Chat Application: Testing Manual
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I. Testing Plan

The Chat Application's UI elements essentially all need to be used in order to successfully perform everything the application should do: register a new user, log in, log out, create chats, and send/receive messages. So it is sufficient to just attempt to use the application for its various use cases in order to assess its functionality. Additionally, errors from user input must be checked, to ensure that the user is notified of their error and no exceptions are thrown. So a summary of our testing objectives are below:

- Login / Register windows
    1. Test functionality of a User logging in
    2. Test functionality of a User registering a new User account
    3. Test error handling of registering existing user, registering with bad username/password
    4. Test error handling of logging in with bad username/password
- Chat Window
    1. Test functionality of creating a new chat
    2. Test functionality of creating a new group chat
    3. Test functionality of adding new users to group chat
    4. Test functionality of sending messages
    5. Test functionality of receiving messages
    6. Test functionality of logout option + quit option
    7. Test error handling of adding nonexistent user to a chat
    8. Test error handling for trying to add self to a group chat
    9. Test error handling for trying to create a group chat with name that already exists

II. Testing Strategy

The GUI functionality of the application is tested via manual testing. Every situation listed in the testing plan is tested manually by a tester using the application, ensuring that error messages for incorrect input are properly displayed and regular functionality is correct, with chats updating in real-time. A spreadsheet of the test scenarios and test cases for manual testing is listed at the end of this document, following the testing plan above to ensure correct functionality.

Test Scenario ID	Test Scenario Name	Test Scenario Description	Test Cases
TS01	Login/Register: Errors	Check execution of Login/Registration windows when incorrect input is given by the user.	1. Login with a username/password that has not been registered 2. Registering with a username that has been taken 3. Registering with a username containing non-alphanumeric characters 4. Registering with empty username 5. Registering with empty password
TS02	Chat Window: Errors	Check execution of Chat App Window when incorrect input is given by the user.	1. Attempting to add nonexistent user to a group 2. Attempting to create group with bad name (containing spaces) 3. Attempting to add self to a group they own. 4. Attempting to create group with characters that are non-alphanumeric 5. Attempting to create group with a name that already exists. 6. Attempting to send message that is too long for the server to capture and handle.
TS03	Login/Register: Correct Behavior	Check execution of Login/Registration windows when correct input is given by the user.	1. Registering a new user successfully 2. Logging in successfully
TS04	Chat Window: Correct Behavior	Check execution of Chat App Window when correct input is given by the user.	1. Creating new group 2. Adding existing user to group and sending message to group. 3. Multi-user group chats 4. Logout and log back in 5. Quit app menu option 6. Help menu option 7. Only see messages after being added to group

