SmartShip Package Management System (SSPMS)	DocumentID: SPMS_ERD & UML doc	Version: 1.0
ERD(Entity Relational Diagram) & UML (Unified Model Language)		Version Date: 11/11/2025

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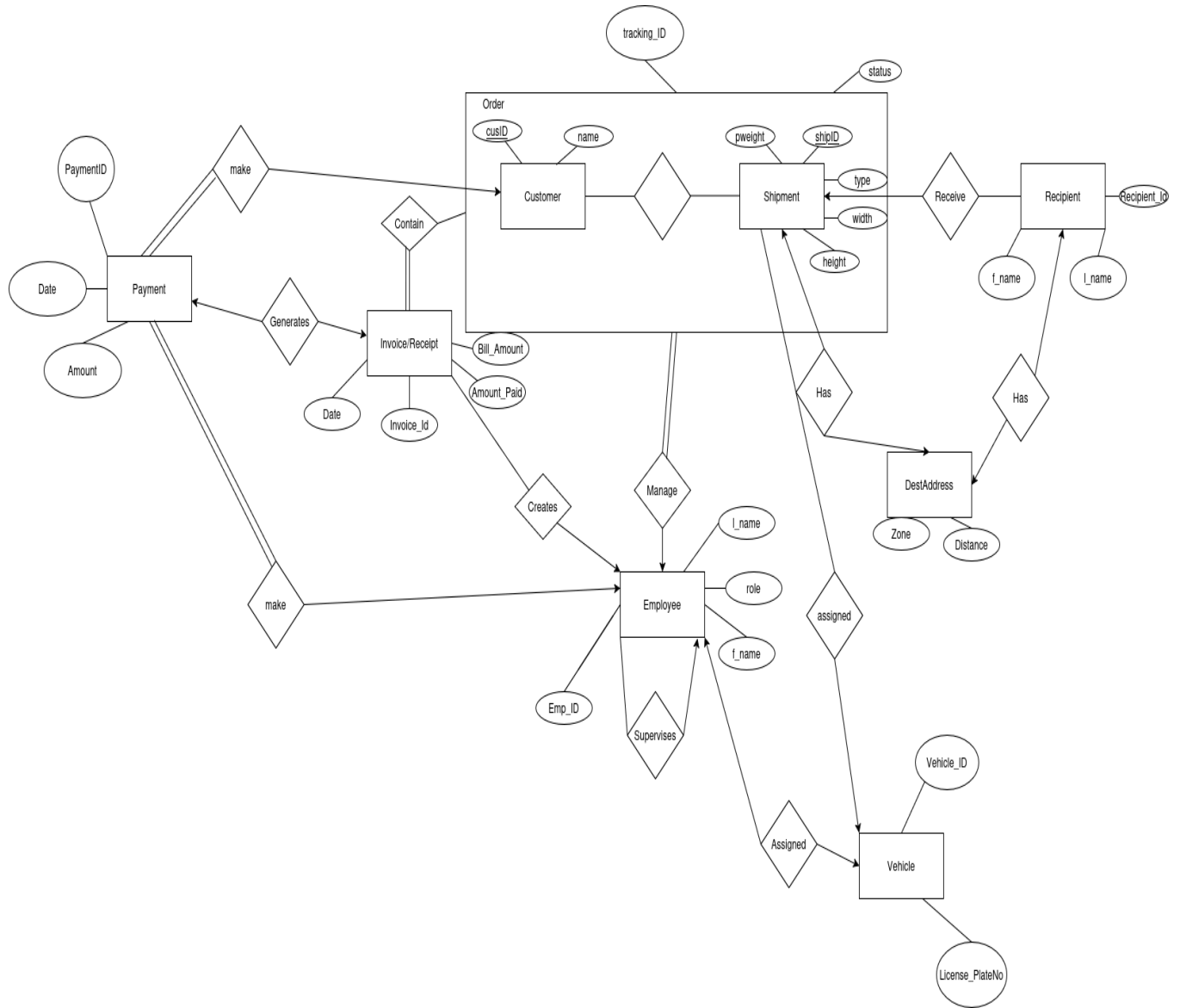
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Module: Advanced Programming

