Chat Application

ESC101 Advanced Track Project

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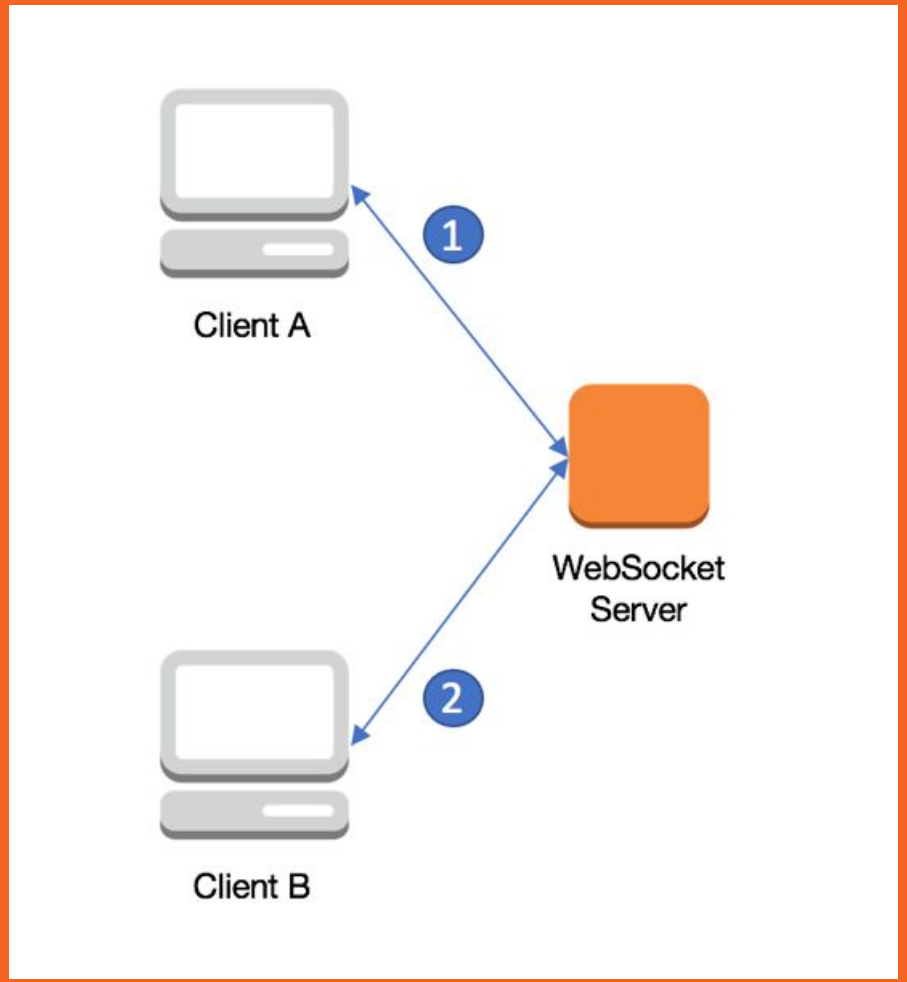
Chat - IITK

This project was aimed to be a web based chat client, which can be used by people to create rooms, and have conversations.

Basic Architecture & Specifications

WebSockets is a computer communications protocol, providing full-duplex (two-way) communication channels.

The data is transferred via the server between the clients.



Specifications

Backend

Framework : NodeJS

Libraries Used:

- Socket-io
- Express Web Framework
- Passport Authentication
- Mongoose (MongoDB)
- bcrypt, body-parser and some more..

