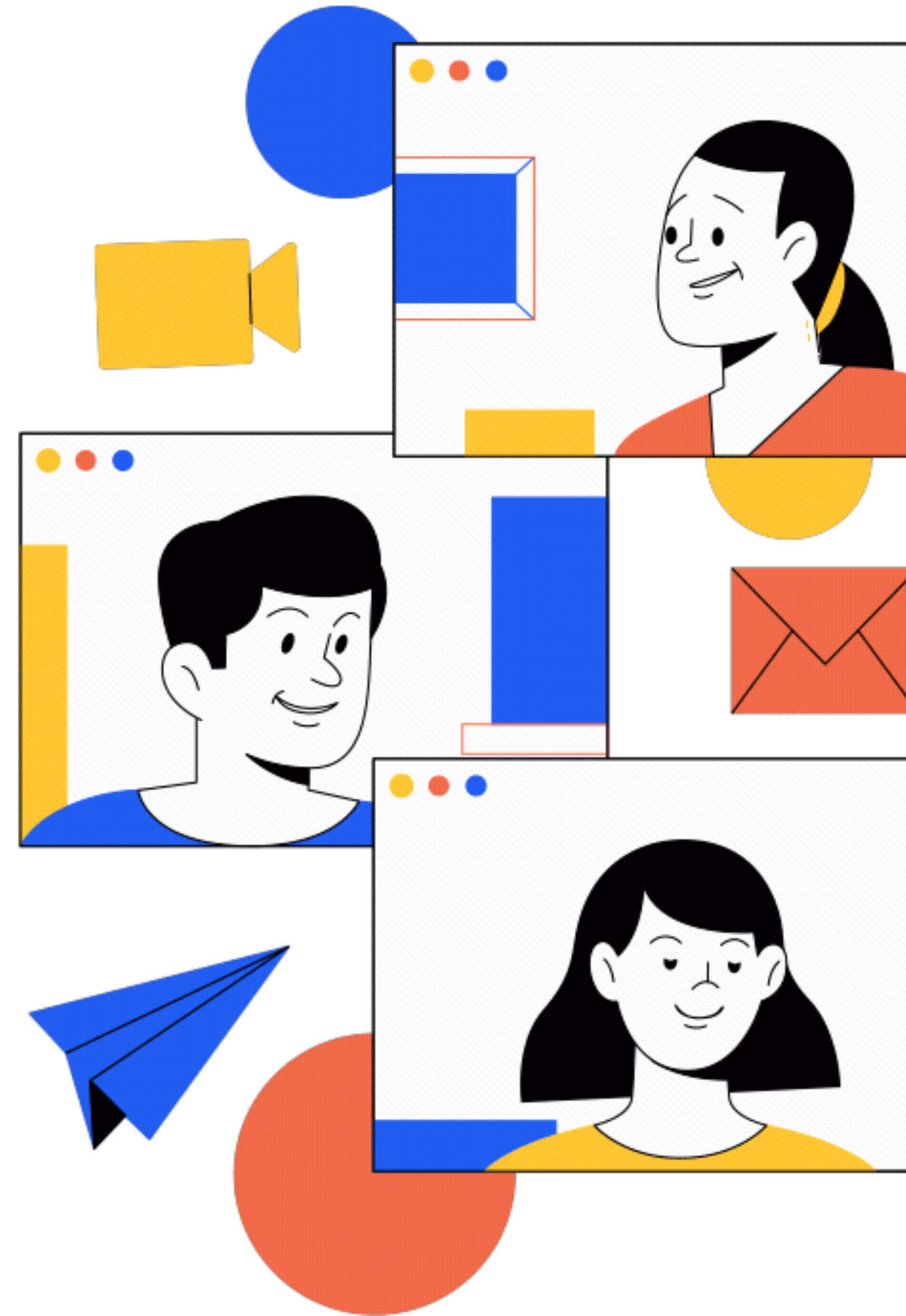UDACITY

Week 1 - React Dev. Cross-Skilling ND

Welcome aboard

Ahmed Abdelbakey Ghonem

React Session Lead

Introduce Yourself

In just 30 second, tell us more about yourself

01 Name

02 Age

03 Major

04 Favorite series, film or cusine

Agenda

What we'll cover in this session

- Introduction
- Join our Community
- What is React?
- Why React?
- Rendering UI Components with React
- Live Demo

Program
Prerequisites

you don't have to be a master

1   HTML/CSS

2   JavaScript

Dos

What students should do to graduate

✓ Attend Weekly Sessions

✓ Make progress in your classroom each week.

