Spørgsmål 4

Question

Explain and show examples of how to design and implement a single-page application with use of React version 16.2 or newer.

React basics

- React in it self is a library that provides the oppertunity to develop af quick lightweight frontend. If redux and react router is added react gets a lot of the same capabilities like frameworks such as Angular
- Special thing about React is how it works with a virtual DOM also called the "React DOM"
- The react DOM is a replica of the original DOM. All changes happen in the react DOM and when running the lifecycle methods such as render and mount. React compares the React DOM and the original DOM.
- After comparing the DOMs it only renders the parts of the DOM that changed.
- This means that every kind of change needs to happen in the react DOM. So that react can keep track of the changes and update the original DOM.
- The UI itself is made of elements which in normal web component terminology would be the same as a webcomponent
- Another important concept are react components. A component can be seen as a view or service, depending on the amount of UI elements within.
- A component can also contain other components.
- Component can be created in different kind of ways. As a class or as a function that returns some JSX(JavaScriptXML)
- When creating components as a class, it enables the developer to use "states". States are used when a value is up for change in the future. e.g. a timer or tracker of some sort.
- It's possible to use hooks with function format to access state capabilities.
- It's important that a state is only changed from the component it was created within in the first place. This is due to the react DOM. The react DOM needs to know where the change happened to reflect which parts of the DOM needs re-rendering.
- To change state it's important to use the function *setState* because it notifies the react DOM and makes it rerender the changed part.
- In the scenario where some extern data is needed *props* can be used.
- As an example: <Header display="Something Epic"/> means that in the Header component "Something Epic" can be retrieved by using *props.display*. No further decleration is needed. React

takes care of it. if the component is in the form of a function it's important to pass *props* in as an argument.

- controlled form is a form controlled by a react component, and gives the possibility of sanitising form data.
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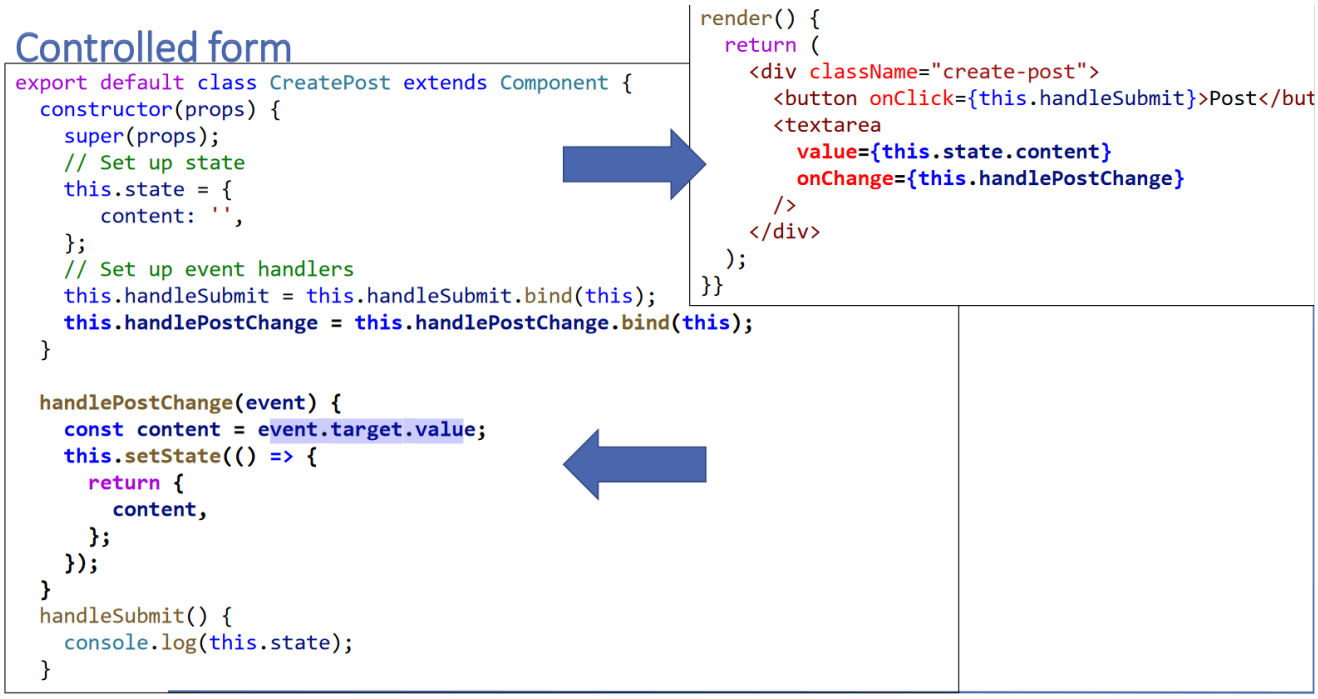

- preventdefault is imnportant when using submit, if excluded it will try to send the form to the backend
- input output i teact component? find ud af hvad det betyder.

Implement And Design React SPA

See the repo ***AbdulBarakeh/ReactSPASampleApp*** on github