

系統需求規格書

Software Requirements Specification (SRS)

Version: 3.0

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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)

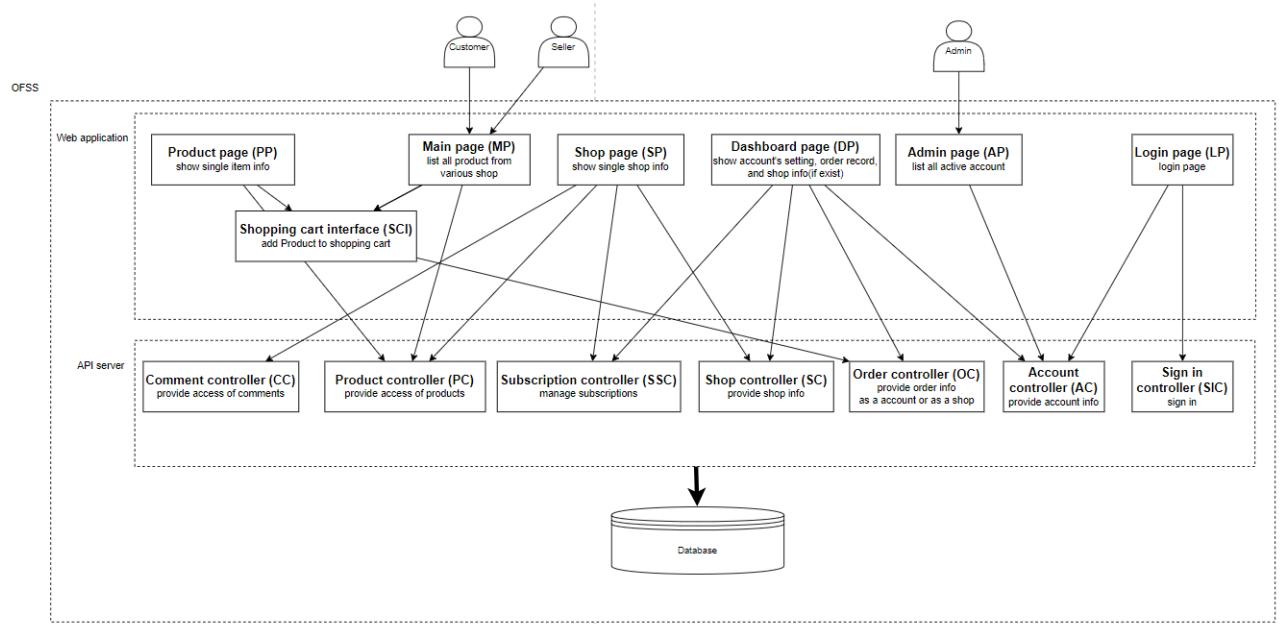
Requirement	Description
OFSS-F-nn	OFSS Functional Requirements
OFSS-N-nn	OFSS Non-Functional Requirements
OFSS-D-nn	OFSS Data Requirements
OFSS-U-nn	OFSS User Interfaces Requirements
OFSS-E-nn	OFSS External Interface Requirements
OFSS-I-nn	OFSS Internal Interface Requirements
OFSS-O-nn	OFSS Other Requirements
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	MMS 能在 SMS 新增、更新與停用帳號及取得商店營業資訊 (e.g. 營業收入)
OFSS-I-02	MMS 能在 AMS 新增、更新與停用帳號及取得顧客資料
OFSS-I-03	SMS 能和 OLMS 交換訂單資料
OFSS-I-04	SMS 能和 AMS 交換顧客資料
OFSS-I-05	SMS 能和 CSMS 交換評價資訊
OFSS-I-06	AMS 能在 SMS 新增及更新商店
OFSS-I-07	AMS 能和 CSMS 交換評價資料
OFSS-I-08	AMS 能在 OLMS 取得訂單資訊
OFSS-I-09	SCMS 能在 AMS 交換顧客資訊
OFSS-I-10	SCMS 能在 SMS 取得商家資訊
OFSS-I-11	SCMS 能在 OLMS 新增訂單

Table 11: System Requirements and Descriptions

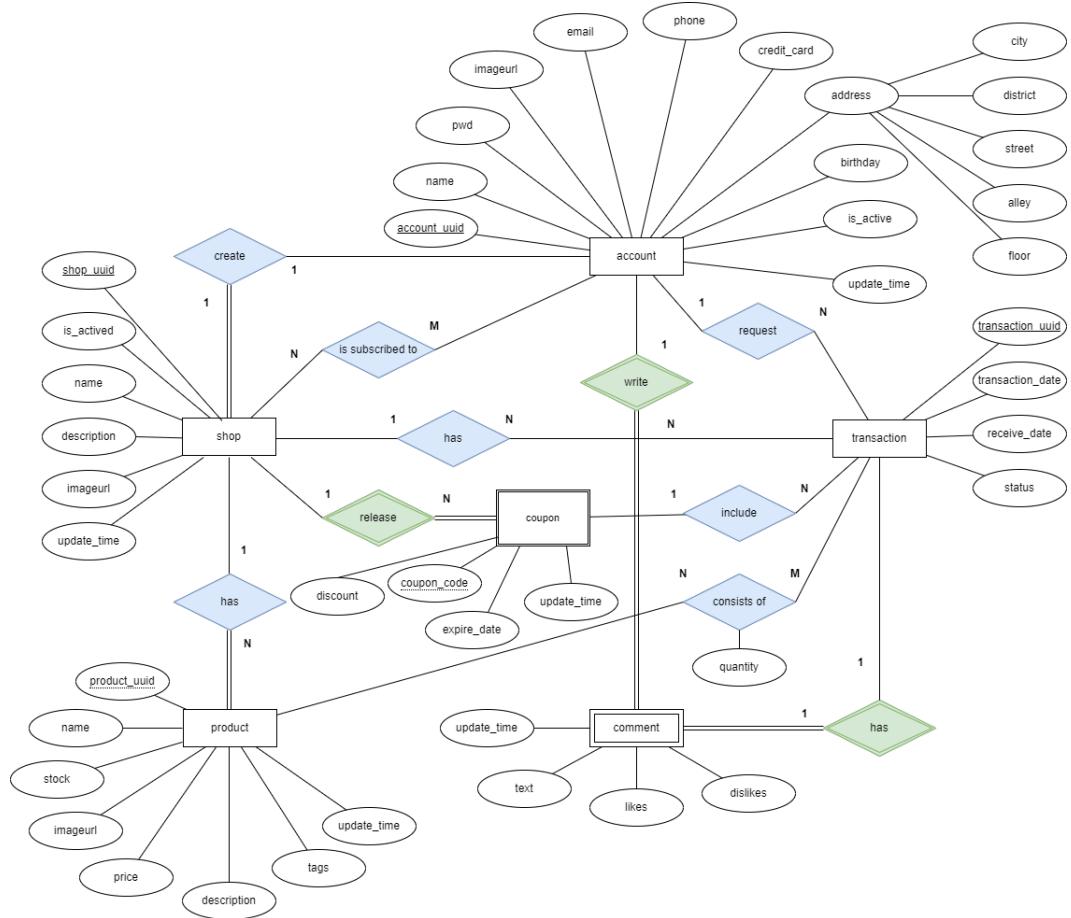
2.7 其他需求 (Other Requirements)

2.7.1 安裝需求 (Installation Requirement)

