# Functional Requirement

2. Functional Requirements  
2.1 Email Communication  
FR-01: Send and Receive Emails  
  
Input: Recipient(s), subject, message body, attachments.  
Output: Confirmation of successful delivery or error message.  
Description: Users can compose and send emails with rich text formatting, embed images, and attach files. Incoming emails are displayed in the inbox with metadata such as sender, time, and read/unread status.  
FR-02: Email Formatting  
  
Input: Text input with formatting options (bold, italic, underline, bullet lists).  
Output: Formatted email preview and sent email.  
Description: The system provides a WYSIWYG editor for composing emails with standard formatting features.  
FR-03: Email Search  
  
Input: Search keywords, date range, sender/recipient filters.  
Output: List of matching emails.  
Description: Users can search across all folders and archived messages using multiple criteria.  
FR-04: Folder Organization  
  
Input: User-defined folder names, drag-and-drop actions.  
Output: Updated folder structure.  
Description: Users can create, rename, delete, and organize folders to manage their emails efficiently.  
2.2 Calendar and Task Management  
FR-05: Calendar Scheduling  
  
Input: Event title, start/end time, participants, location.  
Output: Calendar event created and shared with participants.  
Description: Users can schedule and share events, set reminders, and view calendars in daily, weekly, or monthly views.  
FR-06: Reminder Tasks  
  
Input: Task name, due date/time, priority level.  
Output: Notification at scheduled time.  
Description: Users can create tasks with reminders and track progress.  
2.3 Contact and Distribution Group Management  
FR-07: Contact Management  
  
Input: Name, email address, phone number, company.  
Output: Updated contact list.  
Description: Users can add, edit, and delete contacts. Contacts can be grouped into categories.  
FR-08: Distribution Groups  
  
Input: Group name, member selection.  
Output: Group saved for use in email sending.  
Description: Users can create and manage distribution groups for bulk email communication.  
2.4 Email Archiving and Retention  
FR-09: Personal Archiving Search  
  
Input: Search terms, date range, folder filters.  
Output: List of archived emails matching criteria.  
Description: Users can search and retrieve emails from personal archives.  
FR-10: Server Archiving  
  
Input: Policy rules (e.g., archive after X days).  
Output: Emails moved to server-side archive.  
Description: Emails can be automatically archived based on predefined policies.  
FR-11: Email Flow Capture  
  
Input: None (system monitoring).  
Output: Logs of all incoming/outgoing emails.  
Description: The system captures all email traffic for compliance and auditing purposes.  
FR-12: Policy-Based Archiving  
  
Input: Archive policies defined by administrator.  
Output: Emails archived according to policy.  
Description: Administrators can define rules for automatic archiving based on content, sender, or other criteria.  
FR-13: Expired Email Handling  
  
Input: Expiry date defined in policy.  
Output: Email deleted or flagged for review.  
Description: Emails marked as expired are either removed or flagged for manual action.  
2.5 Administration and Compliance  
FR-14: Account Creation and Management  
  
Input: User details, role, permissions.  
Output: New account created or updated.  
Description: Administrators can create, modify, and delete user accounts and assign roles.  
FR-15: Shared Accounts  
  
Input: Account name, access rights, members.  
Output: Shared mailbox accessible to authorized users.  
Description: Administrators can create shared accounts for team collaboration.  
FR-16: Compliance Policies  
  
Input: Retention period, archive rules, access restrictions.  
Output: Policies enforced across the system.  
Description: Administrators can define and enforce data governance and compliance rules.  
2.6 Backup and Recovery  
FR-17: Data Backup  
  
Input: Backup frequency, backup type (full/incremental).  
Output: Backup file generated and stored securely.  
Description: The system performs regular backups of email data, logs, and configurations.  
FR-18: Point-in-Time Recovery  
  
Input: Date/time stamp, affected data.  
Output: Restored data state.  
Description: Users and administrators can restore data to any previous point in time.  
FR-19: Recovery Logging  
  
Input: None (system logging).  
Output: Detailed log of all recovery operations.  
Description: All backup and recovery activities are logged for audit and troubleshooting.

# External Description

External Interfaces  
Interface Type Description  
Database Interface Connects to a relational database (e.g., PostgreSQL or MySQL) for storing user data, emails, and metadata.  
SMTP/POP/IMAP Supports standard email protocols for sending and receiving emails.  
LDAP/Active Directory Integrates with directory services for user authentication and authorization.  
Web API Provides RESTful APIs for third-party integrations (e.g., mobile apps, CRM systems).  
File Storage System Stores large attachments and backup files on a secure file server or cloud storage.