Online Shop

1. Domain Overview

This conceptual model represents an online shop where an **Owner** operates one or more **E-Shops**. Each e-shop **displays Items** for sale. **Shoppers** can create **Accounts** within an e-shop and use a **Cart** to collect items they intend to purchase. The model captures data entities, their primitive attributes, and associations with explicit multiplicities.

---

2. Classes

Owner

- **Description:**
  Person or organization that operates one or more e-shops.
- **Attributes:**
  - `Name` – text, `1..1`
  - `CompanyID` – text, `1..1`
- **Relationships:**
  - **owns** (`Owner 1..1 <=> E-Shop 0..*`) The owner owns 0 or more e-shops.

E-Shop

- **Description:**
  Online storefront operated by an owner and displaying products.
- **Attributes:**
  - `Name` – text, `1..1`
  - `URL` – URL, `1..1`
  - `Icon` – URL, `1..1`
- **Relationships:**
  - **owns** (`Owner 1..1 <=> E-Shop 0..*`)
    The e-shop is owned by exactly one owner.
  - **displays** (`E-Shop 0..1 <=> Item 0..*`)
    The e-shop lists 0 or more items for sale.
  - **facilitates** (`E-Shop 1..1 <=> Account 0..*`)
    The e-shop allows creation of multiple accounts or having no account.

Shopper

- **Description:**
  Customer who browses e-shops and may register an account.

- **Attributes:**
  - FirstName – text, 1..1
  - LastName – text, 1..1
- **Relationships:**
  - **owns** (Shopper 0..1 <=> Account 0..*)
    A shopper may have zero or more accounts.

Account

- **Description:**
  Login credentials and user profile that identify a shopper within an e-shop.
- **Attributes:**
  - Login – text, 1..1
  - Password – text, 1..1
- **Relationships:**
  - **owns** (Shopper 0..1 <=> Account 0..*)
    The account represents at most a single shopper who uses it for access.
  - **facilitates** (E-Shop 1..1 <=> Account 0..*)
    Each account exists within one e-shop.
  - **possesses** (Account 1..1 <=> Cart 0..*)
    Each account is linked to 0 or more carts for potential purchase.

Cart

- **Description:**
  Container of items selected by the shopper for purchase.
- **Attributes:**
  - ItemCount – integer, 1..1
  - TotalPrice – decimal, 1..1
- **Relationships:**
  - **possesses** (Account 1..1 <=> Cart 0..*)
    The cart belongs to a specific account and cannot exist independently of it.
  - **contains** (Cart 0..* <=> Item 0..*)
    The cart can include zero or more items.

Item

- **Description:**
  Product offered for sale in a specific e-shop.
- **Attributes:**
  - Name – text, 1..1

- Price – decimal, `1..1`
- Description – text, `1..1`
- Available – boolean, `1..1`
- PromoImages – URL, `0..*`
- **Relationships:**
    - **displays** (`E-Shop 0..1 <=> Item 0..*`)
    Each item can be displayed in one e-shop.
    - **contains** (`Cart 0..* <=> Item 0..*`)
    The item may appear in zero or several carts simultaneously if chosen by multiple shoppers.