

**Requirements**

This assignment is completely optional and not at all required for this course. But if you do choose to work on it, you can earn up to 50 points to replace lost points from other homework assignments (but not lost points on exams or quizzes).

For this assignment, create a UI for your Assignment 07 web API similar to the Assignment 04 solution. Your UI must be of the SPA-style and include a sign in form, a main form with a rows and columns for a list of questions, sorting the list of questions, ability to enter search criteria for questions, and a “modal” for adding (possibly updating) new questions.

Additionally, you *must* use the JQuery and Bootstrap 3<sup>rd</sup>-party code libraries and frameworks for your implementation.

There are no other exact requirements. Instead, first research JQuery and Bootstrap to find the most ways in which they can be used in the project instead of native HTML/CSS/JavaScript.

Suggestions include, but are not limited to:

1. Prettier styling of all UI elements.
2. Use responsive layout so the UI behaves properly on mobile and has best use of the browser window.
3. Better UI elements for entering numbers and dates.
4. Better alert and confirm modals.
5. A different method of displaying a grid for matching questions.
6. Dynamic loading of questions as a list is scrolled to the bottom.
7. Animation when displaying and hiding modals.
8. Use abstract methods for:
  - a. App initialization
  - b. Assigning functions to events
  - c. Data validation
  - d. Accessing local storage
  - e. Making HTTP requests
9. Enhance your web API to include full CRUD features (better searching, inserts, updates, and deletes)
10. Add a navigation bar to the top of the page. Display the user id with a drop-down menu to change user preferences (e.g. color theme) and to sign out of the application.
11. Show a “spinny wheel” wait graphic during long-running tasks.

If you have any doubts as to whether your enhancements will count towards extra credit, just as the course instructor.

**Readme.txt**

Include a simple text file named Readme with your submission. List every use of JQuery and Bootstrap you’ve used, and list every new feature you’ve added, so that we can give you credit for the work you’ve done. Features not described in the Readme.txt file will not be considered for points.

**Due Date**

Submit your assignment using Vocareum before **Tuesday, November 28th, 11:00 pm**. Include your client and server code, make sure to include a valid package.json file, and do not submit the node modules folder or the database file.

**Scoring**

<b>Your Score</b>	<b>Requirement</b>
0	Submissions that contain just a few changes and seem to have had little effort spent on enhancements will receive a score of zero. I.e. we don't want anyone to send us files just see if maybe we will give them a few bonus points. Features not described in the Readme.txt file will not be considered for points.
20	Minimal Enhancements
30	Good use of JQuery and Bootstrap
40	Great use of JQuery and Bootstrap, and minimal new features added
50	Excellent use of JQuery and Bootstrap, and a good number of new features added
<b>50</b>	<b>Max Possible</b>