teaChat
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Chat Application Test Plan

Document

1. **Introduction**

The purpose of this document is to outline the strategies for testing the Chatroom Application. Testing will be requirements based testing which means that the requirements specification document will be used to obtain a list of testing requirements. The rest of this document is divided into three parts. First, testing requirements which are derived from the requirements specification(RS). Second, test cases that outline the purpose, procedure, and expected output that cover all the testing requirements. Third, testing report which describes the results by running the test cases.

2. **Testing Requirements**

2.1 Application Startup

2.1.1 *RS 3.2.1.1.1*

Launch the application

2.2 Login Page

2.2.1 *RS 3.2.2.1.1*

Click on "Username" field and type an existing username. Click on "Password" and type in the password.

2.2.2 *RS 3.2.2.1.2*

Attempt to login to the application with the correct credentials

2.2.3 *RS 3.2.2.1.2*

Attempt to login to the application with the wrong credentials

2.3 Registration Page

2.3.1 *RS* 3.2.1.1.1

Click on "Create New Account" link.

2.3.2 RS 3.2.1.1.2

Attempt to input an email, a new username, and a new password and click create account.

2.3.3 RS 3.2.1.1.3

Attempt to add a unique identifier given from an external site as an Instructor user.

2.4 User Home Page

2.4.1 *RS 3.2.1.2.1*

Click on the "Join Chatroom" button for both Student and Professor

2.4.2 *RS 3.2.1.2.2*

Attempt to join an existing chatroom by entering the code generated by the instructor

2.4.3 *RS 3.2.1.2.2*

Attempt to join a chatroom by entering a code that did not exist

2.4.4 *RS 3.2.1.2.2*

Attempt to create a chatroom without entering a Chatroom name

2.4.5 *RS 3.2.1.2.2*
Attempt to create a chatroom with a Chatroom name
2.4.6 RS 3.2.1.2.2
Attempt to create a chatroom with a Chatroom name that has already been used

2.5 Chat Room Page
2.5.1 *RS 3.2.1.3.1*
Attempt to 5 users join the chat room and check users can send and receive the message in real-time.
2.5.2 *RS 3.2.1.3.2*
Click on the "Send Message" button with the valid input and check message is upload to the chat room.
2.5.3 *RS 3.2.1.3.2*
Click on the "Send Message" button with the non-valid input and check message is upload to the chat room.
2.5.4 *RS 3.2.1.3.2*
Click on the "Upload" button without selected file.
2.5.5 *RS 3.2.1.3.2*
Click on the "File Select" button and check user can select the file.
2.5.6 *RS 3.2.1.3.2*
Click on the "Upload" button after select the file and check file is upload to the chat room.
2.5.7 *RS 3.2.1.3.3*
Attempt to check, when message is sent, the user's name is anonymous for Student, and identified for Professor.

3. Test Cases

The test cases below make up the Chatroom Application test suite. The purpose and setup procedure of each test case has been outlined. The expected output must be observed for the test case to pass.

3.1 Application Startup
3.1.1 Test 1
Purpose:
Test the startup or launch of the application.
Setup:
Launch the application by running "node server" in a command line interface and go to localhost:3000/login

Inputs and Expected Outputs:

Input	Output
Launch the Application	Login Page is displayed

Testing Requirements Covered:
Testing Requirement 2.1.1

3.2 Login Page

    3.2.1 Test 2

Purpose:
Test "Login" with valid.

Setup:
Be on the login page, click the "Username" field and type username, click the "Password" field and type password. Click "login"

Inputs and Expected Outputs (assuming the values are correct credentials of a registered user):

Input Field	Input value	Expected output
username	teaChat_user1	User home page should be rendered
password	abc123	User home page should be rendered

Testing Requirements Covered:
2.2.2

    3.2.2 Test 3

Purpose:
Test "Login" with invalid values.

Setup:
Be on the login page, click the "Username" field and type username, click the "Password" field and type password. Click "login"

Inputs and Expected Outputs:

Input Field	Input value	Expected output
username	Non-registered username	Statically stay on login page, no entry

Invalid password	Non-registered password	Statically stay on login page, no entry

Testing Requirements Covered:
2.2.2

3.3 Registration Page

3.3.1 Test 4

Purpose:
Test "Create Account" link works

Setup:
Be on the main start up page, and click on the "Create Account" link

Inputs and Expected Outputs:

User Type	Expected output
User	Registration page should appear.