Test Case Id	Test Scenario Name	Test Case	Pre-requisites	Test Steps	Expected Result	Actual Result	Status	Test Executed By	Test Execution date
TS01TC01	Login/Register: Errors	1. Login with a username/password that has not been registered	App is running and opened to login page. No users should be registered on the server.	1. Attempt to log in with any username and password.	Popup window appears informing the user that the login failed	Popup window appears informing the user that the login failed	Passed	Andre	8/15/24
TS01TC02	Login/Register: Errors	2. Registering with a username that has been taken	App is running and opened to login page. One user named 'user1' should be registered.	1. Open register page by clicking register button and attempt	Popup window appears informing the user that the username was already taken	Popup window appears informing the user that the username was already taken	Passed	Andre	8/15/24
TS01TC03	Login/Register: Errors	3. Registering with a username containing non-alphanumeric characters	App is running and opened to login page. No users should be registered on the server.	1. Open register page by clicking register button and attempt to register with any username containing non-alphanumeric characters (e.g. ',.|,_) and any password	Popup window appears informing the user that their chosen username is invalid	Popup window appears informing the user that their chosen username is invalid	Passed	Andre	8/15/24
TS01TC04	Login/Register: Errors	4. Registering with empty username	App is running and opened to login page. No users should be registered on the server.	1. Open register page by clicking register button and attempt	Popup window appears informing the user that their chosen username is invalid	Popup window appears informing the user that their chosen username is invalid	Passed	Andre	8/15/24
TS01TC05	Login/Register: Errors	5. Registering with empty password	App is running and opened to login page. No users should be registered on the server.	1. Open register page by clicking register button and attempt	Popup window appears informing the user that their chosen Password is invalid	Popup window appears informing the user that their chosen Password is invalid	Passed	Andre	8/15/24
TS02TC01	Chat Window: Errors	1. Attempting to add nonexistent user to a group	App is running and opened to chat page. Only one user with username 'user1' should be registered. A chat should be opened by the user.	1. Right click on the chat name and click add user. 2. In the new window, type any username that is not user1 a	Popup window appears informing the user that no such user exists	Popup window appears informing the user that no such user exists	Passed	Andre	8/15/24
TS02TC02	Chat Window: Errors	2. Attempting to create group with bad name (containing spaces)	App is running and opened to chat page.	1. Enter a group name containing spaces in the chat name fi	Popup window appears informing the user that they cannot create the group.	Popup window appears informing the user that they cannot create the group.	Passed	Andre	8/15/24
TS02TC03	Chat Window: Errors	3. Attempting to add self to a group they own.	App is running and opened to chat page.	1. Right click on the chat name and click add user. 2. In the new window, type in the currently signed in username and hit the add button.	Popup window appears informing the user that they cannot add themselve to the group	Popup window appears informing the user that they cannot add themselve to the group	Passed	Dylan	8/16/24
TS02TC04	Chat Window: Errors	4. Attempting to create group with characters that are non-alphameric	App is running and opened to chat page.	1. Enter a group name containing special characters like semicolons or brackets.	Popup window appears informing the user that they cannot create the group.	Popup window appears informing the user that they cannot create the group.	Passed	Dylan	8/16/24
TS02TC05	Chat Window: Errors	5. Attempting to create group with a name that already exists.	App is running and opened to chat page. Another group should be created and exists on the server.	1. Enter a group name that already exists and hit the create button.	Popup window appears informing the user that the group name already exists.	Popup window appears informing the user that the group name already exists.	Passed	Dylan	8/16/24
TS02TC06	Chat Window: Errors	6. Attempting to send message that is too long for the server to capture and h	App is running and opend to chat page.	1. Enter a group name and create chat. 2. Enter over 120 emojis to the group chat or a message over 480 characters long	Popup window appears informing the user that the message was too long.	Popup window appears informing the user that the message was too long.	Passed	Dylan	8/16/24
TS03TC01	Login/Register: Correct Behavior	1. Registering a new user successfully	App is running and opened to login page. No users should be registered on the server.	1. Open register page by clicking register button and attempt to register with a correctly formatted username (not empty, only alphanumeric character and any password).	Popup window appears informing the user that they registered successfully	Popup window appears informing the user that they registered successfully	Passed	Andre	8/15/24
TS03TC02	Login/Register: Correct Behavior	2. Logging in successfully	App is running and opened to login page. One user named 'user1' should be registered on the server, with password 'user1'	1. Enter username user1 and password user1 into username	Application closes login window and transfers to the chat window.	Application closes login window and transfers to the chat window.	Passed	Andre	8/15/24
TS04TC01	Chat Window: Correct Behavior	1. Creating new group	App is running and opened to chat page.	1. Create a new group by entering a chat name in the textfiel	New chat appears on the list of chats on the left side of the window	New chat appears on the list of chats on the left side of the window	Passed	Andre	8/15/24
TS04TC02	Chat Window: Correct Behavior	2. Adding existing user to group and sending message to group.	2 instances of the app should be opened to chat page. At least 2 users should be registered on the server, with each user logged into an instance of the app	On one of the application instances: 1. Create a new group by entering a chat name in the textfiel 2. Right click on the group name and click the option to add 3. In the new window, enter the name of another user that n 4. Press the add user button to add the user to the group. 5. Send a message to the group. 6. Wait for the other user to send a message back. On the other application: 1. Wait and observe to see if you receive a message or notifi 2. Open the group chat and send a message back	Add User window closes with no error message. First user successfully creates the group, adds the second user, and sends a message. Second user receives the message in real time and sends a message back successfully, which the first user sees. All chats are visible and properly displayed on the app.	Add User window closes with no error message. First user successfully creates the group, adds the second user, and sends a message. Second user receives the message in real time and sends a message back successfully, which the first user sees. All chats are visible and properly displayed on the app.	Passed	Andre	8/15/24
TS04TC03	Chat Window: Correct Behavior	3. Multi-user group chats	3 instances of the app should be opened to chat page, with at least 3 users registered on the server, with each user logged into an instance of the app	On one of the application instances: 1. Create a new group. 2. Add the other 2 users to the group chat. 3. Send a message to the group. On the other application instances: 1. Wait and observe to see if you receive a message or notifi 2. Open the group chat and send a message back	Add User window closes with no error message. First user successfully creates the group, adds the other users, and sends a message. All group members can view and send messages in real time. All chats are visible and properly displayed on the app.	Add User window closes with no error message. First user successfully creates the group, adds the other users, and sends a message. All group members can view and send messages in real time. All chats are visible and properly displayed on the app.	Passed	Andre	8/15/24
TS04TC04	Chat Window: Correct Behavior	4. Logout and log back in	App is running and opened to login page. At least 2 users should be registered on the server	1. Create a new group and add another user registered to th 2. Send some messages to the group. 3. Press user/logout option on the menu bar. 4. Log into the user added to the group. 5. Verify that the existing group shows up on the app and se	Log out functionality is correct; websocket closes, login page appears, and new user's chats are displayed upon login. New user can send a message to the chat.	Log out functionality is correct; websocket closes, login page appears, and new user's chats are displayed upon login. New user can send a message to the chat.	Passed	Andre	8/15/24
TS04TC05	Chat Window: Correct Behavior	5. Quit app menu option	App is running and opened to chat page.	1. Press user/quit option on the menu bar.	App closes. Websocket connection is closed.	App closes. Websocket connection is closed.	Passed	Andre	8/15/24
TS04TC06	Chat Window: Correct Behavior	6. Help menu option	App is running and opened to chat page.	1. Press the Help option on the menu bar.	Popup window informing the user that they should reference the user manual for more additional help	Popup window informing the user that they should reference the user manual for more additional help	Passed	Dylan	8/16/24
TS04TC07	Chat Window: Correct Behavior	7. Only see messages after being added to group	App is running and opened to chat page. At least 2 users should be registered on the server.	1. Create a new group. 2. Send some messages to the group. 3. Add a existing user to that group. 4. Send more messages to the same group. 5. Verify that the second user can only see the messages sen	The newly added user can only see the most recent messages from when they were added. They do not see the messages from before being added.	The newly added user can only see the most recent messages from when they were added. They do not see the messages from before being added.	Passed	Dylan	8/16/24