项目文档

# Functional Requirement

2. Functional Requirements  
2.1 Email Communication  
2.1.1 Send Email  
Input: Recipient address(es), subject, message body, attachments (optional)  
Output: Confirmation of successful send or error message  
Description: User can compose and send emails with rich text formatting and file attachments.  
2.1.2 Receive Email  
Input: Incoming email from server  
Output: Displayed in inbox with metadata (sender, date, subject)  
Description: Emails are received and stored in the user's inbox with notification support.  
2.1.3 Search Emails  
Input: Keywords, date range, sender, recipient  
Output: List of matching emails  
Description: Users can perform full-text and metadata-based search across all emails.  
2.1.4 Organize Folders  
Input: Folder name, folder structure  
Output: Updated folder tree and email placement  
Description: Users can create, rename, delete folders and move emails between them.  
2.2 Calendar and Task Management  
2.2.1 Create Events  
Input: Title, start/end time, attendees, location  
Output: Event added to calendar  
Description: Users can schedule events with reminders and invite others.  
2.2.2 Set Reminders  
Input: Reminder time, frequency  
Output: Pop-up or notification at specified time  
Description: The system provides configurable reminders for tasks and events.  
2.3 Contact and Group Management  
2.3.1 Manage Contacts  
Input: Name, email, phone number, address  
Output: Updated contact list  
Description: Users can add, edit, delete, and search contacts.  
2.3.2 Create Distribution Groups  
Input: Group name, member emails  
Output: New distribution list  
Description: Users can create groups to simplify mass email communication.  
2.4 Archiving and Compliance  
2.4.1 Personal Archive Search  
Input: Search terms, date range  
Output: List of archived emails  
Description: Users can search and retrieve archived emails from their personal archive.  
2.4.2 Server-Based Archiving  
Input: Policy rules, retention period  
Output: Emails moved to archive based on policy  
Description: Emails are automatically archived according to predefined policies.  
2.4.3 Email Flow Capture  
Input: None  
Output: Log of all email transactions  
Description: All incoming and outgoing emails are logged for audit purposes.  
2.4.4 Policy-Based Archiving  
Input: Archiving policies (e.g., by department, user role)  
Output: Automated archiving per policy  
Description: Administrators define and enforce archiving rules.  
2.4.5 Expired Email Handling  
Input: Expiry date or policy trigger  
Output: Email deletion or transfer to long-term storage  
Description: Expired emails are either deleted or moved to secure long-term storage.  
2.5 Backup and Recovery  
2.5.1 File-Level Recovery  
Input: File path, restore point  
Output: Restored file version  
Description: Users can recover individual files from backups.  
2.5.2 Database-Level Recovery  
Input: Database backup file, target time stamp  
Output: Restored database state  
Description: Full database restoration is supported for disaster recovery.  
2.5.3 Point-in-Time Recovery  
Input: Date/time stamp  
Output: Data restored to selected time  
Description: Users/admins can restore the system to any previous state.  
2.5.4 Backup Logs  
Input: None  
Output: Log entries for each backup and recovery action  
Description: Complete logging ensures traceability and accountability.  
2.6 Administration  
2.6.1 Account Creation  
Input: User details, permissions  
Output: Created email account  
Description: Admins can create and manage user accounts.  
2.6.2 Shared Accounts  
Input: Account name, access users  
Output: Shared mailbox accessible to multiple users  
Description: Shared email accounts are created for team collaboration.  
2.6.3 Policy Management  
Input: Retention, archiving, access policies  
Output: Updated system policy  
Description: Admins configure and enforce system-wide policies.

# External Description

3. External Interfaces  
Interface Type Description  
Email Server API Integration with SMTP/POP/IMAP protocols for sending/receiving emails  
Calendar API Sync with external calendars (Google Calendar, Microsoft Outlook)  
Backup Storage Connection to cloud or on-premise storage systems (e.g., AWS S3, Azure Blob)  
Authentication Service LDAP or OAuth integration for user authentication  
Audit Logging System Centralized log storage for compliance tracking