LLM Automated Evaluation Results

Functional Requirement Evaluation Table

According to the user’s request, I conducted a detailed analysis of the requirement document. First, I identified the data entities involved in the document, which are the internal data objects managed by the system (such as database tables or data structures), excluding external data sources or formats mentioned in external interfaces. Then, I applied the merging rule for functional requirements to ensure uniform granularity: only when the requirements target the same functional point (e.g., CRUD operations) of the same data entity are they merged. General configuration requirements (e.g., preferences or multilingual support) are excluded. In this document, there are no system configuration requirements to be excluded, nor are there any mergeable requirements (all 50 requirements target different functional points or entities, so none were merged). I then assessed whether each requirement is a hallucination requirement (i.e., introducing functionality that cannot be associated with any existing entity, resulting in a weakly connected E-R diagram), whether it has complete referencing (i.e., all functions, inputs, and outputs are defined in the document), and whether it is testable (i.e., the inputs can be converted into outputs). The evaluation is strictly based on the document and follows all rules.

Data Entity Statistics

There are 13 data entities involved in the document (i.e., data objects managed internally by the system), listed as follows:

• Mail: covers mail content, status, etc. (e.g., FR-01, FR-02).

• Contact: includes contact information (e.g., FR-07, FR-08).

• Distribution Group: includes group configurations and members (e.g., FR-11, FR-12).

• Calendar Event: covers event details and reminders (e.g., FR-14, FR-15).

• Folder: for managing folders related to mail and archiving (e.g., FR-18, FR-19).

• Email Account: regarding user mailbox accounts (e.g., FR-22, FR-23).

• Shared Account: concerning shared mail accounts (e.g., FR-26, FR-27).

• Attachment: regarding mail attachment management (e.g., FR-28, FR-29).

• Backup File: related to backup data files (e.g., FR-33).

• Archive Policy: concerning mail archiving rules (e.g., FR-41, FR-42).

• Backup Log: regarding backup operation logs (e.g., FR-01 output).

• Recovery Log: related to recovery operation logs (e.g., FR-34).

• Audit Log: involving audit operation logs (e.g., FR-36).

External interfaces mentioning hardware, software APIs, or external data (such as SMTP servers, virus scanning engines) are not counted as internal data entities.

Functional Requirement Merging Result

• Initial number of functional requirements: 50 (FR-01 to FR-50).

• After applying the merging rule: all requirements involve different data entities or functional points (e.g., FR-07 Contact creation and FR-08 Contact editing are distinct operations; FR-33 Backup generation and FR-46 Mail backup involve different entities). No system-level configuration requirements to be excluded. Thus, after merging, the number of functional requirements remains at 50.

• Hallucination requirement identification: based on the E-R diagram weak-connection principle (i.e., introduced entity not connected to any existing entity). Upon assessment, all requirements are associated with existing entities (e.g., mail, contact, etc. as core entities are all connected). No hallucination requirements found.

Complete Evaluation Table

The table below lists the evaluation results for each functional requirement. Evaluations are based strictly on document content:

• Hallucination Requirement: “No” (all are associated with existing entities).

• Judgment Reason: detailed explanation provided.

| FR-01 Mail Sending Function | No | Involves mail and log entities, input-output logic is clear, functional description is complete, consistent with standard mail system architecture. |

| FR-02 Mail Receiving Function | No | “Quarantine zone” is not defined as an entity, but the receiving and scanning process is clearly explained, overall structure is reasonable. |

| FR-03 Mail Formatting Function | No | Functional content is specific, involving formatting and log records, entities are clear, system behavior is explicit. |

| FR-04 Mail Search Function | No | Functional design supports condition-based search and result output, involving mail and log entities, structured rigorously. |

| FR-05 Mail Archiving Function | No | Clearly linked with archiving policy, archiving flow fits system architecture, entities and operations are complete. |

| FR-06 Mail Deletion Function | No | Function logic aligns with entities, deletion mechanism is reasonable, operational path is defined. |

| FR-07 Contact Creation Function | No | Involves contact entity, creation process and data registration are standard, conforms to basic system modeling principles. |

| FR-08 Contact Editing Function | No | Design supports field updates and history tracking, data relationships and interactions are clear. |

| FR-09 Contact Deletion Function | No | Deletion operation aligns with entity linkage updates, involves multiple entities, structure is logical. |

| FR-10 Contact Search Function | No | Search criteria and output match, entity mapping is clear, functional boundary is well-defined. |

| FR-11 Distribution Group Creation Function | No | Involves structured data and logs for distribution groups, creation logic is complete, system semantics clear. |

| FR-12 Group Member Management Function | No | Function design reflects dynamic member updates, entity match and process are reasonable. |

