# Functional Requirement

1.1 Email Sending Function

Function Number: FR-01

Description: Users can create and send emails within the system. The system must verify the email format, attachment size, and recipient validity to ensure that the email is delivered correctly and automatically archived.

Inputs: Recipient address, email subject, email body content, attachments (support for multiple files), send request.

Outputs: Sent email records, email archiving records, email status notifications (success/failure), error prompt messages (e.g., recipient format error, attachment limit exceeded).

1.2 Email Receiving Function

Function Number: FR-02

Description: The system must periodically receive new emails from the email server, parse and categorize the email content, automatically identify meeting invitations and task emails and synchronize them to the calendar and task modules, while also supporting spam email isolation.

Inputs: Email server configuration information, email data packets, email parsing rules.

Outputs: Received email records, email classification results (meeting/task/regular email), spam email isolation records, email notification information (system notification bar/email icon marking).

1.3 Email Search Function

Function Number: FR-03

Description: Users can search for emails based on keywords, time ranges, senders, email tags, and other conditions, and the system supports exporting results and creating smart folders.

Inputs: Keywords, time range, sender/recipient filtering conditions, tag filtering conditions, export request.

Outputs: Email search result list, exported CSV report, smart folder creation records, search log records.

1.4 Email Archiving Function

Function Number: FR-04

Description: Users can archive emails to a specified directory, and the system will automatically classify them according to the archiving policy set by the system.

Inputs: List of emails to be archived, archiving directory path, archiving policy configuration, archiving request.

Outputs: Archived email records, archiving log records, email index update results, archiving policy execution status.

1.5 Email Folder Management Function

Function Number: FR-05

Description: Users can create, rename, and delete email folders, and move emails in bulk to a specified folder.

Inputs: Folder name, parent directory, operation type (create/rename/delete), email list (bulk move).

Outputs: Updated folder structure, operation log records, email index update, archiving policy update.

1.6 Calendar Event Creation Function

Function Number: FR-06

Description: Users can create calendar events within the system. The system must verify the basic information of the event and generate a unique event ID, while also sending invitation emails to participants and linking to the task module.

Inputs: Event title, start time, end time, location, list of participants, task association items, reminder settings.

Outputs: Created calendar event, calendar reminder settings, calendar participant invitation emails, task association records, event ID, calendar synchronization status.

1.7 Calendar Event Deletion Function

Function Number: FR-07

Description: Users can delete personal calendar events and choose whether to notify other participants.

Inputs: Target calendar event ID, deletion method (only personal copy/notify all participants).

Outputs: Calendar event records after deletion, canceled reminder records, deletion notification emails, audit log records, backup update records.

1.8 Calendar Event Modification Function

Function Number: FR-08

Description: Users can modify the basic information of calendar events and update the related data and reminder settings for the calendar.

Inputs: Target calendar event ID, modification content (time/location/participants/notes), reminder update settings.

Outputs: Updated calendar event, calendar reminder update, associated task update, audit log records, version update records.

1.9 Calendar Reminder Setting Function

Function Number: FR-09

Description: Users can set reminder times and methods for calendar events. The system must verify the reminder time and ensure that the reminder task can be scheduled and executed.

Inputs: Target calendar event ID, reminder time, reminder method (system notification/email/SMS), custom reminder content.

Outputs: Calendar reminder task configuration, calendar detail page update, email/SMS reminder templates, scheduling queue update.

1.10 Task Creation Function

Function Number: FR-10

Description: Users can create tasks within the system and set the task title, description, due date, person in charge, associated project, etc. The system must verify the basic information of the task and generate a unique task ID.

Inputs: Task title, description, due date, priority, person in charge, associated calendar or project, reminder rules.

Outputs: Created task records, task ID, task reminder settings, task board update, task person in charge notification email.

1.11 Task Deletion Function

Function Number: FR-11

Description: Users can delete personal tasks. The system must verify deletion permissions and synchronously clear reminders and sub-tasks related to the task.

Inputs: Target task ID, deletion method (only personal copy/complete deletion).

Outputs: Task records after deletion, canceled reminder records, audit log records, backup update records, task status update.

1.12 Task Modification Function

Function Number: FR-12

Description: Users can modify the basic information of tasks and update the task status, person in charge, due date, etc. The system must ensure that the modified content is synchronized with the calendar module.

Inputs: Target task ID, modification content (title/description/due date/priority), person in charge change, associated project change.

Outputs: Updated task records, task reminder update, task board view update, task status synchronization, audit log records.

1.13 Task Reminder Setting Function

Function Number: FR-13

Description: Users can set reminder rules for tasks. The system must verify the reminder time and ensure that the reminder task can be scheduled and executed.

Inputs: Target task ID, reminder time, reminder method (system notification/email/SMS), custom reminder content.

