# Functional Requirement

1.1 Email Sending Function

Function Number: FR-01

Description: Users can compose and send emails. The system must support the entry of basic email information, attachment uploads, and the sending function.

Input: Email subject, body, recipient email address, attachment files (formats: .docx, .pdf, .txt, etc.).

Output: Information of the successfully sent email or a notification to the user of the reason for failure (e.g., incorrect email address format, email server connection failure, etc.).

1.2 Email Receiving Function

Function Number: FR-02

Description: The system must automatically receive emails and display them in the user's inbox, while supporting formatted display of emails.

Input: Email data received from the email server.

Output: List of emails displayed in a formatted manner.

1.3 Email Formatting Function

Function Number: FR-03

Description: Users can format emails, such as adjusting font, color, layout, etc.

Input: Content of the email to be formatted.

Output: Formatted email content.

1.4 Email Search Function

Function Number: FR-04

Description: Users can search for emails using keywords, sender, recipient, date, and other criteria.

Input: Search criteria (e.g., keywords, sender email address, recipient email address, date range, etc.).

Output: List of emails matching the search criteria.

1.5 Email Archiving Function

Function Number: FR-05

Description: Users can archive emails into different folders, with archiving policies defined by the user.

Input: Emails selected by the user and the target archiving folder.

Output: Information of the archived email or a notification to the user of the reason for failure (e.g., target folder does not exist, etc.).

1.6 Contact and Communication Group Management Function

Function Number: FR-06

Description: Users can add, delete, and edit contact and communication group information.

Input: New contact information (name, email address, phone number, etc.) or communication group information (name, member list, etc.).

Output: Updated list of contacts or communication groups.

1.7 Reminder Task Setting Function

Function Number: FR-07

Description: Users can set reminder tasks, including email reminders and system notifications.

Input: Reminder date, time, description, reminder method (e.g., email, system notification).

Output: Information of the successfully set reminder task or a notification to the user of the reason for failure (e.g., unreasonable reminder time setting, etc.).

1.8 Email Archiving Policy Setting Function

Function Number: FR-08

Description: Users can set archiving policies, including archiving emails by time, category, or size.

Input: Name of the archiving policy, archiving conditions, execution frequency, scope of application.

Output: Information of the successfully set archiving policy or a notification to the user of the reason for failure (e.g., unreasonable archiving conditions, etc.).

1.9 Email Backup Function

Function Number: FR-09

Description: Users can back up emails, supporting flexible backups from file-level to database-level.

Input: Emails or folders selected by the user, backup storage location (e.g., local storage, cloud storage, etc.).

Output: Information of the successfully backed-up emails or folders or a notification to the user of the reason for failure (e.g., invalid backup path, etc.).

1.10 Email Recovery Function

Function Number: FR-10

Description: Users can recover emails from the "Deleted Emails" or "Trash" folder.

Input: Emails or folders selected by the user.

Output: Information of the successfully recovered email or a notification to the user of the reason for failure (e.g., email server connection failure, etc.).

1.11 Email Account Management Function

Function Number: FR-11

Description: Users can create, modify, and delete email accounts and set a default email account.

Input: Email account information (e.g., email address, password, server information, etc.).

Output: Status of the updated email account information or a notification to the user of the reason for failure (e.g., incorrect email address format, etc.).

1.12 Server Backup and Recovery Function

Function Number: FR-12

Description: Administrators can perform backup and recovery operations on the system server, supporting data recovery based on time points.

Input: Backup type, backup date, recovery type, recovery time point.

Output: Information of the successfully recovered emails or folders or a notification to the administrator of the reason for failure (e.g., damaged backup file, etc.).

1.13 Email Log Management Function

Function Number: FR-13

Description: Users can view, export, or delete logs related to email operations.

Input: Log entries selected by the user.

Output: Viewed or exported log information or information of the successfully deleted log entries.

1.14 Email Archiving Log Management Function

Function Number: FR-14

Description: Users can view, export, or delete logs related to email archiving operations.

Input: Log entries selected by the user.

Output: Viewed or exported log information or information of the successfully deleted log entries.

1.15 Email Recovery Log Management Function

Function Number: FR-15

Description: Users can view, export, or delete logs related to email recovery operations.

Input: Log entries selected by the user.

Output: Viewed or exported log information or information of the successfully deleted log entries.

1.16 Backup Log Management Function

Function Number: FR-16

Description: Users can view, export, or delete logs related to email backup operations.

Input: Log entries selected by the user.

Output: Viewed or exported log information or information of the successfully deleted log entries.

1.17 System Backup and Recovery Function

Function Number: FR-17

Description: Administrators can perform backup and recovery operations on the system, supporting data recovery from file-level to database-level.

Input: Backup type, backup date, recovery type, recovery time point.

Output: Successfully recovered system data or a notification to the administrator of the reason for failure (e.g., damaged backup file, etc.).

1.18 Email Server Connection Status Monitoring Function

Function Number: FR-18

Description: The system must monitor the connection status of the email server in real-time and issue warnings when the connection fails.

Input: None.

Output: Real-time monitoring information of the email server connection status or warning information of connection failure.

1.19 Email Server Configuration Management Function

Function Number: FR-19

Description: Administrators can manage the configuration of the email server, including server address, port, authentication method, etc.

Input: New configuration information for the email server (e.g., server address, port, authentication method, etc.).

Output: Status of the updated email server configuration or a notification to the administrator of the reason for failure (e.g., incorrect server address format, etc.).

1.20 Email System Security Function

Function Number: FR-20

Description: The system must ensure the security of email transmission and support encrypted transmission.

Input: Encryption password.

Output: Confirmation of encrypted transmission or a notification to the user of the reason for failure (e.g., password does not meet security requirements, etc.).

1.21 Email System User Permission Management Function

Function Number: FR-21

Description: Administrators can manage user permissions, including permissions for users to operate on emails, reminders, schedules, etc.

Input: User permission settings information.

Output: Status of the updated permission settings or a notification to the administrator of the reason for failure (e.g., unreasonable permission settings, etc.).

1.22 Email System Log Recording Function

Function Number: FR-22

Description: The system must record log information of all operations, including user operations and system operations.

Input: None.

Output: Log information of operations.

1.23 Email System Data Integrity Verification Function

Function Number: FR-23

Description: The system must regularly verify the integrity of email data to ensure data consistency.

Input: None.

Output: Results of the data integrity verification or a notification to the administrator of the reason for failure (e.g., data corruption, etc.).