Email is a widely used communication tool in enterprises, which plays an important role among employees, with customers and in business dealings. Although the importance of email is self-evident, many enterprises lack of attention to email management, resulting in the management of email chaos, but also there are certain business data security risks.

In order to ensure the efficient, safe and stable use of email within the enterprise, improve the company's management level, improve business efficiency and customer service level, and enhance the efficiency of internal information communication, we need to design a powerful email management system database. This database will help ensure efficient internal communication and external operations.

The primary data in this system is the mail and contact information, which can only be known by the sender, the recipient, and the relevant Carbon copy recipient.

Entities: Users:

- Contains attributes like user_ID, username, password, email, phone, address, birthday
- Represent all the users information

Contacts:

- Contains attributes like contact_ID, contactname, email, phone, contact_address, birthday
- Represent all the contacts who have exchanged emails

Emails

- Contains email_ID, email_title, sender_ID, email_created_time, email_sent_time, content, receiver_email_ID, attachment_ID,
- Represent all emails' information

Folders

- Contains folder_ID, folderName, create_user,
- Represent the Folders that users created for categorizing

Attachment

- Contains attachment_ID, attachment_path, attachment_file
- Represent the attachment information

Relationships:

- A email can be sent to one or more receivers.

- A email can only belong to one specific folder.

- The user can send or receive many emails.

- Users can have multiple contacts but a contact cannot be repeated for a user.

- Emails may have zero or more attachments.

- Each attachment belongs to a specific email and has a unique path.

Rules

- Each user must have a unique email.

- Every email must have a title, sender ID, and a receiving email ID.

- Users can have multiple folders to categorize their emails and for each user, there will be three original folders: sent, drafts and deleted.

- Each user must have a unique email.

- The sender ID must correspond to a valid user.

nouns

Contacts

Emails

Receivers

Folders

Attatchments

Actions

Sending emails to a contact

Sending emails to many contacts

Replying emails

Moving email to a folder

Sending emails to a recipient

Deleting emails

Making a draft for email