

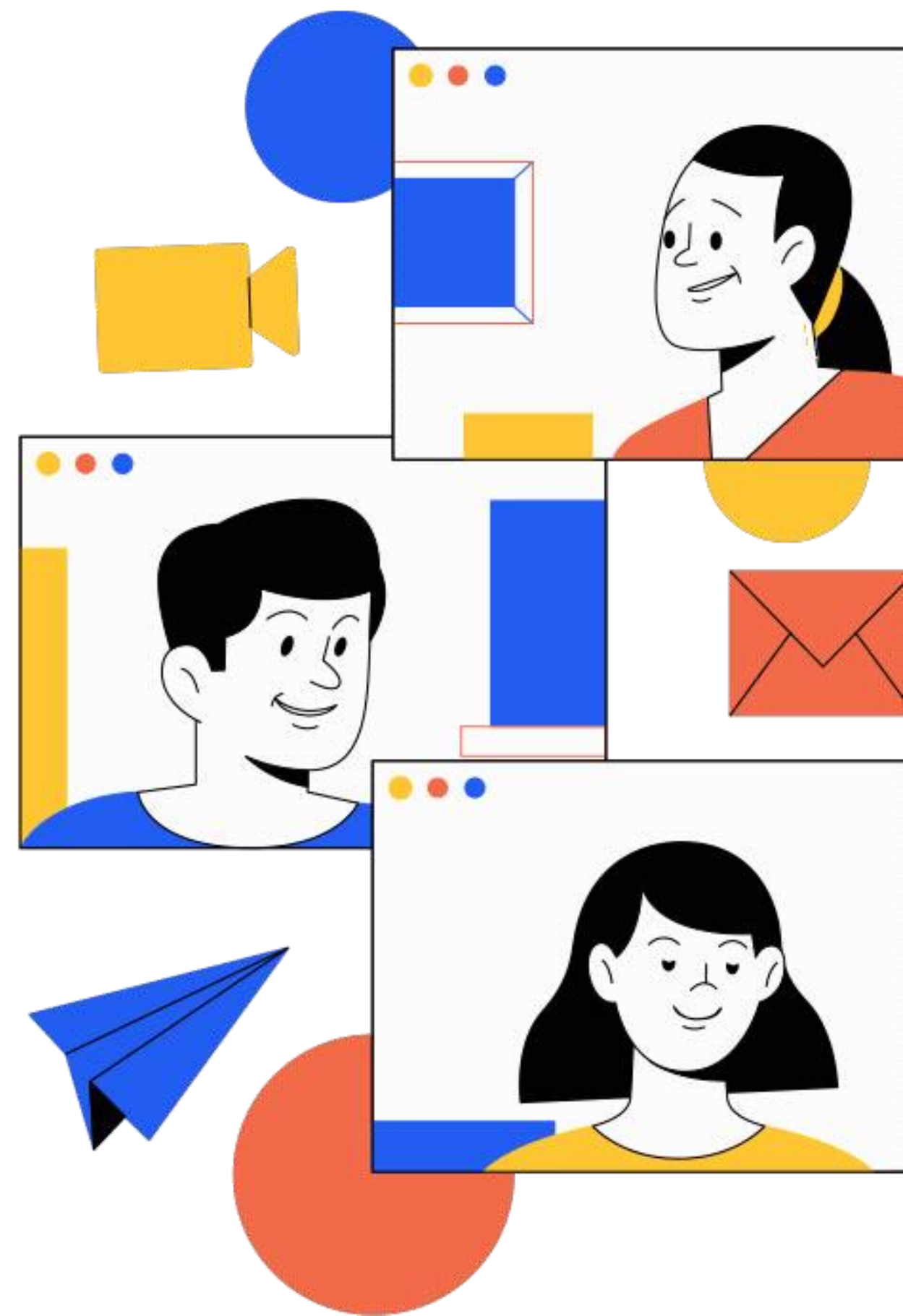


Week 1 - React

Welcome On Board

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React Session Lead



Introduce Yourself

In just 30 second, tell us more about yourself



01

Name

02

Age

03

Major

04

Favorite series, film

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

- o Attend Weekly Sessions.
- o Make progress in your classroom each week.
- o Submit the first project before **its deadline.**

Note:

Incase I got disconnected at anytime for more than 5 mins we will consider it as a 10 mins break.