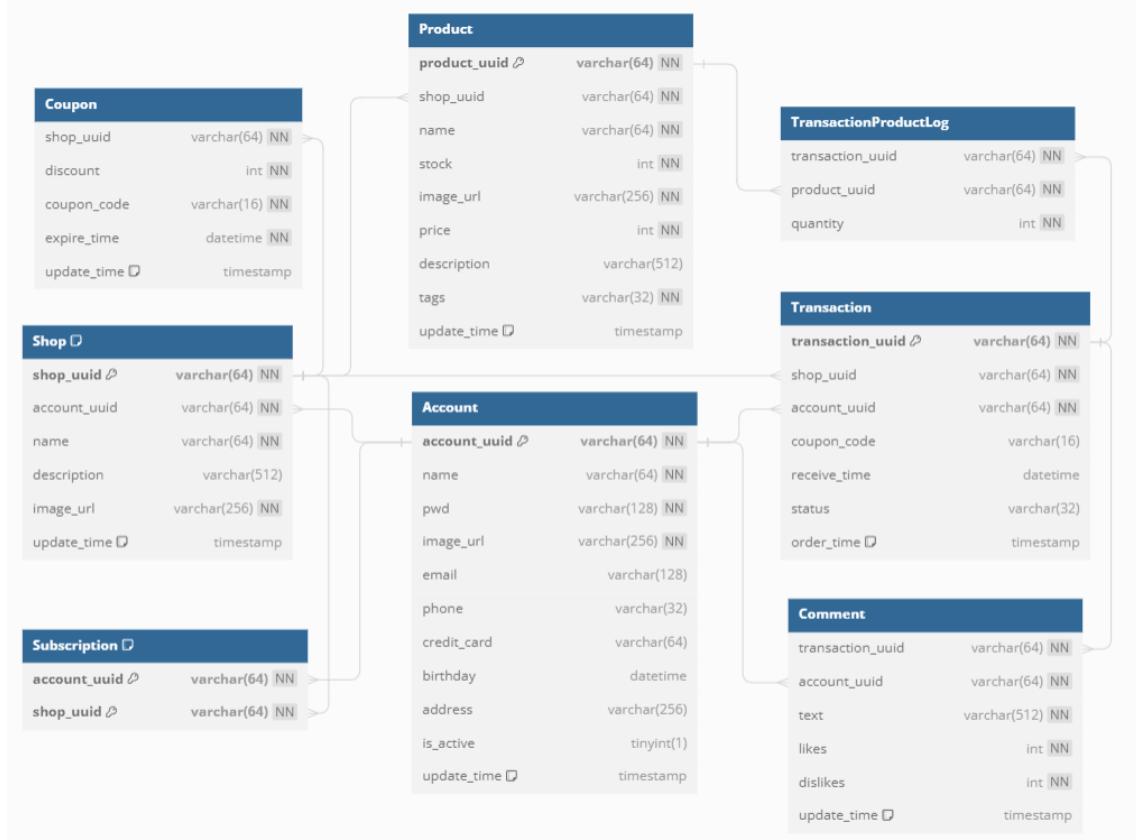
Requirement	Description
OFSS-O-01	使用 docker-compose 建置 database 和部署應用程式

Table 12: System Requirements and Descriptions

2.8 實體關係模型 (Entity Relationship ER Model)



2.9 邏輯資料庫綱要 (Database Schema)



2.9.1 符號描述 (Notation Description)

- any ‘NN’ behind domain type indicates ‘not null’
- a key sign after attribute indicates ‘primary key’

2.10 Snapshots of Tables in DBMS

2.10.1 Account Snapshot

	account_uuid	name	email	pwd	image_url	phone
WHERE						
1	2db335fc-3481-bdaa-...-gavr	t110590028@gmail.com	\$2b\$12\$gaa19nzb1y1lbePnQv...IQCtBPLVD19x/2C3U0MfABq4Elv50	https://example.com/bob.jpg	phone	123456789
2	325ee530-8f2f-11ee-0b4f-...-fortesting	testing@gmail.com	\$2b\$12\$fi1/rHu8cRFng01px40Kum/ZqP1gh8fu8Yz/LNvgSqvad.vFfy7i	https://example.com/alice.jpg	<null>	
3	4001369d-8f2f-11ee-004f-...-fsdlkjflkds	fdfavf@gmail.com	\$2b\$12\$9qintCd...qucoUvozPpgoLexVNg...0jJPH1VfhJCRLRYkgP8rjdAS	https://example.com/charlie.jpg		
4	4db0ab33-6b79-48f7-9e4e-...-jdsflkf	fjdsklfjdskl@gmail.com	fjdsklfjfk1sd	https://example.com/john.jpg	<null>	
5	51e2609f-2de1-4c42-e391-a739-...-dsjflkj	asasd@gmail.com	\$2b\$12\$8JtsIiZb210lND...tjS007m4pFSW8/PLJ0v821VQPtM12LHsS	https://example.com/jane.jpg	<null>	
6	60356ee5-4258-4391-a739-...-dsjflkj	asasdvg@gmail.com	\$2b\$12\$UhLhbWRldgt/F7HcOfYv0x0D87YgXhpm...1jL6LSL2hkesSouah13q	https://example.com/bob.jpg	<null>	
7	76eafe7a-8d1d-11ee-bb92-...-kyyyyyyyyy	asd@gmail.com	\$2b\$12\$qV68v1vpc/mjBN0o12lYeRFrw4fr2eJbp7ta8RjARWA5SKHICVqS	https://example.com/alice.jpg	0955222444	
8	7f4d7718-9df9-4d8d-92e2-...-gfjkfdgjlkj	asd@gmail.com	\$2b\$12\$yJ7lPrM0reefq9je8oJiUyfgyzUP5y3frn2STikzW0JgsxUb1	https://example.com/charlie.jpg	<null>	
9	831cd0d0-8916-11ee-bb92-...-notVincent	john.doe@gmail.com	\$2b\$12\$0UUL2Eaq8Y...FmOP1APQ1ux/Y9KCQrGJUWYGU11hPwfifx09gPey	https://example.com/john.jpg	123-456-7890	
10	831cd0d1-8916-11ee-bb92-...-gjlkjlkdg3j2@gmail.com	gjlkjlkdg3j2@gmail.com	\$2b\$12\$LNnA1mPw/qm10vDGCUxUH0591NQS.WBjh0...yo.eLkTfF1kq	https://example.com/jane.jpg	ejgk1gjgdkffl21	
11	831cd0d3-8916-11ee-bb92-...-Bob Johnson	bob.johnson1@gmail.com	\$2b\$12\$8NLPhzNNNt.qanWWUQt0w...mW9UOeqgYrnkCHKw4qPg.gxvty	https://example.com/dave.jpg	555-123-4567	
12	831cd0d2-8916-11ee-bb92-...-Alice Williams	alice.williams@gmail.com	\$2b\$12\$9julXh5zK2...dso00Bya.0TgYzBUL.w1SjRaCBW	https://example.com/emily.jpg	333-999-8888	
13	831cd0d1-8916-11ee-bb92-...-Charlie Brown	charlie.brown@gmail.com	\$2b\$12\$C76e9IR6pH8/u1z12b9f932/E3VDSNfbu161tf0f1lun9n/ZPlu6	https://example.com/frank.jpg	777-555-1234	
14	849c38d1-8916-11ee-bb92-...-John Doe	john.1@gmail.com	\$2b\$12\$07YvIXCBl1aYb1WRPJchofUsCipXj_G72rTjh4pTIfV8NAoy.S	https://example.com/grace.jpg	123-456-7890	
15	849c3d7c-8916-11ee-bb92-...-Jane Smith	jane.smith@gmail.com	\$2b\$12\$WwRj0/d051epet7YSEKINu0h4ZyhNdyzu8LexPdt/GzyLPs.Rau	https://example.com/hank.jpg	987-654-3210	
16	849c3e36-8916-11ee-bb92-...-Bob Johnson	bob.johnson@gmail.com	\$2b\$12\$hlPhzNNNt.qanWWUQt0w...mW9UOeqgYrnkCHKw4qPg.gxvty	https://example.com/irene.jpg	555-123-4567	
17	849c3e28-8916-11ee-bb92-...-Monfjdskl	fjdfk1dj1k@gmail.com	\$2b\$12\$BzK2r2.wdzslJsk3Xbgr642zUMH/rhVm7ALcMB0KhGuF39p/Ts	https://example.com/kurt.jpg	333-999-8888	
18	849c3f2b-8916-11ee-bb92-...-Dars Veda	dars475@gmail.com	\$2b\$12\$BzK2r2.wdzslJsk3Xbgr642zUMH/rhVm7ALcMB0KhGuF39p/Ts	https://example.com/lucy.jpg	777-555-1234	
19	a3711878-44ae-4328-ad62-...-dsadsad	dasads@gmail.com	\$2b\$12\$prjeXdsplPScwyKE07e0EcoYo0huIskmRYtfEHbP1lfFxh6	https://example.com/mike.jpg	<null>	
20	a5d93cad-96fb-4ebe-a5e4-...-hhh	3r24g@gmail.com	\$2b\$12\$4n9X7IVXNuQUBzg594ThMuCopoxgXH61z1D0aP0ufNNnkw1Och	https://example.com/nina.jpg	<null>	
21	cde5df65-8e91-11ee-8b4f-...-fuck Garry	34t345@gmail.com	\$2b\$12\$0MmxE0t73PHgPu0sMWD.kixZ5yp9M/yTe09yQr4v0K03L/NG	https://example.com/oliver.jpg	<null>	
22	dc7de6fd-22bc-44e5-90bb-...-asdfg	5g5Sgh@gmail.com	\$2b\$12\$8PsfMqYnf1j6u0UE9F.X125WeH078QVduUxWUb0_FdLC	https://example.com/penny.jpg	<null>	
23	ddaa8cfc-80b0-11ee-bb92-...-name1	43h54h@gmail.com	\$2b\$12\$tnbx7X10n/7DvbFB0L0K028Znqg158YZ76Ptf1f1C1MdKt6	https://example.com/quentin.jpg	<null>	

