# Functional Requirement

1. Functional Requirements

1.1 Email Sending Function

Function Number: FR-01

Description: Users can create and send emails within the system. The system must verify the validity of the email format, attachment size limits, and complete the email sending via the SMTP protocol.

Input: Recipient's email address, email subject, body content, attachments (optional).

Output: A copy of the sent email is stored in the Sent Items folder, with a sending status prompt (success or failure).

1.2 Email Receiving Function

Function Number: FR-02

Description: The system must automatically detect and receive new emails, verify the integrity of the emails, store them in the inbox, and automatically classify and label the emails.

Input: Email server information (IMAP/POP3), polling interval time.

Output: New email list, email content storage status, email priority labeling.

1.3 Email Formatting Function

Function Number: FR-03

Description: Users can apply preset formatting templates while composing emails. The system must intelligently fill in dynamic fields and support manual adjustments to the format.

Input: Email editing interface, format template selection, custom format settings.

Output: Formatted email content, format configuration status, format operation log.

1.4 Email Search Function

Function Number: FR-04

Description: Users can search for emails based on keywords, time ranges, senders, recipients, etc. The system must verify permissions and display real-time suggestions.

Input: Search keywords, time range, sender, recipient, filtering conditions.

Output: A set of emails that meet the criteria, search operation log, permission verification result.

1.5 Folder Creation Function

Function Number: FR-05

Description: Users can create folders within the email storage path. The system must verify the legality of the folder name and generate folder metadata.

Input: Folder name, target storage path.

Output: New folder entry, folder metadata, folder creation operation log.

1.6 Email Move Function

Function Number: FR-06

Description: Users can move selected emails to a target folder. The system must verify the validity of the target folder and update the email storage index.

Input: List of emails to be moved, target folder path.

Output: Change in email storage location, email list refresh status, move operation log.

1.7 Email Deletion Function

Function Number: FR-07

Description: Users can delete emails. The system must verify the email status and move the email to the recycle bin, retaining it for 30 days.

Input: List of emails to be deleted, deletion method (normal deletion/thorough deletion).

Output: Email removal status, recycle bin storage status, deletion operation log.

1.8 Email Labeling Function

Function Number: FR-08

Description: Users can add labels to emails. The system must verify the naming conventions of the labels and automatically synchronize label information to related modules.

Input: Email list, label name or selection of existing labels.

Output: Updated email label status, updated label index database, label operation log.

1.9 Email Archiving Function

Function Number: FR-09

Description: Users can archive emails. The system must verify the archiving conditions and migrate the emails to the archive directory.

Input: List of emails to be archived, archiving time range, archiving storage location.

Output: Updated archiving email status, updated archive directory data, archiving operation log.

1.10 Calendar Event Creation Function

Function Number: FR-10

Description: Users can create calendar events. The system must verify the validity of the time and support the association of contacts and setting reminders.

Input: Calendar event title, start time, end time, location, participants, description, reminder settings.

Output: New calendar event entry, iCalendar format data, calendar creation log.

1.11 Calendar Event Modification Function

Function Number: FR-11

Description: Users can edit existing calendar events. The system must verify the validity of the modified content and automatically notify associated people of the changes.

Input: Calendar event entry, modified title, time, location, participants, description, reminder settings.

Output: Updated calendar event entry, updated associated tasks, calendar modification log.

1.12 Calendar Event Deletion Function

Function Number: FR-12

Description: Users can delete calendar events. The system must verify deletion permissions and move them to the recycle bin.

Input: List of calendar events to be deleted, deletion method (normal deletion/thorough deletion).

Output: Calendar event removal status, updated recycle bin status, calendar deletion log.

1.13 Calendar Viewing Function

Function Number: FR-13

Description: Users can view the calendar list. The system supports daily, weekly, and monthly views, and highlights ongoing calendar events.

Input: Date range, filtering conditions, view mode.

Output: Calendar list, identification of ongoing calendar events, calendar access operation log.

1.14 Calendar Search Function

Function Number: FR-14

Description: Users can search for calendar events based on keywords, time, participants, etc. The system must verify permissions and sort the results.

Input: Search keywords, time range, participant filtering, location filtering.

Output: A list of calendar events that meet the criteria, search operation log, permission verification result.

1.15 Contact Creation Function

Function Number: FR-15

Description: Users can create contact information. The system must verify required fields and the format of email and phone numbers, and synchronize to related modules.

Input: Contact name, email, phone, additional information.