Testing Requirements Covered:
Testing Requirement 2.3.1

3.3.2 Test 5

Purpose:
Test "Create an Account" for student users.

Setup:
Be on the registration page.

Inputs and Expected Outputs:

Input Field	Input value	Expected output
email	abc123@gmail.com	Valid email
username	teaChat_user1	Valid username
password	abc123	Valid password

Testing Requirements Covered:
Testing Requirement 2.3.2

3.3.3 Test 6

Purpose:

Test "Create an Instructor Account".

Setup:

Be on the registration page, fill in all the credentials correctly as above, and have a unique identifier from the external site.

Inputs and Expected Outputs:

Input Field	Input value	Expected output
Identifier	1234	Valid instructor

Testing Requirements Covered:

Testing Requirement 2.3.3

3.3.4 Test 7

Purpose:

Test existing Inputs for registration

Setup:

Be on the registration page. *Use the inputs in 3.3.2 and 3.3.3 to assume accounts with existing information*.

Inputs and Expected Outputs:

Input	Expected output
username	Error: existing user
email	Error: email already used
identifier	Error: duplicated identifier

Testing Requirements Covered:

Testing Requirement 2.3.2

3.3.5 Test 8

Purpose:

Test invalid Inputs for registration.

Setup:

Be on the registration page. Enter unique inputs like in 3.3.2, but insert an invalid email type.

Inputs and Expected Outputs:

Input Field	Input value	Expected output
Invalid email	abc123.com	Error: Invalid email

Testing Requirements Covered:

Testing Requirement 2.3.2

3.4 User Home Page

    3.4.1 Test 9

Purpose:

Test "Join Chatroom" button works

Setup:

Login as a Student or Professor, and click on the "Join Chatroom" button

Inputs and Expected Outputs:

User Type	Expected output
Student	A modal popped up prompting for chatroom code
Professor	A modal popped up prompting for chatroom code

Testing Requirements Covered:

Testing Requirement 2.4.1

    3.4.2 Test 10

Purpose:

Test the join room function via sockets with a valid chatroom code.

Setup:

Login as a Student or Professor. After clicking on the "Join Chatroom" button, the chatroom code was entered when prompted. Assume there are 2 chatrooms active with the code a7eQ2 (CSCE155A) and pq912 (CSCE155E).

Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Chatroom Code	pq912	User joined CSCE155E's chatroom and they can only see the messages and contents shared in this chatroom.

Testing Requirements Covered:

Testing Requirement 2.4.2

3.4.3 Test 11

Purpose:

Test the join room function via sockets with a non-valid chatroom code.

Setup:

Login as a Student or Professor. After clicking on the "Join Chatroom" button, the chatroom code was entered when prompted. Assume there are 2 chatrooms active with the code a7eQ2 (CSCE155A) and pq912 (CSCE155E).

Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Chatroom Code	xza12	User remained in the Home Page

Testing Requirements Covered:

Testing Requirement 2.4.3

3.4.4 Test 12

Purpose:

Test the add room function via sockets without a chatroom name

Setup:

Login as a Professor. Then, click on the "Add Chatroom" button.

Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Chatroom Name		User remains in the Home Page

Testing Requirements Covered:

Testing Requirement 2.4.4

3.4.5 Test 13

Purpose:

Test the add room function via sockets with a chatroom name

Setup:

Login as a Professor. Then, click on the "Add Chatroom" button.

Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Chatroom Name	Any non-empty value	User is redirected to the chatroom and the input value is displayed as the chatroom name.

Testing Requirements Covered:

Testing Requirement 2.4.5

3.4.5 Test 14

Purpose:

Test the add room function via sockets with a used chatroom name

Setup:

Login as a Professor. Then, click on the "Add Chatroom" button, and use the chatroom name "Test". Then, login as another Professor and click "Add Chatroom" again.

Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Chatroom Name	"Test"	User is redirected to the chatroom and the input value is displayed as the chatroom name.

Testing Requirements Covered:

Testing Requirement 2.4.6

3.5 Chat Room Page

3.5.1 Test 15

Purpose:

Test the real-time multi-user messaging platform.