2.10.2 Comment Snapshot

WHERE		ORDER BY				
	transaction_uuid	account_uuid	text	likes	dislikes	update_time
1	abc123-8998-11ee-bb92-42010aae0002	831cd0d0-8916-11ee-bb92-42010aae0002	Great transaction! Fast delivery and excellent service.	15	2	2023-11-23 08:59:25
2	def456-8998-11ee-bb92-42010aae0002	831cd041-8916-11ee-bb92-42010aae0002	Good experience overall. The product quality is	10	1	2023-11-23 08:59:25
3	ghi789-8998-11ee-bb92-42010aae0002	831cd039-8916-11ee-bb92-42010aae0002	The coupon code worked perfectly, and I got a nice discount.	8	0	2023-11-23 08:59:25
4	jkl012-8998-11ee-bb92-42010aae0002	831cd0e2-8916-11ee-bb92-42010aae0002	Easy ordering process. Looking forward to shopping again.	12	3	2023-11-23 08:59:25
5	mno345-8998-11ee-bb92-42010aae0002	831cdf1e-8916-11ee-bb92-42010aae0002	Delivery was a bit late, but the product is interesting.	5	4	2023-11-23 08:59:25
6	pon78-8998-11ee-bb92-42010aae0002	849c38d1-8916-11ee-bb92-42010aae0002	The festive coupon made my purchase much more affordable.	20	1	2023-11-23 08:59:25
7	stu901-8998-11ee-bb92-42010aae0002	849c3d7c-8916-11ee-bb92-42010aae0002	Ordered two items, but one was missing. Contacted customer support.	6	8	2023-11-23 08:59:25
8	vwx234-8998-11ee-bb92-42010aae0002	849c5e36-8916-11ee-bb92-42010aae0002	Product quality is not up to expectations. Disappointed.	2	15	2023-11-23 08:59:25

2.10.3 Coupon Snapshot

WHERE		ORDER BY				
	shop_uuid	discount	coupon_code	expire_time	update_time	
1	f150a4b3-8998-11ee-bb92-42010aae0002	10	COUPOON1	2023-12-31 23:59:59	2023-11-23 08:54:11	
2	f150a4b3-8998-11ee-bb92-42010aae0002	20	COUPON2	2023-12-15 23:59:59	2023-11-23 08:54:11	
3	f150a4f2-8998-11ee-bb92-42010aae0002	15	DISCOUNT15	2023-12-20 23:59:59	2023-11-23 08:54:11	
4	f150a7f2-8998-11ee-bb92-42010aae0002	25	SAVE25NOW	2023-12-25 23:59:59	2023-11-23 08:54:11	
5	f150b186-8998-11ee-bb92-42010aae0002	30	30OFFSHOP	2023-12-31 23:59:59	2023-11-23 08:54:11	
6	f150b186-8998-11ee-bb92-42010aae0002	15	WINTER15	2023-12-20 23:59:59	2023-11-23 08:54:11	
7	f150b368-8998-11ee-bb92-42010aae0002	10	HOLIDAY10	2023-12-31 23:59:59	2023-11-23 08:54:11	
8	f150b368-8998-11ee-bb92-42010aae0002	20	FESTIVE20	2023-12-15 23:59:59	2023-11-23 08:54:11	
9	6ff54c6e7-51f2-4582-ba33-6223a7cf58ca	0	FREEEEEE	2023-11-11 11:11:11	2023-12-05 12:26:44	

2.10.4 Product Snapshot

WHERE		ORDER BY				
	product_uuid	shop_uuid	name	stock	image_url	price
1	094527b3-f8f1-4dfc-82cb-066a48d29cae	c4f8d1b0-8d24-11ee-bb92-42010aae0002	TTTTable	5	http://NFT.com/table?.jpg	111
2	1a234567-8998-11ee-bb92-42010aae0002	f150a4b3-8998-11ee-bb92-42010aae0002	Product 1	100	https://example.com/product1.jpg	25
3	2b345678-8998-11ee-bb92-42010aae0002	f150a4b3-8998-11ee-bb92-42010aae0002	Product 2	50	https://example.com/product2.jpg	50
4	3c456789-8998-11ee-bb92-42010aae0002	f150af72-8998-11ee-bb92-42010aae0002	Product 3	75	https://example.com/product3.jpg	30
5	4d567890-8998-11ee-bb92-42010aae0002	f150af72-8998-11ee-bb92-42010aae0002	Product 4	120	https://example.com/product4.jpg	40
6	5e678901-8998-11ee-bb92-42010aae0002	f150b186-8998-11ee-bb92-42010aae0002	Product 5	80	https://example.com/products.jpg	60
7	6f789012-8998-11ee-bb92-42010aae0002	f150b186-8998-11ee-bb92-42010aae0002	Product 6	200	https://example.com/product6.jpg	20
8	7g900123-8998-11ee-bb92-42010aae0002	f150b368-8998-11ee-bb92-42010aae0002	Product 7	60	https://example.com/product7.jpg	35
9	8h9001234-8998-11ee-bb92-42010aae0002	f150b368-8998-11ee-bb92-42010aae0002	Product 8	90	https://example.com/product8.jpg	45
10	9802e81f-eabb-43d0-8317-79ff9e1fddae	f150af72-8998-11ee-bb92-42010aae0002	Sofa?	101	http://NFT.com/SOFFFFA.jpg	101
11	9ad60764-5834-44ee-b328-a3471a659212	6f54c6e7-51f2-4582-ba33-6223a7cf58ca	BEDDDDD	66	http://NFT.com/BED.jpg	10000
12	fdf706e4-1cca-43c4-89dd-1cd8f01c69ed	f150af72-8998-11ee-bb92-42010aae0002	TABLEEEE	555	http://NFT.com/tableeee.png	1000

