IS2560 Web Technology and Standards
Final Project Report

Introduction

We created a website which contains the basic functions that a forum website does. People can create posts on it and add comments under them which can be either created by themselves or other people. If they don't login, they can still view posts and comments but cannot create any posts or comments. Administrators are able to remove posts or comments and ban people from creating posts and adding comments. Users of our website can also use the live chat function to chat with other users who are using the forum at the same time. Meanwhile, users can see their local weather reports on our website.

Objective

- Utilize MEAN Stack to create a forum
- Master the MVC structure
- Make use of web socket to realize live chat function
- Learn to manage session in web app
- Utilize mongodb
- Practise front end designing / developing
- Using RESTful web service in our web app
- Location aware
- Utilize external weather api

Team member's contributions

Yixiao Li (yil210)	Login and register; post, comment back end and integrate everything together
Ping-Kang Huang (pih9)	Post, comment, admin front end; admin back end
Dingming Feng (dif24)	Mainpage, login, live chat front end; live chat and admin back end
Yuzhao Zhou (yuz155)	Post, comment front end, post back end and location aware weather report

Technology used

- Bootstrap
- Jquery
- Mongoose
- express - generator
- express, node.js, mongoDB, angular (MEAN)
- Web socket
- MVC structure
- Session management
- RESTful Web service
- JSON

Setup

Under the root of MEANApp:
      npm install
      npm start
      Run at localhost:3000
Under the root of socket:
      nodemon index

Challenges

First of all, we faced some problems about building environment. The npm was unstable and we had to reinstall it several times.
Then, we met several problems while we were trying to build MEAN stack and make everything run.
We had some problems regarding to getting used to the mean stack environment because the file structure of mean stack is much different from the websites we built before. We spent some time to figure it out and then built our forum website.
After that, when we finished our works separately and try to put everything together, we found we cannot link our pages because of a compatibility issue, we used different models so we had to remake parts of our website.
We confronted several issues to integrate our work together. It's better to use the same project to modify some function because It can save time. Otherwise, we would probably have compatibility issues with different functions.

Conclusion

We have learnt how to use these new frameworks such as express, angular and node.js etcetera. First, we designed and implemented the front end of our forum website using Bootstrap and jquery. Next, we used express-generator to generate the initial framework of the whole website, and divided our work into several parts according to MVC structure. We designed our models for a simple forum website such as users, posts, and comments. And then, we coded Javascript for each html view to realize our functions using AngularJS. For example, we used angular modules and customized controllers to control the elements in view, and used the http service to communicate with backend services over the HTTP protocol and using the scope object to bind parts between the HTML (view) and JavaScript (controller). We managed to check status and pass parameters through session storage. After that, we programmed different routes to deal with different mongoose-operation (CRUD)-related tasks. What's more, we utilized web socket and realized a live chat iframe on our mainpage to enable users to communicate with other users of the forum online.

Future work

Several aspects that could be fixed to improve user experience are:
● Add sorting function for the posts, allows sorting posts by time or hot;
● Add Search function so that users can search some certain content;
● Categorizes the posts. Let user browse particular posts they are interested in.