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## Mail Server Report



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## -Description and features:

- . We provided the basic features of a Mail Server app which can be described as:
- . The user makes an account, if he didn't have a one. Else he logs in into his account.
- . After the user logged in, we will show him the homepage.
- . The homepage contains all features that user can use them like Inbox, Sent, Compose .... etc.
- . If the user wants to see mails in any section like Inbox, Sent...etc. he simply presses the button of this section and we will show this mails in the table.
- . We provided a sort feature by 4 priorities: name(email), date, subject and priority.
- . the user can search in 4 fields in his mails: name(email), date, subject and priority.
- . We provided an important section, which the user can uses it to star any mails he wants and these mails not be deleted from its original section.
- . We provided a delete button that the user uses it to delete mails, these mail will be send to trash and deleted after 30 days.
- . We provided an Info section which the user can delete his information he entered in the sign up page like name, date and password.
- . We provided a Contact section which the user can add, edit and delete a contact.
- . The user can select any file(s) in attachments in compose section.
- . The user can open any attachments by the system viewer.
- . The user can save a draft by clicking a saveDraft button instead of send in compose page.

## -Assumptions and Bonus parts:

- . We assumed that the user can have only one account.
- . We assumed that in important and trash sections the user can't use delete and important buttons.
- . We assumed that the 'to' part in draft section always be empty in mail view page.
- . We assumed that the sort by date is in descending order and others are in ascending order.
- . We assumed that the email can't be changed in Info section.
- . We assumed that the user should enter basic requirements as receivers, subject and priority.
- . We assumed only in the draft section if the user didn't select a priority it will be in the last in the sorts 'priority algorithm.
- . We assumed that the user should split the emails he entered by using a "," between them.
- . We assumed that the user can select multiple files in the attachments' save.
- . We assumed that scroll down the mails can replace paging on it, and it would be better to see all mails in the same page.

## -Data Structure Usage:

- . We use the stack to mimic the role of recursion in binary search and quick sort algorithms.
- . We use the priority queue to sort the mails according to their priority.
- . We use the linked list to manipulate the attachments, the receivers and displaying info section in GUI.
- . We use linked list to apply searching and sorting on its data then returned it to display them in GUI.

## -Algorithms:

### a. Sign in:

\*If the email entered is valid, let's check for password if it is valid then go to the homepage, otherwise error occurs.

\*Else error occurred.

### b. Sign up:

\* if the user wrote all the information correctly, then go the homepage.

\*Else an error occurs.

### c. Compose:

\*If the user entered the receivers correctly, wrote the subject and determine the priority of the mail, then it will be send.

\*Else an error occurs.

### d. Delete mails:

\*takes a copy of all mails to the trash folder, then delete all of them from the source folder.

### e. Move mails:

\*takes a copy of all mails to important folder.(Not deleted them from the source folder).

## -Main module of the program:

- Compose

User can form a mail with body, subject, priority and Attachments and send it  
He also can save it as a Draft.

