

# Email Client

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OOP

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Logo  
Name

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# How to Run Application

- At first you must open spring boot application and run it
- open the Vue project using vs code and run it using “npm run serve” and open the link

## Design Patterns Applied

- 1- Proxy design pattern to validate the user access to his email
- 2- Factory design pattern to generate different instances from the type IPartition based on different type of sort in the QSort class “Quick sort”.
- 3- Immutable design pattern in “Mail” class so the user cannot modify the content of mail
- 4- Façade to make it easier for the client code to deal with methods and classes
- 5- Filter design pattern to search and filter

## Design Decisions

- 1- We have decided to use quick sorting to sort the list of mails
- 2- Binary search to find the user data by his id
- 3- we used filter design patterns for several purposes
  - search for an email based on different attributes
  - filter those messages by sender or receivers or both
  - search for an existed contact
  - search for a contact to add

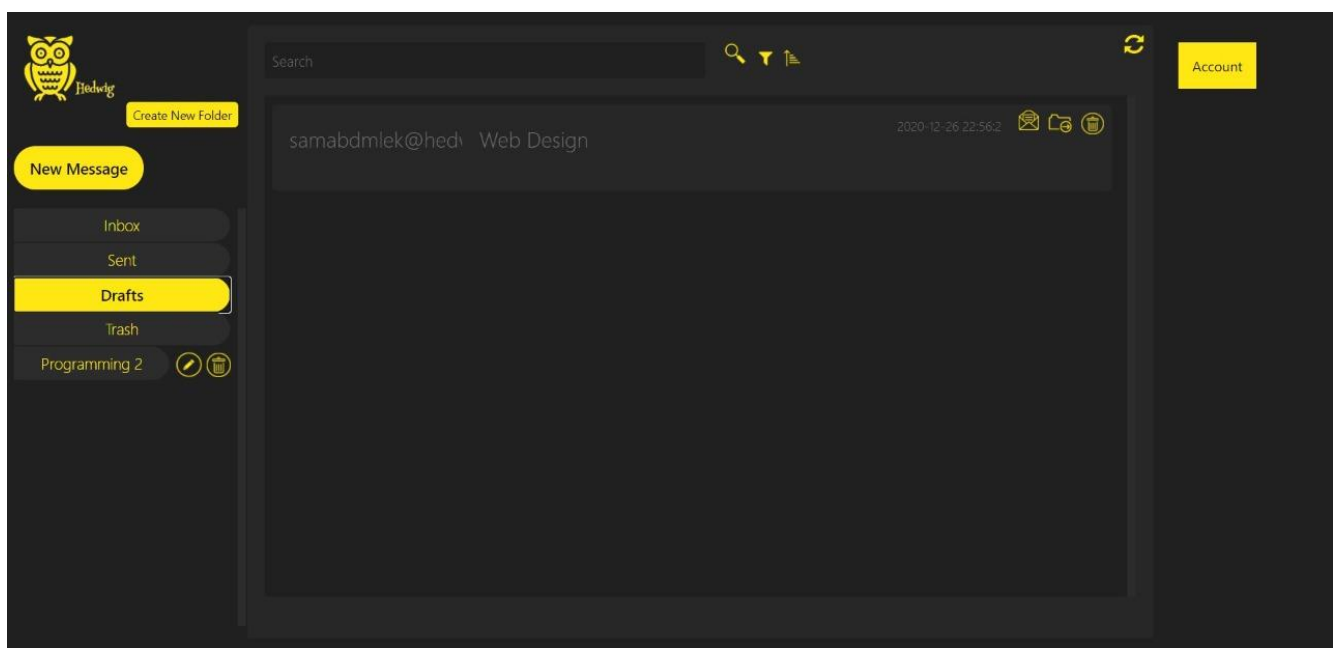
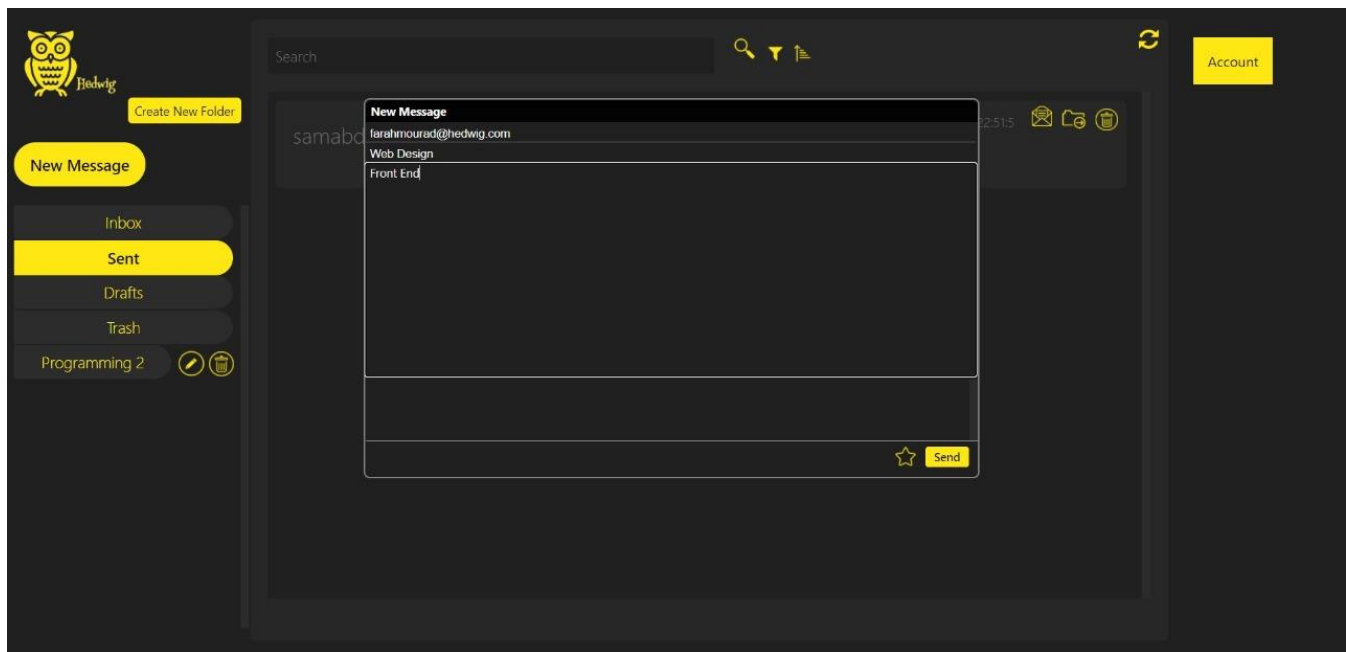
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- 4- Priority queue was used to sort mails by priority
    - the user set the importance of the email message by clicking on star symbol and when user decide to sort upon importance, we use priority queue
  - 5- Json files was used to read and write
    - List of Mails for each user from and to different folders
    - The list of Users in our system
    - The contacts to each user folder
    - Write the names of extra folders added by user
    - Write the last id of the last user signed up
  - 6- Queue was used to handle multiple receivers
  - 7- Auto delete is supported