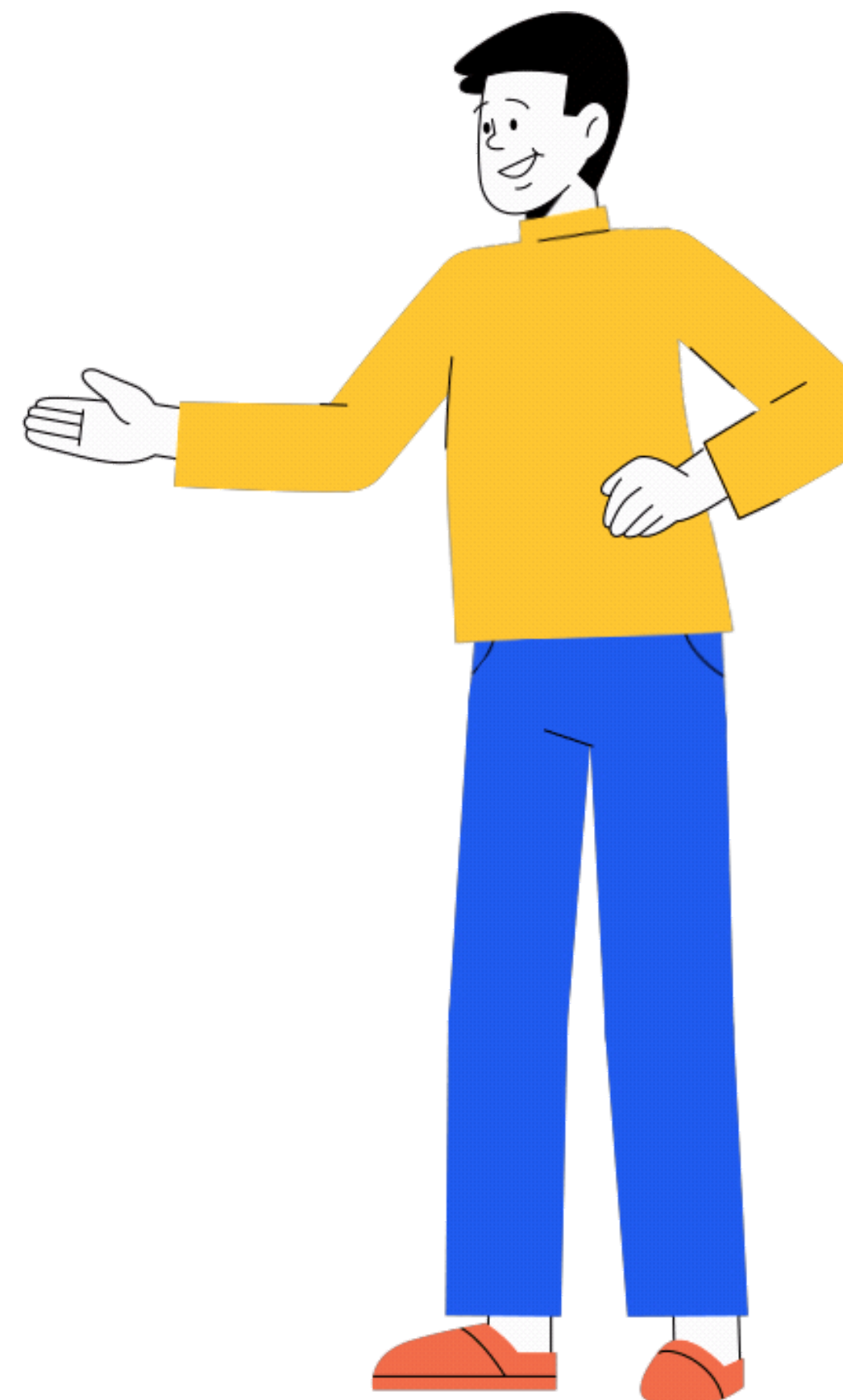✓ Submit the first project before **its deadline**

Don'ts

What to avoid

✗ **Plagiarism**

slack

Join our Slack Community

https://join.slack.com/t/egfwd-t4-august-22/shared_invite/zt-1dv96yt69-5yfnBLD9qgpOE9cJEigXoA

What is React?