Output: New contact entry, updated contact database, contact creation log.

1.16 Contact Deletion Function

Function Number: FR-16

Description: Users can delete contacts. The system must verify that there are no associated tasks and move them to the recycle bin.

Input: List of contacts to be deleted, deletion method (normal deletion/thorough deletion).

Output: Contact removal status, updated recycle bin status, contact deletion log.

1.17 Contact Modification Function

Function Number: FR-17

Description: Users can modify contact information. The system must verify the validity of the data and synchronize updates to related modules.

Input: Contact information editing, email, phone, additional information.

Output: Updated contact entry, synchronization status of related modules, contact modification log.

1.18 Contact Search Function

Function Number: FR-18

Description: Users can search for contacts based on name, email, phone, etc. The system must support multi-dimensional searching and permission verification.

Input: Search keywords, time range, email, phone, filtering conditions.

Output: A list of contacts that meet the criteria, search operation log, permission verification result.

1.19 Distribution Group Creation Function

Function Number: FR-19

Description: Users can create distribution groups. The system must verify the validity of group members and synchronize the distribution group information to the email module.

Input: Distribution group name, description, member list.

Output: New distribution group entry, member association status, distribution group creation log.

1.20 Distribution Group Member Addition Function

Function Number: FR-20

Description: Users can add contacts to a distribution group. The system must verify the status of the contact and permissions, and update the distribution group member list.

Input: Distribution group name, list of contacts to be added.

Output: Updated distribution group members, synchronization status of related modules, member change log.

1.21 Distribution Group Member Removal Function

Function Number: FR-21

Description: Users can remove contacts from a distribution group. The system must verify the operation permissions and trigger member change notifications.

Input: Distribution group name, list of contacts to be removed.

Output: Updated distribution group members, synchronization status of related modules, member change log.

1.22 Task Creation Function

Function Number: FR-22

Description: Users can create tasks and set deadlines, priorities, reminder methods, and associated emails or calendar events.

Input: Task title, description, due date, priority, associated email/calendar event.

Output: New task entry, reminder configuration status, task creation log.

1.23 Task Modification Function

Function Number: FR-23

Description: Users can modify task information. The system must verify the validity of the modified content and synchronize updates to related modules.

Input: Task entry, modified title, description, due date, priority, reminder method.

Output: Updated task entry, synchronization status of related modules, task modification log.

1.24 Task Deletion Function

Function Number: FR-24

Description: Users can delete tasks. The system must verify that there are no ongoing associated processes and move them to the recycle bin.

Input: List of tasks to be deleted, deletion method (normal deletion/thorough deletion).

Output: Task removal status, updated recycle bin status, task deletion log.

1.25 Task Viewing Function

Function Number: FR-25

Description: Users can view the task list. The system supports various view modes and automatically updates the task status.

Input: Task filtering conditions, view mode, sorting rules.

Output: Task list, updated task status, task access log.

1.26 Task Search Function

Function Number: FR-26

Description: Users can search for tasks based on title, description, due date, etc. The system must verify permissions and sort the results.

Input: Search keywords, time range, status filtering, priority filtering.

Output: A list of tasks that meet the criteria, search operation log, permission verification result.

1.27 Task Reminder Setting Function

Function Number: FR-27

Description: Users can set task reminders. The system must verify the validity of the reminder time and support multiple reminder methods.

Input: Task entry, reminder time, reminder method (email/popup/SMS), contact.

Output: Task reminder configuration status, reminder execution plan, reminder setting log.

1.28 Task Reminder Viewing Function

Function Number: FR-28

Description: Users can view set reminders for tasks. The system must support status updates and synchronization across multiple devices.

Input: Reminder filtering conditions, view method (list/card).

Output: Task reminder list, updated reminder status, reminder access log.

1.29 Email Account Creation Function

Function Number: FR-29

Description: Users can create a new email account. The system must verify the email format, password strength, and send a verification email.

Input: Email address, password, display name, acceptance of terms of service.

Output: New email account entry, verification email sending status, account creation log.

1.30 Email Account Deletion Function

Function Number: FR-30

Description: Users can delete an email account. The system must verify identity and account status, and trigger the associated data processing workflow.

Input: Email account address, deletion method, password verification.

Output: Account removal status, associated data processing status, account deletion log.

1.31 Email Setting Modification Function

Function Number: FR-31

Description: Users can modify email settings. The system must verify the validity of the new configuration and automatically send a verification email.

