Here’s a **detailed explanation** of the three major modules—**Operations**, **Commerce & Inventory**, and **HR & Finance**—including their **apps**, **responsibilities**, and **required Django models**:

**🛠️ 1. Operations Module**

This module manages all **daily farm activities** related to poultry care, production, and processing.

**🔹 BirdApp**

* **Purpose**: Track individual birds or flocks.
* **Models**:
  + Bird: tag*id, breed, gender, hatch*date, flock, health\_status
  + Flock: name, house, sector, bird*count, start*date, end\_date

**🔹 FeedingApp**

* **Purpose**: Manage feed schedules and consumption.
* **Models**:
  + FeedingSchedule: flock, feed\_type, quantity, time
  + FeedLog: flock, quantity\_used, date, staff

**🔹 WaterApp**

* **Purpose**: Monitor water supply and usage.
* **Models**:
  + WaterSchedule: flock, volume, frequency
  + WaterLog: flock, volume\_used, date, staff

**🔹 CleaningApp**

* **Purpose**: Schedule and log cleaning routines.
* **Models**:
  + CleaningTask: house, frequency, assigned\_to
  + CleaningLog: house, date\_cleaned, staff, notes

**🔹 HealthVaccinationApp**

* **Purpose**: Record health checks and vaccinations.
* **Models**:
  + HealthCheck: bird/flock, symptoms, diagnosis, treatment
  + Vaccination: bird/flock, vaccine*type, date*administered, staff

**🔹 EggCollectionApp**

* **Purpose**: Log daily egg collection.
* **Models**:
  + EggCollection: flock, quantity, date, grade, staff
  + EggBatch: batch*code, collected*on, storage\_location

**🔹 ProcessingApp**

* **Purpose**: Manage slaughter and meat processing.
* **Models**:
  + ProcessingBatch: flock, birds*processed, date, weight*total
  + MeatProduct: type, weight, packaging, expiry\_date

**🛒 2. Commerce & Inventory Module**

This module handles **product management**, **stock control**, **sales**, and **supplier/customer relationships**.

**🔹 CatalogApp**

* **Purpose**: Define all products (eggs, meat, equipment).
* **Models**:
  + Product: name, category, unit\_price, description
  + Category: name, description

**🔹 InventoryApp**

* **Purpose**: Track stock levels and movements.
* **Models**:
  + InventoryItem: product, quantity, location, reorder\_level
  + StockMovement: product, quantity, movement\_type (IN/OUT), date, reason

**🔹 OrderApp**

* **Purpose**: Manage customer orders.
* **Models**:
  + Order: customer, order*date, status, total*amount
  + OrderItem: order, product, quantity, price

**🔹 CustomerApp**

* **Purpose**: Store customer profiles and history.
* **Models**:
  + Customer: name, contact\_info, address, type (retail/wholesale)
  + CustomerNote: customer, note, created\_by, date

**🔹 SupplierApp**

* **Purpose**: Manage suppliers for equipment and materials.
* **Models**:
  + Supplier: name, contact*info, product*categories
  + SupplyOrder: supplier, product, quantity, delivery\_date, status

**🔹 ShoppingCartApp**

* **Purpose**: Handle online cart functionality.
* **Models**:
  + Cart: customer, created\_at
  + CartItem: cart, product, quantity

**🔹 SalesApp**

* **Purpose**: Track completed sales and revenue.
* **Models**:
  + SalesRecord: order, payment*status, invoice*number, date
  + Payment: method, amount, date, reference

**👥 3. HR & Finance Module**

This module manages **employees**, **payroll**, and **financial records**.

**🔹 HRApp**

* **Purpose**: Manage employee data and attendance.
* **Models**:
  + Employee: name, role, contact*info, hire*date, salary
  + Attendance: employee, date, check*in, check*out, status
  + TaskLog: employee, task\_type, module, date, duration

**🔹 PayrollApp**

* **Purpose**: Automate salary calculations and payments.
* **Models**:
  + Payroll: employee, period*start, period*end, gross*pay, deductions, net*pay
  + Payslip: payroll, issued*date, payment*method

**🔹 FinanceApp**

* **Purpose**: Track income, expenses, and budgeting.
* **Models**:
  + Expense: category, amount, date, description
  + Revenue: source, amount, date, linked\_order
  + Budget: department, allocated*amount, spent*amount, period

Would you like me to generate Django model code for these apps or create a visual ERD (Entity Relationship Diagram) for documentation?