- Inbox

Contains user's received messages

- Sent

Contains user's sent messages

- Drafts

Contain user's draft messages

- Info

Show user information and allows him to edit it

- Contacts

Show user contacts and allow him to add or edit or delete a contact

- Trash

Contains user's deleted messages

- Important

Contains user's important messages

- Logout

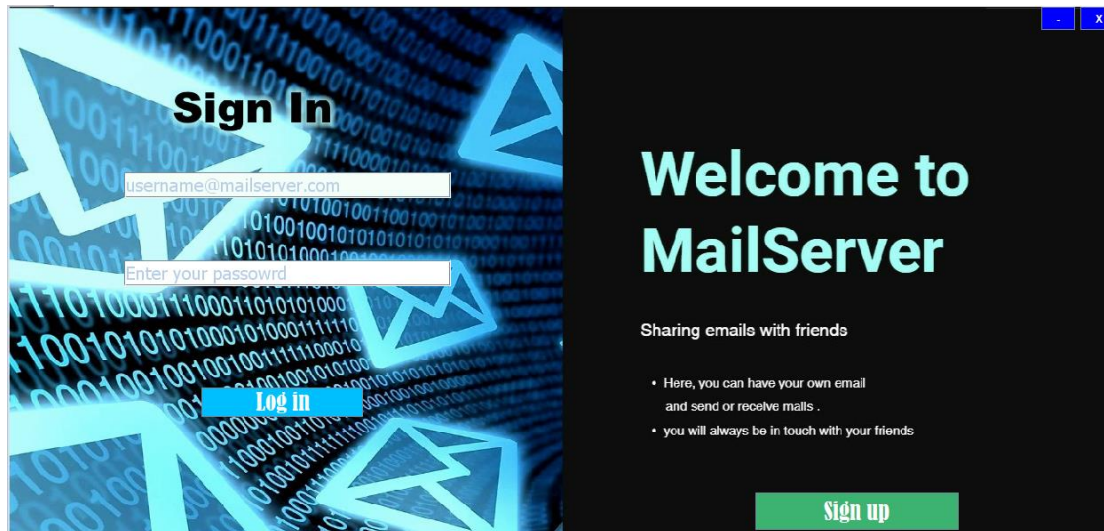
Allow user to log out from his email

- Refresh

Updates inbox, sent, trash, drafts and important

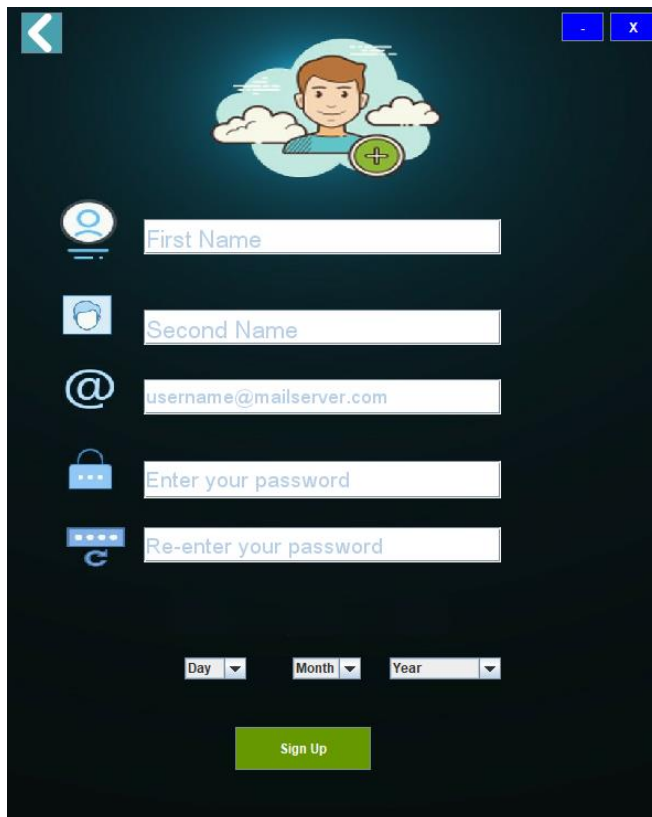
## -Sample Runs:

- Sign in



The image shows two side-by-side screenshots of the MailServer interface. The left screenshot is the 'Sign In' page, which has a dark blue background with binary code and glowing blue arrows. It features a 'Sign In' title, a text input field for 'username@mailserver.com', a text input field for 'Enter your password', and a blue 'Log in' button. The right screenshot is the 'Welcome to MailServer' page, which has a dark blue background. It features a 'Welcome to MailServer' title, a 'Sharing emails with friends' section with two bullet points: 'Here, you can have your own email and send or receive mails.' and 'you will always be in touch with your friends', and a green 'Sign up' button at the bottom.


- Sign up



The image shows the 'Sign Up' form in the MailServer interface. It has a dark blue background with a cartoon illustration of a person's head inside a cloud at the top. The form includes several input fields: 'First Name', 'Second Name', 'username@mailserver.com' (with an '@' icon), 'Enter your password' (with a lock icon), and 'Re-enter your password' (with a lock icon). Below these fields are three dropdown menus for 'Day', 'Month', and 'Year'. At the bottom is a green 'Sign Up' button.