Input: Email server information, password, automatic reply rules, email forwarding rules.

Output: Updated email settings, verification email sending status, setting modification log.

1.32 Shared Account Management Function

Function Number: FR-32

Description: Users can create and manage shared accounts. The system must verify permissions and synchronize updates to the access rules of the shared module.

Input: Shared account name, description, member list, permission settings.

Output: Shared account entry, updated member permissions status, shared account operation log.

1.33 Email Retention Policy Setting Function

Function Number: FR-33

Description: Administrators can set email data retention policies. The system must verify policy compliance and automatically execute archiving or deletion operations.

Input: Retention policy type, retention time, retention classification, storage threshold.

Output: Effective status of retention policy, archiving/deletion operation status, policy configuration log.

1.34 Email Permission Management Function

Function Number: FR-34

Description: Administrators can configure email access permissions. The system must verify the logic of permission inheritance and synchronize to related modules.

Input: Email account, permission type (full access/read-only/restricted), permission validity period.

Output: Permission configuration status, synchronization status of related modules, permission change log.

1.35 Email Data Backup Function

Function Number: FR-35

Description: Users can perform email data backups. The system must verify storage space and generate a backup file.

Input: Backup scope (all/specified folders/specific time), storage path, encryption options.

Output: Backup file status, updated storage space, backup operation log.

1.36 Email Data Recovery Function

Function Number: FR-36

Description: Users can restore email data from backup files. The system must verify the integrity of the backup and support resuming interrupted transfers.

Input: Backup source (local/cloud), recovery scope, decryption password (if applicable).

Output: Restored data status, updated email index, recovery operation log.

1.37 Backup Log Viewing Function

Function Number: FR-37

Description: Administrators can view backup logs. The system must support various filtering conditions and record query operations.

Input: Time range, backup type, operation status, user filtering.

Output: Backup log list, log export file, query operation log.

1.38 Backup File Deletion Function

Function Number: FR-38

Description: Users can delete backup files. The system must verify permissions and release storage space.

Input: Backup file list, deletion method (normal/thorough deletion), password verification.

Output: Backup file removal status, updated storage space, deletion operation log.

1.39 Backup Plan Creation Function

Function Number: FR-39

Description: Users can create backup plans. The system must verify the validity of the storage path and generate the plan execution time.

Input: Backup content scope, backup frequency, storage path, encryption settings.

Output: Backup plan entry, plan execution time, plan creation log.

1.40 Backup Plan Execution Function

Function Number: FR-40

Description: The system automatically executes backup tasks according to the backup plan, and users can manually trigger plan execution.

Input: Plan execution time, storage path, encryption settings.

Output: Backup file status, updated storage space, plan execution log.

1.41 Archiving Policy Creation Function

Function Number: FR-41

Description: Administrators can create archiving policies. The system must verify policy logic and generate the policy effective time.

Input: Archiving object type, trigger conditions, execution actions, storage location, retention period.

Output: Archiving policy entry, policy effective time, policy creation log.

1.42 Archiving Task Execution Function

Function Number: FR-42

Description: Users can execute archiving tasks. The system must verify the data status and migrate data to the archiving storage.

Input: Archiving data scope, archiving parameters, storage path, compression settings.

Output: Archiving data status, updated storage space, archiving execution log.

1.43 Archiving Email Search Function

Function Number: FR-43

Description: Users can search for archived emails. The system must support multi-dimensional filtering and permission verification, and display the archiving status.

Input: Keywords, time range, filtering conditions (sender/attachment type).

Output: List of archived emails, permission verification status, search operation log.

1.44 Archiving Email Deletion Function

Function Number: FR-44

Description: Users can delete archived emails. The system must verify permissions and perform secure erasure.

Input: List of archived emails to be deleted, deletion method (normal/thorough deletion).

Output: Archiving email removal status, updated storage space, deletion operation log.

1.45 Archiving Data Export Function

Function Number: FR-45

Description: Users can export archived email, calendar, and task data. The system must verify the export scope and support multi-format exports.

Input: Type of archived data, time range, export format (CSV/PDF/PST), storage path.

Output: Export file status, updated storage space, export operation log.

1.46 Archiving Classification Management Function

Function Number: FR-46

Description: Users can classify and manage archived emails. The system must verify classification rules and update the archiving directory structure.

Input: List of archived emails, classification dimensions (time/type/project), custom classification labels.

Output: Updated archiving directory status, updated classification index, classification operation log.