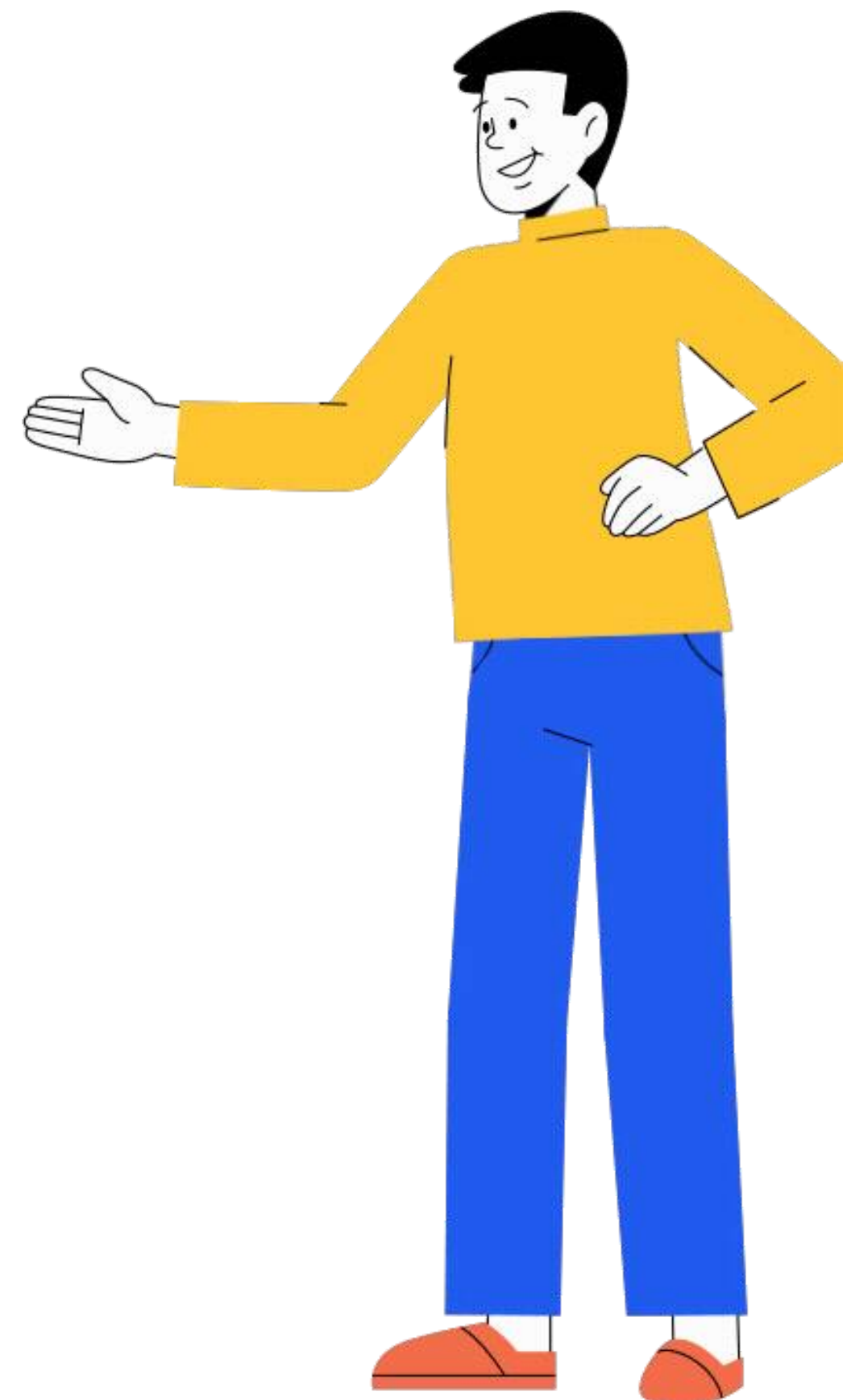
Don'ts

What to avoid

Plagiarism

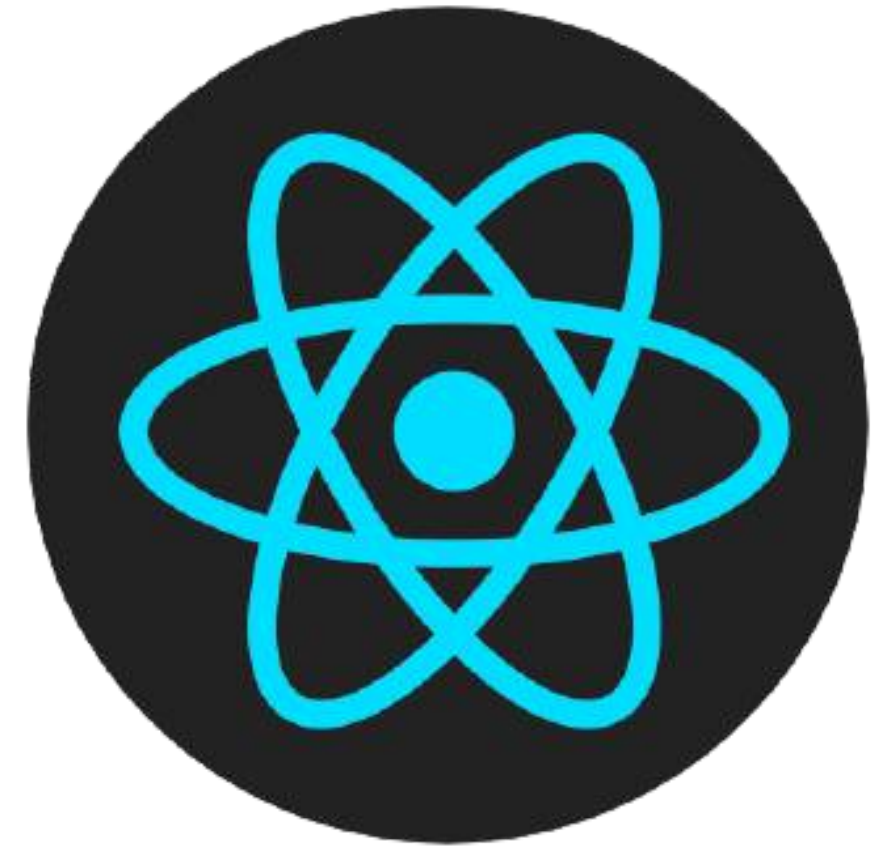


Join our Circle