2.10.5 Shop Snapshot

Shop Snapshot					
WHERE		ORDER BY			
shop_uuid	account_uuid	name	image_url	description	update_time
f5f54c6e7-51f2-4582-ba33-6223a7cf58ca	dc7de7cd-22bc-4a45-90bb-74bbc3ff8760	shoppaaaaaaa11111	http://NFT.com/shoppppp.png	<null>	2023-11-30 21:23:00
c4f8d1b0-8d24-11ee-bb92-42010aae0002	76eaef7e-a-8d1d-11ee-bb92-42010aae0002	kkyy shop	fakk urrl	description	2023-11-27 20:23:00
e31b5d02-2995-4e2c-9481-35a63a03c7af	7f4d7718-9df9-48d5-72a2-678cfbf99a7b	ffffdsd	fsdfsdf	<null>	2023-12-01 23:23:00
f150a4b1-8998-11ee-bb92-42010aae0002	831c0d0-8916-11ee-bb92-42010aae0002	changed name	https://static01.nyt.com/images/2023/09/07/t-ma_hi_gay_shop	This is the second shop.	2023-11-23 08:23:00
f150a4b3-8998-11ee-bb92-42010aae0002	831cb4b1-8916-11ee-bb92-42010aae0002	Shop 2	https://example.com/shop2.jpg	This is the second shop.	2023-11-23 08:23:00
f150a4f72-8998-11ee-bb92-42010aae0002	831cd59-8916-11ee-bb92-42010aae0002	Shop 3	https://example.com/shop3.jpg	This is the third shop.	2023-11-23 08:23:00
f150b096-8998-11ee-bb92-42010aae0002	831cde2e-8916-11ee-bb92-42010aae0002	Shop 4	https://example.com/shop4.jpg	This is the fourth shop.	2023-11-23 08:23:00
f150b186-8998-11ee-bb92-42010aae0002	831cdf1e-8916-11ee-bb92-42010aae0002	Shop 5	https://example.com/shop5.jpg	This is the fifth shop.	2023-11-23 08:23:00
f150b368-8998-11ee-bb92-42010aae0002	849c38d1-8916-11ee-bb92-42010aae0002	Shop 6	https://example.com/shop6.jpg	This is the sixth shop.	2023-11-23 08:23:00
f150b459-8998-11ee-bb92-42010aae0002	849c3d7c-8916-11ee-bb92-42010aae0002	Shop 7	https://example.com/shop7.jpg	This is the seventh shop.	2023-11-23 08:23:00
f150b531-8998-11ee-bb92-42010aae0002	849c3e36-8916-11ee-bb92-42010aae0002	Shop 8	https://example.com/shop8.jpg	This is the eighth shop.	2023-11-23 08:23:00
f150b724-8998-11ee-bb92-42010aae0002	849c3eba-8916-11ee-bb92-42010aae0002	Shop 9	https://example.com/shop9.jpg	This is the ninth shop.	2023-11-23 08:23:00
f150b708-8998-11ee-bb92-42010aae0002	849c3f2b-8916-11ee-bb92-42010aae0002	Shop 10	https://example.com/shop10.jpg	This is the tenth shop.	2023-11-23 08:23:00
f8a2e819-8e92-11ee-b84f-42010aae0002	cde5df6-5e91-11ee-b84f-42010aae0002	fjdsklfjfdjlksjlkfjkwf fjdsklfjksd.comopofjdjlkwf	fuckU		2023-11-29 16:23:00

2.10.6 Subscription Snapshot

Subscription Snapshot					
WHERE		ORDER BY			
account_uuid	shop_uuid				
831cd0d0-8916-11ee-bb92-42010aae0002	f150ab5-8998-11ee-bb92-42010aae0002				
831cd0d0-8916-11ee-bb92-42010aae0002	f150acb3-8998-11ee-bb92-42010aae0002				
831cdb41-8916-11ee-bb92-42010aae0002	f150af72-8998-11ee-bb92-42010aae0002				
831cdb41-8916-11ee-bb92-42010aae0002	f150b096-8998-11ee-bb92-42010aae0002				
831cdd39-8916-11ee-bb92-42010aae0002	f150b186-8998-11ee-bb92-42010aae0002				
831cdd39-8916-11ee-bb92-42010aae0002	f150b368-8998-11ee-bb92-42010aae0002				
831cde2e-8916-11ee-bb92-42010aae0002	f150b459-8998-11ee-bb92-42010aae0002				
831cde2e-8916-11ee-bb92-42010aae0002	f150b531-8998-11ee-bb92-42010aae0002				

2.10.7 Transaction Snapshot

Transaction Snapshot							
WHERE		ORDER BY					
transaction_uuid	shop_uuid	account_uuid	coupon_code	receive_time	status	order_time	
abc123-8998-11ee-bb92-42010aae0002	f150ab5-8998-11ee-bb92-42010aae0002	831cd0d0-8916-11ee-bb92-42010aae0002	COUPON1	2023-12-05 12:30:00	ordering	2023-11-23 08:57:30	
def456-8998-11ee-bb92-42010aae0002	f150af72-8998-11ee-bb92-42010aae0002	831cdb41-8916-11ee-bb92-42010aae0002	<null>	<null>	delivering	2023-11-23 08:57:30	
ghi789-8998-11ee-bb92-42010aae0002	f150b096-8998-11ee-bb92-42010aae0002	831cdd39-8916-11ee-bb92-42010aae0002	DISCOUNT15	2023-12-10 14:45:00	arrived	2023-11-23 08:57:30	
jkl012-8998-11ee-bb92-42010aae0002	f150b186-8998-11ee-bb92-42010aae0002	831cde2e-8916-11ee-bb92-42010aae0002	<null>	<null>	ordering	2023-11-23 08:57:30	
mno545-8998-11ee-bb92-42010aae0002	f150b368-8998-11ee-bb92-42010aae0002	831cde2e-8916-11ee-bb92-42010aae0002	SAVE2NOW	2023-12-08 10:00:00	delivering	2023-11-23 08:57:30	
pqr678-8998-11ee-bb92-42010aae0002	f150b368-8998-11ee-bb92-42010aae0002	849c38d1-8916-11ee-bb92-42010aae0002	FESTIVE20	2023-12-12 18:20:00	arrived	2023-11-23 08:57:30	
stu701-8998-11ee-bb92-42010aae0002	f150af72-8998-11ee-bb92-42010aae0002	849c3d7c-8916-11ee-bb92-42010aae0002	<null>	<null>	ordering	2023-11-23 08:57:30	
vwxz34-8998-11ee-bb92-42010aae0002	f150b186-8998-11ee-bb92-42010aae0002	849c3e36-8916-11ee-bb92-42010aae0002	HOLIDAY10	2023-12-07 15:10:00	delivering	2023-11-23 08:57:30	

2.10.8 TransactionProductLog Snapshot

Transaction Product Log Snapshot					
WHERE		ORDER BY			
transaction_uuid	product_uuid	quantity			
abc123-8998-11ee-bb92-42010aae0002	1a234567-8998-11ee-bb92-42010aae0002	2			
abc123-8998-11ee-bb92-42010aae0002	2b345678-8998-11ee-bb92-42010aae0002	1			
def456-8998-11ee-bb92-42010aae0002	3c456789-8998-11ee-bb92-42010aae0002	3			
def456-8998-11ee-bb92-42010aae0002	4d567890-8998-11ee-bb92-42010aae0002	1			
ghi789-8998-11ee-bb92-42010aae0002	5e678901-8998-11ee-bb92-42010aae0002	2			
ghi789-8998-11ee-bb92-42010aae0002	6f789012-8998-11ee-bb92-42010aae0002	4			
jkl012-8998-11ee-bb92-42010aae0002	7g890123-8998-11ee-bb92-42010aae0002	1			
jkl012-8998-11ee-bb92-42010aae0002	8h8901234-8998-11ee-bb92-42010aae0002	3			

