NUTKART-A Ecommerce application

Domain-Driven Design

Group - 25

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Project Objective

Nutkart is a full-stack e-commerce web application designed to provide a convenient and a user-friendly shopping experience for dry fruits. It features two user roles - User and seller, and administrative support. Nutkart has advanced product searching, sorting, and filtering capabilities, a convenient cart addition feature, and secured user authentication using session IDs. User information, reviews, and favorites are stored in a robust MongoDB database for easy access and management.
The technology stack used in Nutkart includes Express.js, JavaScript, Node.js, and MongoDB.

Needs and Benefits

1. Convenience: One of the primary benefits of an e-commerce website is convenience. Customers can browse and purchase dry fruits from the comfort of their homes without having to go to a physical store. Wider Reach: With an e-commerce website, your business can reach customers all over the world, breaking the geographical barriers. It helps to expand the User base and grow the business.

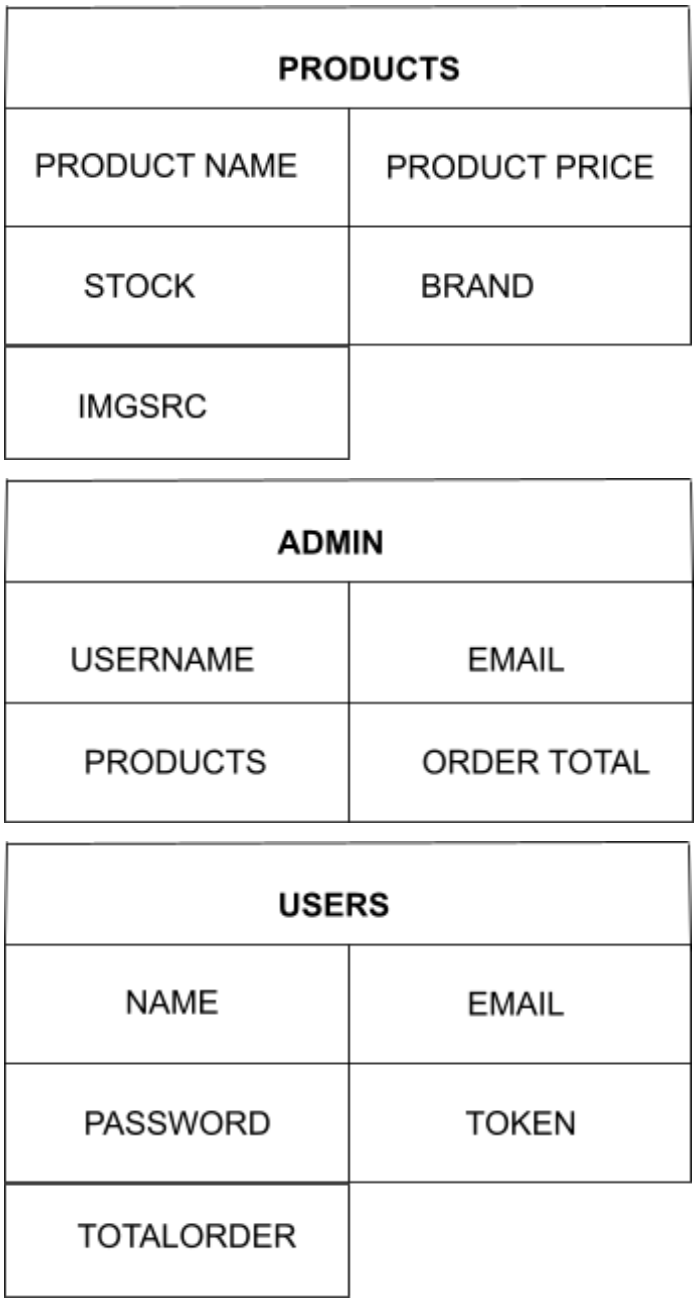
2. Variety of Products: E-commerce websites can offer a much wider variety of dry fruits than a physical store. You can easily display different types of dry fruits, their qualities and descriptions, and let the customers choose from a wide variety of options.

3. Cost-Effective: Operating an e-commerce website is generally more cost-effective than running a physical store. There is no need for renting or buying space, hiring staff, or maintaining a physical inventory.

4. Better Marketing: E-commerce websites can leverage digital marketing strategies to reach potential customers and increase sales. Social media, email marketing, and search engine optimization (SEO) can be used to promote the business and attract new customers.