- React is a JS library used for building reusable, complex UI components.
- React is **Component-Based**
- Developed and maintained by Facebook and became open-sourced in 2013.
- Components can be nested inside each other to build the whole page.
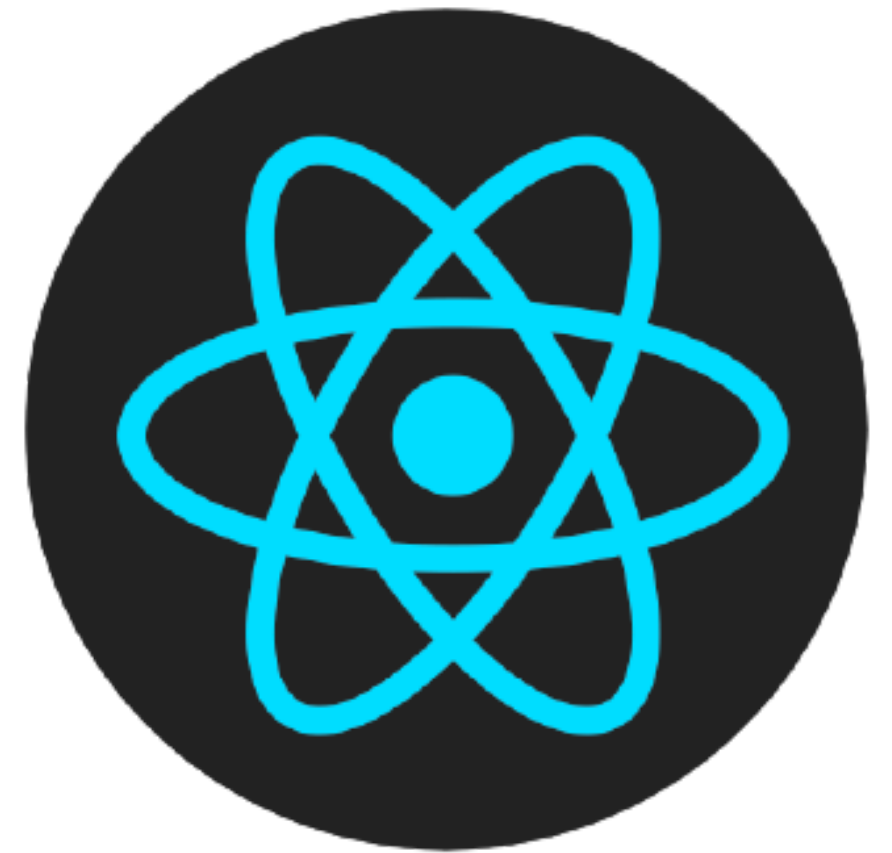
Why choosing React?

Uses Virtual DOM

Uni-directional Data flow

Composition

Uses JSX

Most Famous Frontend Framework

Real DOM

- **Data representation** of the objects that build the structure of the page.
- Can be used as a **programming Interface** to access DOM elements.
- On updates, *The changed objects and other objects gets updated.*
- DOM Manipulation is **very expensive and memory intensive.**

Virtual DOM

- **Virtual representation** of the actual DOM. *(A copy)*
- React build a **copy** of the real DOM and keeps it in memory
- On updates, *The changed objects, and the changed objects only*, get updated on the real DOM.
- VDOM manipulation is **Cheap**, **Fast and memory efficient**

