CS 696A Full-Stack Entrepreneurs App Development - Lab 4

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OBJECTIVE

In this lab, you will create a fully functional Tic-Tac-Toe game using the **React** framework, and comparing it to your "vanilla" Javascript development. Don't be fooled by the short page length; most of the lab content exists on the React website linked in Step 1.

SUBMISSION INSTRUCTIONS

You may work with your assigned groups, but do not copy anyone's code. Everyone needs to make their own submission. Submit a word document with the following items:

- Link to your React Tic-Tac-Toe repository.
- Reflection.
- Breaking down an app UI into React components.

STEP 1: TIC-TAC-TOE TUTORIAL

Follow the official React Tic-Tac-Toe tutorial. My suggestions:

1. Install the React Developer Tools extension as well for easy debugging on this and future projects.
2. Run the application locally (see "You can also follow this tutorial using your local development environment"), so you can practice running code locally.
3. Type out each character by hand from the page, so you can internalize React development. Copying and pasting will do you no good.
4. Create a GitHub repository for the code ahead of time, and commit changes after every major change. You will have to submit the repo.

Once you are done with this tutorial, create a Github repository for it and push your code to it.

Add the link to the repo and a screenshot of the application working to your document. Like the previous assignment, feel free to make any changes to the base code to practice. It might be interesting to try to port your previous changes to a React application to practice where the logic should go.

CONNECT TO YOUR PROJECT

Read the page titled Thinking in React carefully. Then pick a potential page from your final project. Draw a diagram (similar to the grocery store on that article) and explain with words what components are required to make that page, and where each piece of state would live. You can ask others for help, but do something different than your other team members so you can all use these component breakdowns.

REFLECTION

After you have built this new tic-tac-toe application and read the "Thinking in React" article, reflect on the experience in a paragraph or two in your submission document. Some questions to answer (though you can add your own as well:

1. How did you like the experience of building this application versus building the same experience in vanilla HTML/CSS/JS? What are some of the pros and cons of each? How does React's component-based architecture change how you think about organizing code compared to vanilla JS?
2. When might you choose vanilla JS over React for a project?
3. How do you think React would scale for larger applications with many developers compared to vanilla JS?
4. What are some parts of the tutorial or things about React that you did not understand? Was there anything you had to copy and paste without understanding why?

AI ATTESTATION

Include one of the following statements at the top:

- I attest that I did NOT use ChatGPT or any other automated writing system for ANY portion of this assignment.
- I acknowledge using ChatGPT [or some other system; name it] for the following tasks: [list them]. Some surprising benefits of using GPT include the following: [list them]. I also encountered a few unanticipated challenges: [list them].