Outputs: Task reminder configuration, task detail page update, email/SMS templates, scheduling queue update, audit log records.

1.14 Contact Creation Function

Function Number: FR-14

Description: Users can add new contacts within the system. The system must verify contact information and synchronously update the email and calendar modules.

Inputs: Contact name, email, phone, department, position, notes, avatar information.

Outputs: New contact records, contact ID, email auto-completion update, calendar participant component update, synchronization log records.

1.15 Contact Deletion Function

Function Number: FR-15

Description: Users can delete personal contacts. The system must handle their references in emails and calendars and synchronize audit logs.

Inputs: Target contact ID, deletion method (only delete contact information/synchronously clean up associated data).

Outputs: Contact records after deletion, email participant update, calendar participant update, audit log records, synchronization status information.

1.16 Contact Editing Function

Function Number: FR-16

Description: Users can edit contact information. The system must verify the modified content and synchronously update the email and calendar modules.

Inputs: Target contact ID, edited content (name/phone/email/position), modified contact tags.

Outputs: Updated contact records, email auto-completion update, calendar participant component update, synchronization log records, version update records.

1.17 Contact Search Function

Function Number: FR-17

Description: Users can search for contacts based on keywords, departments, tags, and other conditions. The system must support fuzzy matching and record search logs.

Inputs: Keywords, department filtering, tag filtering, recent contact time range, search request.

Outputs: Contact search result list, exported CSV/PDF file, contact classification update, search log records.

1.18 Distribution List Management Function

Function Number: FR-18

Description: Users can create, edit, or delete distribution lists and set access permissions. The system must ensure that changes to the distribution list are synchronized to the email and calendar modules.

Inputs: Distribution list name, member list, access permission settings, operation type (create/edit/delete).

Outputs: Updated distribution list records, distribution list ID, distribution list member list, email recipient auto-completion update, audit log records.

1.19 Email Attachment Management Function

Function Number: FR-19

Description: Users can download, delete, rename, or compress attachments in emails. The system must verify the attachment status and ensure that changes are synchronized to the email index.

Inputs: Target email ID, attachment list, operation type (download/delete/rename/compress), target storage path.

Outputs: Attachment operation records, attachment status update, email metadata update, storage space change prompt, audit log records.

1.20 Email Content Management Function

Function Number: FR-20

Description: The system supports users in editing, deleting, or archiving email content, while ensuring that content changes are synchronized to related modules.

Inputs: Target email ID, content modification request, operation type (edit/delete/archive), archiving directory.

Outputs: Email content change records, email status update, archiving records, audit log records, index update.

1.21 Email Content Search Function

Function Number: FR-21

Description: Users can search for email content based on conditions such as email body content, sender, and time range. The system must support Boolean operators and record search logs.

Inputs: Keywords, time range, sender/recipient filtering, email tag filtering, search request.

Outputs: Email content search results, exported report (CSV/PDF), search log records, index update.

1.22 Email Content Archiving Function

Function Number: FR-22

Description: Users can archive email content to a specified directory. The system must classify and store the content according to the archiving policy and ensure that the email index is updated.

Inputs: Target email ID, archiving directory, archiving policy configuration, archiving request.

Outputs: Email archiving records, email status update, updated archiving directory structure, audit log records.

1.23 Email Account Management Function

Function Number: FR-23

Description: Users can configure the signature, automatic reply, backup policy, archiving rules, and sharing permissions of their email accounts. The system must ensure that configuration changes take effect and are synchronized to related modules.

Inputs: Target email account ID, signature settings, automatic reply rules, backup frequency, storage path, sharing account configuration.

Outputs: Updated email account configuration, shared account permission records, backup policy activation, archiving rule activation, audit log records.

1.24 Shared Account Management Function

Function Number: FR-24

Description: Administrators can create, edit, or delete shared accounts and set access permissions. The system must verify the permission configuration and synchronize it to related modules.

Inputs: Shared account name, access permission settings, authorized user list, operation type (create/edit/delete).

Outputs: Updated shared account configuration, permission records, updated user authorization status, audit log records.

1.25 Archiving Policy Management Function

Function Number: FR-25

Description: Administrators can create, modify, or delete archiving policies. The system must ensure that the policies take effect and are synchronized to the email processing workflow.

Inputs: Archiving policy name, archiving conditions (time/label/content), execution actions (move/compress/mark), operation type (create/modify/delete).

Outputs: Updated archiving policy records, policy version number, changes to the email processing workflow, audit log records.

1.26 Classification Policy Management Function

Function Number: FR-26

Description: Administrators can set email classification rules. The system must automatically classify emails according to the rules and update the index and access permissions.

Inputs: Classification policy name, matching rules (keywords/sender domain/file type), classification actions (label/directory/permissions), operation type (create/modify/delete).

