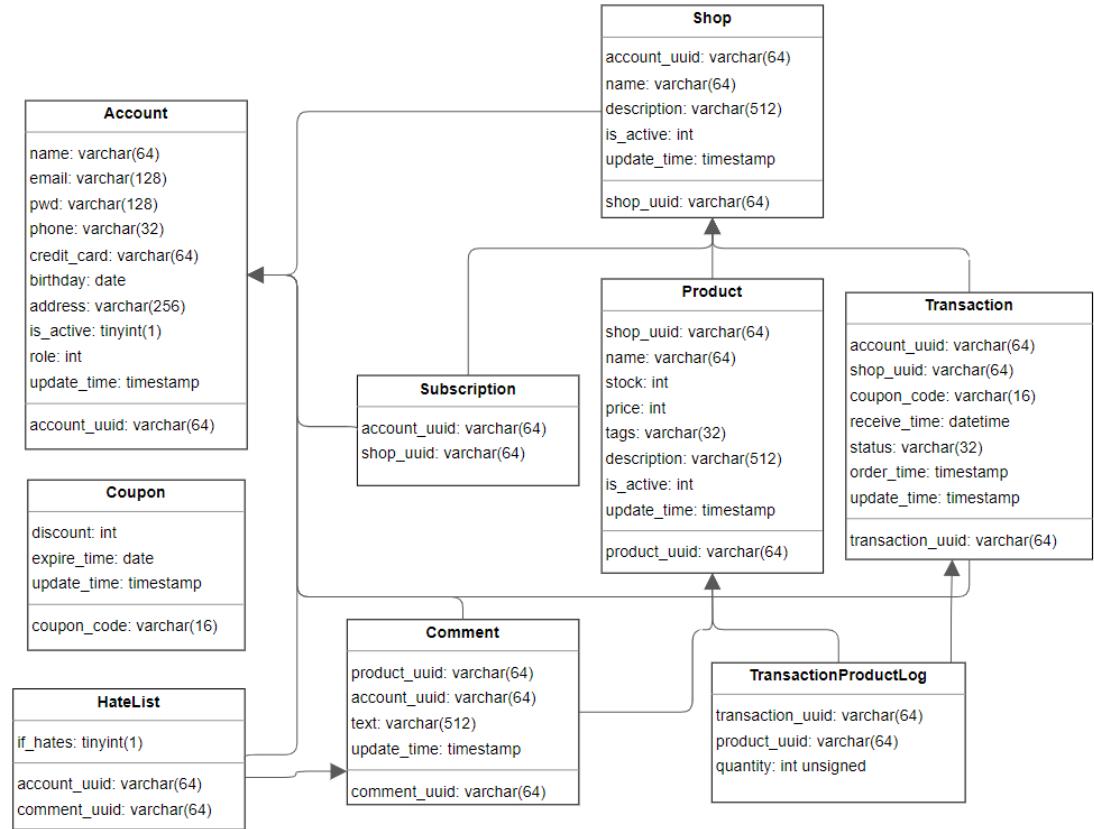
### 3 資料庫的概念設計 (Conceptual Design of the Database)

#### 3.1 實體關係模型 (Entity Relationship ER Model)



## 4 邏輯資料庫架構 (Logical Database Schema)

### 4.1 資料庫架構 (Database Schema)



## 4.2 資料定義語言 (DDL)

```
-- auto-generated definition
create table Account
(
    account_uuid varchar(64)                      not null
        primary key,
    name        varchar(64)                        not null,
    email       varchar(128)                       not null,
    pwd         varchar(128)                       not null,
    phone       varchar(32)                         null,
    credit_card varchar(64)                       null,
    birthday    date                            null,
    address     varchar(256)                       null,
    is_active   tinyint(1) default 1              null,
    role        int      default 0                null,
    update_time timestamp default CURRENT_TIMESTAMP null
    on update CURRENT_TIMESTAMP,
    constraint Account_pk
        unique (email)
);

-- auto-generated definition
create table Comment
(
    comment_uuid varchar(64)                      not null
        primary key,
    product_uuid varchar(64)                     not null,
    account_uuid varchar(64)                     not null,
    text        varchar(512)                      not null,
    update_time timestamp default CURRENT_TIMESTAMP null
    on update CURRENT_TIMESTAMP,
    constraint Comment_ibfk_1
        foreign key (product_uuid) references Product (product_uuid),
    constraint Comment_ibfk_2
        foreign key (account_uuid) references Account (account_uuid)
);

-- auto-generated definition
create table Coupon
(
    coupon_uuid varchar(64)                      not null
        primary key,
    coupon_code varchar(16)                     not null,
    discount    int                            not null,
    expire_time timestamp                      not null,
    update_time timestamp default CURRENT_TIMESTAMP null
);
```

```

        on update CURRENT_TIMESTAMP,
        check ((`discount` >= 0) and (`discount` <= 100))
    );

-- auto-generated definition
create table HateList
(
    account_uuid varchar(64) not null,
    comment_uuid varchar(64) not null,
    if_hates      tinyint(1) not null,
    primary key (account_uuid, comment_uuid),
    constraint HateList_ibfk_1
        foreign key (account_uuid) references Account (account_uuid),
    constraint HateList_ibfk_2
        foreign key (comment_uuid) references Comment (comment_uuid)
);

create index comment_uuid
    on HateList (comment_uuid);

-- auto-generated definition
create table Product
(
    product_uuid varchar(64)                      not null
        primary key,
    shop_uuid    varchar(64)                      not null,
    name         varchar(64)                      not null,
    stock        int                             not null,
    price        int                             not null,
    tags         varchar(32)                     null,
    description  varchar(512)                    null,
    is_active    int      default 1            null,
    update_time  timestamp default CURRENT_TIMESTAMP null
        on update CURRENT_TIMESTAMP,
    constraint Product_ibfk_1
        foreign key (shop_uuid) references Shop (shop_uuid)
);

-- auto-generated definition
create table Shop
(
    shop_uuid    varchar(64)                      not null
        primary key,
    account_uuid varchar(64)                      not null,
    name         varchar(64)                      not null,
    description  varchar(512)                     null,
    is_active    int      default 1            null,
    update_time  timestamp default CURRENT_TIMESTAMP null
);

```

```

        on update CURRENT_TIMESTAMP,
        constraint account_uuid
            unique (account_uuid),
        constraint Shop_ibfk_1
            foreign key (account_uuid) references Account (account_uuid)
    );

-- auto-generated definition
create table Subscription
(
    account_uuid varchar(64) not null,
    shop_uuid     varchar(64) not null,
    primary key (account_uuid, shop_uuid),
    constraint Subscription_ibfk_1
        foreign key (account_uuid) references Account (account_uuid),
    constraint Subscription_ibfk_2
        foreign key (shop_uuid) references Shop (shop_uuid)
);

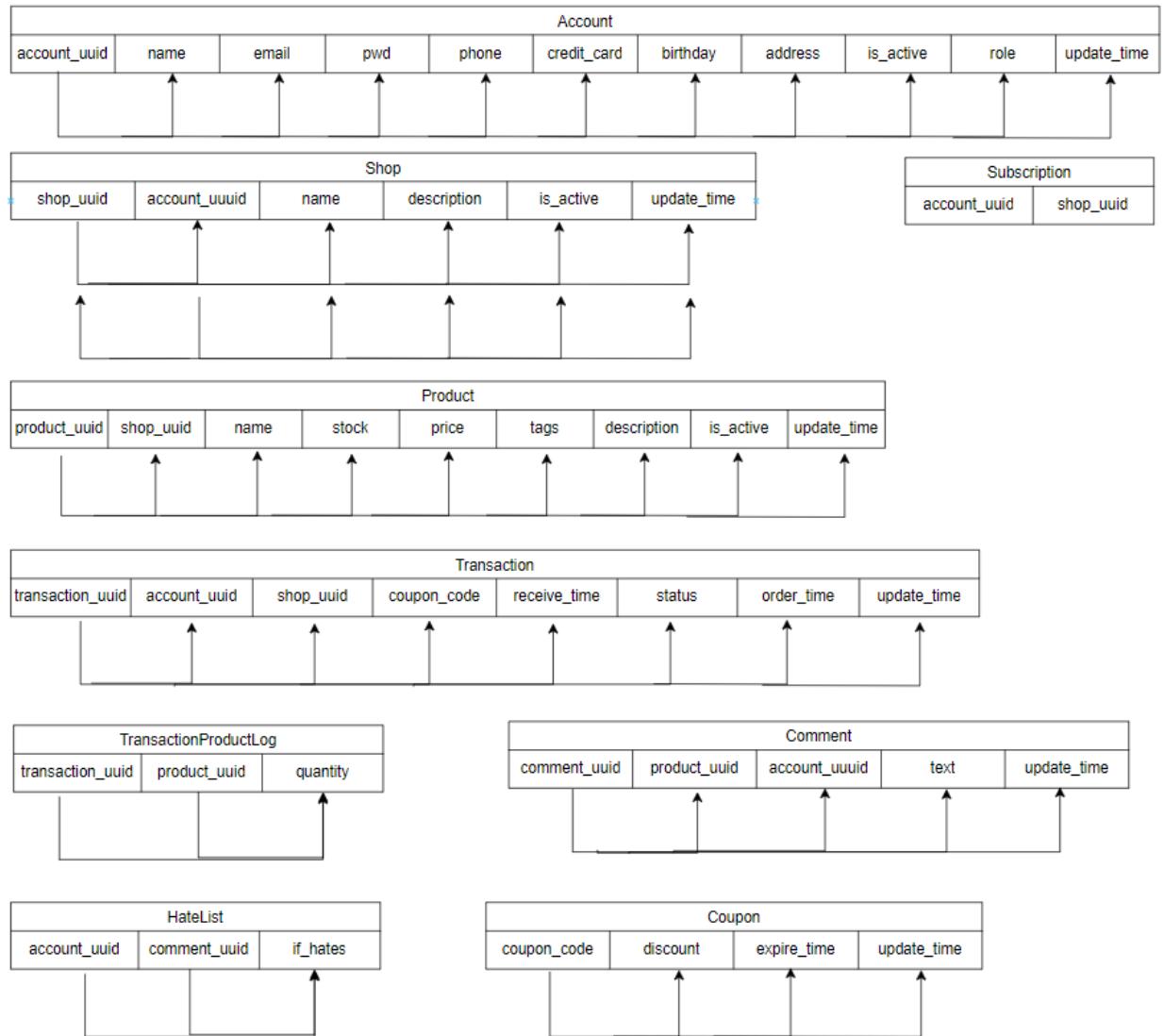
-- auto-generated definition
create table Transaction
(
    transaction_uuid varchar(64)                      not null
        primary key,
    account_uuid     varchar(64)                      not null,
    shop_uuid        varchar(64)                      not null,
    coupon_code      varchar(16)                      null,
    receive_time     datetime                         null,
    status           varchar(32)                      null,
    order_time       timestamp default CURRENT_TIMESTAMP not null,
    update_time      timestamp default CURRENT_TIMESTAMP not null
        on update CURRENT_TIMESTAMP,
    constraint Transaction_ibfk_2
        foreign key (account_uuid) references Account (account_uuid),
    constraint Transaction_ibfk_3
        foreign key (shop_uuid) references Shop (shop_uuid),
    constraint Receive_after_arrive_check
        check ((`receive_time` is null) or (`status` = _latin1\'Arrived\')),
    constraint Transaction_status_check
    check (`status` in (_latin1\'Ordered\',_latin1\'Delivering\',_latin1\'Arrived\',_latin1\'Cancelled\'))
);

-- auto-generated definition
create table TransactionProductLog
(
    transaction_uuid varchar(64)  not null,
    product_uuid     varchar(64)  not null,
    quantity         int unsigned not null,

