CPSC222 Project 4: Final Project – Full React and Firebase Web App

Please read **everything** in this document carefully. You are responsible for knowing all information inside of this project document.

Overview:

This is the final project of the semester. The goal of Project 4 is to test your understanding of the various subject material throughout the course. You will be tasked with creating a complete web app using React on the backend, your CSS, HTML, and JavaScript skills on the front end, and a Firebase database. The Getting Started section will give you the instructions for properly setting up your GitHub repository, downloading the starter code, and adding me as a collaborator to your Repo so I can see your changes. The Requirements section will outline what is expected of you in the assignment. Finally, Deliverables will outline what needs to be submitted and where.

Getting Started:

Download the starter code if you still need it from my GitHub repository:

https://github.com/BradenWhited/CPSC222_Project4_StarterCode

Additionally, you should follow the pre-recorded lecture available on YouTube/Canvas to help set up your firebase database and hook it up to your starter-code. By following along with the video you should have a basic understanding of Firebase and a good place to start your Project.

Next, create your own ***PRIVATE*** GitHub repo named "CPSC222-Project4-YOUR_NAME" so for example mine would be CPSC222-Project4-BradenWhited. Once you've done this add me (GitHub username: BradenWhited) as a collaborator to your repo so that I can see your changes and progress. Note that I will only check this after the submission deadline passes to grade or if you ask me for help before then. Instructions for adding a collaborator are here: https://help.github.com/en/github/setting-up-and-managing-your-github-user-account/inviting-collaborators-to-a-personal-repository.

At this point you can begin working and any changes you make should be pushed to your private repository.

Requirements:

This project is worth 100 points in total. The coding portion of your assignment will be worth 80 points and your written reflection journal will be worth 20 points. If you successfully completed Project 3 you will be able to make additions to your existing work in order to complete this project's requirements.

The requirements are a bare minimum and you are encouraged to experiment, go above and beyond, and be creative. Create something you care about. Whether it is a hobby, a meme, or just something you find yourself invested in. Have fun with it. It doesn't have to be directly related to what you did in Project 1, 2 or 3, but it can be if you choose to do so.

Coding Requirements (60%):

JSX and JavaScript (40%):

- Your website will be comprised of *at least* 10 React components
  - All of the components may be named whatever you like and can be either static or dynamic
  - If you create a wrapper component (like the App one we created in Homework 4), this will not count towards your 10 components
    - It is still recommended that you do this
- You must have some portion of your application that uses States.
  - I should be able to add and delete states via interacting with your application's UI
  - You should display these states in some manner in your application
  - You should have at least some of your states managed in a Firebase database
- You must pass props throughout your different components
  - You must pass a state as a prop to at least 3 components
  - You must pass a function as a prop to at least 3 components
  - You must strictly require all props used in your components
    - AKA how we did this in Homework 4 and the ToDo List application
- If I stop and restart your server the some data in your application should persist
- You must use at least 2 forms in your application
  - These forms must be written using JSX
  - These forms must be able to change your application somehow
    - Add states, change styles etc.
- Include one image that changes depending on some state's value
  - This value should be a Boolean
  - Show one image when value is true, another when false
  - Add a button that toggles this state value
  - The image should change without a page reload
- You should include a contact form component (the name of the component does not matter)
  - This form should be styled with Bootstrap
  - You should use bootstrap's grid system and form-groups
  - You should collect at minimum the user's name, email, address, and phone number
  - All of these fields should be stored inside a firebase DB
  - Display the names of all contacts collected in your app
    - These actions will require you to write and read from Firebase
- You must display data from at least 1 API in your database
  - The API must return JSON
  - The API can be public or private
    - If it requires some kind of key or auth token it must be provided to me with your submission, along with any necessary instructions

Bootstrap and CSS (10%):

- You may style your application in any way you wish provided:
  - You use Bootstrap styling when possible
  - You have at least 10 custom styling rules (either in CSS sheets or in your .js files)

GitHub (10%):

- You must make at least 5 separate commits throughout the project. You will receive full credit if your repo has 5 or more commits. If you have less than 5 commits you will lose all 10% of this portion.
  - This is done to encourage you to work on small, specific features and not check in large chunks of code at once, which is a bad habit.

Creativity (20%):

Since this is a final project I am only gradually increasing the requirements (mostly to just ensure you are using a database) to give you more time to create the application or web site you want rather than trying to fit in as many of my arbitrary constraints and questions as possible.

As such this 20% of your grade will be for your creativity and ingenuity and showing that you've made something you care about. Attention to detail, going above and beyond the basic requirements, and attempts at making your code as clean as possible will all be considered when factoring in this portion of your score.

This section is **NOT** a test of whether or not I personally like your web app or site. Taste in that aspect is always subjective from person to person so that would be unfair. Rather, this is a measure purely of effort and hard work.

Journal Requirements (20%):

You will write a small journal to collect your reflections and thoughts around the project and how you choose to approach it. Your journal should be submitted as a PDF in the "journal" folder of your project

Opening (1/2 Page):

Describe your initial thought process to attack the project. What kind of an application are you planning to create? Are there certain parts of the project you think are easier than others? Difficult? How do you think you will do?

Submission Reflection (2-3 sentences per 'git commit/push' you do to your repo)

Include the check-sum or date and time of your commit/push. What new have you added or changed this time? Are you running into any obstacles? What do you want to do next?

Conclusion (1/2 Page):

Give your final thoughts on the project. Are you happy with how your project turned out? What are you most proud of or impressed with in regards to the work you've done on the project. Is there anything you would do differently if you had the time or knowledge to do so? How did this project compare to your experience with the previous project?

Deliverables:

Submit your project as a compressed .zip file to Canvas. In the project comments include a link to your private GitHub repository that you have been using for the project. I should be listed as a collaborator on the repository so that I have access to view it.