2.11 SQL Create Statements

```
create table `Account`(
account_uuid varchar(64) not null,
primary key (account_uuid),
name varchar(64) not null,
pwd varchar(128) not null,
image_url varchar(256) not null,
email varchar(128),
phone varchar(32),
credit_card varchar(64),
birthday datetime,
address varchar(256),
is_active tinyint(1),
update_time timestamp default NOW()
);
create table `Shop`(
shop_uuid varchar(64) not null,
primary key (shop_uuid),
account_uuid varchar(64) not null,
unique key (account_uuid),
foreign key (account_uuid) references Account(account_uuid),
name varchar(64) not null,
image_url varchar(256) not null,
description varchar(512),
update_time timestamp default NOW()
);
create table `Subscription`(
account_uuid varchar(64) not null,
shop_uuid varchar(64) not null,
foreign key (account_uuid) references Account(account_uuid),
foreign key (shop_uuid) references Shop(shop_uuid),
primary key (account_uuid, shop_uuid)
);
create table `Product`(
product_uuid varchar(64) not null,
primary key (product_uuid),
shop_uuid varchar(64) not null,
foreign key (shop_uuid) references Shop(shop_uuid),
name varchar(64) not null,
stock int not null,
image_url varchar(256) not null,
price int not null,
tags varchar(32) not null,
description varchar(512),
update_time timestamp default NOW()
);
create table `Comment`(  
);
```

```

transaction_uuid varchar(64) not null,
foreign key (transaction_uuid) references Transaction(transaction_uuid),
account_uuid varchar(64) not null,
foreign key (account_uuid) references Account(account_uuid),
text varchar(512) not null,
likes int not null,
dislikes int not null,
update_time timestamp default NOW()
);
create table `Coupon`(
shop_uuid varchar(64) not null,
foreign key (shop_uuid) references Shop(shop_uuid),
discount int not null,
coupon_code varchar(16) not null,
expire_time datetime not null,
update_time timestamp default NOW()
);
create table Transaction(
transaction_uuid varchar(64) not null,
primary key (transaction_uuid),
shop_uuid varchar(64) not null,
foreign key (shop_uuid) references Shop(shop_uuid),
account_uuid varchar(64) not null,
foreign key (account_uuid) references Account(account_uuid),
coupon_code varchar(16),
receive_time datetime,
status varchar(32),
order_time timestamp default NOW()
);
create table `TransactionProductLog`(
transaction_uuid varchar(64) not null,
foreign key (transaction_uuid) references Transaction(transaction_uuid),
product_uuid varchar(64) not null,
foreign key (product_uuid) references Product(product_uuid),
quantity int not null
);

```

2.12 SQL Insert Statements

```

insert into NFT.Account (account_uuid, name, email, pwd, image_url, phone, credit_card, birthday, address, is_active, update_time)
values ('2dba33fc-345c-48e1-bdaa-62665648022b', 'gayrr', 't110590028@gmail.com',
'$2b$12$g4aal9QhZbi9l1bepnCQv.IQCTBPiVD19eX/2C3U0nPABg4EleV50',
'https://example.com/bob.jpg', 'phone', 'jy;kjr;ggk;lkdkf;lfwjkrefwjjp', '1933-11-28 00:00:00', null, 1, '2023-11-30 13:56:52'),
('325ea530-8f2f-11ee-8b4f-42010aae0002', 'fortesting', 'testing@gmail.com',
'$2b$12$Fi/i/rHJ8cRFng0ipX40Kum/20pIgH8fu8Yc/lNvqSqvad.vVfy7i',
'https://example.com/alice.jpg', '123456789', '1234-1234-1234-1234', '2023-12-04 18:33:29', '369 divine St, Taipei', 1, '2023-11-30 11:18:56'),
('4001309d-8f2f-11ee-8b4f-42010aae0002', 'fjdsdkjfklks', 'fdafv@gmail.com',
'$2b$12$EqitCd5.qocUVozPp6oleXVNgsJ0jjPH1VfhvJCRRLYKgVP8rdAS',
'https://example.com/charlie.jpg', null, null, null, null, 1, '2023-11-30 11:19:19'),
('4db0ab33-6b79-48f7-94e4-5db4b1cea8cb', 'jdsklf', 'fjdsklfjdskl@gmail.com',
'fjdsklfjfklsd', 'https://example.com/john.jpg', null, null, null, null, 1, '2023-12-05 16:54:29'),
('51e2609f-2de1-4c42-ac4f-98c2c65cb392', 'i am not Garry', 'aasd@gnail.com',
'$2b$12$8JtsSI1zh21016NDA3tj8007m4pFSW8/LPJ0vs821VQfPtM12LHsS',
'https://example.com/jane.jpg', null, null, null, null, 1, '2023-11-30 16:59:51'),
('60356ee5-4258-4391-a739-11c924b3209a', 'dsjflkj', 'aasdvg@gmail.com',
'$2b$12$HlbWRJd7gt/F7HcOfy0xuDDB7Ygxhpm.Ij6L15LZHxesScuaMi3q',
'https://example.com/bob.jpg', null, null, null, null, 1, '2023-11-30 11:20:30'),
('76afe7a-8d1d-11ee-bb92-42010aae0002', 'kyyyyyyyyy', 'asd@gmail.com',