```

```
constraint TransactionProductLog_ibfk_1
    foreign key (transaction_uuid) references Transaction (transaction_uuid),
constraint TransactionProductLog_ibfk_2
    foreign key (product_uuid) references Product (product_uuid)
);
```

## 5 函數相依性與資料庫正規化 (Functional Dependencies and Database Normalization)



# 6 系統使用手冊 (The User Guide of the System)

## 6.1 Snapshots of Tables in DBMS

### 6.1.1 Account Snapshot

account_uuid	name	email	pwd	phone	credit_card
2db433fc-345c-48e1-bdaa-62665648022b	gayrr	t110590028@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	phone	jy;kj;ggk;lfkdfk;
325e530-8f2f-1lee-8baf-42010aae0002	fortesting	testing@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	123456789	1234-1234-1234-123
4001309d-8f2f-1lee-8baf-42010aae0002	fjsdlkjflkds	fjsdlkjflkds@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	<null>
5f0f6ad4-4fd4-42c0-bc75-6d51a670924c	asd	asd@asd.djlk	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	456
76eafe7a-8d1d-1lee-8baf-42010aae0002	asdyyyyyyyy	asd@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	0955222244	<null>
7f4d7718-9df9-48d5-9262-678cfb09a7b	gfjfkldglkj	asd@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	<null>
831c0d0d-8916-1lee-8baf-42010aae0002	notVincent	john.doe@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	123-456-7890	1234-5678-9012-345
831cd44-8916-1lee-8baf-42010aae0002	gary	gjksjklkgg32f@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	ejklgjdklf1f121	fkL2ukirklngh
831cd59-8916-1lee-8baf-42010aae0002	Bob Johnson	bob.johnson@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	555-123-4567	4321-8765-0987-654
831cd2e-8916-1lee-8baf-42010aae0002	Alice Williams	alice.williams@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	333-999-8888	8765-4321-5678-901
831cd1f-8916-1lee-8baf-42010aae0002	Charlie Brown	charlie.brown@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	777-555-1234	3456-7890-1234-567
849c58d1-8916-1lee-8baf-42010aae0002	John Doe	john.l@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	123-456-7890	1234-5678-9012-345
849c53d7c-8916-1lee-8baf-42010aae0002	Jane Smith	jane.smith@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	987-654-3210	9876-5432-1098-765
849c3e3-8916-1lee-8baf-42010aae0002	John Johnson	bob.johnson@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	555-123-4567	4321-8765-0987-654
849c53eba-8916-1lee-8baf-42010aae0002	Monfjdskl	fdjfkldjlk@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	333-999-8888	8765-4321-5678-901
849c3f2b-8916-1lee-8baf-42010aae0002	Dars Veda	654675@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	777-555-1234	3456-7890-1234-567
a3711878-44ae-4328-ad62-4ed45b57c848	dasads	dasads@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	<null>
ad593cad-96fb-4ebe-a5e4-a0b9101a8d5	hhh	3r4g@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	<null>
cde5f65-8e91-1lee-8baf-42010aae0002	fucf Garry	34t345@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	<null>
dc7de7cd-22bc-4a45-90b8-7bbc3ff8760	asdfg	5g5g@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	<null>
ddaa8cf0-8db0-1lee-8baf-42010aae0002	namel	43h54h@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	<null>	<null>
f81672f3-2925-4396-a33e-dd85a4c03ca1	fuck	email@gmail.com	\$2b\$12\$tu4S3wbz1lcwnMzlI8QVtusvZqDxbBMz5H0yPx0dnZozWtxtjMcC	123-456-7890	1234-5678-9012-345

### 6.1.2 Comment Snapshot

comment_uuid	product_uuid	account_uuid	text	update_time
0724e9e8-58aa-48a6-a5b9-1443a1062601	094527b3-f8f1-4dfc-82cb-066a48d29caa	f81672f3-2925-4396-a33e-dd85a4c03ca1	agvebreabae	2023-12-26 08:43:12
0dbc5975-9f28-1lee-8d4f-2242ac140002	094527b3-f8f1-4dfc-82cb-066a48d29caa	2da33fc-345c-48e1-bdaa-62665648022b	Great product!	2023-12-20 11:08:07
0dbc6283-9f28-1lee-8d4f-2242ac140002	1234567-8998-1lee-8d4f-42010aae0002	325ea530-6f2t-1lee-8d4f-42010aae0002	Awesome features!	2023-12-20 11:08:59
0dbc6458-9f28-1lee-8d4f-2242ac140002	23345678-8998-1lee-8d4f-42010aae0002	4001309d-8f2f-1lee-8d4f-42010aae0002	I love it!	2023-12-20 11:08:07
0dbc6534-9f28-1lee-8d4f-2242ac140002	3c456789-8998-1lee-8d4f-42010aae0002	5f0f6ad4-4fd4-4fd4-42c0-bc75-6d51a670924c	Could be better.	2023-12-20 11:08:07
0dbc6568-9f28-1lee-8d4f-2242ac140002	40567890-8998-1lee-8d4f-42010aae0002	76eafe7a-8d1d-1lee-8d4f-42010aae0002	Not impressed.	2023-12-20 11:08:07
0dbc66a7-9f28-1lee-8d4f-2242ac140002	5e678901-8998-1lee-8d4f-42010aae0002	7f4d7718-9df9-48d5-92e2-678cfb0947b	Good value for money, yaaa.	2023-12-20 11:09:12
0dbc6788-9f28-1lee-8d4f-2242ac140002	6f789012-8998-1lee-8d4f-42010aae0002	831cd0d0-8916-1lee-8d4f-42010aae0002	Impressive design!	2023-12-20 11:08:07
0dbc6918-9f28-1lee-8d4f-2242ac140002	76890123-8998-1lee-8d4f-42010aae0002	831cd1b41-8916-1lee-8d4f-42010aae0002	User-friendly interface.	2023-12-20 11:08:07
0dbc697d-9f28-1lee-8d4f-2242ac140002	81901234-8998-1lee-8d4f-42010aae0002	831cd33-8916-1lee-8d4f-42010aae0002	Satisfied customer.	2023-12-20 11:08:07
0dbc6aa5-9f28-1lee-8d4f-2242ac140002	9802e81f-eabb-43d0-8317-79ff9e1fdd8a	831cdce-8916-1lee-8d4f-42010aae0002	Highly recommended!	2023-12-20 11:08:07
0dbc6b56-9f28-1lee-8d4f-2242ac140002	9add6764-5834-44ee-b328-e34714659212	831cdfe-8916-1lee-8d4f-42010aae0002	Great buy!	2023-12-20 11:08:07
0dbc6bf1-9f28-1lee-8d4f-2242ac140002	f4ff706e4-1cca-43c4-89dd-1cd8f01c69ed	849c38d1-8916-1lee-8d4f-42010aae0002	Quality product.	2023-12-20 11:08:07
0dbc6c9a-9f28-1lee-8d4f-2242ac140002	094527b3-f8f1-4dfc-82cb-066a48d29caa	849c3d3c-8916-1lee-8d4f-42010aae0002	Impressed with the performance.	2023-12-20 11:08:07
0dbc6d1d-9f28-1lee-8d4f-2242ac140002	1234567-8998-1lee-8d4f-42010aae0002	849c3e36-8916-1lee-8d4f-42010aae0002	Not bad.	2023-12-20 11:08:07
0dbc6d4d-9f28-1lee-8d4f-2242ac140002	23345678-8998-1lee-8d4f-42010aae0002	849c3seba-8916-1lee-8d4f-42010aae0002	Fast shipping!	2023-12-20 11:08:07
0dbc6f3c-9f28-1lee-8d4f-2242ac140002	3c456789-8998-1lee-8d4f-42010aae0002	849c3f2b-8916-1lee-8d4f-42010aae0002	Disappointed.	2023-12-20 11:08:07
0dbc6f62-9f28-1lee-8d4f-2242ac140002	40567890-8998-1lee-8d4f-42010aae0002	a3711878-44ae-4328-ad62-4ed45b57c848	Could use some improvements.	2023-12-20 11:08:07
0dbc7058-9f28-1lee-8d4f-2242ac140002	5e678901-8998-1lee-8d4f-42010aae0002	ad593cad-96fb-4ebe-a5e4-a0b9101a8d5	Excellent customer service!	2023-12-20 11:08:07
0dbc7112-9f28-1lee-8d4f-2242ac140002	6f789012-8998-1lee-8d4f-42010aae0002	cde5fd65-8e91-1lee-8d4f-42010aae0002	Happy with my purchase.	2023-12-20 11:08:07
0dbc71ca-9f28-1lee-8d4f-2242ac140002	76890123-8998-1lee-8d4f-42010aae0002	dc7de7cd-22bc-4a62-4ed45b57c848	Not recommended.	2023-12-20 11:08:07
0dbc727f-9f28-1lee-8d4f-2242ac140002	81901234-8998-1lee-8d4f-42010aae0002	ddea8cf0-8d80-1lee-8d4f-42010aae0002	Great value!	2023-12-20 11:08:07
0dbc727f-9f28-1lee-8d4f-2242ac140002	904527b3-f8f1-4dfc-82cb-066a48d29caa	f81672f3-2925-4396-a33e-dd85a4c03ca1	i think mine product is awesome!	2023-12-25 20:31:56
77c0adc9-dc73-4fb9-b0b7-c95872c2aa	904527b3-f8f1-4dfc-82cb-066a48d29caa	f81672f3-2925-4396-a33e-dd85a4c03ca1	agvebreabaeasdadsad	2023-12-26 08:43:19

