**DBMS PROJECT**

**ONLINE INVENTORY MANAGEMENT SYSTEM**

**Key Milestone 1**



## CSE403L Database Management System Lab

Group members

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Class Section: **A**

“On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work.”

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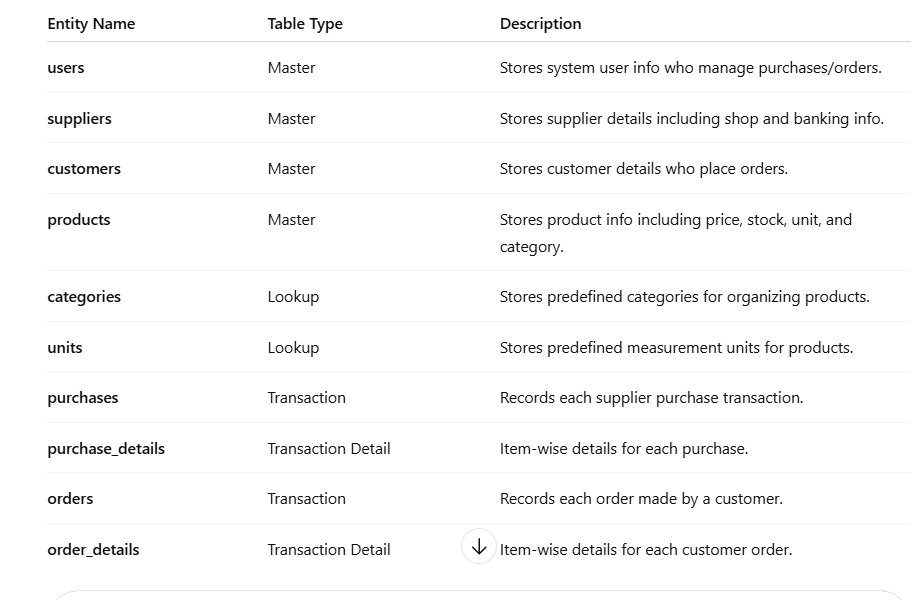
(MAY 25, 2025)

Department of Computer Systems Engineering

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**ONLINE INVENTORY MANAGEMENT SYSTEM**

**Entity Description Table**

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**Detailed Business Rules**

1. **Users** can create and update purchases. Each purchase stores who created/updated it.
2. **Products** must have one category, one unit, and a unique product code.
3. **Suppliers** can have many purchases. Each purchase must belong to one supplier.
4. **Purchases** must have at least one item in purchase\_details. Product stock increases when purchased.
5. **Customers** can place multiple orders. Each order must be linked to one customer.
6. **Orders** must have one or more order\_details. Product stock decreases when ordered.
7. **Prices**:
   * Products have buying and selling prices.
   * Totals: quantity × unit price.
   * Order total = subtotal + VAT.
8. **Payments**:
   * Orders store payment type, paid amount, and due amount.
   * If payment is partial, the remaining balance is due.
9. **Data Integrity**:
   * All foreign keys must reference valid records.
   * No deletion of customers, suppliers, or products if they are used in transactions.

**Entity Relationship Diagram (ERD)**

#### **1. users**

* id (PK)
* name
* email
* username
* photo
* password

**2. suppliers**

* id (PK)
* name
* email
* phone
* address
* shopname
* type
* bank\_name
* account\_holder
* account\_number
* photo

**3. customers**

* id (PK)
* name
* email
* phone
* address
* type
* bank\_name
* account\_holder
* account\_number
* photo

**4. categories**

* id (PK)
* category\_name

**5. units**

* id (PK)
* unit\_name

**6. products**

* id (PK)
* product\_name
* product\_code
* buying\_price
* selling\_price
* stock
* product\_image
* category\_id (FK) → categories.id
* unit\_id (FK) → units.id

**7. purchases**

* id (PK)
* purchase\_date
* purchase\_no
* purchase\_status
* supplier\_id (FK) → suppliers.id
* created\_by (FK) → users.id
* updated\_by (FK) → users.id

**8. purchase\_details**

* purchase\_id (FK, PK) → purchases.id
* product\_id (FK, PK) → products.id
* quantity
* unitcost
* total