```

```

'$2b$12$gVG8oV1vpc/mjbN0o121YeRFRw4fr2eJbp7Ta8RjARWA5SkHICVqS',
'https://example.com/alice.jpg', '0955222444', null, '2077-07-07 00:00:00', null, 1, '2023-11-27 20:06:58'),
('7f4d7718-9df9-48d5-92e2-678cfbf09a7b', 'gjfkldgjlkj', 'asdf@gmail.com',
'$2b$12$yJ1pkrM0refqj98eoJluFygFzUP5Jy33fr2n5TkszW0jgsXUbi',
'https://example.com/charlie.jpg', null, null, null, 1, '2023-12-01 23:38:15'),
('831cd0d0-8916-11ee-bb92-42010aae0002', 'notVincent', 'john.doe@gmail.com',
'$2b$12$u0U1Z0EaqOY.FmOpIAPQlux/Y9KCDrGJMYPGU11hPwHixb9gwPey',
'https://example.com/john.jpg', '123-456-7890', '1234-5678-9012-3456', '1990-01-15 00:00:00', '123 Main St, Cityville', 1, '2023-11-22 17:07:07'),
('831cdb41-8916-11ee-bb92-42010aae0002', 'gary', 'gjksj1kldgg32f@gmail.com',
'$2b$12$JNnAlmpPW/Qni0vDGVCUuXHO391NQ5.WbH0.yo.elakTrf9ikq',
'https://example.com/jane.jpg', 'ejgklgjxdklf121', 'fk12l1kirklnk', '2002-11-28 15:14:45', 'asd', 1, '2023-11-22 17:07:07'),
('831cdd39-8916-11ee-bb92-42010aae0002', 'Bob Johnson', 'bob.johnson1@gmail.com',
'$2b$12$Sh18PhzNNNT.qamUWWQ0C0wmZw9U0EegYnRnKkCHkw4qPg.gxvty',
'https://example.com/dave.jpg', '555-123-4567', '4321-8765-0987-6543', '1978-03-10 00:00:00', '789 Pine St, Villagetown', 0, '2023-11-22 17:07:07'),
('831cde2e-8916-11ee-bb92-42010aae0002', 'Alice Williams', 'alice.williams@gmail.com',
'$2b$12$0jaLxH5zkIZcPrLnAqr4uJE4jdsGSObya.OTgyZvBUL.wis6t1AcBW',
'https://example.com/emily.jpg', '333-999-8888', '8765-4321-5678-9012', '1982-11-05 00:00:00', '567 Elm St, Hamletville', 1, '2023-11-22 17:07:07'),
('831cdf1e-8916-11ee-bb92-42010aae0002', 'Charlie Brown', 'charlie.brown@gmail.com',
'$2b$12$Cte69IR6pH8/uAizZfh93eZ/E3VDSNfbU6t6itjfollingin/ZPl6',
'https://example.com/frank.jpg', '977-555-1234', '3456-7890-1234-5678', '1995-09-30 00:00:00', '234 Birch St, Riverside', 1, '2023-11-22 17:07:07'),
('849c38d1-8916-11ee-bb92-42010aae0002', 'John Doe', 'john@gmail.com',
'$2b$12$67yVIxCTiaYbl1WRPjchuoHucsIpXj.G72rTJhl4pTifv8NAoy.S',
'https://example.com/grace.jpg', '123-456-7890', '1234-5678-9012-3456', '1990-01-15 00:00:00', '123 Main St, Cityville', 1, '2023-11-22 17:07:10'),
('849c3d7c-8916-11ee-bb92-42010aae0002', 'Jane Smith', 'jane.smith@gmail.com',
'$2b$12$Sh18PhzNNNT.qamUWWQ0C0wmZw9U0EegYnRnKkCHkw4qPg.Rau',
'https://example.com/hank.jpg', '987-6543-3210', '9876-5432-1098-7654', '1985-07-22 00:00:00', '456 Oak St, Townsville', 1, '2023-11-22 17:07:10'),
('849c3e36-8916-11ee-bb92-42010aae0002', 'Bob Johnson', 'bob.johnson@gmail.com',
'$2b$12$Sh18PhzNNNT.qamUWWQ0C0wmZw9U0EegYnRnKkCHkw4qPg.gxvty',
'https://example.com/irene.jpg', '555-123-4567', '4321-8765-0987-6543', '1978-03-10 00:00:00', '789 Pine St, Villagetown', 0, '2023-11-22 17:07:10'),
('849c3eba-8916-11ee-bb92-42010aae0002', 'Monfjdskl', 'monfjdskl@gmail.com',
'$2b$12$Bz2k92.wdsisJ5ky3X8grMe4zZuMh/rhVmstALCw80khkGuF39pl/T',
'https://example.com/kurt.jpg', '777-555-1234', '8765-4321-5678-9012', '1982-11-05 00:00:00', '567 Elm St, Hamletville', 1, '2023-11-22 17:07:10'),
('849c3f2b-8916-11ee-bb92-42010aae0002', 'Dars Veda', '654675@gmail.com',
'$2b$12$Bz2k92.wdsisJ5ky3X8grMe4zZuMh/rhVmstALCw80khkGuF39pl/T',
'https://example.com/lucy.jpg', '777-555-1234', '3456-7890-1234-5678', '1995-09-30 00:00:00', '234 Birch St, Riverside', 1, '2023-11-22 17:07:10'),
('a3711878-44ae-4328-ad62-4ed45b57c848', 'dsadsad', 'dasads@gmail.com',
'$2b$12$prjeXsdspitP5cwyKE07eXe81EcwyoOhuLskmRTYfeHbbPt1Fhx6',
'https://example.com/mike.jpg', 'null, null, null, null, 1, '2023-12-05 17:08:48'),
(ad593cad-96fb-4ebe-a5e4-a0b9101a8d5c', 'hhh', '3r24g@gmail.com',
'$2b$12$4h9XTIYXvrIgUBzG394ThuMCopoxgxmG1z1MDaOpuffNN9KiWOCm',
'https://example.com/nina.jpg', 'null, null, null, null, 1, '2023-11-30 10:14:58'),
('cde5df65-8e91-11ee-8b4f-42010aae0002', 'fuck Garry', '34t345@gmail.com',
'$2b$12$I0MmxEd73PHGmPuOsMWD.kixGZ5yp9RM/yeT09yQrv4uKOD3L/NG',
'https://example.com/oliver.jpg', 'null, null, null, null, 1, '2023-11-29 16:32:17'),
('dc7de7cd-22bc-4a45-90bb-74bbc3ff8760', 'asdfg', '5g55gh@gmail.com',
'$2b$12$ew0RsPmQsYkVnf1jc6JuEsf.Xi235WeHm78Qdu2xMUQ.FdLC',
'https://example.com/penny.jpg', 'null, null, null, null, 1, '2023-11-30 21:56:05'),
('dadaa8cf0-8db0-11ee-bb92-42010aae0002', 'name1', '43h54h@gmail.com',
'$2b$12$tnxb7Xi0ol/c7Dv9FBLOk022Bnqglic58Y7GPt3fiBi6ClMdokt6',
'https://example.com/quentin.jpg', 'null, null, null, null, 1, '2023-11-28 13:42:06'),
('f3e433bf-8f2e-11ee-8b4f-42010aae0002', 'fjsdlkjflkd', '3hsh5@gmail.com',
'$2b$12$5qitC5d.qoc0UyozPp6oleXVNgsJ0ojjPHIVfhvJCRRLYKgWP8rdAS',
'https://example.com/rose.jpg', 'null, null, null, null, 1, '2023-11-30 11:17:11'),
('f81672f3-2925-4396-a33e-dd85a4c03ca1', 'fuck', 'email@gmail.com',
'$2b$12$34f7VKn15ea9YZj6/zEH9uTra6a.SK6yWpKrUMyLqS3G1G1GOFK1O',
'https://example.com/sam.jpg', '123-456-7890', '1234-5678-9012-3456', '1990-01-15 00:00:00',
'123 Main St, Cityville', 1, '2023-12-05 17:21:26');

```

```

insert into NFT.Comment (transaction_uuid, account_uuid, text, likes, dislikes, update_time)
values ('abc123-8998-11ee-bb92-42010aae0002', '831cd0d0-8916-11ee-bb92-42010aae0002',
'Great transaction! Fast delivery and excellent service.', 15, 2, '2023-11-23 08:59:25'),
('def456-8998-11ee-bb92-42010aae0002', '831cdb41-8916-11ee-bb92-42010aae0002',
'Good experience overall. The product quality is impressive.', 10, 1, '2023-11-23 08:59:25'),
('ghi789-8998-11ee-bb92-42010aae0002', '831cdd39-8916-11ee-bb92-42010aae0002',
'The coupon code worked perfectly, and I got a nice discount!', 8, 0, '2023-11-23 08:59:25'),
('jkl012-8998-11ee-bb92-42010aae0002', '831cde2e-8916-11ee-bb92-42010aae0002',
'Easy ordering process. Looking forward to shopping again!', 12, 3, '2023-11-23 08:59:25'),
('mnos345-8998-11ee-bb92-42010aae0002', '831cdf1e-8916-11ee-bb92-42010aae0002',
'Delivery was a bit late, but the product is in good condition.', 5, 4, '2023-11-23 08:59:25'),
('pqr678-8998-11ee-bb92-42010aae0002', '849c38d1-8916-11ee-bb92-42010aae0002',
'The festive coupon made my purchase much more affordable. Thank you!', 20, 1, '2023-11-23 08:59:25'),
('stu901-8998-11ee-bb92-42010aae0002', '849c3d7c-8916-11ee-bb92-42010aae0002',
'Ordered two items, but one was missing. Contacted customer support for a resolution.', 6, 8, '2023-11-23 08:59:25'),
('vwx234-8998-11ee-bb92-42010aae0002', '849c3e36-8916-11ee-bb92-42010aae0002',
'Product quality is not up to expectations. Disappointed with the purchase.', 2, 15, '2023-11-23 08:59:25');

```

```

insert into NFT.Coupon (shop_uuid, discount, coupon_code, expire_time, update_time)
values ('f150a4b3-8998-11ee-bb92-42010aae0002', 10, 'COUPON1', '2023-12-31 23:59:59', '2023-11-23 08:54:11'),
('f150a4b3-8998-11ee-bb92-42010aae0002', 20, 'COUPON2', '2023-12-15 23:59:59', '2023-11-23 08:54:11'),
('f150af72-8998-11ee-bb92-42010aae0002', 15, 'DISCOUNT15', '2023-12-20 23:59:59', '2023-11-23 08:54:11'),
('f150af72-8998-11ee-bb92-42010aae0002', 25, 'SAVE25NOW', '2023-12-25 23:59:59', '2023-11-23 08:54:11'),
('f150b186-8998-11ee-bb92-42010aae0002', 30, '30OFFSHOP', '2023-12-31 23:59:59', '2023-11-23 08:54:11'),
('f150b186-8998-11ee-bb92-42010aae0002', 15, 'WINTER15', '2023-12-20 23:59:59', '2023-11-23 08:54:11'),
('f150b368-8998-11ee-bb92-42010aae0002', 10, 'HOLIDAY10', '2023-12-31 23:59:59', '2023-11-23 08:54:11'),
('f150b368-8998-11ee-bb92-42010aae0002', 20, 'FESTIVE20', '2023-12-15 23:59:59', '2023-11-23 08:54:11');

