

ITMD 465/565

Rich Internet Applications

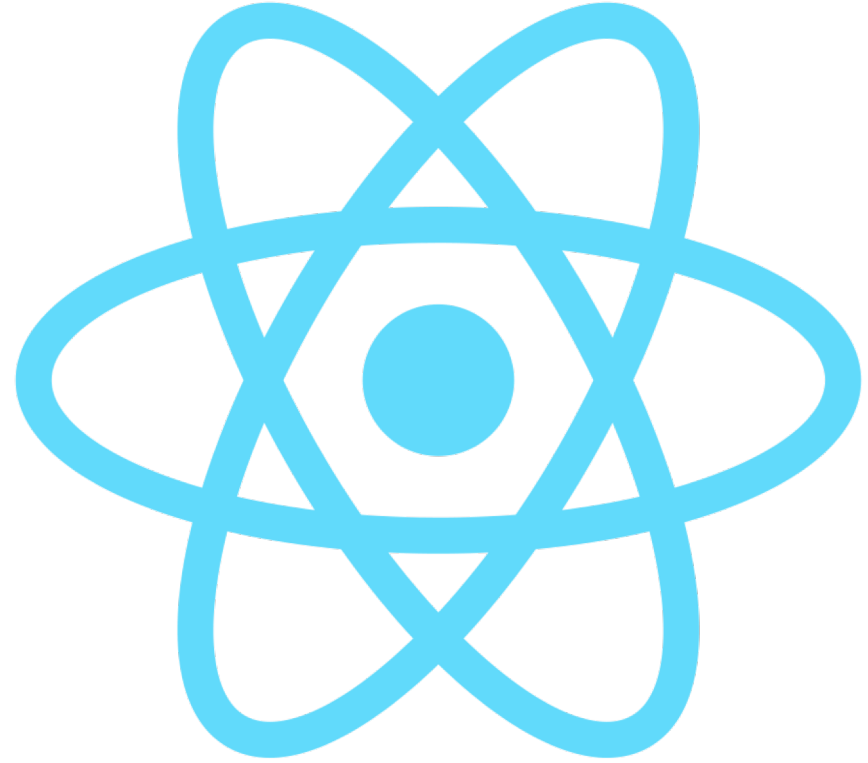
Lecture 14

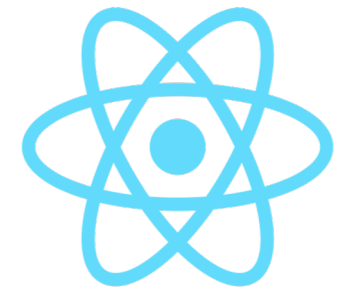
Fall 2019 – November 20, 2019

Tonight's Agenda

- React Demos
- React Router
- React Create App
- Lab Discussion

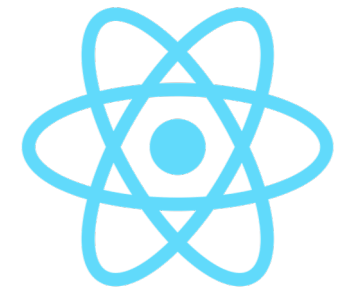
React Router





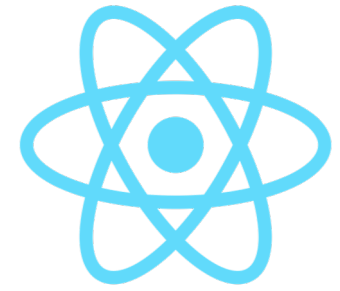
React Router

- The most widely used package for doing URL routing in a React application
- Currently version 4, major changes in the way it works in version 4 so watch what examples you use
- Dynamic Routing vs Static Routing
 - In static routing you usually setup routes ahead of time in a config location
 - In React router's dynamic routing the routing happens as your app is rendering, not in configuration
- React router v4 is made up of React components
- Package comes in web, native, and core.
- Web package is react-router-dom, install and import like any ES6 module
- <https://reacttraining.com/react-router/>
- <https://auth0.com/blog/react-router-4-practical-tutorial/>
- <https://medium.com/@pshrmn/a-simple-react-router-v4-tutorial-7f23ff27adf>



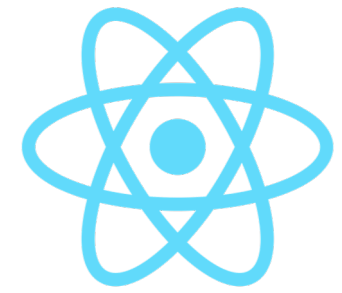
React Router

- We will be looking at using the Web version
- `npm install react-router-dom` or `yarn add react-router-dom`
- React Router consists of a few basic components and you usually do explicit named imports or each object. Here are the major ones.
 - Router, including `<BrowserRouter />` and `<HashRouter />`
 - `<Link />`
 - `<NavLink />`
 - `<Route />`
 - `<Switch />`
- Explicit named import would look something like this:
 - `import { BrowserRouter, Route, Link } from 'react-router-dom'`
- <https://reacttraining.com/react-router/web/guides/quick-start>



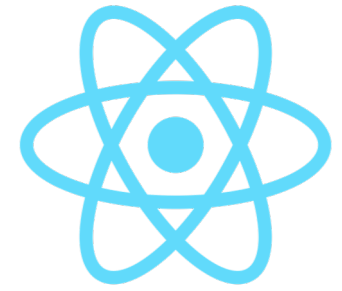
React Router

- Routers
- Router is the general object but you would probably use either the BrowserRouter or HashRouter
- The router component must wrap your entire application. Then you can use its functionality anywhere within. The router component must only have one child element.
- BrowserRouter – uses HTML5 history API to keep UI synced to URL. Best to use only when you have a server that will responds to requests
- HashRouter – Uses a # sign in the URL to keep the app and URL in sync. This is best to use when you are serving static files and can not respond to requests.



