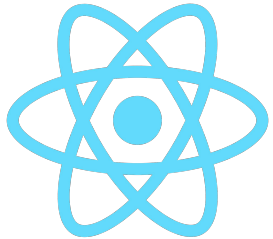
Atom, not flower

Intro to React

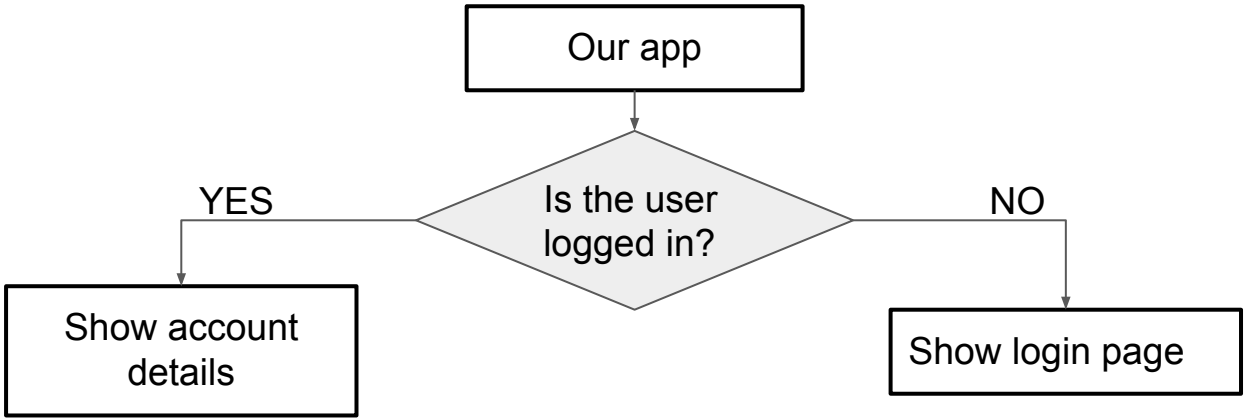


A Javascript UI Library

- Library, written in Javascript, that makes it easy to develop user interfaces
- Library/Framework controversy
- IMO: it’s library, but it acts like a framework
- Think of it as the ‘view layer’ in our application
- It’s open source! `https://github.com/facebook/react`

A brief note on state

- React offers a *declarative* way to model state
- State (in this case) is the state of the user interface itself
- i.e. ***we declare in our code how our user interface should look given the state of the component***.



Why do we need React?

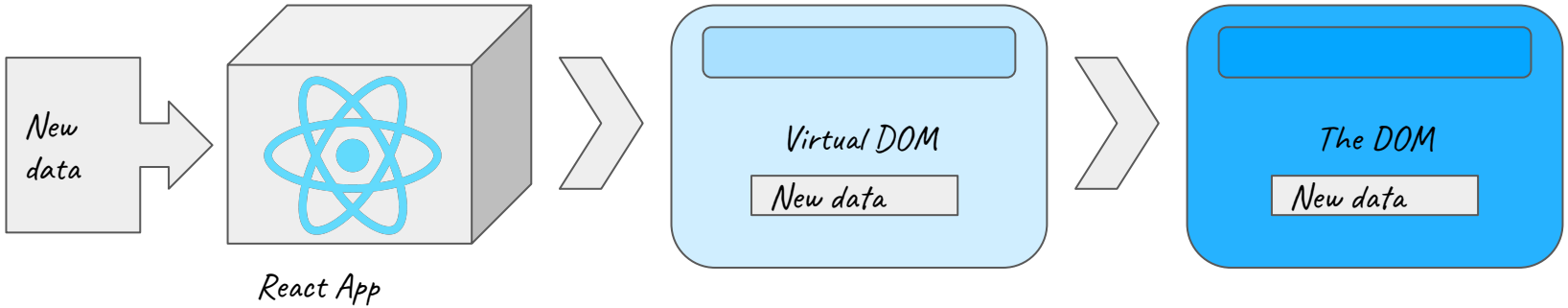
- As we now know, writing well-structured vanilla JS applications is tricky
- Also, very often, we are trying to solve common problems…
- ...for which there probably already exists a solution
- Over the years developers have created libraries and frameworks that help with development.
- Especially good for SPAs (Single Page Applications)

Why React?

- There are loads of frameworks to choose from: Vue, Angular…
- React a very strong contender ever since 2013 release: widely used, good ecosystem, backed by an important tech company (Facebook/Meta), etc
- Let’s look at State of JS: www.stateofjs.com
- Performance advantages (compared to Vanilla JS)
- The really exciting things about React:
  - Virtual DOM
  - Component based UI

Virtual DOM

- Updating the browser using JS is expensive ⏳
- If, after every little change, our React application re-rendered the whole DOM, our app would be SLOW(er) 🐌
- React gets round this by keeping a **virtual version of the DOM** in memory
- When we make a change, it updates the virtual DOM and compares it to the real DOM
- **It only updates the real DOM where necessary**



Component based UI

- Break down our UI (User Interface) into smaller parts called components (more on this later)
- Each part is now only looking after one thing
- Reuseable!
- These components may also use a syntax called JSX
- Looks like HTML

Get Started

- All the individual parts of our React application can be configured manually (library)
- Can be installed like any library through the command-line
  - `npm install react`
- **`create-react-app my-app-name`**
- Boilerplate application that gives us (out-of-the-box):
  - A built-in web server
  - A built-in script for webpack
  - The ability to import CSS and images
  - Hot reloading
  - A testing framework (Jest)

>>>codealong