### 6.1.3 Coupon Snapshot

coupon_uuid	coupon_code	discount	expire_time	update_time
abc123	SAVE20	20	2024-12-31 23:59:59	2023-12-27 07:12:17
abc890	NEWYEAR50	50	2024-12-31 23:59:59	2023-12-27 07:12:17
def123	MEMORIAL20	20	2024-05-31 18:30:00	2023-12-27 07:12:17
def456	GETSOFF	50	2024-06-30 18:30:00	2023-12-27 07:12:17
ghi456	LABORDAY15	15	2024-09-30 12:00:00	2023-12-27 07:12:17
ghi1789	FREESHIP	100	2024-12-15 12:00:00	2023-12-27 07:12:17
jk1012	HOLIDAY25	25	2024-12-25 23:59:59	2023-12-27 07:12:17
jk1789	EASTER10	10	2024-04-15 23:59:59	2023-12-27 07:12:17
mno345	BIGSALE	30	2024-07-31 18:30:00	2023-12-27 07:12:17
por678	WINTERSALE	40	2024-08-28 12:00:00	2023-12-27 07:12:17
stu901	SUMMERDEAL	15	2024-08-31 23:59:59	2023-12-27 07:12:17
vwx234	FLASHSALE	50	2024-12-10 18:30:00	2023-12-27 07:12:17
yzu567	SPRINGSALE	35	2024-04-30 12:00:00	2023-12-27 07:12:17

### 6.1.4 Product Snapshot

product_uuid	shop_uuid	name	stock	price	tags	description	is_active	update_time
094527b3-f8f1-4dfc-82cb-066a48d29...	c4f8db1b-8d24-11ee-bb92-42010aae0...	TTTTable	5	111	TABLE	<null>	1	2023-11-30 17:00:5
1a234567-8998-11ee-bb92-42010aae0...	f150a4b3-8998-11ee-bb92-42010aae0...	Product 1	100	25	Tag1	Description for Product 1	1	2023-11-23 08:49:1
2b345678-8998-11ee-bb92-42010aae0...	f150a4b3-8998-11ee-bb92-42010aae0...	Product 2	50	50	Tag2	Description for Product 2	1	2023-11-23 08:49:1
3c456789-8998-11ee-bb92-42010aae0...	f150a4b3-8998-11ee-bb92-42010aae0...	Product 3	75	30	Tag3	Description for Product 3	1	2023-11-23 08:49:1
4d567890-8998-11ee-bb92-42010aae0...	f150a4b3-8998-11ee-bb92-42010aae0...	Product 4	120	40	Tag4	Description for Product 4	1	2023-11-23 08:49:1
5e678901-8998-11ee-bb92-42010aae0...	f150b186-8998-11ee-bb92-42010aae0...	Product 5	80	60	Tag5	Description for Product 5	1	2023-11-23 08:49:1
6f789012-8998-11ee-bb92-42010aae0...	f150b186-8998-11ee-bb92-42010aae0...	Product 6	200	20	Tag6	Description for Product 6	1	2023-11-23 08:49:1
7g890123-8998-11ee-bb92-42010aae0...	f150b368-8998-11ee-bb92-42010aae0...	Product 7	60	35	Tag7	Description for Product 7	1	2023-11-23 08:49:1
8h901234-8998-11ee-bb92-42010aae0...	f150b368-8998-11ee-bb92-42010aae0...	Product 8	90	45	Tag8	Description for Product 8	1	2023-11-23 08:49:1
9802e81f-eabb-43d0-8317-79ff9e1fd...	f150af72-8998-11ee-bb92-42010aae0...	SOFA?	101	101	SOFA	is sofa?	1	2023-11-30 16:41:3
9ad60764-5834-44ee-b328-e34714659...	f6f4c6e7-51f2-4582-ba33-6223a7cf5...	BEDDDD	66	10000	BED	<null>	1	2023-11-30 21:58:5
fdf706e4-1cca-43c4-89dd-1cd8f01c6...	f150af72-8998-11ee-bb92-42010aae0...	TABLEEEE	555	1000	TABLE	<null>	1	2023-11-30 20:00:3

### 6.1.5 Shop Snapshot

shop_uuid	account_uuid	name	description	is_active	update_time
6f54c6e7-51f2-4582-ba33-6223a7cf5...	dc7de7cd-22bc-4a45-90bb-74bbc3ff8...	shoppoooooo11111	<null>	1	2023-11-30 21:57:16
c4f8db1b-8d24-11ee-bb92-42010aae0...	76eae7a-8d1d-11ee-bb92-42010aae0...	Kkky shop	description	1	2023-11-27 20:59:15
c90a780a-8998-11ee-bb92-42010aae0...	f81672f3-2925-439e-a33e-dd85a4c03...	t	fds	1	2023-12-05 20:03:18
e31b3d02-2995-4e2c-9481-93a63403c...	7f4d7718-9df9-48d5-92e2-678cfb09...	fddfsd	<null>	1	2023-12-01 23:38:31
f150a4b3-8998-11ee-bb92-42010aae0...	831cd0d0-8916-11ee-bb92-42010aae0...	changeed name	hi gay shop	1	2023-11-23 08:40:47
f150acb3-8998-11ee-bb92-42010aae0...	831cd4b1-8916-11ee-bb92-42010aae0...	Shop 2	This is the second shop.	1	2023-11-23 08:40:47
f150af72-8998-11ee-bb92-42010aae0...	831cd39-8916-11ee-bb92-42010aae0...	Shop 3	This is the third shop.	1	2023-11-23 08:40:47
f150b096-8998-11ee-bb92-42010aae0...	831cd2e-8916-11ee-bb92-42010aae0...	Shop 4	This is the fourth shop.	1	2023-11-23 08:40:47
f150b186-8998-11ee-bb92-42010aae0...	831cd1f1-8916-11ee-bb92-42010aae0...	Shop 5	This is the fifth shop.	1	2023-11-23 08:40:47
f150b368-8998-11ee-bb92-42010aae0...	849c58d1-8916-11ee-bb92-42010aae0...	Shop 6	This is the sixth shop.	1	2023-11-23 08:40:47
f150b459-8998-11ee-bb92-42010aae0...	849c5d7c-8916-11ee-bb92-42010aae0...	Shop 7	This is the seventh shop.	1	2023-11-23 08:40:47
f150b531-8998-11ee-bb92-42010aae0...	849c5e36-8916-11ee-bb92-42010aae0...	Shop 8	This is the eighth shop.	1	2023-11-23 08:40:47
f150b624-8998-11ee-bb92-42010aae0...	849c5e5a-8916-11ee-bb92-42010aae0...	Shop 9	This is the ninth shop.	1	2023-11-23 08:40:47
f150b708-8998-11ee-bb92-42010aae0...	849c5f2b-8916-11ee-bb92-42010aae0...	Shop 10	This is the tenth shop.	1	2023-11-23 08:40:47