Setup:

Login with 5 different users, one of whom must use a professor account and all of them join the same chat room. Then send messages as each user.

Inputs and Expected Outputs:

User Types	Expected output

1 professor user and 4 student users	All the 5 users can send and receive messages in real-time.

Testing Requirements Covered:
Testing Requirement 2.5.1

3.5.2 Test 16

Purpose:
Test the send message function via sockets with a valid input.
Setup:
Login as a Student or Professor and join any chat room. Enter random message on the Enter Message field and click on the "Send Message" button.
Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Enter Message	Hello	The message is uploaded to the chat room and other user can see.

Testing Requirements Covered:
Testing Requirement 2.5.2

3.5.3 Test 17

Purpose:
Test the send message function via sockets with a non-valid input.
Setup:
Login as a Student or Professor and join any chat room. Leave the Enter Message field as a blank and click on the "Send Message" button.
Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Enter Message	" "	The empty message is uploaded on the chat room and other users can see.

Testing Requirements Covered:
Testing Requirement 2.5.3

3.5.4 Test 18

Purpose:
Test the Upload function via sockets without selected file.
Setup:
Login as a Student or Professor and join any chat room. Click the "Upload" button before select the file.
Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Choose File	No file selected	The alert message "You haven't selected any file to share"is popped up.

Testing Requirements Covered:
Testing Requirement 2.5.4

3.5.5 Test 19

Purpose:
Test the "Choose File" button works.
Setup:
Login as a Student or Professor and join any chat room. Click "File Choose" button and select the file.
Inputs and Expected Outputs:

Input	Output
Click the "File Choose" button and select .png file.	'No file selected' changed to 'name of the file.png'

Testing Requirements Covered:
Testing Requirement 2.5.5

3.5.6 Test 20

Purpose:
Test the Upload function via sockets with selected file.
Setup:
Login as a Student or Professor and join any chat room. Click the "Upload" button after select the file.

Inputs and Expected Outputs:

Input Field	Input Value	Expected output
Choose File	'Name of the file.png'	The image is uploaded on the chatroom and other users can see that image.

Testing Requirements Covered:
Testing Requirement 2.5.6

3.5.7 Test 21

Purpose:
Test when the user send the message, the username for a student is anonymous and for professor is identified on the chat room.

Setup:
Login as a Student or Professor, and send the message and upload file.

Inputs and Expected Outputs:

User Type	Expected output
Student	A username is displayed "Anonymous" + "random animal"
Professor	A username is displayed as "Processor" + "The name of the professor"

Testing Requirements Covered:
Testing Requirement 2.4.7

FOR REFERENCE

3.2.1.1 User Authentication

3.2.1.1.1 Upon loading the application, the system shall load a user login/registration page. Mockups of this functionality are shown in the appendix sections 4.1 and 4.2.

3.2.1.1.2 The system shall prompt the user for their login credentials, or will allow them to create a new account. Specifically, the system shall prompt new users for their email, username and password, whereas existing users will be prompted for

their usernames and passwords. Upon completion, the system shall redirect to the user home page (appendix sections 4.3 and 4.4).

3.2.1.1.3 For instructor roles, the system shall only allow users with unique identifiers, which are assigned to them on another website (company website that is yet to be developed), to sign up.

3.2.1.2 Chat Room Creation

3.2.1.2.1 The system shall allow instructor type users to create chat rooms for other users to join and interact in. A mockup of this functionality is shown in the appendix section 4.5 .

3.2.1.2.2 The system shall prompt the instructor to insert necessary information (Chatroom Name) for the chat room creation, at the click of a " Create room' button.

3.2.1.3 Join (Add) Chat Room

3.2.1.2.1 The system shall allow users of any type to join chat rooms created by the instructor. A mockup of this page is shown in appendix 4.6.

3.2.1.2.2 Upon clicking the 'Add room' button, users will be prompted for a code that should be provided by the instructor.

3.2.1.4 Instant Messaging

3.2.1.3.1 The system shall provide an interface for a real-time multi-user messaging platform. (appendix sections 4.7 and 4.8).

3.2.1.3.2 The system shall receive a message from the user as input (attachments are allowed) and that message will be uploaded to the chat room for others to view.

3.2.1.3.3 The system shall anonymize the message senders' identities if they are students. Instructor identities will be visible.