

Tata Neu - Database Management & Schema Design

4. Database Management & Schema Design for Tata Neu

Schema Design Overview:

Tata Neu is a super app integrating multiple verticals-retail, grocery, healthcare, travel, and finance. The schema supports scalability, real-time operations, and personalization.

Key Entities and Attributes:

1. User

- UserID (PK), Name, Email, Phone, PasswordHash, AddressID (FK), DateJoined, NeuCoinsBalance
- Relationships: Has many Orders, Payments, Loyalty Points, Reviews

2. Address

- AddressID (PK), UserID (FK), Street, City, State, PINCode, Country, IsPrimary

3. Product

- ProductID (PK), BrandID (FK), CategoryID (FK), ProductName, Description, Price, Stock, DiscountPercent, Rating

4. Brand

- BrandID (PK), BrandName, BrandType, SupportContact

5. Category

- CategoryID (PK), CategoryName, ParentCategoryID (Nullable FK)

6. Order

- OrderID (PK), UserID (FK), OrderDate, TotalAmount, DiscountApplied, NeuCoinsUsed, FinalAmountPaid, PaymentID (FK), OrderStatus

7. OrderItem

- OrderItemID (PK), OrderID (FK), ProductID (FK), Quantity, PriceAtPurchase

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8. Payment

- PaymentID (PK), UserID (FK), PaymentMethod, TransactionDate, TransactionStatus, Amount

9. NeuCoinsTransaction

- NeuCoinsTxnID (PK), UserID (FK), OrderID (FK), CoinsEarned, CoinsRedeemed, TxnDate, SourceBrand

10. Wishlist

- WishlistID (PK), UserID (FK), ProductID (FK), DateAdded

11. Reviews

- ReviewID (PK), ProductID (FK), UserID (FK), Rating, Comment, ReviewDate

12. Logistics

- ShipmentID (PK), OrderID (FK), DeliveryPartner, TrackingNumber, ShipmentStatus, ExpectedDeliveryDate

13. ContentFeed

- ContentID (PK), Title, Type, BrandID (FK), PostedDate, Tag

Additional Considerations:

- Normalized to 3NF to avoid redundancy.
- Passwords are hashed; payment tokens encrypted.
- Indexed on OrderDate, UserID, BrandID.
- Transactional logs maintained for analytics and personalization.