### 6.1.6 Subscription Snapshot

account_uuid	shop_uuid
2dba33fc-345c-48e1-bdaa-62665648022b	6f54c6e7-51f2-4582-ba33-6223a7cf58ca
325ea530-8f2f-11ee-8b4f-42010aae0002	6f54c6e7-51f2-4582-ba33-6223a7cf58ca
4001309d-8f2f-11ee-8b4f-42010aae0002	6f54c6e7-51f2-4582-ba33-6223a7cf58ca
831cd2e-8916-11ee-bb92-42010aae0002	6f54c6e7-51f2-4582-ba33-6223a7cf58ca
2dba33fc-345c-48e1-bdaa-62665648022b	c4f8db1b-8d24-11ee-bb92-42010aae0002
325ea530-8f2f-11ee-8b4f-42010aae0002	c4f8db1b-8d24-11ee-bb92-42010aae0002
4001309d-8f2f-11ee-8b4f-42010aae0002	c4f8db1b-8d24-11ee-bb92-42010aae0002
831cd2e-8916-11ee-bb92-42010aae0002	c4f8db1b-8d24-11ee-bb92-42010aae0002
2dba33fc-345c-48e1-bdaa-62665648022b	c90a780a-8974-4507-9f57-032e5324f18f
325ea530-8f2f-11ee-8b4f-42010aae0002	c90a780a-8974-4507-9f57-032e5324f18f
4001309d-8f2f-11ee-8b4f-42010aae0002	c90a780a-8974-4507-9f57-032e5324f18f
831cd2e-8916-11ee-bb92-42010aae0002	c90a780a-8974-4507-9f57-032e5324f18f
2dba33fc-345c-48e1-bdaa-62665648022b	e31b3d02-2995-4e2c-9481-93a63403c7af
325ea530-8f2f-11ee-8b4f-42010aae0002	e31b3d02-2995-4e2c-9481-93a63403c7af
4001309d-8f2f-11ee-8b4f-42010aae0002	e31b3d02-2995-4e2c-9481-93a63403c7af
831cd2e-8916-11ee-bb92-42010aae0002	e31b3d02-2995-4e2c-9481-93a63403c7af
2dba33fc-345c-48e1-bdaa-62665648022b	f150a4b3-8998-11ee-bb92-42010aae0002
325ea530-8f2f-11ee-8b4f-42010aae0002	f150a4b3-8998-11ee-bb92-42010aae0002
4001309d-8f2f-11ee-8b4f-42010aae0002	f150a4b3-8998-11ee-bb92-42010aae0002
831cd2e-8916-11ee-bb92-42010aae0002	f150a4b3-8998-11ee-bb92-42010aae0002
2dba33fc-345c-48e1-bdaa-62665648022b	f150acb3-8998-11ee-bb92-42010aae0002
325ea530-8f2f-11ee-8b4f-42010aae0002	f150acb3-8998-11ee-bb92-42010aae0002
4001309d-8f2f-11ee-8b4f-42010aae0002	f150acb3-8998-11ee-bb92-42010aae0002

### 6.1.7 Transaction Snapshot

transaction_uuid	account_uuid	shop_uuid	coupon_code	receive_time	status	order_time
325ea530-8f2f-11ee-8b4f-42010aae0002	831cd2e-8916-11ee-bb92-42010aae0002	f150b186-8998-11ee-bb92-42010aae0002	<null>	2023-12-26 17:20:47	Arrived	2023-12-26 09
4001309d-8f2f-11ee-8b4f-42010aae0002	c4f8db1b-8d24-11ee-bb92-42010aae0002	<null>	<null>	<null>	Ordered	2023-12-26 09

### 6.1.8 TransactionProductLog Snapshot

transaction_uuid	product_uuid	quantity
325ea530-8f2f-11ee-8b4f-42010aae0002	56e78901-8998-11ee-bb92-42010aae0002	23
325ea530-8f2f-11ee-8b4f-42010aae0002	6f789012-8998-11ee-bb92-42010aae0002	213121
325ea530-8f2f-11ee-8b4f-42010aae0002	094527b3-f8f1-4dfc-82cb-066a48d29caa	34

## 6.2 SQL Statements

— Contents of 1Account.sql —

```
create table Account
(
    account_uuid varchar(64)          not null
        primary key,
    name         varchar(64)          not null,
    email        varchar(128)         not null,
    pwd          varchar(128)         not null,
    phone        varchar(32)          null,
    credit_card varchar(64)          null,
    birthday     date               null,
    address      varchar(256)         null,
    is_active    tinyint(1) default 1  null,
    role         int                default 0 null,
    update_time  timestamp          default CURRENT_TIMESTAMP null on update CURRENT_TIMESTAMP,
    constraint Account_pk
        unique (email)
);
```

— Contents of 2Shop.sql —

```
create table Shop
(
    shop_uuid      varchar(64)          not null
    primary key,
    account_uuid   varchar(64)          not null,
    name           varchar(64)          not null,
    description    varchar(512)         null,
    is_active      int      default 1  null,
    update_time    timestamp default CURRENT_TIMESTAMP null on update CURRENT_TIMESTAMP,
    constraint account_uuid
        unique (account_uuid),
    constraint Shop_ibfk_1
        foreign key (account_uuid) references Account (account_uuid)
);
```

```
INSERT INTO NFT.Shop (shop_uuid, account_uuid, name, description, is_active, update_time) VALUES ('f6f54c6e7-51f2-4582-ba33-6223a7cf58ca', 'dc1a2d00b-11ee-bb92-4201aae0002', '76', 'c4f8d1b0-8d24-11ee-bb92-4201aae0002', '76', 'c90a780a-8974-4507-9f57-032e5324f18f', 'f8', 'e31b3d02-2995-4e2c-9481-93a63403c7af', '7f', 'f150a4b3-8998-11ee-bb92-4201aae0002', '83', 'f150a4b3-8998-11ee-bb92-4201aae0002', '83', 'f150acf3-8998-11ee-bb92-4201aae0002', '83', 'f150af72-8998-11ee-bb92-4201aae0002', '83', 'f150b096-8998-11ee-bb92-4201aae0002', '83', 'f150b186-8998-11ee-bb92-4201aae0002', '83', 'f150b368-8998-11ee-bb92-4201aae0002', '84', 'f150b459-8998-11ee-bb92-4201aae0002', '84', 'f150b531-8998-11ee-bb92-4201aae0002', '84', 'f150b624-8998-11ee-bb92-4201aae0002', '84', 'f150b708-8998-11ee-bb92-4201aae0002', '84', 'fa82e819-8998-11ee-bb92-4201aae0002', 'cd')
```

## — Contents of 3Subscription.sql —

```
create table Subscription
(
    account_uuid varchar(64) not null,
    shop_uuid    varchar(64) not null,
    primary key (account_uuid, shop_uuid),
    constraint Subscription_ibfk_1
        foreign key (account_uuid) references Account (account_uuid)
    constraint Subscription_ibfk_2
        foreign key (shop_uuid) references Shop (shop_uuid)
);
```

```
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('2dba33fc-345c-48e1-bdaa-62665648022b', '6f54c6e7-51f2-4582-ba33-6223a7cf58ca',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('325ea530-8f2f-11ee-8b4f-42010aae0002', '6f54c6e7-51f2-4582-ba33-6223a7cf58ca',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('4001309d-8f2f-11ee-8b4f-42010aae0002', '6f54c6e7-51f2-4582-ba33-6223a7cf58ca',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('831cde2e-8916-11ee-bb92-42010aae0002', '6f54c6e7-51f2-4582-ba33-6223a7cf58ca',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('2dba33fc-345c-48e1-bdaa-62665648022b', 'c4f8d1b0-8d24-11ee-bb92-42010aae0002',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('325ea530-8f2f-11ee-8b4f-42010aae0002', 'c4f8d1b0-8d24-11ee-bb92-42010aae0002',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('4001309d-8f2f-11ee-8b4f-42010aae0002', 'c4f8d1b0-8d24-11ee-bb92-42010aae0002',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('831cde2e-8916-11ee-bb92-42010aae0002', 'c4f8d1b0-8d24-11ee-bb92-42010aae0002',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('2dba33fc-345c-48e1-bdaa-62665648022b', 'c90a780a-8974-4507-9f57-032e5324f18f',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('325ea530-8f2f-11ee-8b4f-42010aae0002', 'c90a780a-8974-4507-9f57-032e5324f18f',  
INSERT INTO NFT.Subscription (account_uuid, shop_uuid) VALUES ('4001309d-8f2f-11ee-8b4f-42010aae0002', 'c90a780a-8974-4507-9f57-032e5324f18f')
```