React and the Virtual DOM
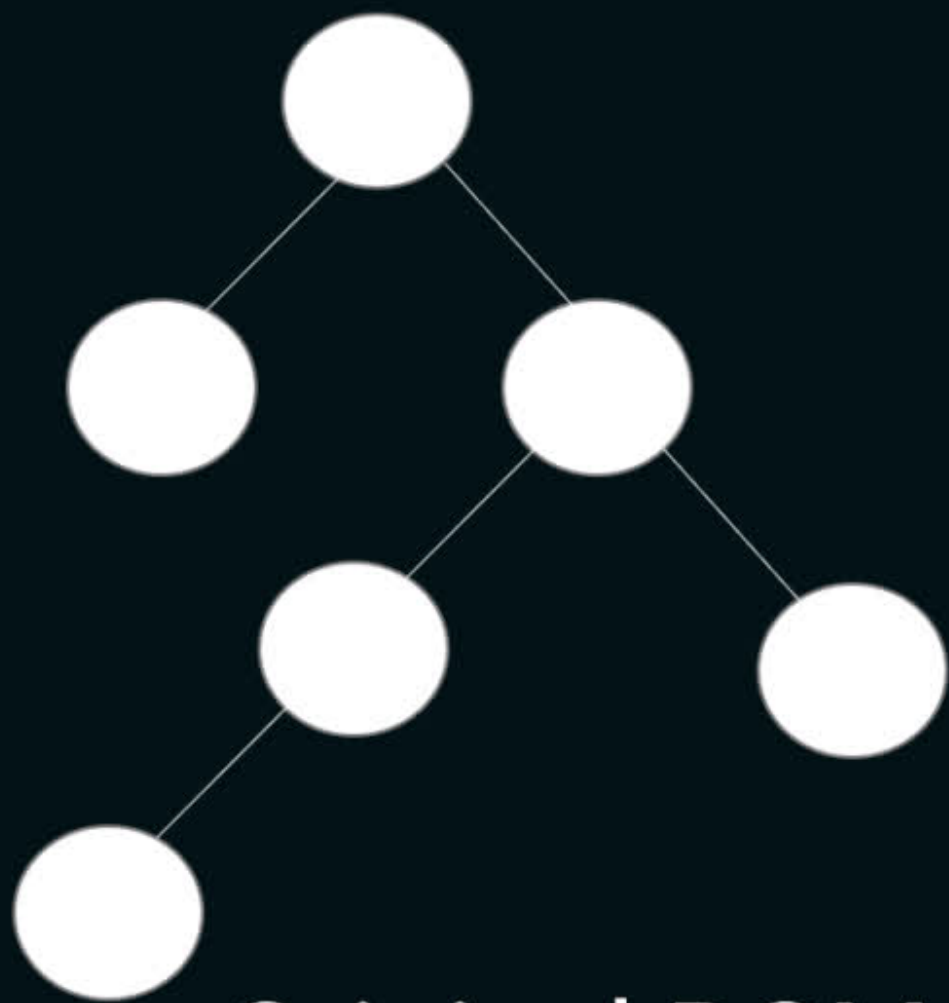
Original DOM

Uni-Directional Data flow

- In React, data flows in **only one direction**, from parent to child.

- Parent is **the one and only** responsible for updating the data.