React Router

- Route Matching
- Route Matching happens in the Route component
- Route components have a property called path that is the route your trying to match
- Route components have a property called component and that is the component that will render when the route matches.
- Route components also have a property called render that can take in a function that return an element
- Be careful with nested paths, they will match multiple times unless you use the exact prop or the Switch component.
- The also have a children prop, check the docs for usage but component and render are more used
- Route paths can use have parameters when prefixed with a colon
 - path="/something/:parameter"

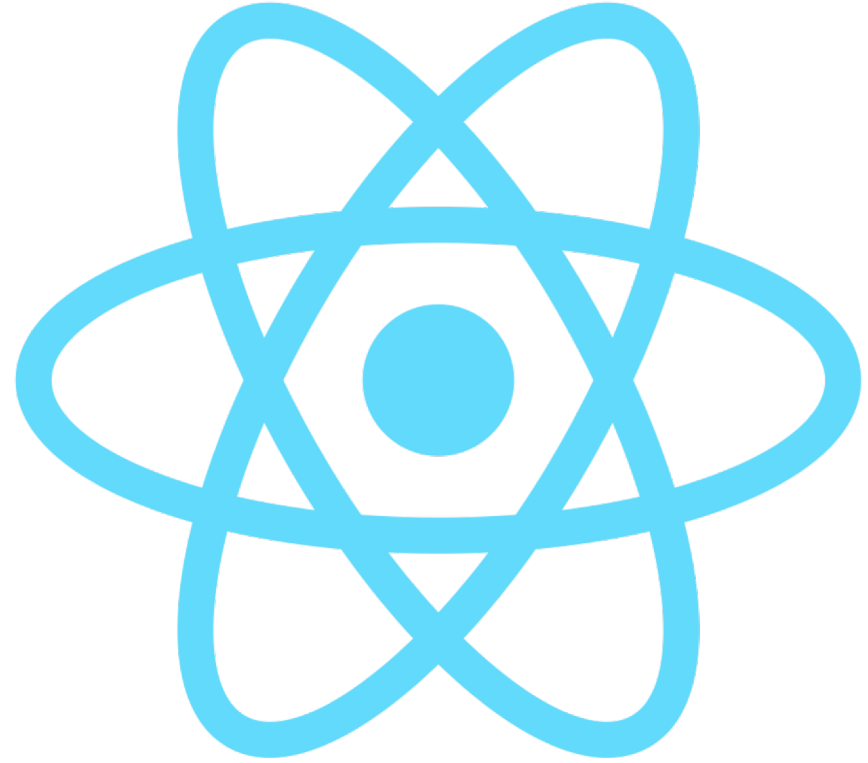


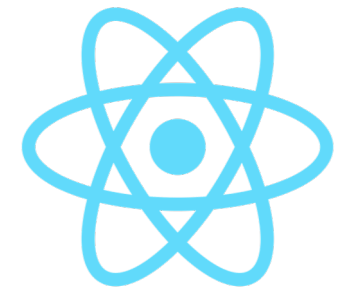
React Router

- Links
- Use the Link component to generate a link to a path
- Use the NavLink component if you need a class to be applied to the active link.
- When creating nested nav you should look into the match prop that gets passed in. It will include the matched path and you can build a nested path from it.
- Use props.match.path for route components since it keeps the parameters
- Use props.match.url for link components since it is the actual url that matches

React CLI

create-react-app package





Create React App

- Handy CLI that will completely scaffold a React app with webpack, babel, Jest testing and scripts to build and run a dev server.
- Created by the Facebook team
- <https://github.com/facebook/create-react-app>
- Recommend usage is now with npx so you don't have to install it globally.
- `npx create-react-app my-app`
- Can use npm or yarn to run the scripts defined in the package.json
- <https://create-react-app.dev/>

Links

- <https://create-react-app.dev/>
- <https://medium.com/@dinyangetoh/getting-started-with-react-webpack-and-bootstrap-27e95ff634ef>
- <https://create-react-app.dev/docs/adding-bootstrap/>

Assignments

Reading/Assignments

- All Labs due before finals week starts: Saturday November 30 11:59pm Chicago Time
 - Last Lab. Choose to do the canvas lab or the react lab. Lab you do is worth 40 points. If you choose to do both I will consider the other lab as extra credit up to 20 points.
- I will not accept late work by policy. Once the semester is over and finals week starts I will not accept assignments. **Anything turned in after that date will receive a zero.**
- Final Exam Details
 - Similar to midterm in questions, time limits.
 - Cumulative
- Will be released Monday Dec 2 in the morning and is due before 11:59pm Thursday Dec 5. **Must complete test by due date or you will get a zero.**
- All times Chicago time