— Contents of 4Product.sql —

```

create table Product
(
    product_uuid varchar(64)          not null
        primary key,
    shop_uuid    varchar(64)          not null,
    name         varchar(64)          not null,
    stock        int                 not null,
    price        int                 not null,
    tags         varchar(32)         null,
    description  varchar(512)        null,
    is_active    int default 1      null,
    update_time  timestamp default CURRENT_TIMESTAMP null on update CURRENT_TIMESTAMP,
    constraint Product_ibfk_1
        foreign key (shop_uuid) references Shop (shop_uuid)
);

```

INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('0044af9a-bb9d-4c32-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('094527b3-f8f1-4dfc-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('0fb4b7f-0c9b-43f0-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('0c275f4e-6bc4-4ff4-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('1a234567-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('1fbfd1d-1d97-4ad2-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('20c5e309-6f0f-4fc8-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('22b1c981-1b4e-43b9-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('25d07c64-2586-4aa4-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('2b345678-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('2e327174-1f5a-4e76-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('3997a8e-4040-4c01-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('3a5428f8-0a0f-4aae-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('3c456789-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('412fd34f-4e5f-49d5-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('4b57858b-1b99-487a-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('4d567890-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('4f888388-88e2-4e56-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('511029a0-d61d-4f30-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('56fc8f82-5a58-4969-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('59c64093-c6b3-4b6e-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('59da8f80-695c-496e-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('5ad6bce5-7c8d-4c1c-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('5e44205d-fc87-4f5a-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('5e678901-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('6ba7b810-9dad-11d1-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('6c0b3e5c-b3e3-4b0c-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('6c1176f3-d755-416a-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('6f789012-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('77e35067-568a-4b54-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('78a728bf-4d4b-4daa-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('7dd79b2d-0a68-4a5-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('7e724a93-028d-4b65-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('7e890123-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('8683e1bc-76ee-4d92-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('8ef7caf9-dde5-4cc2-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('8f8439f3-7bd3-4d6e-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('8h901234-8998-11ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('9141d7c9-2ef3-4b31-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('95c2c075-0ba0-4c2-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('9802e81f-eabb-4d0-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('9ad60764-5834-44ee-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('9c097f95-7b80-443-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('9dd4e461-54b8-40d6-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('9df77e88-5d43-4c3a-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('baa800d-5a21-4d7-  
INSERT INTO NFT.Product (product\_uuid, shop\_uuid, name, stock, price, tags, description, is\_active, update\_time) VALUES ('ca03a2d9-0e56-470a-

```

INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('c9dd9ce4-3323-4d1d-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('d86cf000-407d-11eb-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('dcfce6f6-031b-4b2c-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('dcf9b6fc-3c85-4b4b-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('efcd48ab-5fe6-4f72-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('f1515522-c73b-4c66-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('f47c9e54-4a81-4159-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('f78e764c-2344-4efc-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('fdd5d5ef-8b8a-42eb-'
INSERT INTO NFT.Product (product_uuid, shop_uuid, name, stock, price, tags, description, is_active, update_time) VALUES ('fdf706e4-1cca-43c4-'

— Contents of 5Coupon.sql —
create table Coupon
(
    coupon_uuid varchar(64)          not null
        primary key,
    coupon_code varchar(16)          not null,
    discount     int                not null,
    expire_time timestamp           not null,
    update_time timestamp default CURRENT_TIMESTAMP null on update CURRENT_TIMESTAMP,
    check ((`discount` >= 0) and (`discount` <= 100))
);

INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('abc123', 'SAVE20', 20, '2024-12-31 23:59:59',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('abc890', 'NEWYEAR50', 50, '2024-12-31 23:59:59',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('def123', 'MEMORIAL20', 20, '2024-05-31 18:30:00',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('def456', 'GET50OFF', 50, '2024-06-30 18:30:00',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('ghi456', 'LABORDAY15', 15, '2024-09-30 12:00:00',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('ghi789', 'FREESHIP', 100, '2024-12-15 12:00:00',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('jkl012', 'HOLIDAY25', 25, '2024-12-25 23:59:59',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('jkl1789', 'EASTER10', 10, '2024-04-15 23:59:59',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('mno345', 'BIGSALE', 30, '2024-07-31 18:30:00',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('pqr678', 'WINTERSALE', 40, '2024-08-28 12:00:00',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('stu901', 'SUMMERDEAL', 15, '2024-08-31 23:59:59',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('vwx234', 'FLASHSALE', 50, '2024-12-10 18:30:00',
INSERT INTO NFT.Coupon (coupon_uuid, coupon_code, discount, expire_time, update_time) VALUES ('yzu567', 'SPRINGSALE', 35, '2024-04-30 12:00:00'

— Contents of 6Transaction.sql —
create table Transaction
(
    transaction_uuid varchar(64)          not null
        primary key,
    account_uuid     varchar(64)          not null,
    shop_uuid        varchar(64)          not null,
    coupon_uuid      varchar(16)          null,
    receive_time     datetime           null,
    status           ENUM('Ordered', 'Delivering', 'Arrived', 'Cancelled') not null,
    order_time       timestamp           not null,
    update_time      timestamp default CURRENT_TIMESTAMP not null on update CURRENT_TIMESTAMP,
    constraint Transaction_ibfk_2
        foreign key (account_uuid) references Account (account_uuid),
    constraint Transaction_ibfk_3
        foreign key (shop_uuid) references Shop (shop_uuid),
    constraint Transaction_ibfk_4
        foreign key (coupon_uuid) references Coupon (coupon_uuid),
    constraint Receive_after_arrive_check
        check ((`receive_time` is null) or (`status` = 'Arrived'))
);

INSERT INTO NFT.Transaction (transaction_uuid, account_uuid, shop_uuid, coupon_uuid, receive_time, status, order_time, update_time) VALUES (''
INSERT INTO NFT.Transaction (transaction_uuid, account_uuid, shop_uuid, coupon_uuid, receive_time, status, order_time, update_time) VALUES (''
INSERT INTO NFT.Transaction (transaction_uuid, account_uuid, shop_uuid, coupon_uuid, receive_time, status, order_time, update_time) VALUES (''
INSERT INTO NFT.Transaction (transaction_uuid, account_uuid, shop_uuid, coupon_uuid, receive_time, status, order_time, update_time) VALUES (''
INSERT INTO NFT.Transaction (transaction_uuid, account_uuid, shop_uuid, coupon_uuid, receive_time, status, order_time, update_time) VALUES (''
INSERT INTO NFT.Transaction (transaction_uuid, account_uuid, shop_uuid, coupon_uuid, receive_time, status, order_time, update_time) VALUES (''

— Contents of 7TransactionProductLog.sql —
create table TransactionProductLog
(
    transaction_uuid varchar(64) not null,
    product_uuid     varchar(64) not null,
    quantity         int unsigned not null,
    constraint TransactionProductLog_ibfk_1
        foreign key (transaction_uuid) references Transaction (transaction_uuid),
    constraint TransactionProductLog_ibfk_2
        foreign key (product_uuid) references Product (product_uuid),
    constraint Check_ProductQuantity
        check (quantity > 0)
);

INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('e31b3d02-2995-4e2c-9481-93a63403c7af', '5e678901-89
INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('e31b3d02-2995-4e2c-9481-93a63403c7af', '6f789012-89
INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('325ea530-8f2f-11ee-8b4f-42010aae0002', '094527b3-f8
INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('f3765e89-2826-46ee-97da-126fa81ee280', '094527b3-f8
INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('f0234cf1-1f47-4b3c-8777-5fe72a94e510', '0044af9a-bb
INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('f0234cf1-1f47-4b3c-8777-5fe72a94e510', '094527b3-f8
INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('a8d3276c-7lac-4e7c-9d28-7426515dfed9', '1a234567-89
INSERT INTO NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity) VALUES ('a8d3276c-7lac-4e7c-9d28-7426515dfed9', '20c5e309-6f

— Contents of 8Comment.sql —
create table Comment
(
    comment_uuid varchar(64)          not null
        primary key,
    product_uuid varchar(64)          not null,
    account_uuid varchar(64)          not null,

