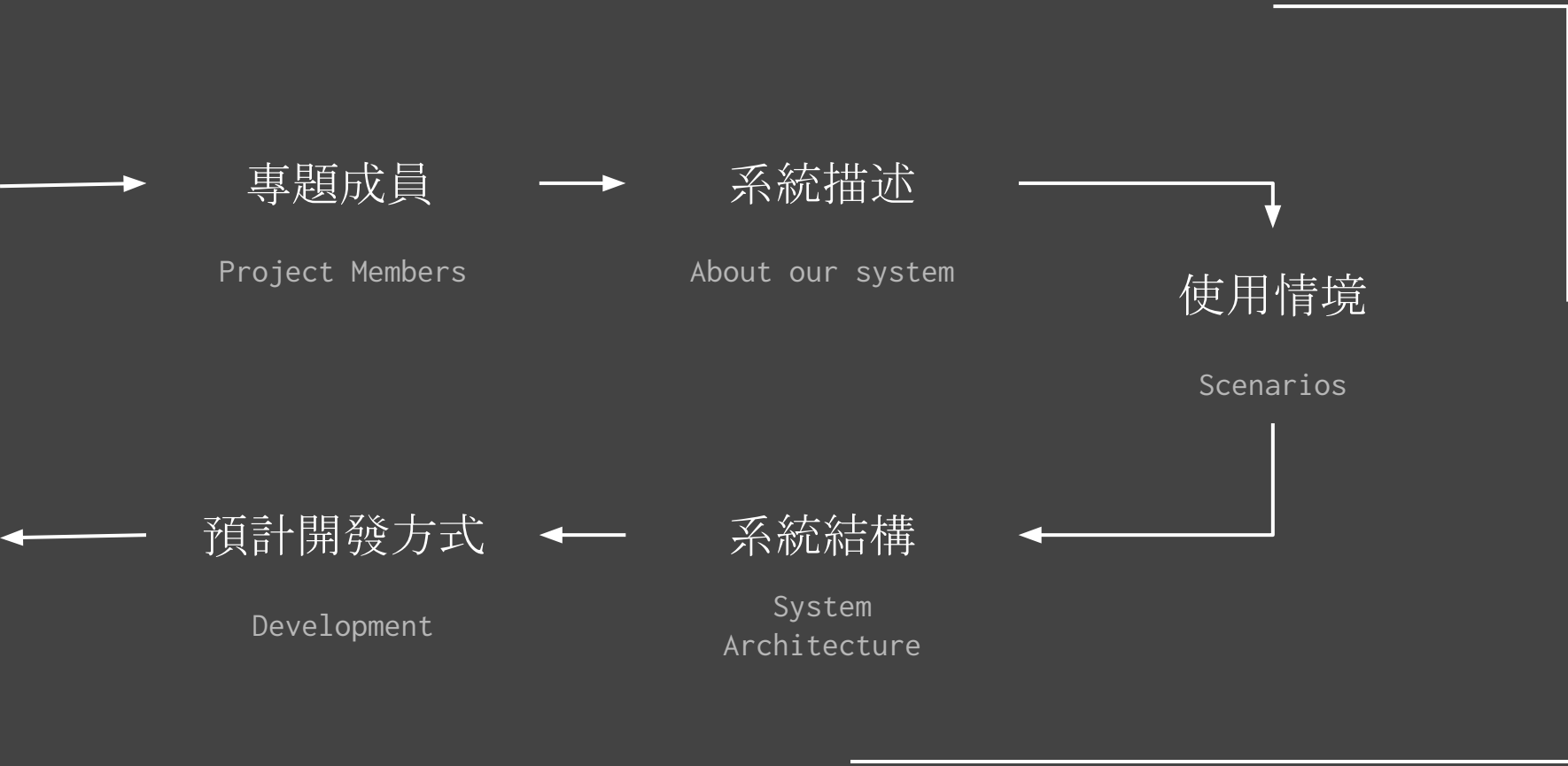


A black and white photograph of modern skyscrapers, viewed from a low angle looking up. The buildings have glass facades and vertical structural elements. A white rectangular frame is overlaid on the image, with lines extending slightly beyond the corners. The text 'MoonBird' is centered in the middle of the frame.