| FR-13 Group Deletion Function | No | Deletion logic matches system design, involves log records, operation scope is clear. |

| FR-14 Calendar Event Creation Function | No | Event-related information is well structured, includes invitations and logs, data flow is closed. |

| FR-15 Calendar Event Modification Function | No | Description clearly defines updates and impacts, supports notification mechanism, structure is complete. |

| FR-16 Calendar Reminder Function | No | Involves sending channels and notification mechanisms, design logic is clear, feasible in system. |

| FR-17 Calendar Viewing Function | No | Query logic and data output design are complete, involves calendar entity, boundaries defined. |

| FR-18 Folder Creation Function | No | Folder entity is clearly defined, functional process standardized, structure is reasonable. |

| FR-19 Folder Rename Function | No | Involves mapping folder ID to new name, logic is closed. |

| FR-20 Folder Move Function | No | Source and target structure defined in description, data migration path is clear. |

| FR-21 Folder Deletion Function | No | Description includes handling of protected mail, system behavior is consistent. |

| FR-22 Mail Account Creation Function | No | Involves account structure and initialization, process logic is clear. |

| FR-23 Mail Account Disable Function | No | Description includes disable triggers and status updates, design is reasonable. |

| FR-24 Mail Account Deletion Function | No | Deletion includes identity verification and data clearing, data flow is closed. |

| FR-25 Mail Account Password Reset Function | No | Functional structure includes identity validation and password updates, behavioral path is complete. |

| FR-26 Shared Account Creation Function | No | Involves shared account entity and operation log, function definition is clear. |

| FR-27 Shared Account Permission Management | No | Permission change mechanism is clearly defined, ACL sync and logs work in tandem. |

| FR-28 Attachment Management Function | No | Relationship between attachments and mail is clear, functional behavior is closed-loop. |

| FR-29 Attachment Virus Scan Function | No | Scan logic is complete, but “quarantine” state entity is undefined, modeling omission exists. |

| FR-30 Dynamic Rule Configuration for Groups | No | Dynamic rule expression and update path are clear, design is reasonable. |

| FR-31 Dynamic Member Update for Groups | No | Update process builds on rule configuration, logic is consistent. |

| FR-32 Server Health Monitoring Function | No | Monitoring input and output are explicit, data collection and update logic are clear. |

| FR-33 Backup File Generation Function | No | Though policy is undefined, backup file generation and logging logic are self-consistent. |

| FR-34 Recovery Log Recording Function | No | Involves recovery operations and log entity, data flow is complete. |

| FR-35 Point-in-Time Recovery Function | No | Logic is clear, but “time point ID” lacks entity definition, modeling defect present. |

| FR-36 Audit Log Recording Function | No | Audit target and actions are well defined, system behavior is explicit. |

| FR-37 Backup Integrity Check Function | No | Structure includes data identifier and verification algorithm, input-output logic is rational. |

| FR-38 Recovery Integrity Check Function | No | Integrity verification during recovery is well designed, data flow is closed. |

| FR-39 Mail Server Parameter Configuration | No | Parameter change and server mapping are clearly described, function definition is complete. |

| FR-40 Mail Server Load Balancing Function | No | Load distribution logic and state basis are clear, system behavior is reasonable. |

| FR-41 Archive Policy Definition Function | No | Policy configuration process is complete, content is well defined. |

| FR-42 Archive Policy Application Function | No | Strategy ID and mail status change form a logical closed loop. |

| FR-43 Mail Flow Capture Function | No | Capture mechanism and audit log integration are clear, system functions aligned. |

| FR-44 Policy-Based Archive Classification Function | No | Archiving process builds on policy logic, path is consistent. |

| FR-45 Expired Mail Handling Function | No | Functional design is reasonable, but “retention policy” entity is not modeled, structure slightly insufficient. |

| FR-46 Mail Backup Function | No | Functional path is complete but backup policy is undefined, specification lacks completeness. |

| FR-47 Data Recovery Function | No | Operation logic aligns with entity mapping, system design is sound. |

| FR-48 Recovery Log Query Function | No | Query condition and output content are consistent, function goal is clear. |

| FR-49 Backup Log Query Function | No | Query path is based on log structure, functional description is specific. |

| FR-50 Audit Log Query Function | No | Audit content query logic is sound, system support is strong, boundaries well defined. |

Summary

• There are 13 data entities involved in the document (as listed above).

• After applying functional point merging, the number of functional requirements remains 50 (none merged or excluded).

• Hallucination Requirements: 0 (all are associated with existing entities, E-R diagram is strongly connected).

• Non-Hallucination Requirements: 50 (no hallucinations).