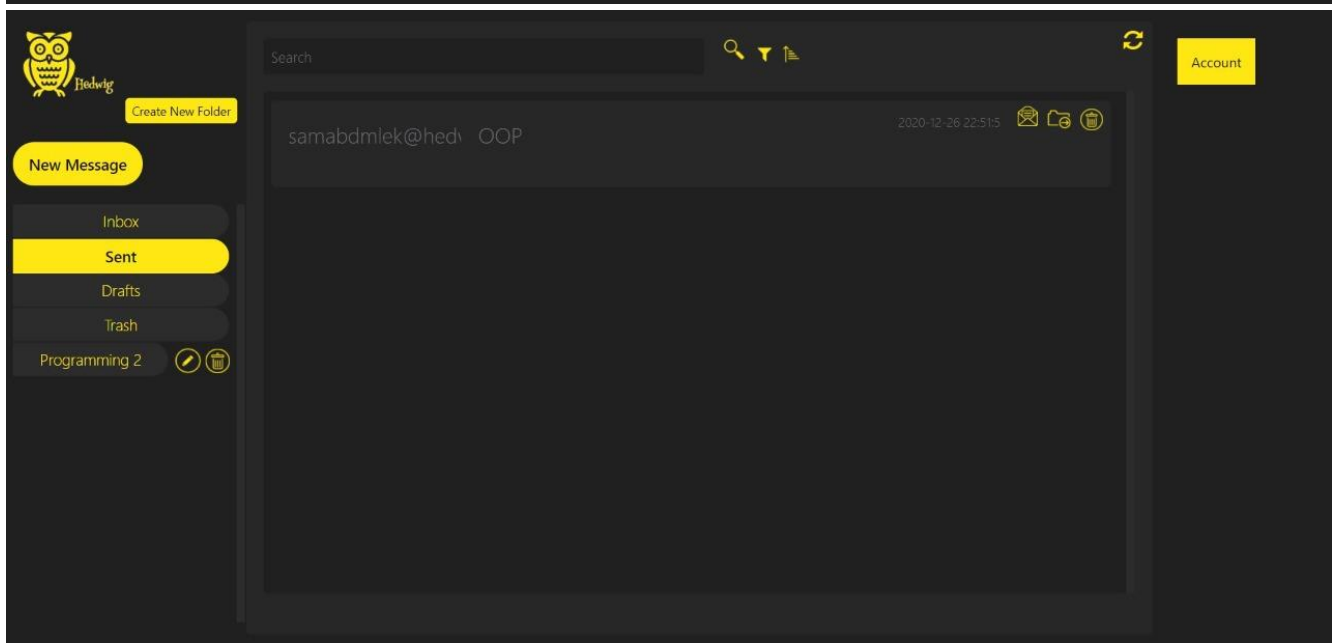
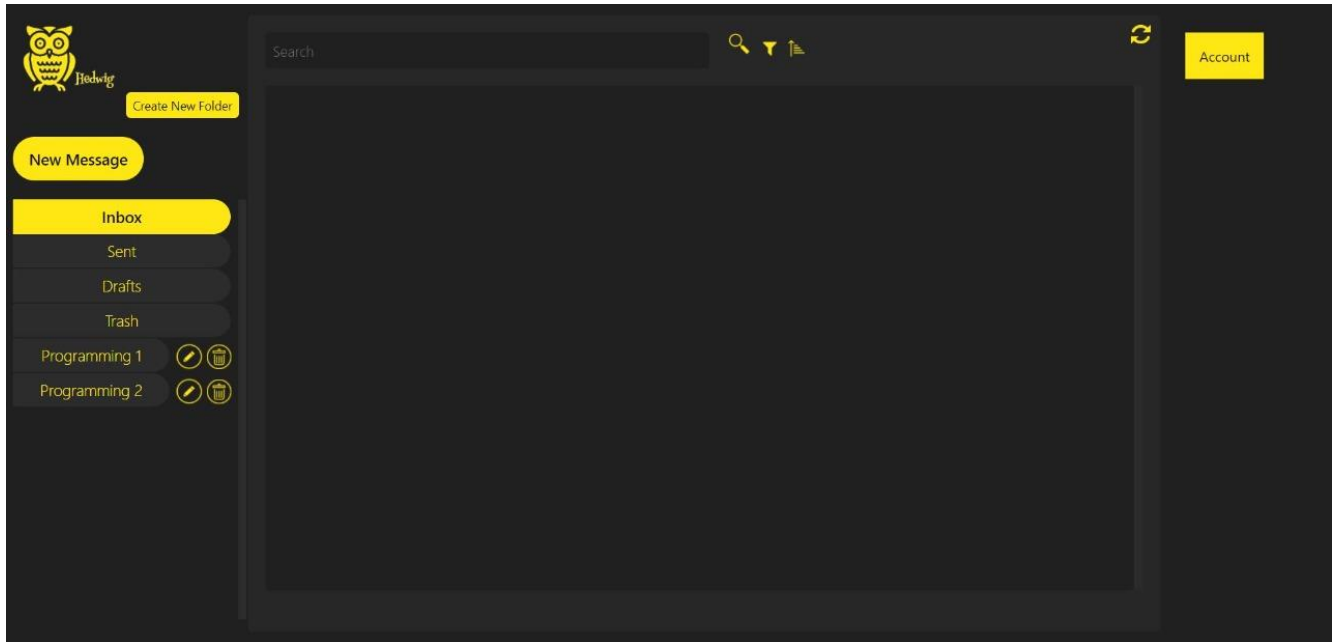
## Visual Paradigm Online Express Edition

