CPSC 313: Distributed and Cloud Computing Spring 2022

Lab 5: Message based chat – MVP3

We now have a good basis upon which we can build more features/functionality. In this MVP, we are adding a few additional features: Here is a quick list of reasonable next features:

- Required for this MVP:
 - Pay down debt
 - More testing
 - Add simple scale testing on get messages
 - Better commenting
 - Factoring
 - Authentication
 - All API's must be authenticated
 - Reading messages in sequence and sorting
 - We'll want to move the message sequence_num out of mess_props and into the main ChatMessage class to make it easy to sort
 - Each call to the DB, should include a sort on sequence num
 - We then have to insert any new messages in the right place in the deque
 - This must be efficient, so use binary search to find the right place
 - Blocking users
 - If an alias is blocked, you don't see any of their messages in your rooms
 - The blacklist (list of blocked users) is kept in the ChatUser class

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- Registering rooms, users
- Deleting rooms, users
 - For each of these, have a flag (Boolean var) in the appropriate classes called "removed" that is set when an instance is removed.
 - Add options for relevant methods within the classes to handle removed instances
 - Don't return rooms that are removed
 - Don't return or accept users that are removed
 - It should be easy to undo simply change the flag
- Editing/deleting messages sent
 - Search for messages
 - By user pip
 - Remove messages
 - By user
- Simple metrics
 - Latency for each get messages and send message call
 - Counts of messages returned from get_messages
- Backlog:
 - Sending personal messages within a room
 - Search for messages
 - By keyword(s)

- o Remove messages
 - By Keywords
- o Simple UI

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Requirements and notes:

- Both unittest and pytest are good test frameworks for python. I tend to use both. You are required to use either of these. Your tests must be in a class that inherits the test framework's TestClient class.
- I strongly recommend you use VSCode to run your tests. It's easy to integrate either pytest or unittest (or both) into VSCode to run your tests.
- You should be getting used to using postman (postman.com) to help you manually test your API's