MoonBird

Group #3





01

專題成員

Project Members

專題成員 | **Project Members**

108590050 李浩銘

108590056 鄭琳玲

108590004 謝宗麟

108590061 黃聖耀

108590029 朱欣雨

110AEM001 盧佩怡

108590049 符芷琪

110AEM002 譚永駿

02

系統描述

About our system



系統描述 | **About our system**

Main system:

- Web-based E-commerce System(WECS)

Subsystem:

- Member Management Subsystem, MMS
- Product Management Subsystem, PMS
- Discount Management Subsystem, DMS
- Order Management Subsystem, OMS
- Logistics Management Subsystem, LMS
- Financial Management Subsystem, FMS
- Shopping Cart Management Subsystem, SCMS
- Comment and Score Management Subsystem, CSMS



03

使用情境

Scenarios



Scenario 1

Guest Operational

Concepts

Search Products

Login

Register as Customer





Scenario 2

Customer

Operational

Concepts

Search Products

Add/remove Products into/from Shopping Cart

Checkout Shopping Cart

Query History of Orders

Query User profile of itself

Modify User profile of itself





Scenario 3

Staff Operational Concepts

Manage Products and Categories:

- Create Products and Categories
- Query Products and Categories
- Modify Products and Categories
- Delete Products and Categories

Manage Discount Policy

Process/update status of customer's orders



Scenario 4

Administrator

Operational

Concepts

Manage Users:

- Create Users
- Query Users
- Modify Users
- Delete Users



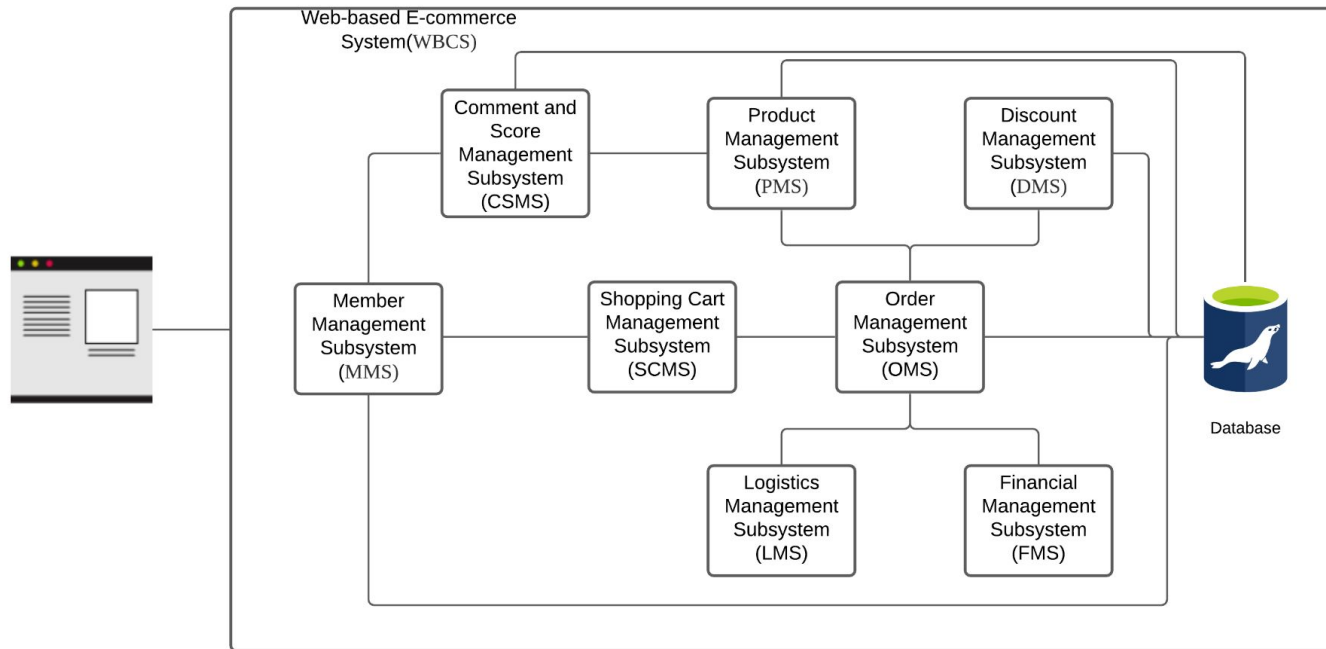


04

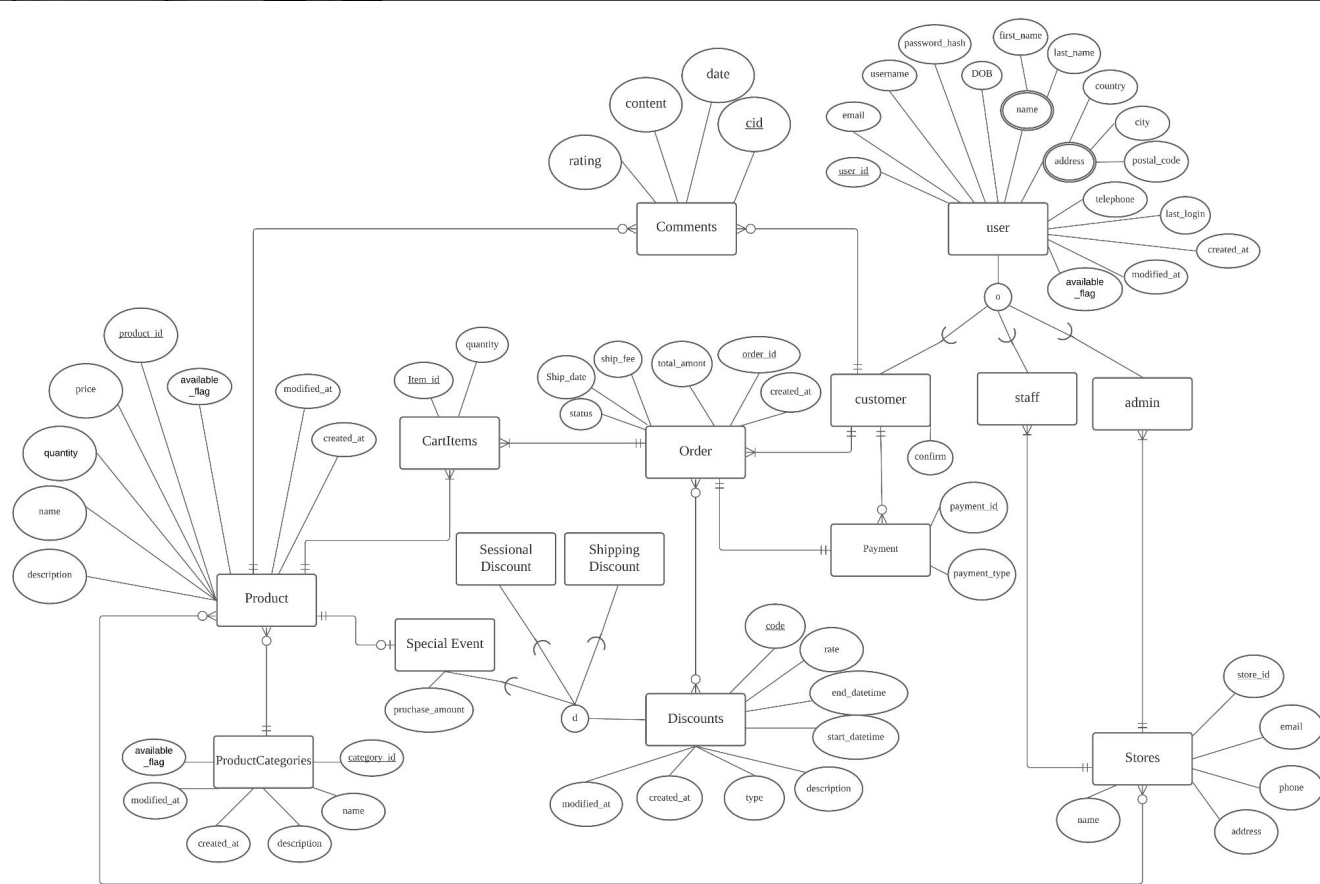
系統架構

System Architecture

系統架構圖 | System Architecture Diagram