```

```

    text      varchar(512)          not null,
update_time timestamp default CURRENT_TIMESTAMP null on update CURRENT_TIMESTAMP,
constraint Comment_ibfk_1
    foreign key (product_uuid) references Product (product_uuid),
constraint Comment_ibfk_2
    foreign key (account_uuid) references Account (account_uuid)
);

INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0724e9e8-58aa-48a6-a5b9-1443a1062601', '094527');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc5975-9f28-11ee-9df2-0242ac140002', '094527');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6283-9f28-11ee-9df2-0242ac140002', '1a2345');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6458-9f28-11ee-9df2-0242ac140002', '2b3456');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6534-9f28-11ee-9df2-0242ac140002', '3c4567');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc65e8-9f28-11ee-9df2-0242ac140002', '4d5678');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc66a7-9f28-11ee-9df2-0242ac140002', '5e6789');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6788-9f28-11ee-9df2-0242ac140002', '617890');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6918-9f28-11ee-9df2-0242ac140002', '78g901');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc69fd-9f28-11ee-9df2-0242ac140002', '8h9012');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6aa5-9f28-11ee-9df2-0242ac140002', '9802e8');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6b56-9f28-11ee-9df2-0242ac140002', '9ad607');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6bf1-9f28-11ee-9df2-0242ac140002', 'fdf706');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6c9a-9f28-11ee-9df2-0242ac140002', '094527');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6d1d-9f28-11ee-9df2-0242ac140002', '1a2345');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6dcd-9f28-11ee-9df2-0242ac140002', '2b3456');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6f3c-9f28-11ee-9df2-0242ac140002', '3c4567');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc6fc2-9f28-11ee-9df2-0242ac140002', '4d5678');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc7058-9f28-11ee-9df2-0242ac140002', '5e6789');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc7112-9f28-11ee-9df2-0242ac140002', '617890');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc71ca-9f28-11ee-9df2-0242ac140002', '78g901');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc727f-9f28-11ee-9df2-0242ac140002', '8h9012');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('0dbc727f-9f28-11ee-9df2-0242ac145697', '094527');
INSERT INTO NFT.Comment (comment_uuid, product_uuid, account_uuid, text, update_time) VALUES ('77c0adc9-dc73-4fb9-9b07-c9a57827c2aa', '094527');

—— Contents of 9HateList.sql ——
create table HateList
(
    account_uuid varchar(64) not null,
    comment_uuid varchar(64) not null,
    if_hates tinyint(1) not null,
    primary key (account_uuid, comment_uuid),
    constraint HateList_ibfk_1
        foreign key (account_uuid) references Account (account_uuid),
    constraint HateList_ibfk_2
        foreign key (comment_uuid) references Comment (comment_uuid)
);

create index comment_uuid
    on HateList (comment_uuid);

INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('2dba33fc-345c-48e1-bdaa-62665648022b', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('325ea530-8f2f-11ee-8b4f-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('325ea530-8f2f-11ee-8b4f-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('4001309d-8f2f-11ee-8b4f-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('4001309d-8f2f-11ee-8b4f-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('5'f0f6adf-4fde-42c0-bc75-6d51a670924c', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('5'f0f6adf-4fde-42c0-bc75-6d51a670924c', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('76eafe7a-8d1d-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('76eafe7a-8d1d-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('7'ff4d7718-9df9-48d5-92e2-678cfb09a7b', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('7'ff4d7718-9df9-48d5-92e2-678cfb09a7b', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cd0d0-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cd0d0-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cdb41-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cdb41-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cdd39-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cdd39-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cde2e-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cde2e-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cdf1e-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('831cdf1e-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c38d1-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c38d1-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3d7c-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3d7c-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3e36-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3e36-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3eba-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3eba-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3d12-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3d12-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3f2b-8916-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('849c3f2b-8916-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('a3711878-44ae-4328-ad62-4ed45b57c848', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('a3711878-44ae-4328-ad62-4ed45b57c848', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('ad593cad-96fb-4ebe-a5e4-a0b9101a8d5c', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('ad593cad-96fb-4ebe-a5e4-a0b9101a8d5c', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('cde5df65-8e91-11ee-8b4f-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('cde5df65-8e91-11ee-8b4f-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('dc7de7cd-22bc-4a45-90bb-74bbc3ff8760', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('dc7de7cd-22bc-4a45-90bb-74bbc3ff8760', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('ddaa8cf0-8db0-11ee-bb92-42010aae0002', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('ddaa8cf0-8db0-11ee-bb92-42010aae0002', '0dbc6283-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('f81672f3-2925-4396-a33e-dd85a4c03cal', '0dbc5975-9f28-11ee-9df2-0242');
INSERT INTO NFT.HateList (account_uuid, comment_uuid, if_hates) VALUES ('f81672f3-2925-4396-a33e-dd85a4c03cal', '0dbc6283-9f28-11ee-9df2-0242');

—— Contents of trigger.sql ——
DELIMITER //
CREATE TRIGGER check_coupon_code

```

```

BEFORE INSERT
ON Coupon
FOR EACH ROW
BEGIN
    IF NEW.coupon_code IS NOT NULL THEN
        IF EXISTS (SELECT 1
                    FROM Coupon
                   WHERE coupon_code = NEW.coupon_code
                     AND expire_time >= convert_tz(now(), 'UTC', 'Asia/Taipei')) THEN
            SIGNAL SQLSTATE '45000'
            SET MESSAGE_TEXT = 'There is a same coupon code that is not expired yet.';
        END IF;
    END IF;
END;
// 
DELIMITER ;

DELIMITER //
CREATE TRIGGER check_coupon_expire_time
    BEFORE INSERT
    ON Coupon
    FOR EACH ROW
BEGIN
    IF NEW.coupon_code IS NOT NULL THEN
        IF New.expire_time < convert_tz(now(), 'UTC', 'Asia/Taipei') THEN
            SIGNAL SQLSTATE '45000'
            SET MESSAGE_TEXT = 'The coupon has already expired.';
        END IF;
    END IF;
END;
// 
DELIMITER ;

```

```

DELIMITER //
CREATE TRIGGER check_if_product_came_from_same_shop
    BEFORE INSERT
    ON TransactionProductLog
    FOR EACH ROW
BEGIN
    IF NOT EXISTS (SELECT 1
                    FROM TransactionProductLog,
                     Product
                   WHERE TransactionProductLog.transaction_uuid = NEW.transaction_uuid
                     AND TransactionProductLog.product_uuid = Product.product_uuid
                     AND Product.shop_uuid = (SELECT shop_uuid
                                              FROM Product
                                             WHERE product_uuid = NEW.product_uuid))
        AND (SELECT 1
              FROM TransactionProductLog
             WHERE transaction_uuid = NEW.transaction_uuid)
    THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'This product does not belong to the same shop as the transaction';
    END IF;
END;
// 

```

### 6.3 Estimate Size of Each Table

Name	Columns	Rows (Est.)	Size (Est.)
account	11	25	32 kB
shop	6	15	48 kB
subscription	2	8	24 kB
product	9	12	32 kB
transaction	7	8	24 kB
transactionProductLog	3	8	8192 bytes
comment	6	8	16 kB
coupon	5	9	8192 bytes
hateList	3	25	58kB

Table 13: Database Size Estimation

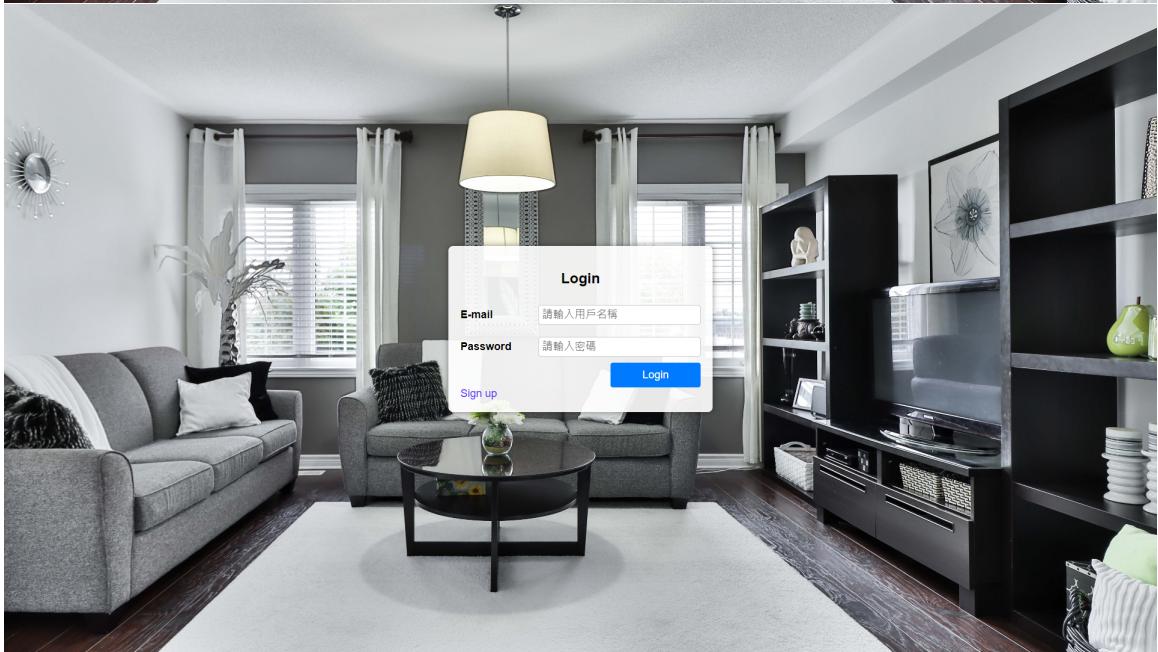
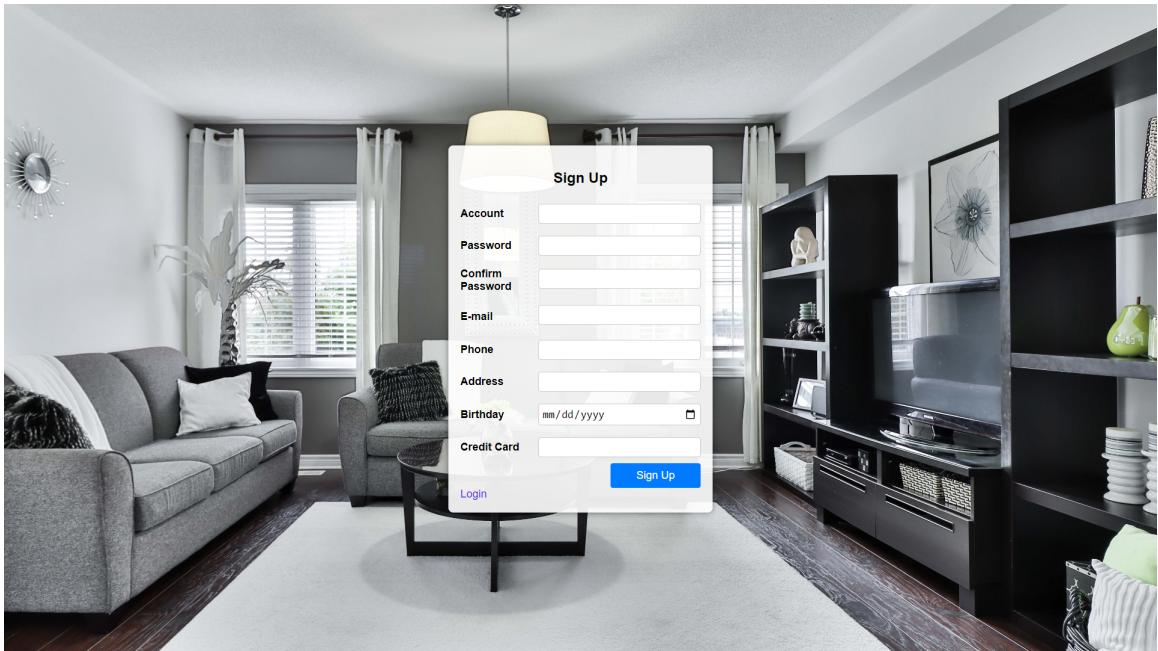
### 6.4 Estimated Number of Database Operation per Day

