Project Title: GAB (GIFT OF ASYNCHRONOUS BABBLE)

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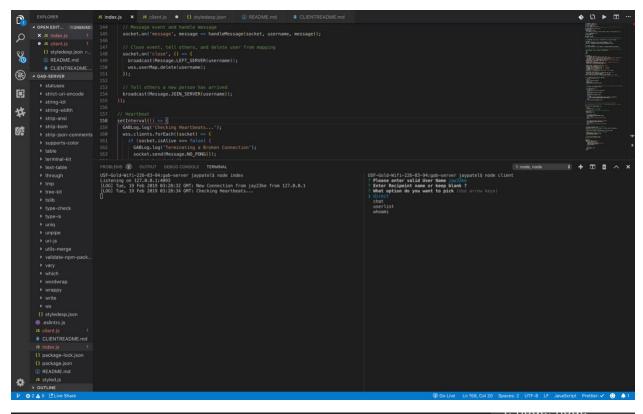
ADVANCED JAVASCRIPT

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Introduction

The gift of asynchronous babble chat client is simply an interface for users to communicate over a server. The main goal for this project was to create a chat client that operates entirely on a terminal, the GAB client made use of web Sockets since that was the only way to connect and communicate with the GAB server. Another major component was to design an interactive terminal that would be used to send and receive data to and from the client and server.

Requirements Analysis and Specifications

1. User name upon connection - this feature basically assigned a client with a unique alphanumeric user name. In my code I used Regex to make sure there were no error
2. Message to the entire serve- this feature allows a client to send/broadcast a message to everyone who is actively connect to the serve.
3. Message to Single use – this allows a client to privately send a message to another client without anyone else seeing the message
4. List of connected User- this feature allows a client to get a list of everyone who is connected to the server at the point in time
5. Check your Client's Username – this allows the client to get back his/her username
6. Dealing with other users joining or leaving the server- This feature simply sent a message to users letting them know that a specific client has joined or left
7. Styled Expressions- this feature was to make the code easy to read or pick on some of the expressions a user has listed on the JSON file
8. Client interface- this was one of the most important feature, since it gives the client a very user-friendly experience and made the application easy to use. I used the inquire toolkit/library to make my user experience intuitive.
9. Additional Feature – n/a

System Design and Implementation

The design goal was to have an easy experience sending messages using the terminal and I believed I achieved that well. The interface used utilized different colors and dropdown menus that get the user straight to the kind of message they want to send out. Below are some screen shots of the interface

```
144  // Message event and handle message
145  socket.on('message', message => handleMessage(socket, username, message));
146
147  // Close event, tell others, and delete user from mapping
148  socket.on('close', () => {
149    broadcast(Message.LEFT_SERVER(username));
150    wss.userMap.delete(username);
151  });
152
153  // Tell others a new person has arrived
154  broadcast(Message.JOIN_SERVER(username));
155  });
156
157  // Heartbeat
158  setInterval(() => {
159    GABLog.log('Checking Heartbeats...');
160    wss.clients.forEach((socket) => {
161      if (socket.isAlive === false) {
162        GABLog.log('Terminating a Broken Connection');
163        socket.send(Message.NO_PONG());
```

```
USF-Gold-Wifi-226-83-94:gab-server jaypatel$ node index
Listening on 127.0.0.1:4093
[LOG] Tue, 19 Feb 2019 03:28:32 GMT: New Connection from jay23ke from 127.0.0.1
[LOG] Tue, 19 Feb 2019 03:28:34 GMT: Checking Heartbeats...
```

```
USF-Gold-Wifi-226-83-94:gab-server jaypatel$ node client
? Please enter valid User Name jay23ke
? Enter Recipeint name or keep blank ?
? What option do you want to pick (Use arrow keys)
> direct
  chat
  userlist
  whoami
```



```
USF-Gold-Wifi-226-83-94:gab-server jaypatel$ node client
? Please enter valid User Name jay23ke
? Enter Recipeint name or keep blank ?
? What option do you want to pick (Use arrow keys)
> direct
  chat
  userlist
  whoami
```



```
USF-Gold-Wifi-226-83-94:gab-server jaypatel$ node client
? Please enter valid User Name jay23ke
? Enter Recipeint name or keep blank ?
? What option do you want to pick whoami
? Please enter message to be sent
{"from":"GABServer","to":"jay23ke","kind":"whoami","data":"You are jay23ke"}
```

Conclusion

This program was very interesting to develop since it allowed me to gain some knowledge on how web sockets work as well as how to use open source libraries and tool kits. This was also my very first time designing a terminal, I had no idea how complicate this can be. Overall, I think I did a good job meeting most of the requirementy