Outputs: Updated classification policy records, email classification results, updated access permissions, audit log records.

1.27 Backup Log Management Function

Function Number: FR-27

Description: Administrators can view, export, or clean up backup logs. The system must ensure the integrity and security of the log records.

Inputs: Backup log filtering conditions (time range, backup type, execution status), export request, cleanup operation.

Outputs: Backup log list, exported file (CSV/PDF), log records after cleanup, audit log records, log status update.

1.28 Permission Management Function

Function Number: FR-28

Description: Administrators can configure system permissions, including role-based access control (RBAC) and conditional access rules. The system must ensure that permission changes are synchronized to all modules.

Inputs: Role name, permission configuration (module-level/function-level/data-level), conditional access rules (time/IP/device restrictions), operation type (create/modify/delete).

Outputs: Updated permission matrix, user permission status change, updated permission inheritance rules, audit log records, permission notifications.

1.29 Email Recovery Function

Function Number: FR-29

Description: Users can recover emails from backups or archives. The system must verify the integrity of the recovery source and ensure that the email structure and associated information are synchronized.

Inputs: Recovery mode selection (backup/archive), recovery time range, target recovery directory, recovery request.

Outputs: Recovered email records, recovery log records, email index update, storage space change prompt.

1.30 Email Flow Capture Function

Function Number: FR-30

Description: The system automatically monitors the email server, captures email flow, classifies and stores emails, and generates traffic analysis reports.

Inputs: Email server connection information, email data packets, classification policy, analysis rules.

Outputs: Email flow processing records, archived email records, traffic analysis reports, isolated abnormal email records, audit log records.

1.31 Task Reminder Management Function

Function Number: FR-31

Description: Users can edit, delete, or suspend reminders for tasks. The system must verify the reminder time and method and synchronize the scheduling service.

Inputs: Target task ID, reminder time, notification method, operation type (edit/delete/suspend).

Outputs: Updated task reminder records, changed scheduling tasks, updated task detail page, audit log records.

1.32 Server Archiving Management Function

Function Number: FR-32

Description: Administrators can configure server archiving tasks. The system must verify the compliance of the archiving policy and ensure that the archiving operation completes data migration and integrity verification.

Inputs: Archiving mode (automatic/manual), archiving data type, archiving time range, storage path, operation request.

Outputs: Archiving task execution records, updated archiving status, integrity verification results, audit log records, backup update records.

1.33 Expired Email Handling Function

Function Number: FR-33

Description: Users can archive or delete expired emails. The system must verify the operation policy and ensure the release of storage space and data security.

Inputs: Expiry determination conditions (time/label/size), handling method (archive/delete/compress), email list.

Outputs: Expired email handling records, archiving or deletion status, storage space release, audit log records, backup update records.

1.34 Data Backup Function

Function Number: FR-34

Description: Users can perform data backups for modules such as email, calendar, and contacts. The system must support full backups and incremental backups and generate backup integrity reports.

Inputs: Backup module selection, backup storage path, backup type (full/incremental), encryption settings, operation request.

Outputs: Backup file, backup integrity report, storage space change, backup log records, audit log records.

1.35 Data Recovery Function

Function Number: FR-35

Description: Users can recover data such as emails and calendar events from backups. The system must verify the validity of the recovery path and ensure the integrity of the recovered data.

Inputs: Recovery module selection, recovery time point, recovery storage path, recovery method (overwrite/new version), operation request.

Outputs: Recovered data records, updated recovery status, synchronized updates to email/calendar modules, audit log records.

1.36 Calendar Recovery Function

Function Number: FR-36

Description: Users can recover deleted calendar events. The system must verify the integrity of the recovery source and synchronize updates to the calendar module and task associations.

Inputs: Target calendar ID, recovery time point, recovery method, operation request.

Outputs: Recovered calendar event, updated calendar status, updated task association, recovery log records.

1.37 Task Recovery Function

Function Number: FR-37

Description: Users can recover deleted task records. The system must verify the integrity of the recovery source and synchronize updates to the task module and calendar associations.

Inputs: Target task ID, recovery time point, recovery method, operation request.

Outputs: Recovered task records, updated task status, updated calendar association, recovery log records.

1.38 Data Integrity Verification Function

Function Number: FR-38

Description: The system performs integrity verification on backup, archived, and recovered data to ensure data consistency.

Inputs: Data to be verified, verification algorithm (SHA-256), verification time point.

Outputs: Integrity verification report, isolated abnormal data records, verification result notifications.

1.39 Operation Log Recording Function

Function Number: FR-39

Description: The system must record all user and administrator operations, including email sending, calendar modification, task creation, etc., to support audit tracking.

Inputs: Operation type, operation time, operator information, operation content, operation result.

Outputs: Operation log records, audit trail, log export file, log status update.