Table	Estimated Operations per Day
account	10 LP Logins, 2 AC New Accounts, 5 AC Operations, 20 DP Reads
shop	5 SC Operations, 5 SP Reads
subscription	10 SSC Reads, 10 SP Reads
product	20 SP Reads, 20 MP Reads, 10 PP Reads
transaction	5 DP Reads
transactionProductLog	10 SCI Operations
comment	5 SP Reads
coupon	N/A (Not mentioned in scenarios)
hateList	50 CP Reads

Table 14: Estimated Number of Database Operations per Day

## 7 系統使用手冊 (The User Guide of the System)

### 7.1 User Interface





E-MAIL	email@gmail.com
ACCOUNT	e_admin
PASSWORD	...
ADDRESS	123 Main St, Cityville
PHONENUMBER	123-456-7890
BIRTHDAY	01/15/1990
CREDCARD	1234-5678-9012-3456

**Confirm** **Cancel**

Account Setting

Order Record

Shop Setting

Subscribed



Order Date	Product	Amount	Status	Detail
12/26/2023	Bookshelves TV stand	756 <b>80% off</b>	Ordered	<a href="#">Open</a>
12/30/2023	Sofa	1598	Arrived	<a href="#">Open</a>

Account Setting

Order Record

Shop Setting

Subscribed



NAME

Celestial Creations Outlet

DESCRIPTION

Reach for the stars at this outlet

[Confirm](#)

[Cancel](#)

Account Setting

Order Record

Shop Setting

Subscribed



Shop Name	Shop Details	Action
Vintage Charm Bazaar	Timeless elegance meets nostalgia. Browse through carefully curated vintage finds	<a href="#">Delete</a>
NTUT	a shop selling degree to let you give up everything	<a href="#">Delete</a>
Starlight Trinkets Gallery	Illuminate your life with the treasures at. Discover a curated collection of exquisite jewelry	<a href="#">Delete</a>
Serendipity Souvenirs Co.	Embrace the joy of discovery at. This delightful shop offers charming souvenirs	<a href="#">Delete</a>
Velvet Twilight Emporium	Dive into the luxurious ambiance of. This boutique indulges your senses with plush fabrics	<a href="#">Delete</a>

Account Setting

Order Record

Shop Setting

Subscribed

## 帳號管理

[新增帳號](#)

### 帳號資訊

ID	Name	Password	Email	Phone	Credit Card	Birthday	Address	Active	Update Time	Account Action	Shop ID	Shop Name	Shop Active
2dba33fc-345c-48e1-bdaa-62665648022b	garry	*****	t110590028@gmail.com	123-456-7890	4321-8765-0987-6577	November 28, 1933		Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
325ea530-8f2d-11ee-8b4f-42010aae0002	fortesting	*****	testing@gmail.com	555-123-4567	1234-1234-1234-1234	December 4, 2023	369 divine St, Taipei	Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
4001309d-8f2d-11ee-8b4f-42010aae0002	richman	*****	richman@gmail.com	987-654-3210				Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
5f0f6adef4fd-e42c0-bc75-6d51a670924c	Ian	*****	asd@asd.djk	876-543-2109	4321-8765-0987-6111			Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
78a8afe7-a8d1d-11ee-bb92-42010aae0002	kyy	*****	asd@gmail.com	321-987-6543		July 7, 2077		Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
7f4d7718-9d9-48d5-92e2-678cfb09a7b	pal	*****	asd@gmail.com	555-555-5555				Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
831cd0d0-8916-11ee-bb92-42010aae0002	john	*****	john.doe@gmail.com	888-999-0000	1234-5678-9012-3456	January 15, 1990	123 Main St, Cityville	Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
831cd811-8916-11ee-bb92-42010aae0002	gary	*****	gilksjlkdg32@gmail.com	444-333-2222	4321-8765-0987-2222	November 28, 2002	719 Pine St, Villagetown	Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
831cd39-8916-11ee-bb92-42010aae0002	Bob Johnson	*****	bob.johnson1@gmail.com	777-888-9999	4321-8765-0987-6543	March 10, 1978	789 Pine St, Villagetown	Yes	January 3, 2024	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
831cd62e-8916-11ee-bb92-42010aae0002	Alice Williams	*****	alice.williams@gmail.com	111-222-3333	8765-4321-5678-9012	November 5, 1982	567 Elm St, Hamletville	Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0
831cdf1e-8916-11ee-bb92-42010aae0002	Charlie Brown	*****	charlie.brown@gmail.com	666-777-8888	3456-7890-1234-5678	September 30, 1995	234 Birch St, Riverside	Yes	December 28, 2023	<a href="#">Edit</a> <a href="#">Ban</a>	1ed02a41-4413-4374-b437-8c04856cf4b9	Garry's for test	0

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PRICE: 549  
TAG: DINING ROOM FURNITURE

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PRICE: 699  
TAG: BEDROOM FURNITURE

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CREATE A STYLISH AND FUNCTIONAL BAR AREA WITH THIS TRENDY BAR CABINET

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PRICE: 299

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PRICE: 129

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STOCK: 10

PRICE: 699



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STOCK: 10

PRICE: 699

QUANTITY: 

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## CHAISE LOUNGE

LOUNGE IN LUXURY WITH THIS ELEGANT CHAISE LOUNGE

STOCK: 15

PRICE: 349

QUANTITY: 

Buy

## PANTRY CABINET

ORGANIZE YOUR KITCHEN ESSENTIALS WITH THIS SPACIOUS PANTRY CABINET

STOCK: 20

PRICE: 249

QUANTITY: 

Buy

## BAR CABINET

CREATE A STYLISH AND FUNCTIONAL BAR AREA WITH THIS TRENDY BAR CABINET

STOCK: 25

PRICE: 179

QUANTITY: 

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SOAK UP THE SUN IN STYLE WITH THESE ADJUSTABLE SUN LOUNGERS

STOCK: 25

PRICE: 129

QUANTITY: 

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## KITCHEN CART

INCREASE YOUR KITCHEN'S VERSATILITY WITH THIS HANDY KITCHEN CART

STOCK: 25

PRICE: 149

QUANTITY: 

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Item Name	Quantity	Price
Bed frame	1	299
Nightstand	1	89
Wardrobe	1	699
Mattress	1	599
Vanity	1	199
Chest of drawers	1	349

total cost: 2234

coupon:  input coupon

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STOCK: 25

PRICE: 799



QUANTITY:

ENCHANTED FINDS BOUTIQUE

VINTAGE CHARM BAZAAR

NTUT

STARLIGHT TRINKETS GALLERY

SERENDIPITY SOUVENIRS CO.

