EcoCrafter Creations Inc. Architecture Design

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<https://github.com/Ramya154/Project-Database-Systems>

Windows

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**Relationship between entities**

1. **Product & Craftsman/Craftswoman:**
   * One-to-many relationship: Craftsman/Craftswoman crafts many products, while each product is crafted by one Craftsman/Craftswoman.
2. **Product & Supplier:**
   * One-to-many relationship: A product can use materials supplied by many different suppliers, but each supplier supplies materials for multiple products.
3. **Product & Order:**
   * One-to-many relationship: Many products can be part of multiple orders, but each order consists of multiple products.
4. **Order & Location:**
   * Many-to-one relationship: Many orders are associated with a specific location, while each location can have many orders.
5. **Supplier & Material Used:**
   * One-to-many relationship: A supplier can provide multiple types of materials used, but each type of material is supplied by one or multiple suppliers.
6. **Craftsman/Craftswoman & Location:**
   * One-to-many relationship: Craftsmen/Craftswomen work in different locations, but each location can have multiple Craftsmen/Craftswomen.

These relationships establish the connections between the entities, showcasing how they interact and depend on each other within the business model.

**Entity Relationship Model**

A screenshot of a computer

Description automatically generated

**Crow’s Foot Model:**

1. **PetFriendlyHousingSolutions Class:**
   * Represents a product in the pet-friendly housing solutions with attributes such as ProductID, ProductName, ProductCategory, PetType, Theme, BioSafeMaterials, TechnologyComponents, and ThemedAccessories.
2. **CoreTeam Class:**
   * Represents a team member involved in the development of pet-friendly housing solutions, with attributes including EmployeeID, EmployeeName, Designation, StartDate, Salary, and a foreign key ProductID referencing the associated product.
3. **SupplyChainNetwork Class:**
   * Represents a node in the supply chain network, storing information about raw materials, suppliers, quantity, unit price, delivery date, and a foreign key ProductID linking to the related pet-friendly housing product.
4. **NetworkArchitectureModel Class:**
   * Describes a network component with attributes NetworkComponent, IPAddress, and Description. It is associated with both CoreTeam and SupplyChainNetwork classes through foreign keys EmployeeID and SupplyChainID, respectively.
5. **CustomerBase Class:**
   * Represents a customer with attributes CustomerID, CustomerName, PetType, PetAge, Address, and PhoneNumber.
6. **PetSolutions\_Customers Class:**
   * Represents the many-to-many relationship between PetFriendlyHousingSolutions and CustomerBase, indicating which products are associated with which customers.
7. **Customers\_Solutions Class:**
   * Another representation of the many-to-many relationship between CustomerBase and PetFriendlyHousingSolutions, providing an alternative perspective on the customer-product association.
8. **Associations:**
   * Associations between classes denote relationships. For example, PetFriendlyHousingSolutions has a one-to-many relationship with PetSolutions\_Customers, CoreTeam, and SupplyChainNetwork.
9. **Management Relationship:**
   * CoreTeam manages NetworkArchitectureModel instances, illustrating the managerial association between team members and network components.
10. **Involvement in Supply Chain:**

* Both CoreTeam and SupplyChainNetwork are involved in the NetworkArchitectureModel, reflecting their contributions to the overall system architecture.

This model captures the relationships and associations between different entities in the context of a pet-friendly housing solutions development scenario.

