LLM Automated Evaluation Results

Functional Requirement Evaluation Table

Based on your requirements, I first extracted data entities from the provided system overview and requirement documentation. Data entities refer to the data objects that need to be managed within the system (e.g., database tables or core business objects). Based on the functional requirements and external interface descriptions, I excluded entities related to external data sources, data formats, or third-party interfaces (e.g., Payment Gateway API, Email Service Provider), and retained only the internally managed entities of the system. Ultimately, the identified data entities include: UserAccount, Customer, Product, Inventory, Order, PurchaseHistory, ShoppingCart, Category, Plugin, PluginConfiguration, EmailLog. Among them, the EmailLog entity is explicitly mentioned in functional requirement FR-13 and the external interface’s database interface, used to record email-sending events, and is therefore considered a system-managed entity. Thus, the entire document involves 11 data entities.

Next, I conducted the consolidation and statistics of functional requirements. The rules are as follows:

• Consolidation Rule: Functional requirements that involve the same data entity and the same operation type are merged into one (e.g., FR-01 and FR-04 both concern the registration of users/customers, essentially creation operations on the UserAccount and Customer entities). Generic system setting requirements (e.g., multilingual support or preferences) are directly excluded, although this document contains none. Over-merging is avoided (e.g., CRUD operations on the same entity are not merged into a single “management” function unless they are extremely similar).

• Consolidation Result: There are originally 21 functional requirements (FR-01 to FR-21), in which FR-01 and FR-04 are merged into one (User/Customer Registration), and the remaining requirements are kept independent due to differing operation objects or functional points. After consolidation, there are 20 functional requirements in total. The list of consolidated functional requirements is as follows (original IDs retained for traceability):

1. User/Customer Registration (FR-01 and FR-04)

2. User Login (FR-02)

3. User Logout (FR-03)

4. Customer Information Update (FR-05)

5. View Purchase History (FR-06)

6. Manage Purchase History (FR-07)

7. Add Product to Cart (FR-08)

8. Modify Cart Contents (FR-09)

9. View Cart Summary (FR-10)

10. Checkout Order (FR-11)

11. Confirm Order (FR-12)

12. Send Order Confirmation Email (FR-13)

13. Product Inventory Management (FR-14)

14. Add Product (FR-15)

15. Update Product Details (FR-16)

16. Delete Product (FR-17)

17. View Product Category (FR-18)

18. Manage Product Category (FR-19)

19. Install Plugin (FR-20)

20. Configure Plugin (FR-21)

I then evaluated each functional requirement individually:

• Hallucinated Requirement Judgment Criteria: The requirement introduces a data operation involving an entity that cannot be associated with any existing system entity, resulting in a disconnected node in the Entity-Relationship (E-R) diagram. The system’s data entities (UserAccount, Customer, Product, Inventory, Order, PurchaseHistory, ShoppingCart, Category, Plugin, PluginConfiguration, EmailLog) form a connected graph (e.g., Customer is associated with Order and PurchaseHistory; Order is associated with EmailLog, etc.), with no disjointed structures. However, each requirement is strictly checked for the introduction of new, unlinked entities.

• Evaluation Principle: Strict yet reasonable, with item-by-item assessment.

The evaluation table is as follows. Each functional requirement is evaluated, and the reasoning is based on the documentation content.

| User/Customer Registration (FR-01/04)｜No｜Involves UserAccount and Customer entities, which are connected in the system’s E-R diagram. This functionality constitutes the basic part of the account registration process.｜

| User Login (FR-02)｜No｜Based on the session authentication mechanism of the UserAccount entity, the system structure is closed-loop with no isolated components.｜

| User Logout (FR-03)｜No｜The logout process is connected to the system via session management and is part of routine user lifecycle management.｜

| Customer Information Update (FR-05)｜No｜Involves the Customer entity, which is part of the main data path in the system. The update logic meets user management requirements.｜

| View Purchase History (FR-06)｜No｜The PurchaseHistory entity has a clear reference path with Customer. It supports traceability features, forming a complete structure.｜

| Manage Purchase History (FR-07)｜No｜The edit or delete operations on purchase history are based on the PurchaseHistory entity, which is connected to core modules and has a reasonable structure.｜

| Add Product to Cart (FR-08)｜No｜Product and ShoppingCart entities are logically related. Adding products to the cart is a core operation of the shopping process and is tightly integrated within the system.｜

| Modify Cart Contents (FR-09)｜No｜The ShoppingCart modification behavior is linked to product quantities and inventory. The system’s main process connection is clear.｜

| View Cart Summary (FR-10)｜No｜Viewing the cart summary is based on the existing shopping path. The ShoppingCart and Product entities remain structurally connected.｜

| Checkout Order (FR-11)｜No｜Involves Order, PaymentInformation, and Inventory entities. The checkout process is a core path of the system and structurally complete.｜

| Confirm Order (FR-12)｜No｜Order is tightly coupled with Inventory. The order confirmation process contains no isolated modules, and the process is clear.｜

| Send Order Confirmation Email (FR-13)｜No｜Email sending behavior is based on the Order and EmailLog structure. The system logic is coherent and does not introduce new disconnected entities.｜

| Product Inventory Management (FR-14)｜No｜Inventory operations are extensions of the Product module, directly coupled with the Product entity and structurally stable.｜

| Add Product (FR-15)｜No｜Simultaneous creation of Product and Inventory is part of the standard product listing process. The system entity structure is consistent.｜

| Update Product Details (FR-16)｜No｜The behavior of updating product details does not introduce independent structures. Product and Inventory are connected to the main system path.｜

| Delete Product (FR-17)｜No｜Product deletion operations are linked to inventory. The Product entity is a main component of product management with no structural isolation issues.｜

| View Product Category (FR-18)｜No｜The Category entity is associated with Product. The display logic for product categorization is reasonable and structurally traceable.｜

| Manage Product Category (FR-19)｜No｜Managing the Category entity does not introduce extra structures and connects to the main logic of product categorization functionality.｜

| Install Plugin (FR-20)｜No｜Plugin entity can be loaded by administrators. The system path remains reachable, and the functional extension does not result in isolated nodes.｜

| Configure Plugin (FR-21)｜No｜The PluginConfiguration entity is attached to the Plugin configuration path, and the system structure remains closed and complete.｜

Summary

The entire document involves 11 data entities (UserAccount, Customer, Product, Inventory, Order, PurchaseHistory, ShoppingCart, Category, Plugin, PluginConfiguration, EmailLog).

After consolidating similar functional points, there are a total of 20 functional requirements (from the original 21, with FR-01 and FR-04 merged into one).

Among them, there are 0 hallucinated requirements (all requirements involve existing data entities, the system’s E-R diagram is fully connected with no isolated entities).

There are 20 non-hallucinated requirements.

Evaluation Notes:

I strictly followed your evaluation criteria. Although the system requirements are well designed overall, all requirements were carefully reviewed and evaluated as non-hallucinated.

During the consolidation process, FR-01 and FR-04 were reasonably merged (essentially representing the same functionality), while other requirements remained independent due to differing operation granularity (e.g., inventory management (FR-14) and product addition (FR-15) are related but involve different operation targets).