```

```

insert into NFT.Product (product_uuid, shop_uuid, name, stock, image_url, price, tags, description, update_time)
values ('094527b3-f8f1-4dfc-82cb-066a48d29caa', 'c4f8d1b0-8d24-11ee-bb92-42010aae0002',
'TTTTable', 5, 'http://NFT.com/table7.jpg', 111, 'TABLE', null, '2023-11-30 17:00:56'),
('1a234567-8998-11ee-bb92-42010aae0002', 'f150a4b3-8998-11ee-bb92-42010aae0002',
'Product 1', 100, 'https://example.com/product1.jpg', 25, 'Tag1', 'Description for Product 1', '2023-11-23 08:49:12'),
('2b345678-8998-11ee-bb92-42010aae0002', 'f150a4b3-8998-11ee-bb92-42010aae0002',
'Product 2', 50, 'https://example.com/product2.jpg', 50, 'Tag2', 'Description for Product 2', '2023-11-23 08:49:12'),
('3c456789-8998-11ee-bb92-42010aae0002', 'f150af72-8998-11ee-bb92-42010aae0002',
'Product 3', 75, 'https://example.com/product3.jpg', 30, 'Tag3', 'Description for Product 3', '2023-11-23 08:49:12'),
('4d567890-8998-11ee-bb92-42010aae0002', 'f150af72-8998-11ee-bb92-42010aae0002',
'Product 4', 120, 'https://example.com/product4.jpg', 40, 'Tag4', 'Description for Product 4', '2023-11-23 08:49:12'),
('5e678901-8998-11ee-bb92-42010aae0002', 'f150b186-8998-11ee-bb92-42010aae0002',
'Product 5', 80, 'https://example.com/product5.jpg', 60, 'Tag5', 'Description for Product 5', '2023-11-23 08:49:12');

```

```

('6f789012-8998-11ee-bb92-42010aae0002', 'f150b186-8998-11ee-bb92-42010aae0002',
'Product 6', 200, 'https://example.com/product6.jpg', 20, 'Tag6', 'Description for Product 6', '2023-11-23 08:49:12'),
('7g890123-8998-11ee-bb92-42010aae0002', 'f150b368-8998-11ee-bb92-42010aae0002',
'Product 7', 60, 'https://example.com/product7.jpg', 35, 'Tag7', 'Description for Product 7', '2023-11-23 08:49:12'),
('8h901234-8998-11ee-bb92-42010aae0002', 'f150b368-8998-11ee-bb92-42010aae0002',
'Product 8', 90, 'https://example.com/product8.jpg', 45, 'Tag8', 'Description for Product 8', '2023-11-23 08:49:12'),
('9802e81f-eabb-43d0-8317-79ff9e1fdda8', 'f150af72-8998-11ee-bb92-42010aae0002',
'SOFA?', 101, 'http://NFT.com/SOFFFFA.jpg', 101, 'SOFA', 'is sofa?', '2023-11-30 16:41:32'),
('9ad60764-5834-44ee-b328-e34714659212', '6f54c6e7-51f2-4582-ba33-6223a7cf58ca',
'BEDDDD', 66, 'http://NFT.com/BED.jpg', 10000, 'BED', null, '2023-11-30 21:58:51'),
('fdf706e4-1cca-43c4-89dd-1cd8f01c69ed', 'f150af72-8998-11ee-bb92-42010aae0002',
'TABLEEEE', 555, 'http://NFT.com/tableeee.png', 1000, 'TABLE', null, '2023-11-30 20:00:30');

insert into NFT.Shop (shop_uuid, account_uuid, name, image_url, description, update_time)
values ('6f54c6e7-51f2-4582-ba33-6223a7cf58ca', 'dc7de7cd-22bc-4a45-90bb-74bbc3ff8760',
'shoppaaaaaaa1111', 'http://NFT.com/shoppaaa.png', null, '2023-11-30 21:57:16'),
('c4f8d1b0-8d24-11ee-bb92-42010aae0002', '76eafe7a-8d1d-11ee-bb92-42010aae0002',
'ckyy shop', 'fakk urrl1l', 'description', '2023-11-27 20:59:15'),
('e31b3d02-2995-4e2c-9481-93a63403c7af', '7f4d7718-9df9-48d5-92e2-678cfbf09a7b',
'ffffsd', 'fsdfdsf', null, '2023-12-01 23:38:31'),
('f150a4b3-8998-11ee-bb92-42010aae0002', '831cd0d0-8916-11ee-bb92-42010aae0002',
'changede name', 'https://static01.nyt.com/images/2023', 'hi gay shop', '2023-11-23 08:40:47'),
('f150acb3-8998-11ee-bb92-42010aae0002', '831cdb41-8916-11ee-bb92-42010aae0002',
'Shop 2', 'https://example.com/shop2.jpg', 'This is the second shop.', '2023-11-23 08:40:47'),
('f150af72-8998-11ee-bb92-42010aae0002', '831cd39-8916-11ee-bb92-42010aae0002',
'Shop 3', 'https://example.com/shop3.jpg', 'This is the third shop.', '2023-11-23 08:40:47'),
('f150b096-8998-11ee-bb92-42010aae0002', '831cd2e-8916-11ee-bb92-42010aae0002',
'Shop 4', 'https://example.com/shop4.jpg', 'This is the fourth shop.', '2023-11-23 08:40:47'),
('f150b186-8998-11ee-bb92-42010aae0002', '831cdf1e-8916-11ee-bb92-42010aae0002',
'Shop 5', 'https://example.com/shop5.jpg', 'This is the fifth shop.', '2023-11-23 08:40:47'),
('f150b368-8998-11ee-bb92-42010aae0002', '849c38d1-8916-11ee-bb92-42010aae0002',
'Shop 6', 'https://example.com/shop6.jpg', 'This is the sixth shop.', '2023-11-23 08:40:47'),
('f150b459-8998-11ee-bb92-42010aae0002', '849c3d7c-8916-11ee-bb92-42010aae0002',
'Shop 7', 'https://example.com/shop7.jpg', 'This is the seventh shop.', '2023-11-23 08:40:47'),
('f150b531-8998-11ee-bb92-42010aae0002', '849c3e36-8916-11ee-bb92-42010aae0002',
'Shop 8', 'https://example.com/shop8.jpg', 'This is the eighth shop.', '2023-11-23 08:40:47'),
('f150b624-8998-11ee-bb92-42010aae0002', '849c3eba-8916-11ee-bb92-42010aae0002',
'Shop 9', 'https://example.com/shop9.jpg', 'This is the ninth shop.', '2023-11-23 08:40:47'),
('f150b708-8998-11ee-bb92-42010aae0002', '849c3f2b-8916-11ee-bb92-42010aae0002',
'Shop 10', 'https://example.com/shop10.jpg', 'This is the tenth shop.', '2023-11-23 08:40:47'),
('fa2e819-8e92-11ee-8b4f-42010aae0002', 'cde5df65-8e91-11ee-8b4f-42010aae0002',
'fjdsklfjfdjlksjlkfjklwfwf', 'fjdklfjlklsd.compfjdlnkwd', 'fuckU ', '2023-11-29 16:40:41');

insert into NFT.Subscription (account_uuid, shop_uuid)
values ('831cd0d0-8916-11ee-bb92-42010aae0002', 'f150a4b3-8998-11ee-bb92-42010aae0002'),
('831cd0d0-8916-11ee-bb92-42010aae0002', 'f150acb3-8998-11ee-bb92-42010aae0002'),
('831cdb41-8916-11ee-bb92-42010aae0002', 'f150af72-8998-11ee-bb92-42010aae0002'),
('831cdb41-8916-11ee-bb92-42010aae0002',
,'f150b096-8998-11ee-bb92-42010aae0002'),
('831cd39-8916-11ee-bb92-42010aae0002', 'f150b186-8998-11ee-bb92-42010aae0002'),
('831cd39-8916-11ee-bb92-42010aae0002', 'f150b368-8998-11ee-bb92-42010aae0002'),
('831cde2e-8916-11ee-bb92-42010aae0002', 'f150b459-8998-11ee-bb92-42010aae0002'),
('831cde2e-8916-11ee-bb92-42010aae0002', 'f150b531-8998-11ee-bb92-42010aae0002');

insert into NFT.Transaction (transaction_uuid, shop_uuid, account_uuid, coupon_code, receive_time, status, order_time)
values ('abc123-8998-11ee-bb92-42010aae0002', 'f150a4b3-8998-11ee-bb92-42010aae0002', '831cd0d0-8916-11ee-bb92-42010aae0002',
'COUPON1', '2023-12-05 12:30:00', 'ordering', '2023-11-23 08:57:30'),
('def456-8998-11ee-bb92-42010aae0002', 'f150af72-8998-11ee-bb92-42010aae0002', '831cdb41-8916-11ee-bb92-42010aae0002',
null, null, 'delivering', '2023-11-23 08:57:30'),
('ghi789-8998-11ee-bb92-42010aae0002', 'f150b186-8998-11ee-bb92-42010aae0002', '831cd39-8916-11ee-bb92-42010aae0002',
'DISCOUNT15', '2023-12-10 14:45:00', 'arrived', '2023-11-23 08:57:30'),
('jkl012-8998-11ee-bb92-42010aae0002', 'f150b368-8998-11ee-bb92-42010aae0002', '831cde2e-8916-11ee-bb92-42010aae0002',
null, null, 'ordering', '2023-11-23 08:57:30'),
('mmo345-8998-11ee-bb92-42010aae0002', 'f150b186-8998-11ee-bb92-42010aae0002', '831cdf1e-8916-11ee-bb92-42010aae0002',
'SAVE25NOW', '2023-12-08 10:00:00', 'delivering', '2023-11-23 08:57:30'),
('pqr678-8998-11ee-bb92-42010aae0002', 'f150b368-8998-11ee-bb92-42010aae0002', '849c38d1-8916-11ee-bb92-42010aae0002',
'FESTIVE20', '2023-12-12 18:20:00', 'arrived', '2023-11-23 08:57:30'),
('stu901-8998-11ee-bb92-42010aae0002', 'f150af72-8998-11ee-bb92-42010aae0002', '849c3d7c-8916-11ee-bb92-42010aae0002',
null, null, 'ordering', '2023-11-23 08:57:30'),
('vwx234-8998-11ee-bb92-42010aae0002', 'f150b186-8998-11ee-bb92-42010aae0002', '849c3e36-8916-11ee-bb92-42010aae0002',
'HOLIDAY10', '2023-12-07 15:10:00', 'delivering', '2023-11-23 08:57:30');

insert into NFT.TransactionProductLog (transaction_uuid, product_uuid, quantity)
values ('abc123-8998-11ee-bb92-42010aae0002', '1a234567-8998-11ee-bb92-42010aae0002', 2),
('abc123-8998-11ee-bb92-42010aae0002', '2b345678-8998-11ee-bb92-42010aae0002', 1),
('def456-8998-11ee-bb92-42010aae0002', '3c456789-8998-11ee-bb92-42010aae0002', 3),
('def456-8998-11ee-bb92-42010aae0002', '4d567890-8998-11ee-bb92-42010aae0002', 1),
('ghi789-8998-11ee-bb92-42010aae0002', '5e678901-8998-11ee-bb92-42010aae0002', 2),
('ghi789-8998-11ee-bb92-42010aae0002', '6f789012-8998-11ee-bb92-42010aae0002', 4),
('jkl012-8998-11ee-bb92-42010aae0002', '7g890123-8998-11ee-bb92-42010aae0002', 1),
('jkl012-8998-11ee-bb92-42010aae0002', '8h901234-8998-11ee-bb92-42010aae0002', 3);