Frontend

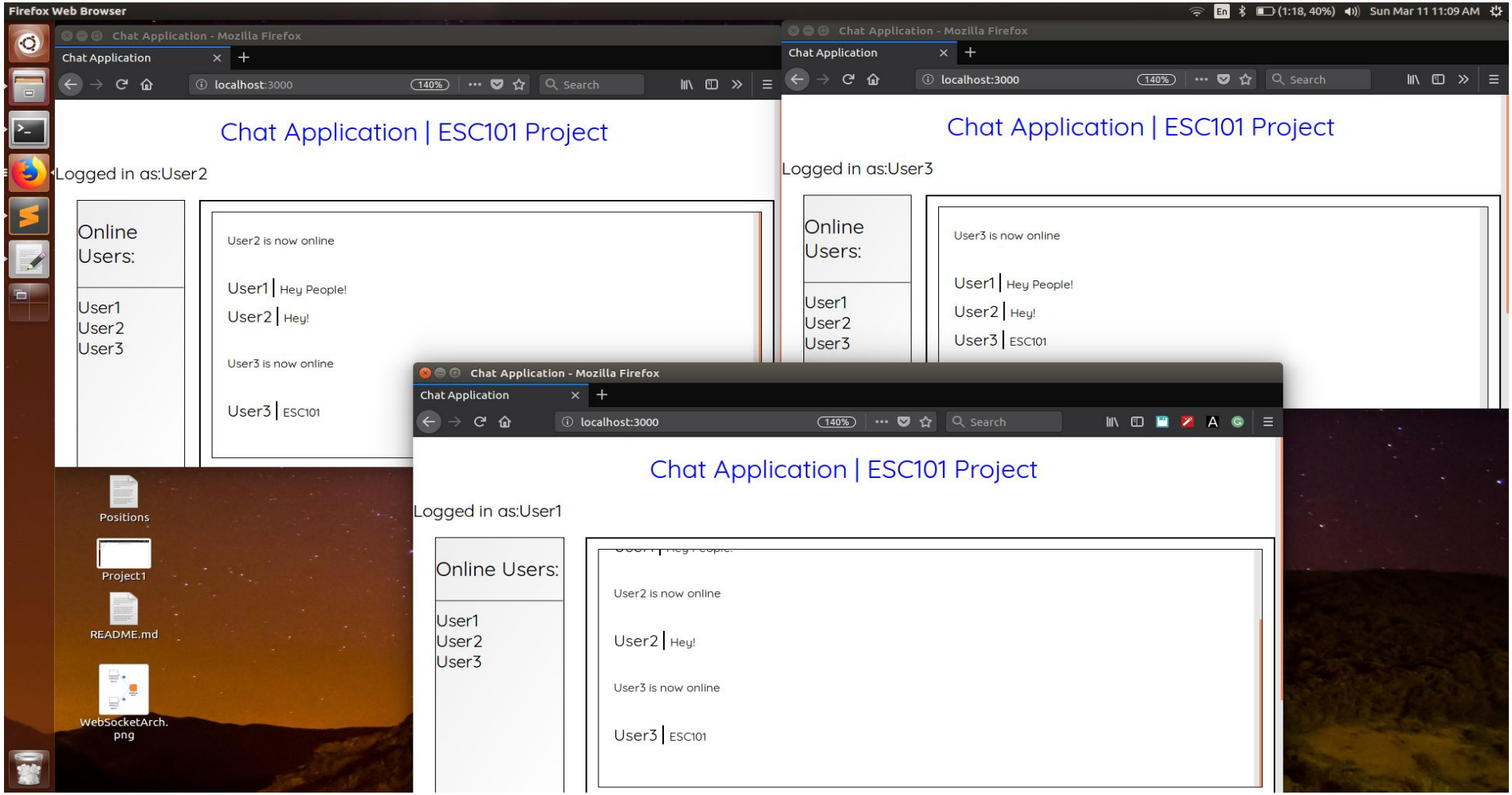
Using a HTML/CSS frontend with the dynamic framework being provided by JavaScript.

Libraries:

- Socket-io
- JQuery
- Bootstrap
- EJS Templating System

Midterm Working Status

- Had set up a simple essential GUI structure, for the chat application
- The database on MongoDB had been set up
- Old chat messages could be retrieved and shown when someone logs in
- There was a facility for rooms, but the GUI for it still needs to be done.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Logged in as:User2
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Chat Application - Mozilla Firefox
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Logged in as:User1
Online Users:
User1
User2
User3
User2 is now online
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User3 | ESC101
Positions
Project1
README.md
WebSocketArch.png