VELVET TWILIGHT EMPORIUM

## 8 級外的查詢和觀點 (Additional Queries and Views)

comment_uuid	account_uuid	name	text	likes	dislikes	update_time
0774e9e8-58aa-48af-a5b9-1443a1062601	f81672f3-2925-4396-a33e-dd85a4c03ca1	e_admin	nice	0	0	2023-12-28 06:05:59
0dbc5975-9f28-11ee-9df2-0242ac140602	f2ba33fc-345c-48e1-bdaa-62665648822b	garyyy	Great product!	11	10	2023-12-28 11:08:07
0dbc6283-9f28-11ee-9df2-0242ac140602	325ea53d-84f2-11ee-8bf4-42819aae0002	fortesting	Awesome features!	9	13	2023-12-28 11:08:59
0dbc6458-9f28-11ee-9df2-0242ac140602	4001309d-84f2-11ee-8bf4-42819aae0002	richman	I love it!	0	0	2023-12-28 11:08:07
0dbc65e8-9f28-11ee-9df2-0242ac140602	5ff6fe6ad4-44fd-42c9-bc75-d51a679924	lan	Could be better.	0	0	2023-12-28 11:08:07
0dbc66a7-9f28-11ee-9df2-0242ac140602	7f6eaef7a-8d11-11ee-bb92-42819aae0002	kyy	Not impressed.	0	0	2023-12-28 11:08:07
0dbc66f7-9f28-11ee-9df2-0242ac140602	7f4d7718-9d49-48d5-92e2-678cbf99a7b	pal	Good value for money, yaaa.	0	0	2023-12-28 11:09:12
0dbc6788-9f28-11ee-9df2-0242ac140602	831cd0d9-8916-11ee-bb92-42819aae0002	john	Impressive design!	0	0	2023-12-28 11:08:07
0dbc6918-9f28-11ee-9df2-0242ac140602	831cd0d9-8916-11ee-bb92-42819aae0002	gary	User-friendly interface.	0	0	2023-12-28 11:08:07
0dbc694d-9f28-11ee-9df2-0242ac140602	831cd339-8916-11ee-bb92-42819aae0002	Bob Johnson	Satisfied customer.	0	0	2023-12-28 11:08:07
0dbc6a5a-9f28-11ee-9df2-0242ac140602	831cdce2-8916-11ee-bb92-42819aae0002	Alice Williams	Highly recommended!	0	0	2023-12-28 11:08:07
0dbc6b56-9f28-11ee-9df2-0242ac140602	831cdff1-8916-11ee-bb92-42819aae0002	Charlie Brown	Great buy!	0	0	2023-12-28 11:08:07
0dbc6b81-9f28-11ee-9df2-0242ac140602	8499c3d81-8916-11ee-bb92-42819aae0002	John Doe	Quality product.	0	0	2023-12-28 11:08:07
0dbc6c9a-9f28-11ee-9df2-0242ac140602	8499c3d7c-8916-11ee-bb92-42819aae0002	Jane Smith	Impressed with the performance.	0	0	2023-12-28 11:08:07
0dbc6d1d-9f28-11ee-9df2-0242ac140602	8499c3e36-8916-11ee-bb92-42819aae0002	Bob Johnson	Not bad.	0	0	2023-12-28 11:08:07
0dbc6dcd-9f28-11ee-9df2-0242ac140602	8499c3e8a-8916-11ee-bb92-42819aae0002	Monfjdskl	Fast shipping!	0	0	2023-12-28 11:08:07
0dbc6f1c-9f28-11ee-9df2-0242ac140602	8499c3f2b-8916-11ee-bb92-42819aae0002	Dars Veda	Disappointed.	0	0	2023-12-28 11:08:07
0dbc6f2c-9f28-11ee-9df2-0242ac140602	a3711878-44ae-4328-ad62-4ed45b57c848	rat	Could use some improvements.	0	0	2023-12-28 11:08:07
0dbc6f3c-9f28-11ee-9df2-0242ac140602	ad593cad-96fb-4ebe-a5e4-a09101a8d5c	hatt	Excellent customer service!	0	0	2023-12-28 11:08:07
0dbc7112-9f28-11ee-9df2-0242ac140602	cde5df6e5-8e91-11ee-8bf4-42819aae0002	han	Happy with my purchase.	0	0	2023-12-28 11:08:07
0dbc71ca-9f28-11ee-9df2-0242ac140602	dc7def7cd-22bc-4a15-9bb8-74bbc3ff8768	owen	Not recommended.	0	0	2023-12-28 11:08:07
0dbc727f-9f28-11ee-9df2-0242ac140602	ddaa8fc9-8db8-11ee-bb92-42819aae0002	s_admin	Great value!	0	0	2023-12-28 11:08:07
0dbc7284-9f28-11ee-9df2-0242ac145697	f81672f3-2925-4396-a33e-dd85a4c03ca1	e_admin	i think mine product is awesome!	0	0	2023-12-25 20:31:56
77cc0adc9-dc73-4b9b-9b07-c9a57827c3aa	f81672f3-2925-4396-a33e-dd85a4c03ca1	e_admin	poor design	0	0	2023-12-28 06:06:40

transaction_uuid	account_uuid	shop_uuid	receive_time	status	return_time	discount	product_uuid	quantity	fee	order	description
025a77c6-9f28-11ee-9df2-0242ac140602	ad593cad-96fb-4ebe-a5e4-a09101a8d5c	arrived	2023-12-28 09:21:45				999	0	0	comfortable and stylish sofa	
043177c6-9f28-11ee-9df2-0242ac140602	831cd01-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			261x399-464f-4530-2f223a0d11a9	1	699	Maximize your storage with this versatile wardrobe	
051158c6-9f28-11ee-9df2-0242ac140602	8499c3d81-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			187x399-464f-4530-2f223a0d11a9	18	269	Bookshelves	
051159c6-9f28-11ee-9df2-0242ac140602	8499c3d7c-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			187x399-464f-4530-2f223a0d11a9	18	269	Showcase your book collection and decorative items with these sturdy and stylish bookshelves.	
05115a0f-9f28-11ee-9df2-0242ac140602	8499c3e36-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Storage	
05115a1f-9f28-11ee-9df2-0242ac140602	8499c3e8a-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115b0f-9f28-11ee-9df2-0242ac140602	8499c3f2b-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Accompany your living room with these elegant accent tables	
05115b1f-9f28-11ee-9df2-0242ac140602	8499c3f7b-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115c0f-9f28-11ee-9df2-0242ac140602	8499c3f7c-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115c1f-9f28-11ee-9df2-0242ac140602	8499c3f7d-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Complete your living room with these elegant accent tables	
05115d0f-9f28-11ee-9df2-0242ac140602	8499c3f7e-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115d1f-9f28-11ee-9df2-0242ac140602	8499c3f7f-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115e0f-9f28-11ee-9df2-0242ac140602	8499c3f7g-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115e1f-9f28-11ee-9df2-0242ac140602	8499c3f7h-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115f0f-9f28-11ee-9df2-0242ac140602	8499c3f7i-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115f1f-9f28-11ee-9df2-0242ac140602	8499c3f7j-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115g0f-9f28-11ee-9df2-0242ac140602	8499c3f7k-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115g1f-9f28-11ee-9df2-0242ac140602	8499c3f7l-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115h0f-9f28-11ee-9df2-0242ac140602	8499c3f7m-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115h1f-9f28-11ee-9df2-0242ac140602	8499c3f7n-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115i0f-9f28-11ee-9df2-0242ac140602	8499c3f7o-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115i1f-9f28-11ee-9df2-0242ac140602	8499c3f7p-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115j0f-9f28-11ee-9df2-0242ac140602	8499c3f7q-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115j1f-9f28-11ee-9df2-0242ac140602	8499c3f7r-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115k0f-9f28-11ee-9df2-0242ac140602	8499c3f7s-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115k1f-9f28-11ee-9df2-0242ac140602	8499c3f7t-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115l0f-9f28-11ee-9df2-0242ac140602	8499c3f7u-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115l1f-9f28-11ee-9df2-0242ac140602	8499c3f7v-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115m0f-9f28-11ee-9df2-0242ac140602	8499c3f7w-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115m1f-9f28-11ee-9df2-0242ac140602	8499c3f7x-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115n0f-9f28-11ee-9df2-0242ac140602	8499c3f7y-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115n1f-9f28-11ee-9df2-0242ac140602	8499c3f7z-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115o0f-9f28-11ee-9df2-0242ac140602	8499c3f7a-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115o1f-9f28-11ee-9df2-0242ac140602	8499c3f7b-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115p0f-9f28-11ee-9df2-0242ac140602	8499c3f7c-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115p1f-9f28-11ee-9df2-0242ac140602	8499c3f7d-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115q0f-9f28-11ee-9df2-0242ac140602	8499c3f7e-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115q1f-9f28-11ee-9df2-0242ac140602	8499c3f7f-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115r0f-9f28-11ee-9df2-0242ac140602	8499c3f7g-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	A comfortable and stylish sofa	
05115r1f-9f28-11ee-9df2-0242ac140602	8499c3f7h-8916-11ee-bb92-42819aae0002	arrived	2023-12-28 11:08:08	MALL			120x399-464f-4530-2f223a0d11a9	12	179	Elegant accent tables	
05115s0f-											

6. 國際化和本地化：通過整合國際化和本地化功能，擴大平台的影響力，使來自不同地區的用戶能夠使用他們喜好的語言和貨幣訪問系統。

## **10 Glossary**

### **References**

- [1] Abraham Silberschatz, Henry F. Korth, and S. Sudarshan, *Database System Concepts*, 7th Edition, McGraw Hill, 2019.
- [2] Thomas Connolly and Carolyn Begg, *Database Systems: A Practical Approach to Design, Implementation, and Management*, 6th Edition, Pearson Education Limited, 2015.

## 11 Appendix