- For the child to update the props, The parent must pass a **callback function**
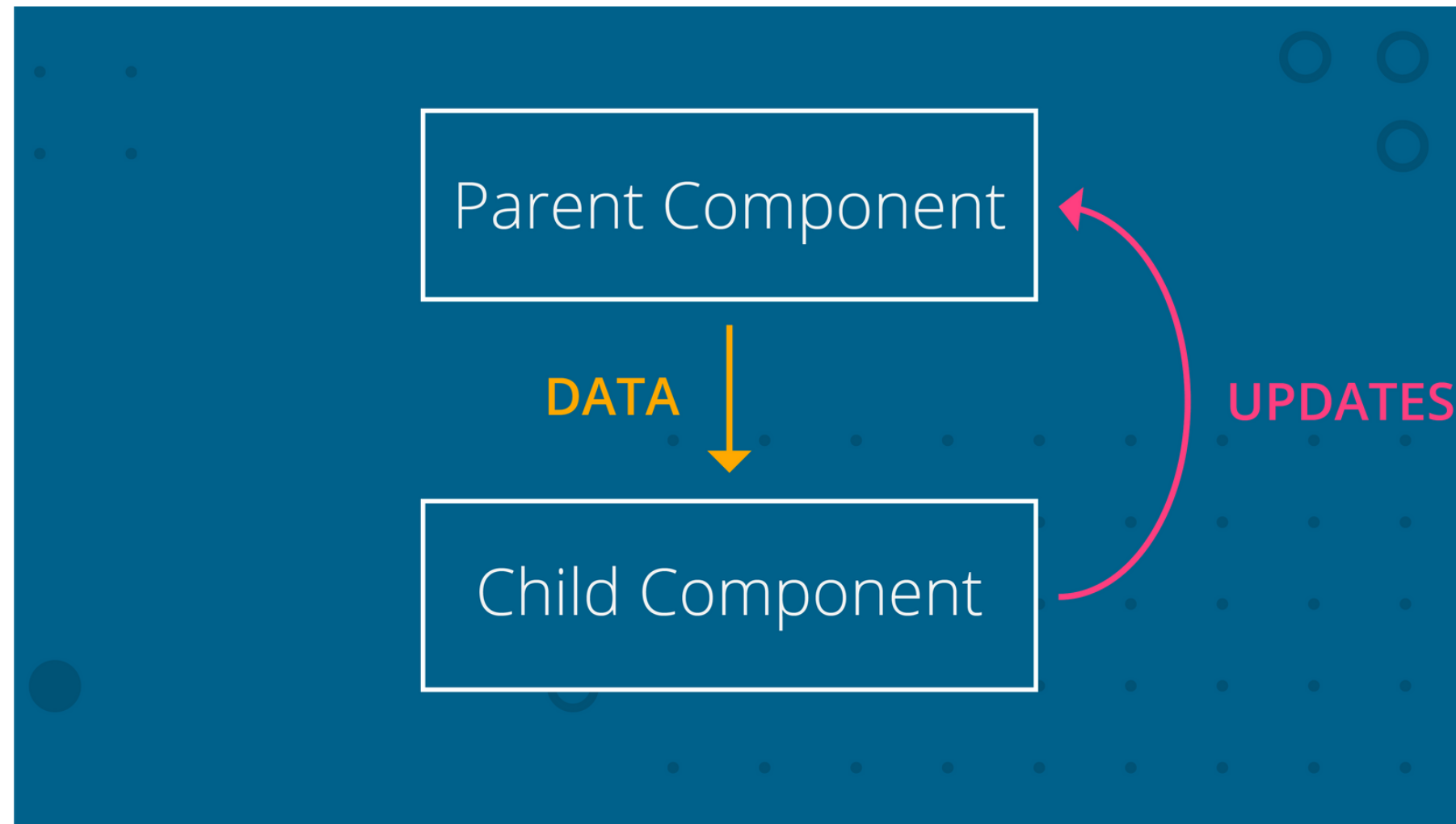
Composition

- Composition is a **pattern** that is used to combine simple functions or components to build more complicated ones
- In React, Composition means combining **simple components** to build **complex ones.**

```
<Layout>
  <Navbar />
  <MainContent />
  <Footer />
</Layout>
```

JSX (JavaScript   HTML)

