ACS 567 Software Project Management

HW6 (Due on Oct. 14, 2019, 11:59pm)

Please put your answers to problems 1 and 2 into a text file (e.g., "hw6.doc"). Upload the file and the source code (e.g., HTML pages and Node.js code) for problems 3 and 4 to your homework repo under directory "hw6" at Azure DevOps. Please start this homework assignment early.

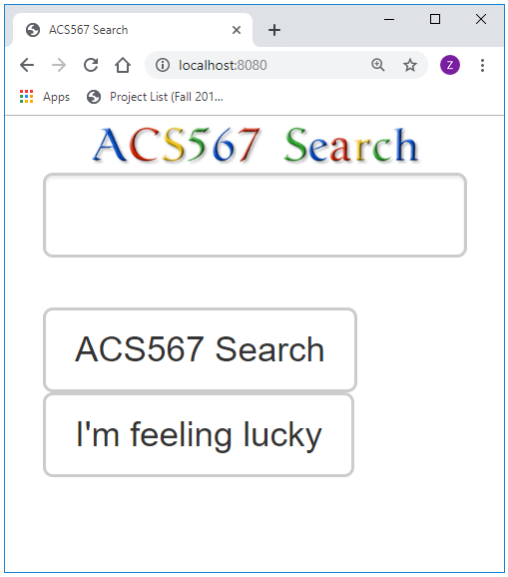
(1) **Task Estimation.** Please describe the Program Evaluation and Review Technique (PERT) to estimate the expected duration of the task(s) and the standard deviation of the probability distribution for the task(s).

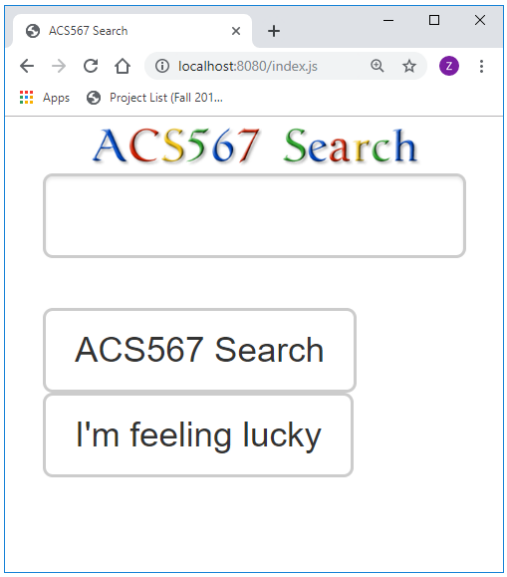
   a. Single task
   b. Multiple tasks

(2) **Pressure**. How will you avoid the pressure? How will you handle the pressure?

(3) **Tutorial Lab Node Web Crawler**. Please follow the tutorial provided by Azat Mardan and create a web crawler using Node.js. Please put the screenshots of running results into file "hw6.doc". The tutorial can be found from the file "tutorial.pdf".

(4) **ACS567 Search**. This problem is based on problem 3 from homework 5. Create a nodejs website, so that when visit your website, it will return the ACS567 search page:





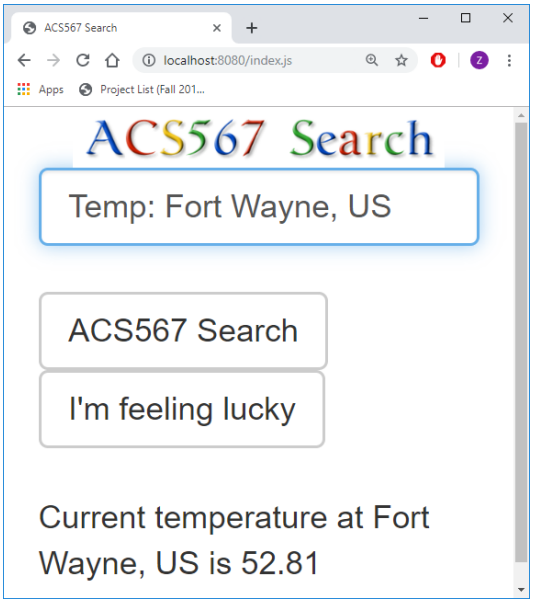
That is, when the path is either '/' or '/index.js', the website return the search page that you coded for homework 5. Please note that nodejs should be able to retrieve the image file and

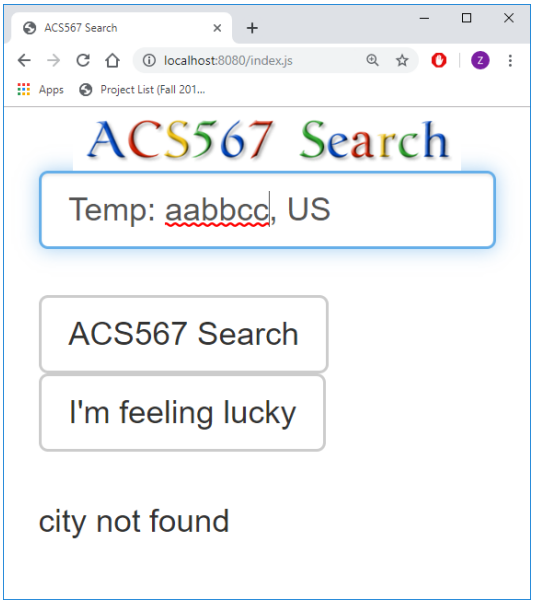
return it back to the client. Please put the static html web page and the image file under ‘./public’ directory.

Moreover, in the previous homework, when the input query starts with “Temp:”, the search page will talk to OpenWeatherMap. Here in this new assignment, when “Temp:” is typed in the search textbox, the query will go to your nodejs website:

```
$.ajax({
        url: "index.js",
        data: {
                q: location
        },
        ....
}
```

Your nodejs code will go to OpenWeatherMap https website, get the temperature, and return the results back to the clients.





Basically, your nodejs code should be able to return the web page and the image file, retrieve the data from OpenWeatherMap https website, and send the JSON data back to clients’ Ajax requests.

Please put the screenshots of running results into file “hw6.doc”.