

# COMP 3920 Database Systems 1

## Assignment 2

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Introduction:

In class we've been designing and writing queries for a Chat Messaging System and now we get to build it!

Your site will be written in Node.js and will interact with a MySQL database.

Your site will be hosted on a service like Render. In order to have a publicly accessible database that our hosted site can use, we can use a MySQL Host service like FreeDB.tech.

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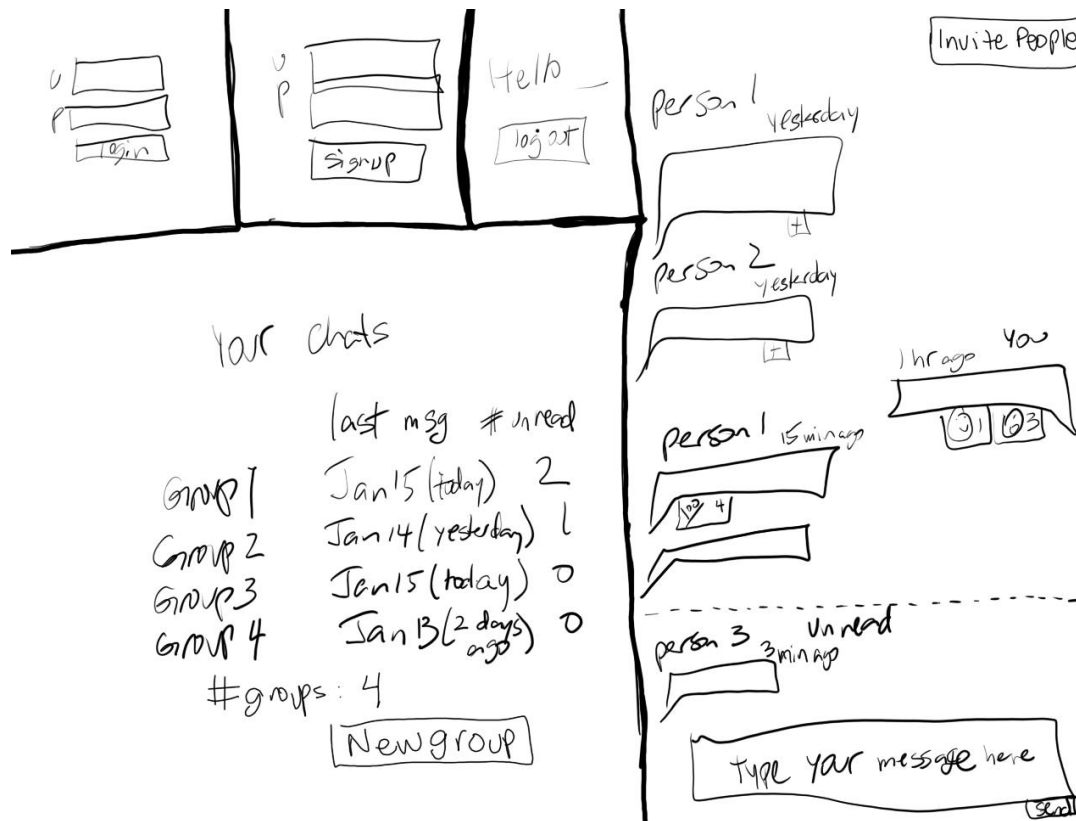
Requirements:

Required functionality and best practices:

- Authentication (login with hashed passwords, password validation  $\geq 10$  characters with upper/lower, numbers, symbols)
- Must be logged in to read and send messages.
- Authorization (you can only read and send messages in your chat groups, any attempt to access anyone else's results in a 400 error)
- Sessions (Cookies in an encrypted MongoDB)
- Hosted on Render (or other Hosting service)
- Good database design hosted on FreeDB.tech

Professional application. Bug free (well tested). Production quality.

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There are a number of different pages mocked up in the diagram above:

1. A log in page.
2. A sign up page.
3. Once you are logged in, at the top of each page, it should show the username of the logged in user and a log out button that will log the user out (destroys the session).
4. A page to show all of the chat groups that you are in:
  - a. Show a list of groups that you are in.
  - b. Show the date of the most recent message in this group.
  - c. Show the number of unread messages (messages that you haven't seen). Clear unread messages once you leave the page.
  - d. A total of the number groups that you are in.
  - e. A button to create a new group.
5. Clicking on a group chat will take you to a list of the messages within that group:
  - a. A button to invite more people to the group (clicking on this button should also show the currently members of this group).
  - b. Show all the messages in this chat group in "sent" order (newest on the bottom).
  - c. Show the date each message was sent.
  - d. Show the associated emoji reactions to each message and a button to add more emojis.
  - e. A text field and a button to send a new message.

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Group Name

☐ Person 1  
☒ Person 2  
☒ Person 3  
☐ Person 4  
☐ Person 5

Create Group

The above mockup shows a "Create Group" page where you can give your group a name and select from a list of users to add to the group.

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Marking Guide:

| Criteria  | Marks           |
|---|-----------------|
| Appropriate Sign up, Log in, Authentication, Authorization, Log out<br>.env file for secrets, BCrypted Passwords and MongoDB Encrypted Sessions | 20 marks        |
| Ability to see group chats that you are in along with last message date and number of unread messages   | 10 marks        |
| Ability to create new group chat and invite people  | 5 marks         |
| Show all messages within a group chat with date sent with most recent on the bottom   | 5 marks         |
| Ability to see and add reaction emojis to individual messages   | 10 marks        |
| Ability to see and clear unread messages  | 5 marks         |
| Ability to send a new message   | 5 marks         |
| <b>Subtotal:</b>  | <b>60 marks</b> |
| <b>You will receive a mark of 0 if your code does not compile or has too many errors to run!</b>  |                 |

Submission Requirements:

| Submission:   | File name:                   |
|---|------------------------------|
| A txt file containing the Hosted app URL.<br>ex: <code>http://xrb198fpq1a.us11.qoddiapp.com/</code>   | Hosted_app_URL.txt           |
| A zip file containing <b>all the source code</b> required to run your Node.js application.<br><b>Do NOT</b> include the <code>/node_modules/</code> or the <code>/.git/</code> folder | Chat_Messaging_site_code.zip |
| A txt file containing the URL of your github repo<br>(Also, make sure to add me as a collaborator:<br>GitHub User: @greencodecomments)  | GitHub_Repo_URL.txt          |