Feedback

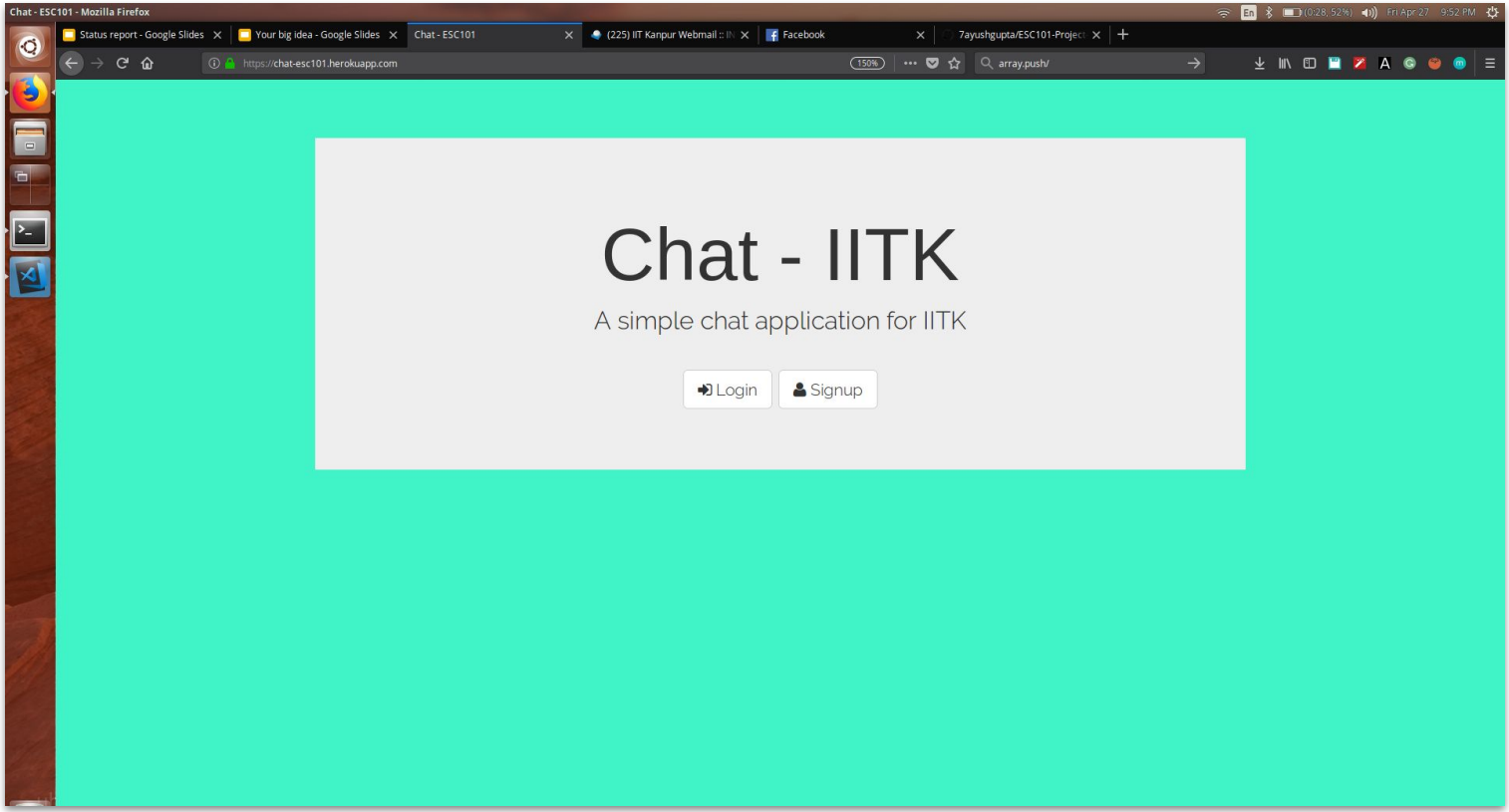
The main points were broadly:

- ➔ **Build up a presentable GUI**
- ➔ **Implement Authorisation, and Sessions**
- ➔ **Think about the deployment and scale of the project**

Progress after Midterm Evaluation

Work done after the evaluation

- Implemented the Authentication and Sessions work
- Considerably improved the GUI
- Implemented unit-test cases using Mocha
- Deployed the app on Heroku (a free site) on the Internet.



Currently Deployed Application

Work done after the evaluation

Completed the authorisation and session management.

Now, people can register themselves, and login to the site. If a user has already logged into the site, during a visit to the Browser, he does not need to log-in again.

Worked on creating a simple but pleasant GUI

Wrote down quite a lot of CSS, understood the concepts of classes and ids in CSS, and created a simple group of pages, which can be rendered, with custom data as well.

Work done after the evaluation

Deployed the site on HerokuApp

Learnt how to deploy Node.JS app on Heroku, and deployed after changing some dependencies, which were not secure.

Created some unit-test cases on Mocha

Coded down some unit-test cases using Mocha, a testing framework for JS, for checks on Routing and Database handling.

Conclusion

I had started out with some more features in mind, for this application, but could not finish some of them.

Although, I still like how the project turned out. It has the basic essential features I wanted in my project, and has been deployed as well. The GUI looks pretty neat, and I have reduced the various bugs that crept into the code to almost a minimum.

Future Work

I was trying to integrate Facebook Login with my application, but could not finish to do so. (There are still snippets of code commented out)

Implement the ability to add up people to rooms, and make it more dynamic, and increase its usage.

This are few of the things, I did not like about the project, and if they could have been implemented, the features would have increased.

Future Work

Being a Web-Development Project, this is open-ended, and provides a huge scope for improvement in almost every field.

There are a lot of ideas, which can be implemented, and if I had find some time in Summers, I'll surely try to make it more useful, by adding up more features.

Acknowledgements

Prof. Purushottam Kar

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Various Projects on Github:

sdelements/letschat
sudeeshshetty/chat
OmarElGabry/chat.io
..and many more

Tutorials on the Internet:

W3 Schools
CodeAcademy