*ASU webchat Application*

# Functional Specifications

*Prerequisite:*

* Python 3.7
* Socket IO
* Jquery
* HTML
* CSS

Design *decisions*:

* Python – Flask:

Flask is robust framework, simple to use, flexible and I can add several addons in future to expand this web app.

* Socket IO

It establishes a path through which one computer can interact with the other. Since chat is all about communication, sockets are essential. SocketIO is a cross-browser JavaScript library that abstracts the client application from the actual transport protocol. **Flask-SocketIO** gives flask applications access to bi-directional communications between the clients and the server.

Note: In this application I have used JavaScript as client library.

* Variables/functions and its use

|  |  |
| --- | --- |
| Variable/Function | Usage |
| Main.py | |
| App | Flask wrapper |
| SECRET\_KEY | To enable Encryption |
| socketio | * Socket binded to app variable * Used to run web application * socketio encapsulates startup of the web server |
| run () method | * it takes optional host and port arguments * Default values are localhost:5000 * debug=True enables to sort out the errors with ease |
| @app.route('/')  def sessions(): | when the user visits the home page, it will redirect them to session.html here and displays content of session.html page |
| send() and emit() functions. | * it can send reply messages to the connected client * On triggering ‘my event’, the ‘handle\_my\_custom\_event’ view firstly receives the json objects, prints it on the terminal and later sends it to the ‘my response’ event * Callback function is used for debugging purpose to know whether server has received/sent the message. * The send() function sends a standard message of string or JSON type to the client. The emit() function sends a message under a custom event name( in here it’s ‘my event’ ) along with the data. |
| Session.html | |
| jquery and socket.js file | To use JavaScript in file |
| Form | To take username and message from user |
| io.connect() | To establish the connections and create sessions |
| socket.on() | First Argument = connect  (possible values= connect,disconnect,message,json, Custom events) |

Chances of improvement:

If given more time I will be able to implement bellow functionality in web chat application

* Session management for logged in users
* Unique user name constraint
* Store chat in db
* One to one chat
* Social media signup/signin

# End Reflection

As regards skills, this is more or less related to learning experience; That is managing different technologies, tools, solving my own problems and improving my efficiency by trial and error method. I consider way I learned was by experiencing, making mistakes and looking for alternative approach and possible solutions.

Regarding judgement, I guess my personal development was enhanced and I learned something new which will be helpful in my future profession. I definitely daresay this learning experience was valuable for me since I was able to handle several things by myself and that way learning is likely to be anchored in mind.