- JSX is a combination of **JavaScript and HTML** that allows us to write HTML into javascript files.

```
//written with JSX
class Hello extends React.Component {
  render() {
    return <h1>Hello, {this.props.toWhat}!</h1>;
  }
}

ReactDOM.render(
  <Hello toWhat="world" />,
  document.getElementById("root")
);

//written without JSX
class Hello extends React.Component {
  render() {
    return React.createElement("h1", null, `Hello, ${this.props.toWhat}!`);
  }
}

ReactDOM.render(
  React.createElement(Hello, { toWhat: "world" }, null),
  document.getElementById("root")
);
```
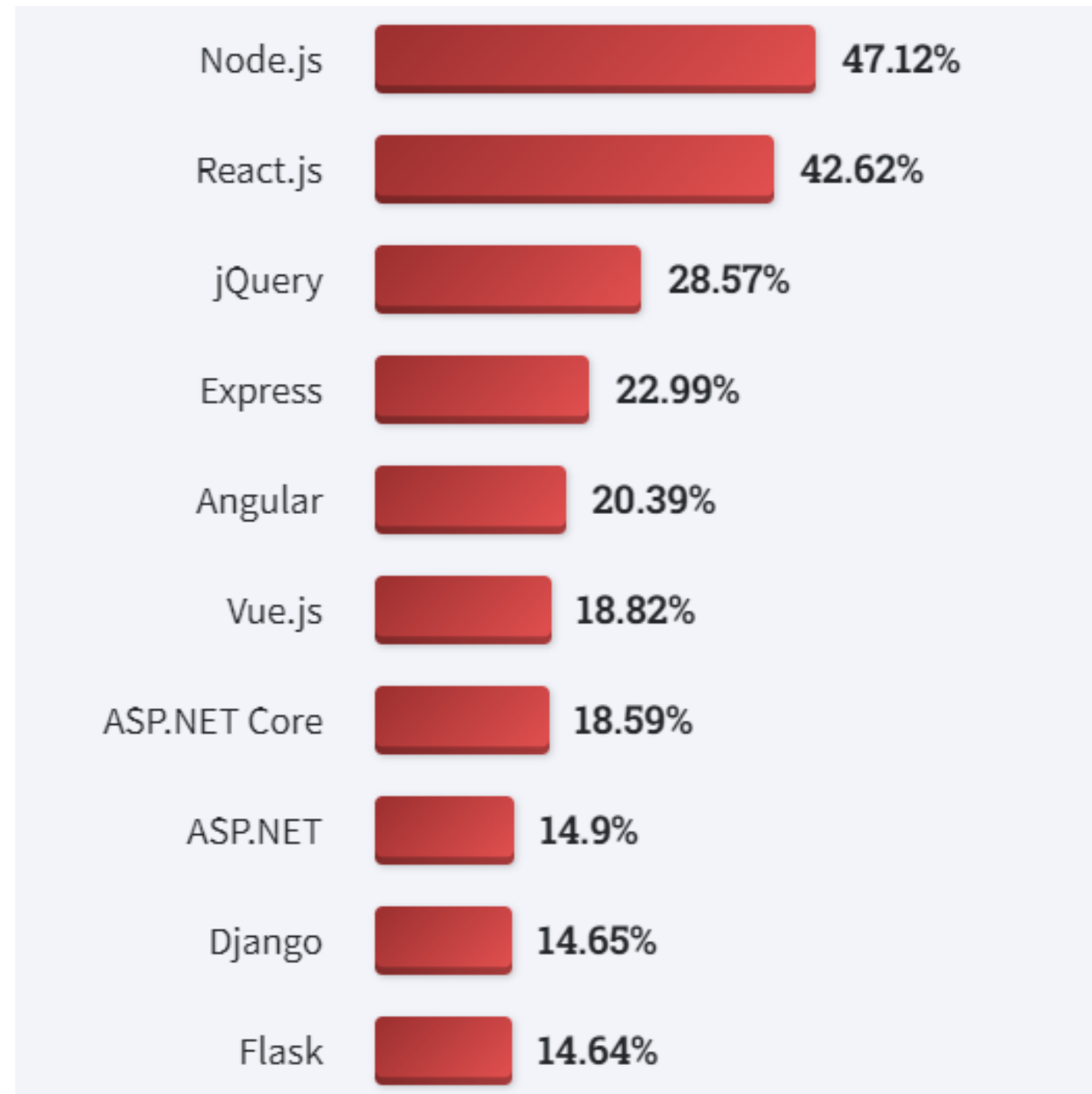
Most Famous
Frontend Framework ✧˚

according to

Framework	Percentage
Node.js	47.12%
React.js	42.62%
jQuery	28.57%
Express	22.99%
Angular	20.39%
Vue.js	18.82%
ASP.NET Core	18.59%
ASP.NET	14.9%
Django	14.65%
Flask	14.64%