Module Code: CIT4004

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Customer

```
 ID: int
- userName: String
- address: String
- telephone: String
- email: String
- password:String
```
```
+ Customer()
+ Customer(Int String, String, String, Date)
+ Customer(Customer)
+ setID(String): void
+ getID(): String
+ setUserName(String): void
+ getUserName(): String
+ setEmail():String
+ getEmail(String):void
+ setTelephone(): String
+ getTelephone(String): void
+ setDateOfMembership(Date): void
+ getDateOfMembership(): Date
+ toString(): String
```

Employee

```
-ID: int
- userName: String
- address: String
- telephone: String
- role:String
- email: String
- password:String
- signUpDate:Date
```
```
+ Employee()
+ Employee(int, String, String,String,String,String, Date )
+ Staff(Staff)
+ setID(int): void
+ getID(): String
+ userName(String): void
+ getuserName(): String
+ setDepartment(Department): void
+ getDepartment(): Department
+ setTelephone(String): void
+ getTelephone(String): void
+ setEmail(string): void
+ getEmail(): String
+ setRole(String): void
+ getRole(): String
+ setPassword(String):void
+ getPassword():String
+ toString(): String
```

OrderId

```
- invoiceId: int
- ShipmentId: INT
```
```
+ OrderId()
+ OrderId(int, String)
+ OrderId(InvoiceItemId)
+ setInvoiceID(int): void
+ getInvoiceID(): int
+ setShipmentID(int): void
+ getShipmentID(): int
+ toString(): String
```

Order

```
- shipmentId:int
- invoice_Id: int
- createDate: Date
- totalCost: float
- employeeID: String
- customerID: String
```
```
+ Order()
+ Order(int, int,Date, float,customerID,EmployeeID)
+ Order(order)
+ setShipmentID(int)
+ getShipment():int
+ setInvoiceNumber(int): void
+ getInvoiceNumber(): int
+ setCreateDate(Date): void
+ getCreateDate(): Date
+ setTotalCost(float): void
+ getTotalCost(): float
+ setEmployeeID(String): void
+ getEmployeeID(): String
+ setCustomerID(String): void
+ getCustomerID(): String
+ toString(): String
```

Invoice

```
- Invoice_number: int
- billingDate: Date
- totalCost: float
- employeeID: String
- customerID: String
```
```
+ Invoice()
+ Invoice(int, Date, float, float, employeeID, customerID):
+ Invoice(Invoice):
+ setInvoiceNumber(int): void
+ getInvoiceNumber(): int
+ setBillingDate(Date): void
+ getBillingDate(): Date
+ setTotalCost(float): void
+ getTotalCost(): float
+ setAmountTendered(float): void
+ getAmountTendered(): float
+ setEmployeeID(String): void
+ getEmployeeID(): String
+ setCustomerID(String): void
+ getCustomerID(): String
+ toString(): String
```

Shipment

```
- ShipmentId:int
-  trackingId: String
- senderInfo: String
- recepient_info:String
- weight: float
- dimension: int
- zone: int
- status:String
- creationDate: date
- toString():String
```
```
+ Shipment()
+ Shipment(int,String, String, String,float int int,String, float, int int, String)
+ Shipment(shipment)
+  setShipmentId(int):void
+ getShipemntID:int
+ setTrackingI(int):void
+ setSenderInfo(String):void
+ getSenderInfo:String
+ setRecepientInfo(String):void
+ getRecepeintInfo(String):void
+ setWeight(float):void
+ getWeight:float
+ setDimension(int):void
+ getDimesion:int
+ setZone(int)void
+ getZone:int
+ setStatus(String):void
+ getStatus:String
+ setCreationDate(Date):void
+ getCreationDate;Date
+toString():String
```

Relationships:
- Customer 1 — 0..* Order
- Order 0..* — 1 Employee
- Order 1 — 1 Invoice
- Order 1 — 1..* Shipment