**9. orders**

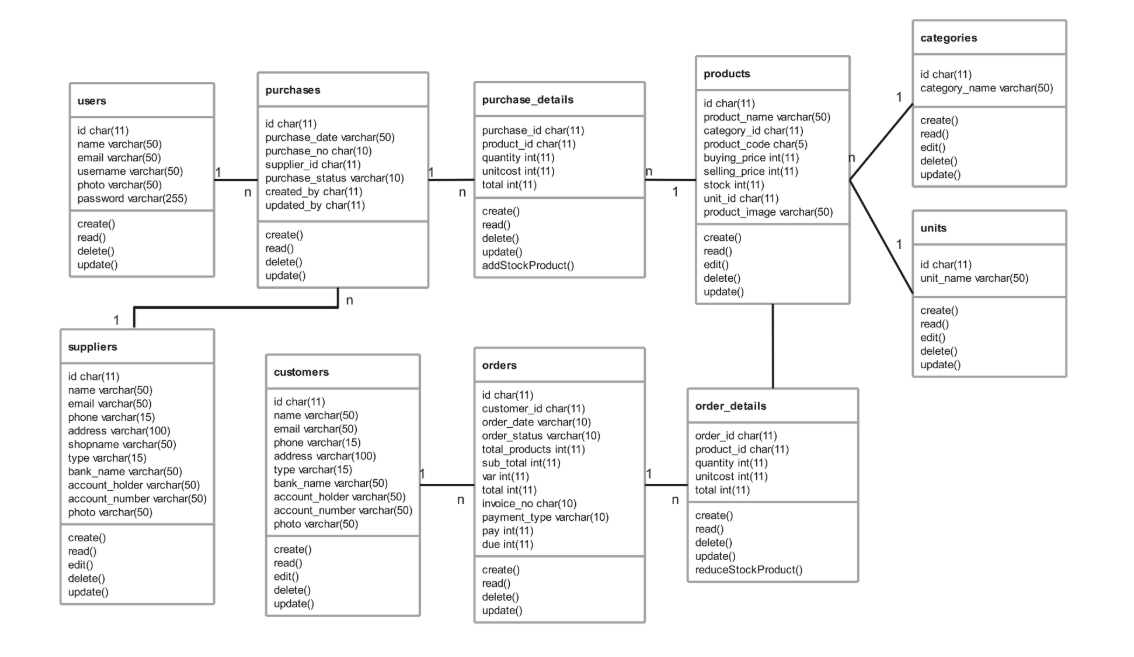
* id (PK)
* order\_date
* order\_status
* total\_products
* sub\_total
* vat
* total
* invoice\_no
* payment\_type
* pay\_int
* due\_int
* customer\_id (FK) → customers.id

**10. order\_details**

* order\_id (FK, PK) → orders.id
* product\_id (FK, PK) → products.id
* quantity
* unitcost
* total

**Relationships**

* **One-to-Many:**
  + users → purchases
  + suppliers → purchases
  + customers → orders
  + orders → order\_details
  + purchases → purchase\_details
  + products → purchase\_details / order\_details
  + categories → products
  + units → products



**Enhanced Entity Relationship Diagram (EERD)**

**users**

* id (PK), name, email, username, password

**suppliers**

* id (PK), name, contact info, bank info

**customers**

* id (PK), name, contact info, bank info

**categories**

* id (PK), category\_name

**units**

* id (PK), unit\_name

**products**

* id (PK), name, code, prices, stock
* category\_id (FK), unit\_id (FK)

**purchases**

* id (PK), date, supplier\_id (FK), created\_by (FK)

**purchase\_details**

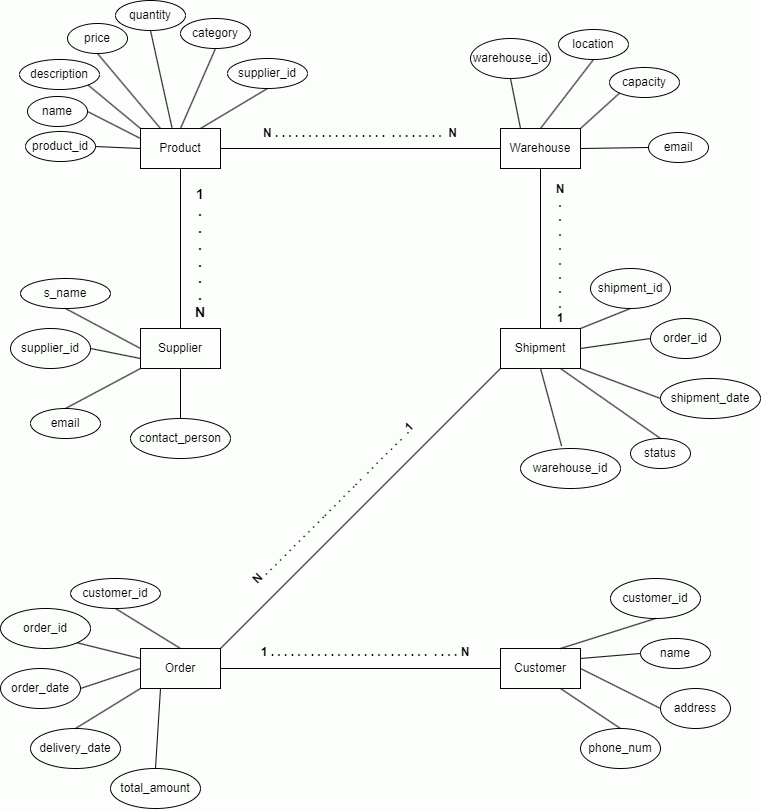
* purchase\_id (FK), product\_id (FK), quantity, unitcost, total

**orders**

* id (PK), date, customer\_id (FK), total, payment info

**order\_details**

* order\_id (FK), product\_id (FK), quantity, unitcost, total

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**References**

https://chatgpt.com/c/68332bf2-96a0-800e-a887-ace82ab513a5

<https://chatgpt.com/c/68334e0d-b7dc-800e-ba3b-555c7904535c>

https://github.com/fajarghifar/inventory-management-system