Most Famous
Frontend Framework ✨

according to

Framework	Percentage
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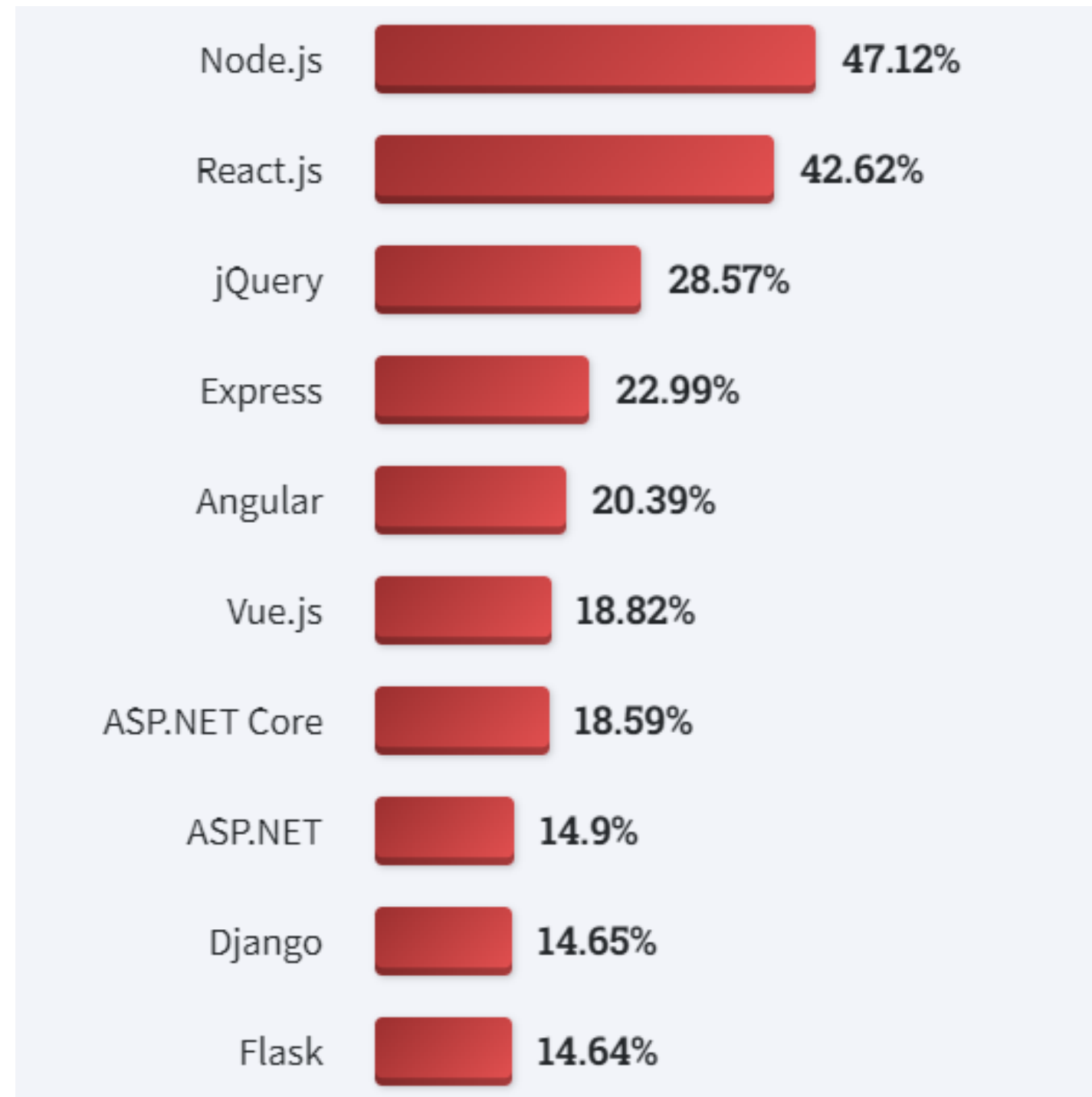
React Component ❤