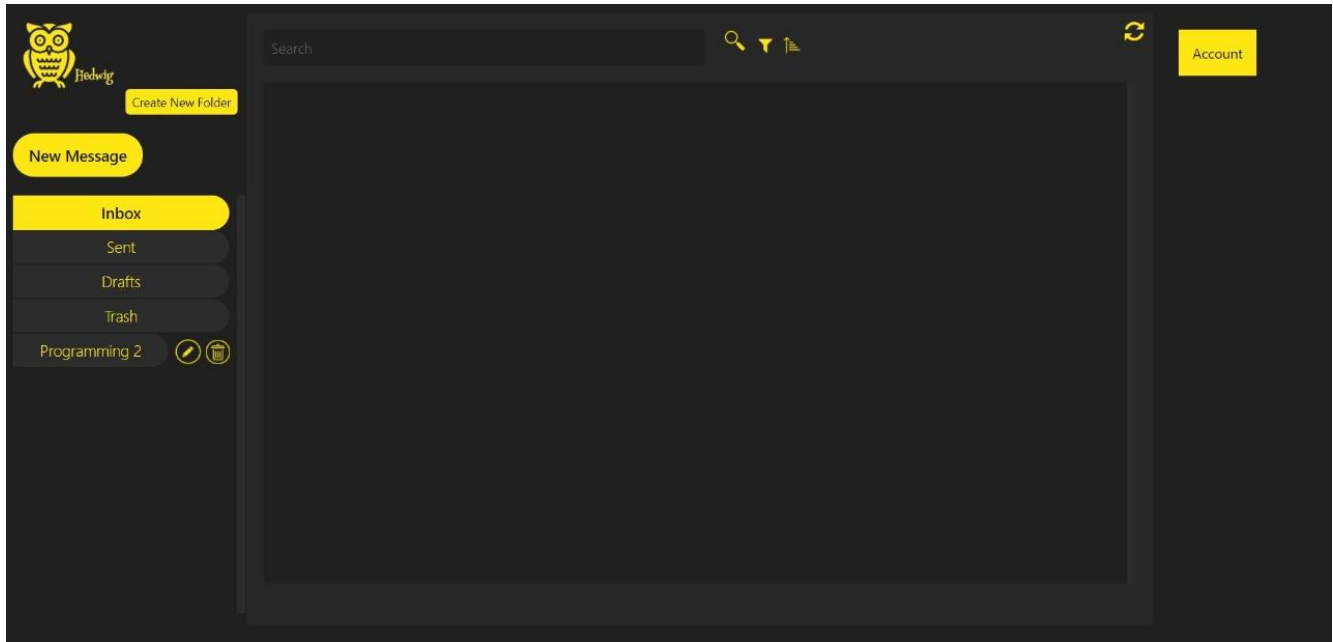



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- 6- The extra folders are saved for each user
  - 7- To send a message you must click on “new message” button and write in that window that will appear
  - 8- Set the importance of each mail by clicking on the star icon if the mail is important and disable it if not
  - 9- If the message was not completed or not sent it will automatically be moved to draft folder
  - 10- If the user deleted a mail it will automatically be moved to trash folder
  - 11- After 30 days in trash folder the message will be deleted permanently
  - 12- To sort the mails, click on sorting symbol up there and choose the type you want to sort by
  - 13- Filter is supported when the user clicks on this filter symbol, he must make a choice on which criteria he wants to filter by
  - 14- Search by different attributes is supported but in a certain folder the search is not over all the folders and to search you must write your search word next to the search symbol
  - 15- Sending to multiple receivers is supported and all of them get this message
  - 16- It is okay to move a mail by clicking on move icon

# Sample Run









First Name

Last Name

E-mail address

Password

Do you have an account? [Sign in.](#)

Sign up





Account

First Name

Sam

🕒 Change First Name

Last Name

Mlek

🕒 Change Last Name

E-mail address

samabdmlek@hedwig.com

Password

.....



🕒 Change Password