- Mails

 <b>Compose</b> <b>Inbox</b> <b>Sent</b> <b>Drafts</b> <b>Info</b> <b>Contacts</b> <b>Trash</b> <b>Important</b> <b>Logout</b>	Date	E-mail	Sub	pri	Attach	mail	Select
	Mon May 11 09:00:59 EET 2...	yasser@mailserver...	end	44	0	ghgrhrhrt	<input type="checkbox"/>
	Mon May 11 09:00:41 EET 2...	yasser@mailserver...	call me	75	0	pleaseeeeeeeeeee	<input type="checkbox"/>
	Mon May 11 09:00:05 EET 2...	yasser@mailserver...	solution	1000	1	hellow	<input type="checkbox"/>
	Mon May 11 08:59:01 EET 2...	ali@mailserver.com	me to me 2	30	0	can	<input type="checkbox"/>
	Mon May 11 08:58:36 EET 2...	ali@mailserver.com	me to me	3	0	open it	<input type="checkbox"/>
	Mon May 11 08:57:46 EET 2...	rezika@mailserver....	now	32	0	allllllllllllllllll	<input type="checkbox"/>
	Mon May 11 08:57:26 EET 2...	rezika@mailserver....	first	58	0	dfsgkfdjdjdhdfhdfshd	<input type="checkbox"/>
	Mon May 11 08:56:21 EET 2...	rezika@mailserver....	second	717	4	fkdkdgdgdfgdfgdfvs	<input type="checkbox"/>
	Sun May 10 05:41:16 EET 20...	fares@mailserver....	gym	2	2	hello ali	<input type="checkbox"/>
	Thu May 07 00:50:58 EET 2020	fares@mailserver....	thnaks	26	0	hello dear	<input type="checkbox"/>

- Info

First Name

fares

Second Name

ahmed

Email

fares@mailserver.com

Password

...

View

Date of Birth

19

10

2003

Back

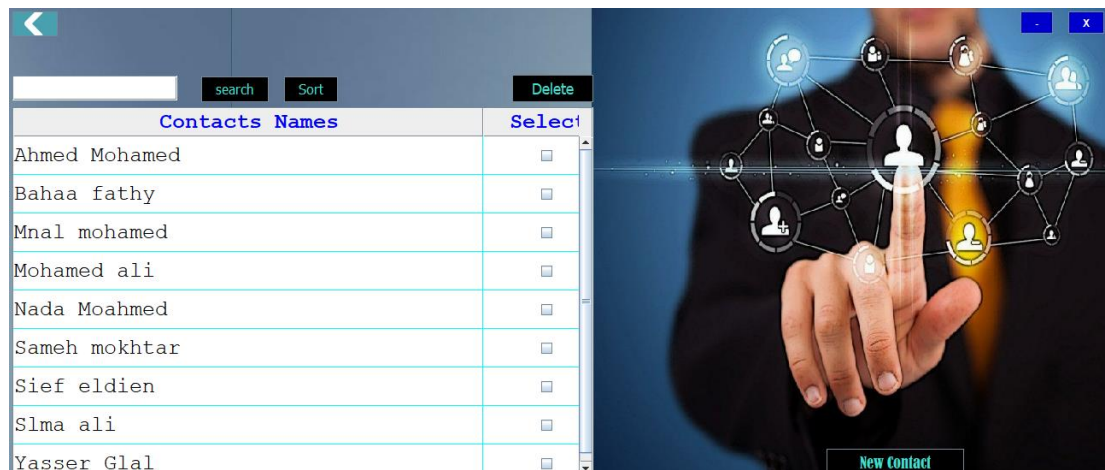
Edit



- mail



- Contacts



- New contact



- Show contact info

**Contact Name**

amr

**Contact Emails**

fares@mailserver.com  
ali@mailserver.com

Back Edit

- Search types

Date	E-mail	Sub	pri	Att
05/05/2018	fares@mailserver.com	end	44	0

- Sort Types

Priority
Date
Name
Priority
subjects

## -User Manual:

- The user enters the email and the password, if you had an email then press on login to log in your email account, if you have not an email account then press on sign up to make an account and to login to your email account.

- when you enter to your email you will find a lot of buttons:

Compose: open a frame where you can write a new mail and send it or save it as a draft

To add an attachment, click on attach button and you can select more than one item click "Ctrl" and choose the desired files.

Inbox: show received mails

Sent: show sent mails

Drafts: show draft mails

Info: open a frame which show your info and you can also edit it by click edit button and save it

Trash: show deleted mails

Important: show important mails

Logout: to log out from your email

- To select an email just double click on it, a frame will appear showing mail details.

If the mail has attachments open button will appear, you can choose the number of attachments then open it.

- For searching you should choose the type to be searched then click on search button.

Also the default is searching by Date.

you have 4 types Date, name, subject and priority.

- For sorting choose sort type then click on sort button

you have 4 types Date, name, subject and priority.

- If you want move mails to important or trash click on select button for each mail then click either on delete or important button

- To update your inbox click on refresh button at the top of the window.

- by pressing on Contacts button a frame will appear which show all your contact.

- You can make a new contact just click on new contact button and write his name and his emails using "," between mails.

- To see the contact info double click on the contact you will see his info and you can edit it.

- To sort the contacts click on sort button and to delete a contact show him and click on delete button

- There is a back button at the top so you can come back to mails.