ER Model



Database Schema

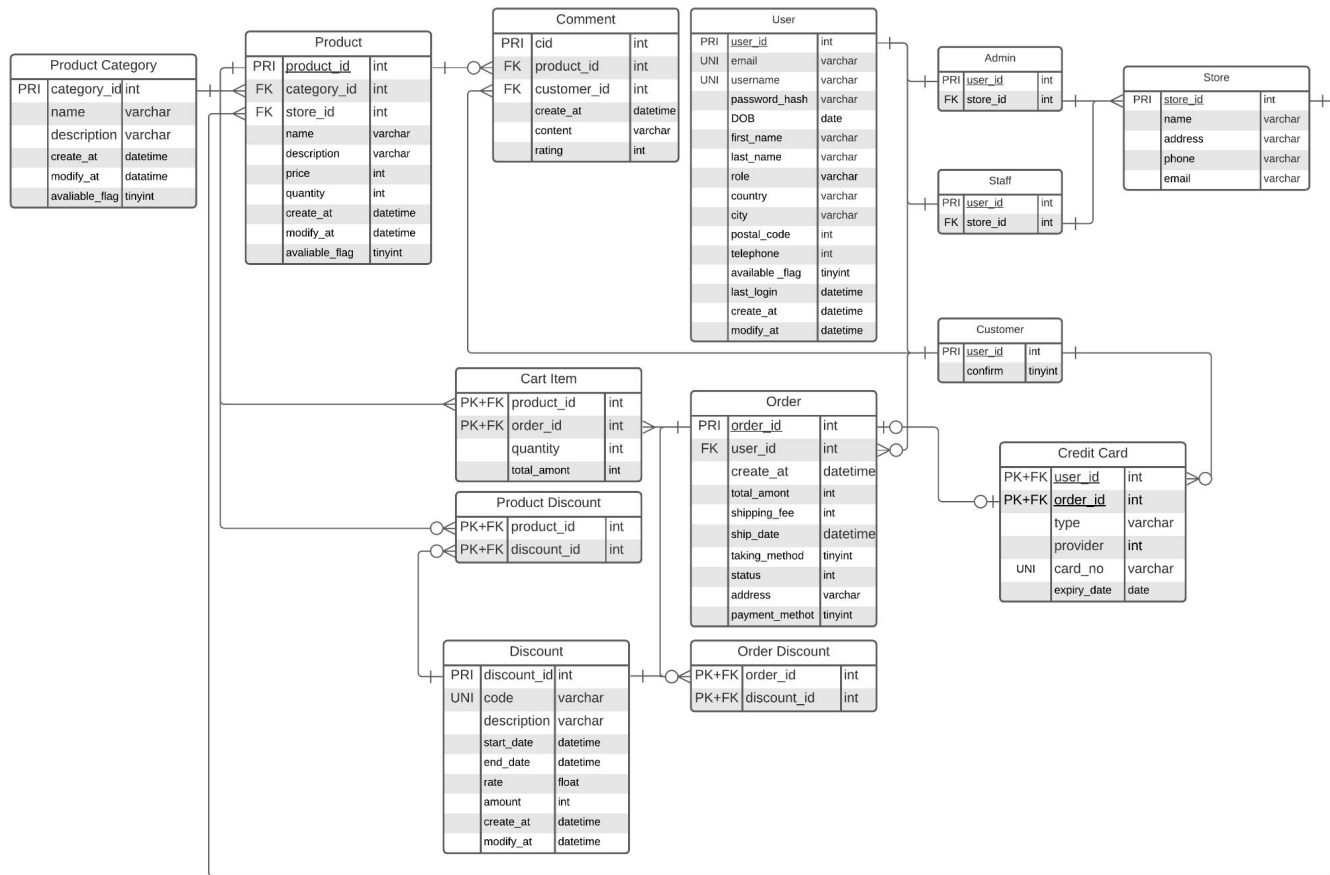
The diagram illustrates the database schema for an e-commerce system, showing the relationships between various entities and their attributes.

