BCDV1017 - Full Stack IV

Timer Application

Lab Test - React

System Requirements

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1 Objective

This document contains a specification of the course lab test. It is a task where students practice skills to build a front-end SPA (Single Page Application) using React.

2 Teams

Teams will consist of one to student.

3 User Interface

The UI design will be HTML5/CSS3 and JavaScript (with React)

4 Server

The server will use Nodes to run the React application using create-react-app.

4 Specification

The project will be based on a Timer application from FS II.

5 Requirements

Stage 1 : Init Timer component (20%)

- create a react application with create-react-app
- create a Timer class component
  - should inherit from React.Component
  - should setup state for the start, start time and duration
  - output the timer labels, input textboxes and buttons in JSX
- import the Timer component in the App.js file and modify the return of the App component to render the Timer

Stage 2: Timer State & Events (30%)

- add event handlers for the Start, Stop and Reset buttons
- in the start event handler update startTime value in state
- in the stop event handler update endTime value in state
- in the reset event handler update startTime and endTime to null or empty string

Stage 3. Duration & Log Items (30%)

- in constructor add a new state value for timerLog array
- in the stop handler calculate the duration and add it to the state timerLog
- add a new functional component named LogItem that will take a log item (duration) as a prop and will render it in it's JSX
- import the LogItem component in the Timer component
- output the list of timer logs in the Timer Component JSX and pass the items to the LogItem control

Stage 4: Clock component (Bonus - 5%)

- add a new class component Clock that will tag a boolean flag to determine if clock is running
- Clock component will tick as long as the flag is true, otherwise it will stop. (Hint, we did a demo that contains the code for this Clock)
- in the Timer component, import the Clock component and render in the JSX
- add a new boolean flag to state, which will toggle true/false on Start/Stop button clicks
- pass this state boolean flag to the Clock component as a prop

Stage 5: Add the CSS style from FS II project (10%)

- - include the style sheet in the public/index.html file and then add the classes and any missing html/jsx element to the components

6 Demo

- A demo of this application can be found at the following link:

  https://tinyurl.com/ywnnfchs

  Sample starter code can be found here (This is optional, you may continue use your own source code)

  https://tinyurl.com/4mct5yb9

7 Submission

1. The project will uploaded and submitted to Black Board
2. Include your name in the submitted zip file ie. **FSIV-Assignment-Mike-Denton.zip**
3. Include a **README** file with the project that includes the following:
    - The names and student number of all the **members of the team.**
    - Instructions for installing or running the project.

Specification	Percentage
Stage 1: Init Timer Component	25%
Stage 2: Timer State & Events	30%
Stage 3: Duration & Log Items	30%
Stage 4: Clock Component	5% (BONUS)
Stage 5: CSS	5%
Clean Code and Clarity *	10%

**** Includes **Demonstration of Programming Concepts** includes logical approach and use of JavaScript best practices. Also, use of the React and use of ES6 syntax where possible is also considered.