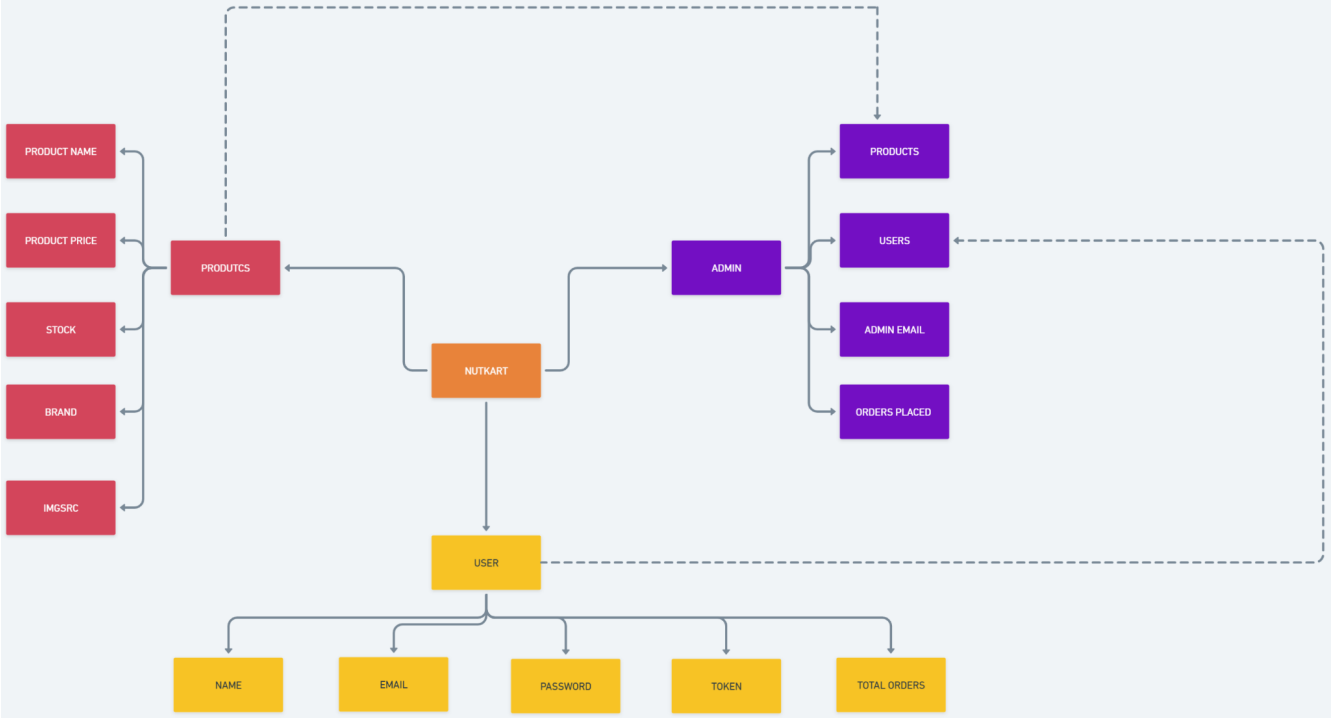
5. UserEngagement: An e-commerce website can engage customers by offering personalized experiences and recommendations based on their browsing and purchase history. This can help to build brand loyalty and increase User Satisfaction. Overall, an e-commerce website for dry fruits can help to streamline the buying process, increase sales, and provide customers with a convenient and personalized shopping experience.

Bounded Context Model



Context Mapping

Entities, value objects and services for each sub model



Users Sub-Model:

Entities:

- User Name
- User Email

Value Objects:

- Address

Services:

- Student Registration
- Address Management
- Order retrieval

Product Sub-Model:

Entities:

- Product Name
- Product Brand
- Product Price
- Product Stock

Value Objects:

- Review
- ProductData

Services:

- ProductService

Admin Sub model:

Entities:

- Admin

Value Objects:

- AdminData

Services:

- AdminService

Cardinality ratio of the model

An Admin can manage many Orders.
A Usercan place many Orders.
An Order can contain many Items.
A Usercan have one active Cart, and a Cart can have many Items.

The cardinality ratio for these relationships can be represented as follows:

Admin to Order: One-to-many (1:N)
Userto Order: One-to-many (1:N)
Order to Item: One-to-many (1:N)
Userto Cart: One-to-one (1:1)
Cart to Item: One-to-many (1:N)

Aggregates of the model

The Order aggregate includes the User, OrderItem, and Address value objects, as well as a collection of OrderItems.

The Cart aggregate includes the User and CartItem value objects, as well as a collection of CartItems.

The User aggregate includes the Address value object, as well as collections of Orders and CartItems. We have also defined value objects for Address, OrderItem, CartItem.

Note that the specific aggregates and value objects will depend on the requirements of the e-commerce website, and may need to be adjusted or expanded accordingly.