```

2.13 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

Table 13: Database Size Estimation

2.14 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)

Table 14: Estimated Number of Database Operations per Day

2.15 User Interface

The image displays a user interface for a furniture store. The top half shows a 'Login' screen with fields for Account and Password, and a 'Sign up' link. The bottom half shows a 'Sign Up' screen with fields for Account, Password, Confirm Password, E-mail, Phone, Address, Birthday, Credit Card, and a 'Sign Up' button. The background of the interface is a modern living room with a grey sofa, a black coffee table, and a large TV unit. The bottom part of the image shows a website layout with a navigation bar (HOME, NEWS, CONTACT, LOGIN), a sidebar with SOFA and BED buttons, and a grid of product cards for 'COMFORTABLE SOFA' and 'COMFORTABLE BED'.

Login

Account 請輸入用戶名稱

Password 請輸入密碼

Sign up

Sign Up

Account

Password

Confirm Password

E-mail

Phone

Address

Birthday 年 / 月 / 日

Credit Card

Sign Up

Login

HOME NEWS CONTACT

SOFA BED

NFT COMFORTABLE SOFA \$500

A cozy sofa for your living room.

ADD TO CART ▾

CHOOSE SIZE
5 6 7 8 9 10 11 12

NFT COMFORTABLE BED \$700

A cozy Bed for your living room.

ADD TO CART ▾

CHOOSE SIZE
5 6 7 8 9 10 11 12

NFT COMFORTABLE SOFA \$500

A cozy sofa for your living room.

ADD TO CART ▾

CHOOSE SIZE
5 6 7 8 9 10 11 12

NFT COMFORTABLE BED \$700

A cozy Bed for your living room.

ADD TO CART ▾

NFT COMFORTABLE BED \$700

CHOOSE SIZE
5 6 7 8 9 10 11 12

HOME NEWS CONTACT LOGIN



Account Setting

Order Record

Shop Setting

E-MAIL
t110590028@ntut.org.tw

ACCOUNT
Garry1128

PASSWORD

ADDRESS
窩忘了

PHONENUMBER
窩不知道

Confirm Cancel

HOME NEWS CONTACT LOGIN



Account Setting

Order Record

Shop Setting

ORDER DATE	PRODUCT	AMOUNT	STATUS	DETAIL
2023-01-01	PRODUCT A	\$100.00	SHIPPED	OPEN
2023-01-02	PRODUCT B	\$200.00	SHIPPED	OPEN
2023-01-03	PRODUCT C	\$47999.00	SHIPPED	OPEN

HOME NEWS CONTACT LOGIN



Account Setting

Order Record

Shop Setting

Create Banner

NAME
Garry1128

DESCRIPTION

我的名字叫黃冠鈞，20歲。住在新北市汐止區金龍湖一帶，未婚。我在Sunbird服務。每天都要加班到晚上8點才能回家。我不抽菸、不喝酒。晚上11點半睡，每天要睡足8個小時。睡前，我一定喝一杯溫熱水，然後沒有做20分鐘的柔軟操，上了床，馬上熟睡。一覺到天亮，決不把疲勞和壓力，留到第二天。醫生都說我很正常。

Confirm Cancel



GM FURNITURE EMPORIUM SHOP DESCRIPTION

BUSINESS A

DESCRIPTION A

QUANTITY: 10

[Edit](#) [Delete](#)

BUSINESS B

DESCRIPTION B

QUANTITY: 5

[Edit](#) [Delete](#)

3 Glossary

4 References

5 Appendix