Entities and Attributes:

- Product Category:**
 - PK: category_id (int)
 - name (varchar)
 - description (varchar)
 - create_at (datetime)
 - modify_at (datetime)
 - available_flag (tinyint)
- Product:**
 - PK: product_id (int)
 - FK: category_id (int)
 - FK: store_id (int)
 - name (varchar)
 - description (varchar)
 - price (int)
 - quantity (int)
 - create_at (datetime)
 - modify_at (datetime)
 - available_flag (tinyint)
- Comment:**
 - PK: cid (int)
 - FK: product_id (int)
 - FK: customer_id (int)
 - create_at (datetime)
 - content (varchar)
 - rating (int)
- User:**
 - PK: user_id (int)
 - UNI: email (varchar)
 - UNI: username (varchar)
 - password_hash (varchar)
 - DOB (date)
 - first_name (varchar)
 - last_name (varchar)
 - role (varchar)
 - country (varchar)
 - city (varchar)
 - postal_code (int)
 - telephone (int)
 - available_flag (tinyint)
 - last_login (datetime)
 - create_at (datetime)
 - modify_at (datetime)
- Admin:**
 - PK: user_id (int)
 - FK: store_id (int)
- Store:**
 - PK: store_id (int)
 - name (varchar)
 - address (varchar)
 - phone (varchar)
 - email (varchar)
- Staff:**
 - PK: user_id (int)
 - FK: store_id (int)
- Customer:**
 - PK: user_id (int)
 - confirm (tinyint)
- Credit Card:**
 - PK+FK: user_id (int)
 - PK+FK: order_id (int)
 - type (varchar)
 - provider (int)
 - UNI: card_no (varchar)
 - expiry_date (date)
- Cart Item:**
 - PK+FK: product_id (int)
 - PK+FK: order_id (int)
 - quantity (int)
 - total_amont (int)
- Product Discount:**
 - PK+FK: product_id (int)
 - PK+FK: discount_id (int)
- Discount:**
 - PK: discount_id (int)
 - UNI: code (varchar)
 - description (varchar)
 - start_date (datetime)
 - end_date (datetime)
 - rate (float)
 - amount (int)
 - create_at (datetime)
 - modify_at (datetime)
- Order:**
 - PK: order_id (int)
 - FK: user_id (int)
 - create_at (datetime)
 - total_amont (int)
 - shipping_fee (int)
 - ship_date (datetime)
 - taking_method (tinyint)
 - status (int)
 - address (varchar)
 - payment_method (tinyint)
- Order Discount:**
 - PK+FK: order_id (int)
 - PK+FK: discount_id (int)

Relationships:

- Product Category** to **Product**: One-to-many relationship (1:M).
- Product** to **Comment**: One-to-many relationship (1:M).
- User** to **Comment**: One-to-many relationship (1:M).
- User** to **Admin**: One-to-many relationship (1:M).
- User** to **Staff**: One-to-many relationship (1:M).
- User** to **Customer**: One-to-many relationship (1:M).
- User** to **Order**: One-to-many relationship (1:M).
- Store** to **Product**: One-to-many relationship (1:M).
- Store** to **Staff**: One-to-many relationship (1:M).
- Customer** to **Order**: One-to-many relationship (1:M).
- Customer** to **Credit Card**: One-to-many relationship (1:M).
- Order** to **Cart Item**: One-to-many relationship (1:M).
- Order** to **Order Discount**: One-to-many relationship (1:M).
- Product Discount** to **Product**: One-to-many relationship (1:M).
- Product Discount** to **Discount**: One-to-many relationship (1:M).
- Order Discount** to **Order**: One-to-many relationship (1:M).
- Order Discount** to **Discount**: One-to-many relationship (1:M).



05

預計開發方式

Development



Development | 預計開發方式

前端 **Front-end**

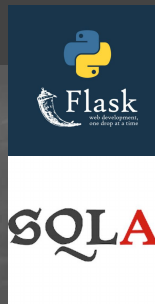
Bootstrap



後端 **Back-end**

Python Flask

SQLAlchemy



資料庫 **Database**

MariaDB/MYSQL





Thank You!