A4: Conceptual Data Model

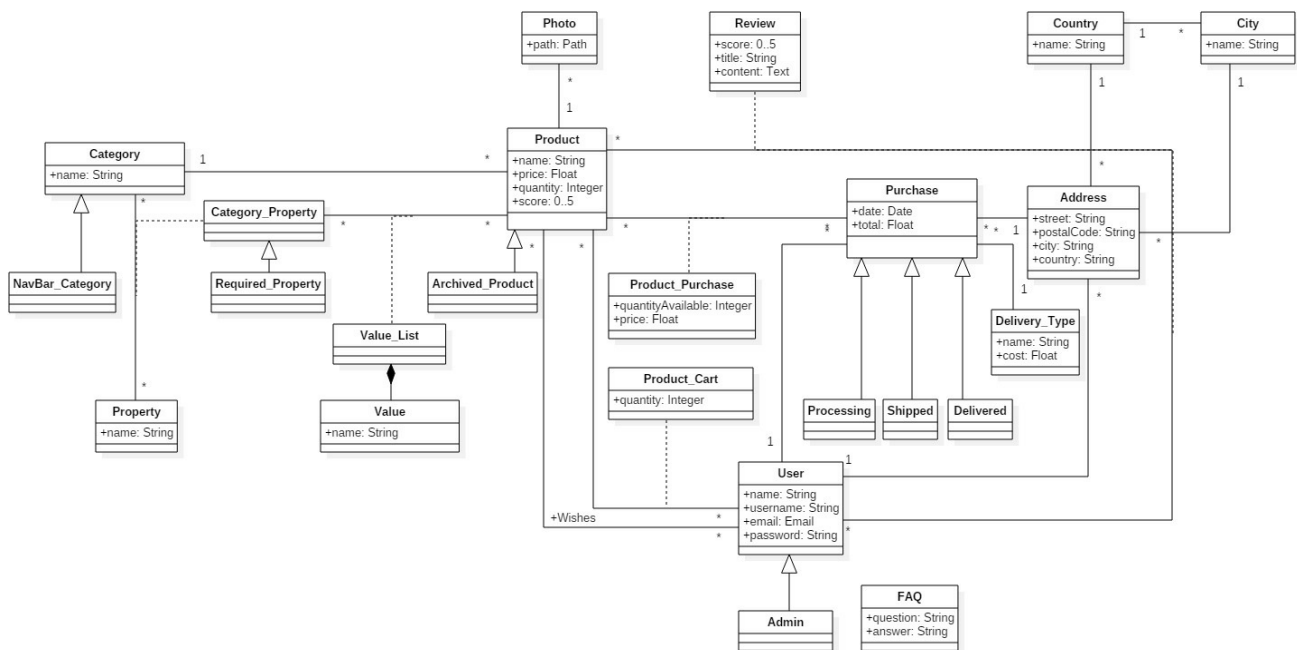## 1. Class diagram

The Conceptual Domain Model contains the identification and description of the entities of the domain and the relationships between them in a UML class diagram.

The diagram of **Figure 1** represents the main organizational entities, the relationships between them, attributes, and the multiplicity of relationships for the **Sweven** website.

Figure 1: Class diagram

2. Additional Business Rules

- A user can only review a product that he has purchased.
- A product's price must be a positive value.
- A purchase's address must have to be in the user's addresses book.
- A product must have its category's required properties filled in.

- If the administrator archives a product, it will be removed from every cart and wishlist.
- If the category has no products, it can not be added to the navigation bar. But, if that same category is in the navigation bar, it will be removed.
- The total attribute of a purchase is the sum of the prices of the purchased items.

Revision history

Changes made to the first submission:

1. Added new entities: Delivery_Type, Admin, Country, and City.
2. Deleted entities: Wishlist, Cart, Site.
3. Added three derived classes to the **Purchase** entity: Processing, Shipped, Delivered. These classes represent the purchase state.
4. Added an association class between **Product** and **User**: Product_Cart. This class has the quantity of the product that the user has in its cart.
5. Changed the **Address** entity.
6. Other minor changes to the UML.
7. Added new business rules and changed some old ones.

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