The heart of every react application

Functional Component vs
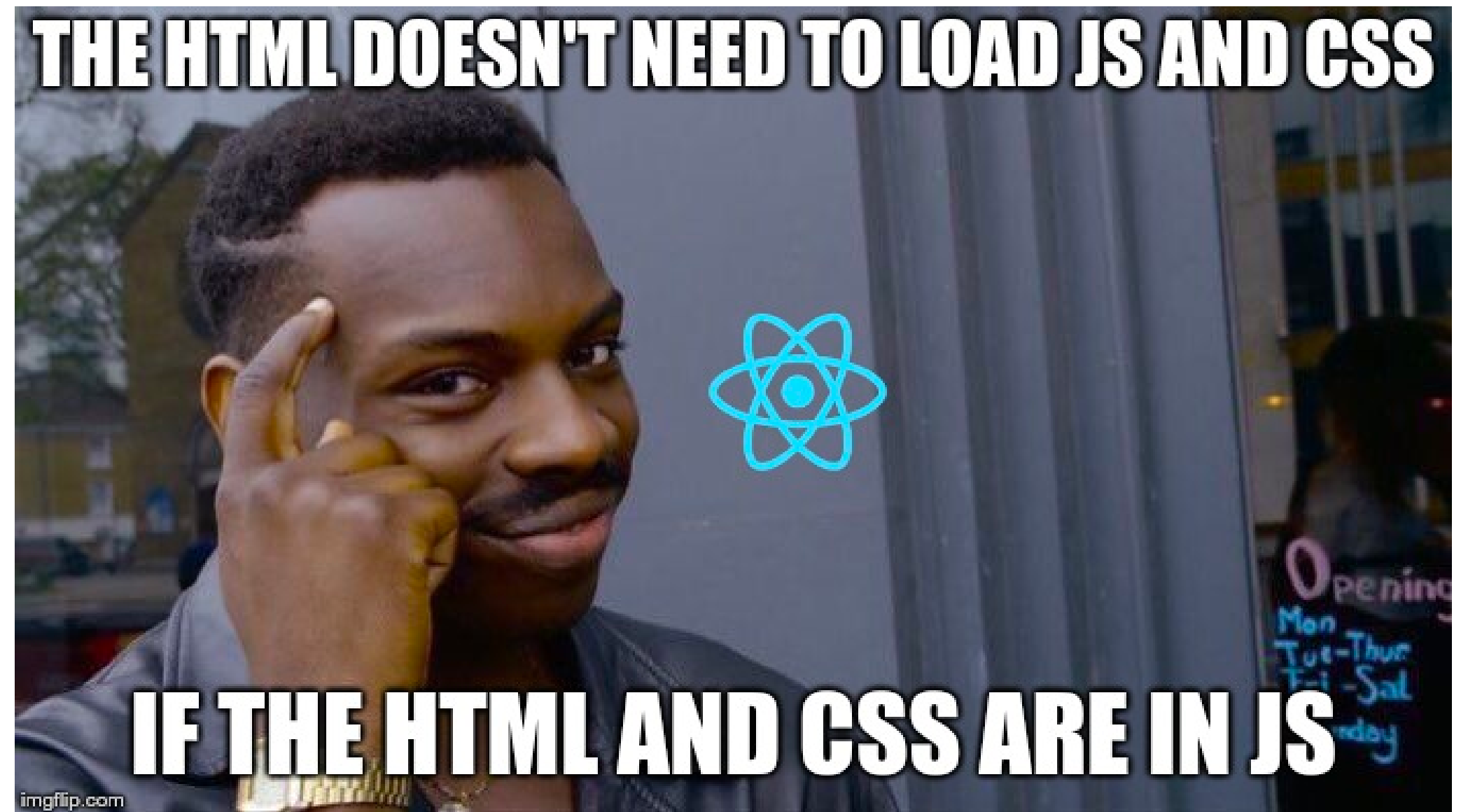# Class Components

```
1   //uses functional component
2   function App() {
3     return <div className='App'>This is a functional component</div>;
4   }
5
6   //uses class component
7   class ClassApp extends React.Component {
8     render() {
9       return <div className='App'>This is a class component</div>;
10    }
11  }
```

Demo Time

Grab your coffee and let's get started. ☕

Meme of the day

Any Questions?

A wise man once said,
"There is no dump questions"

Thank you!

For questions, requests and anything, please reach out to me on slack or email me at **aghonem2011@gmail.com**

Follow me on Github **@3ba2ii**

code and slides are found at this **github repo**