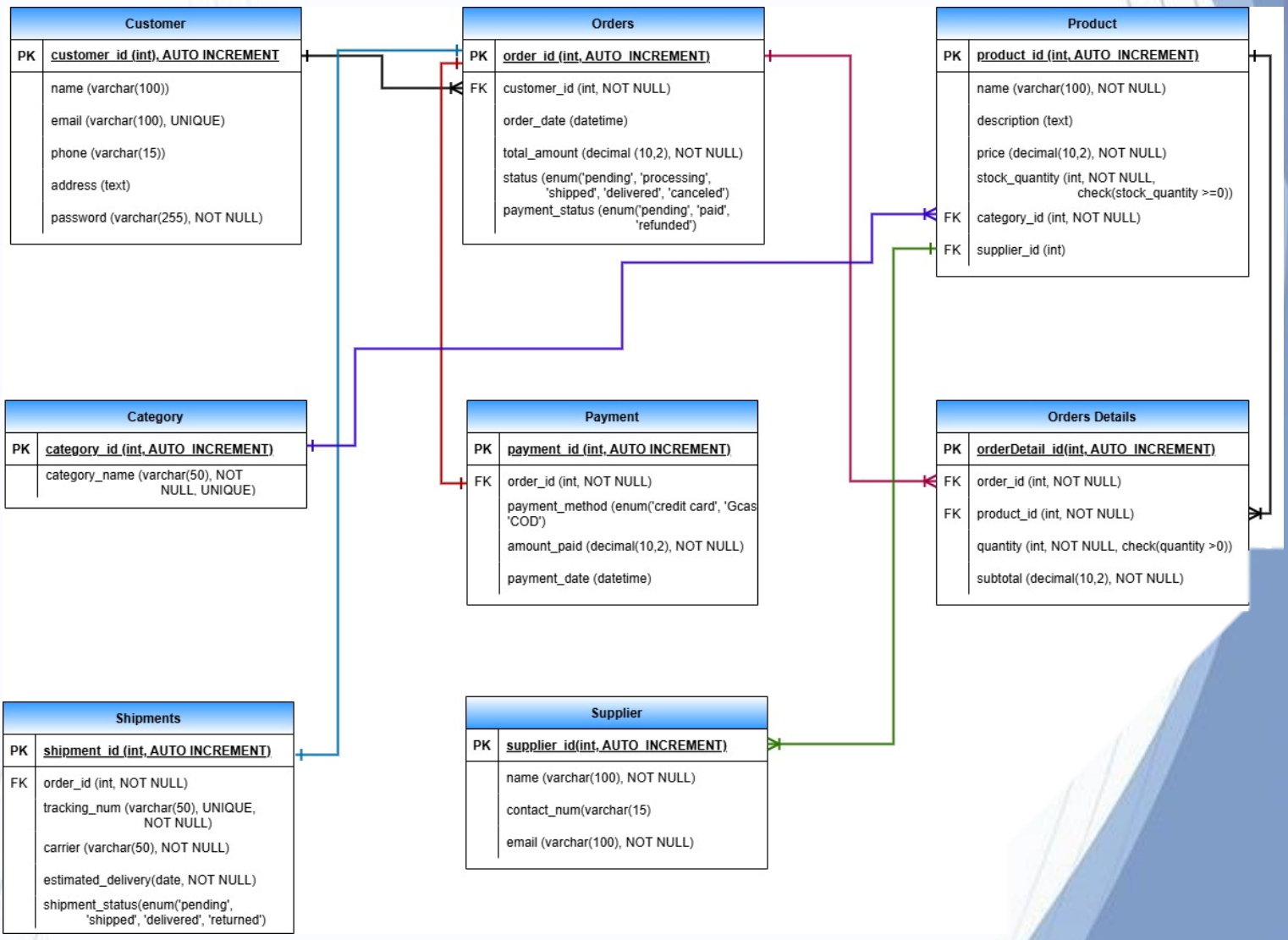
Republic of the Philippines
Bicol University
POLANGUI CAMPUS
Polangui, Albay

Phase 1: Comprehensive Planning and Architecture Design

Title: NextGen Hardware

ENTITY RELATIONSHIP DIAGRAM



1. **Entities and Attributes**

Each blue box represents the entity, and lines describe the relationships between these entities.

- **Customer:** Stores user details.
- **Orders:** Represents customer purchases.
- **Product:** Stores product details.
- **Category:** Categorizes products.
- **Order Details:** A bridge table linking orders and products.
- **Payment:** Stores payment transactions.
- **Shipments:** Tracks deliveries.
- **Supplier:** Stores supplier details.

2. **Relationships and Cardinality**

- **Customer → Order (1:N)**
  - One user can place multiple orders.
  - One order belongs to one user.
  - (Customer.customer_id→ Order.customer_id)
- **Order → OrderDetails (1:N)**
  - One order can have multiple order details.
  - One order detail belongs to one order.
  - (Order.order_id → OrderDetails.order_id)
- **Category → Product (1:N)**
  - Each product belongs to one category.
  - (Category.category_id → Product.category_id)
- **OrderDetails → Product (N:1)**
  - Each order detail references a single product, but a product can be in multiple orders.
  - (OrderDetails.product_id → Product.product_id)
- **Order → Payment (1:1)**
  - One order has one payment.
  - One payment is linked to one order.

- (Order.order_id → Payment.order_id)

- **Order → Shipment (1:1)**
  - One order has one shipment.
  - One shipment is linked to one order.
  - (Order.order_id → Shipment.order_id)
- **Supplier → Product (1:N)**
  - One supplier can supply multiple products.
  - One product is supplied by one supplier.
  - (Supplier.supplier_id → Product.supplier_id)