# Functional Requirement

1.1 Email Composition Function

Function ID: FR-01

Description: Users can create new emails in the email interface, input recipients, subject, and body content, and upload attachments.

Input: Recipient email address (in compliance with RFC standard format), email subject, email body (rich text format), attachments (local files, total size of attachments per email ≤20 MB).

Output: Email draft saved to the "Drafts" folder or email sent to the "Outbox," and email-sending log generated.

1.2 Email Sending Function

Function ID: FR-02

Description: After the user completes email composition, the system validates required fields and executes the email-sending operation.

Input: Email body, recipient email address, attachment information, email subject.

Output: Email successfully delivered to the sending queue, system returns a success message, and email-sending log generated.

1.3 Email Receiving Function

Function ID: FR-03

Description: The system periodically polls the mail server via the IMAP protocol to receive new emails and save them to the user’s inbox.

Input: New email data from the mail server, IMAP connection status, user email account status.

Output: New emails stored in the inbox, email-receiving log updated, and notification mechanism triggered based on user preferences.

1.4 Email Formatting Function

Function ID: FR-04

Description: Users can format the email body using the formatting toolbar in the email composition interface. The system renders the selected format in real time and automatically saves the configuration.

Input: Email body content, format template selection, style parameters (e.g., font, paragraph settings, color).

Output: Formatted email content, format configuration saved to the draft file, and format operation log generated.

1.5 Email Search Function

Function ID: FR-05

Description: Users can search emails using keywords, date ranges, folders, and other conditions. The system returns a list of matching emails and supports email previews.

Input: Keywords, date range, target folder, Boolean operators or natural language queries.

Output: List of matching emails, search parameters and result statistics written to the query log, email summary previews.

1.6 Email Categorization Function

Function ID: FR-06

Description: Users can manually or automatically categorize emails into specific folders, and the system updates the email index and log records.

Input: Target email, target folder path, automatic categorization policy (e.g., sender, keywords, date).

Output: Email migrated to the target folder, email index updated, categorization operation log recorded.

1.7 Email Deletion Function

Function ID: FR-07

Description: Users can delete emails, and the system moves them to the recycle bin or permanently deletes them, updating the email index and operation log.

Input: Target email, deletion method (permanent deletion or move to recycle bin), security verification code (required for batch deletion of over 50 emails).

Output: Email index status updated to "Deleted," email data physically moved to the recycle bin or cleared, operation log recorded.

1.8 Email Archiving Function

Function ID: FR-08

Description: Users can archive emails to server-based or file-level archives and categorize emails based on policies.

Input: Target email, archiving type (server/file-level), archiving policy (e.g., email age, tags, sender).

Output: Email migrated to the archiving storage area, archiving operation log recorded, index updated with archiving status.

1.9 Contact Addition Function

Function ID: FR-09

Description: Users can add new contacts to the address book, and the system validates the email format and synchronizes them to related contact groups.

Input: Contact name, email address (in compliance with RFC standard), position, company, phone, group information.

Output: New contact saved to the address book, synchronized to contact groups, contact creation log generated.

1.10 Contact Deletion Function

Function ID: FR-10

Description: Users can delete contacts from the address book, and the system moves the contact to the recycle bin and updates the contact group member list.

Input: Target contact, whether to synchronously remove related contact group members, security verification code (required for batch deletion of over 100 contacts).

Output: Contact information removed from the address book, contact group member list updated, contact deletion log generated.

1.11 Contact Search Function

Function ID: FR-11

Description: Users can search for contacts in the address book using keywords such as name, email, and company. The system provides fuzzy matching and advanced filtering functions.

Input: Search keywords, filtering conditions (e.g., department, tags, contact group), time range (e.g., last contact time).

Output: List of matching contacts, search parameters and result statistics written to the query log, support for exporting complete results as a CSV file.

1.12 Contact Information Management Function

Function ID: FR-12

Description: Users can edit contact information in the address book, and the system validates the email format and synchronously updates the contact group member list.

Input: Contact ID, updated fields (e.g., email address, position, phone), permission settings (whether to inherit subfolder permissions).

Output: Contact information updated in the database, contact group member list automatically refreshed, contact modification log generated.

1.13 Contact Group Creation Function

Function ID: FR-13

Description: Users can create new contact groups, and the system validates the member email addresses and updates the address book and email auto-completion suggestions.

Input: Contact group name, description, member email list (at least 2 valid emails), permission settings.

Output: Contact group created and saved to the address book, welcome notification email generated, contact group creation log recorded.

1.14 Contact Group Management Function

Function ID: FR-14

Description: Users can add or remove members from contact groups and set group permissions.

Input: Contact group ID, new member email, email of member to be removed, permission settings.

Output: Contact group member list updated, permission configuration takes effect, contact group change log recorded.

1.15 Contact Group Deletion Function

Function ID: FR-15

Description: Administrators can delete contact groups and choose whether to retain historical email associations.

Input: Contact group ID, data retention policy (retain emails/delete all data), reason for deletion.

Output: Contact group removed from the address book, email labels updated, contact group deletion log recorded.

1.16 Calendar Event Creation Function

Function ID: FR-16

Description: Users can create new calendar events in the calendar interface and send meeting invitation notifications.

Input: Event title, start time, end time, location, recurrence rule, participant email, reminder settings.

Output: Event saved to the personal calendar database, meeting invitation email sent, event creation log recorded.

1.17 Calendar Event Deletion Function

Function ID: FR-17

Description: Users can delete calendar events, and the system moves the event to the recycle bin and sends a meeting cancellation notification.

Input: Event ID, deletion method (delete single instance/delete entire series), security verification code (required for batch deletion of over 10 events).

Output: Event removed from the main calendar, notification email sent, event deletion log recorded.

1.18 Calendar Event Viewing Function

Function ID: FR-18

Description: Users can view detailed information of calendar events in the calendar view, and the system displays event time, location, participants, etc.

Input: Event ID, viewing time range, user permissions.

Output: Event details panel displayed, event viewing timestamp updated, access log recorded.

1.19 Calendar Event Management Function

Function ID: FR-19

Description: Users can edit calendar events and update participant information, time range, reminder settings, etc.

Input: Event ID, updated content (title, time, location, participants), permission verification result.

Output: Event information updated in the database, participants receive update notifications, event modification log recorded.

1.20 Task Creation Function

Function ID: FR-20

Description: Users can create new tasks in the task center and set task deadlines and reminder rules.

Input: Task title, description, deadline, priority, task participants, attachments, reminder method.

Output: Task entry saved to the task database, task notification email sent, task creation log recorded.

1.21 Task Management Function

Function ID: FR-21

Description: Users can update task status and perform completion, suspension, or cancellation operations on tasks.

Input: Task ID, status update (in progress/completed/suspended/canceled), change explanation.

Output: Task status updated in the database, status change notification sent, task status log recorded.

1.22 Task Deletion Function

Function ID: FR-22

Description: Users can delete task entries and choose to cascade delete subtasks.

Input: Task ID, deletion scope (main task only/cascade subtasks), security verification code (required for batch deletion of over 50 tasks).

Output: Task removed from the task center, associated data cleaned up, task deletion log recorded.

1.23 Folder Creation Function

Function ID: FR-23

Description: Users can create new email folders in the email navigation tree, and the system automatically inherits default classification rules.

Input: Folder name, color