Community



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

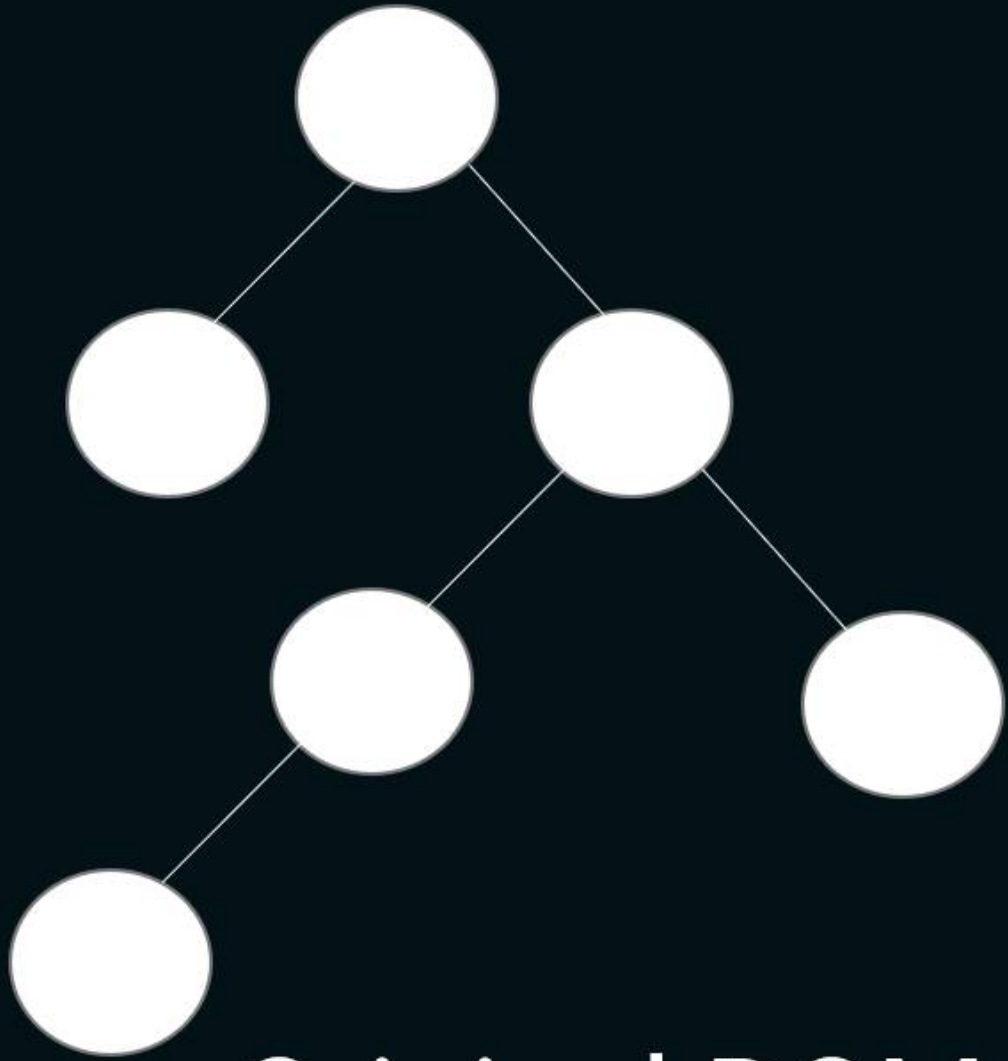
Real DOM



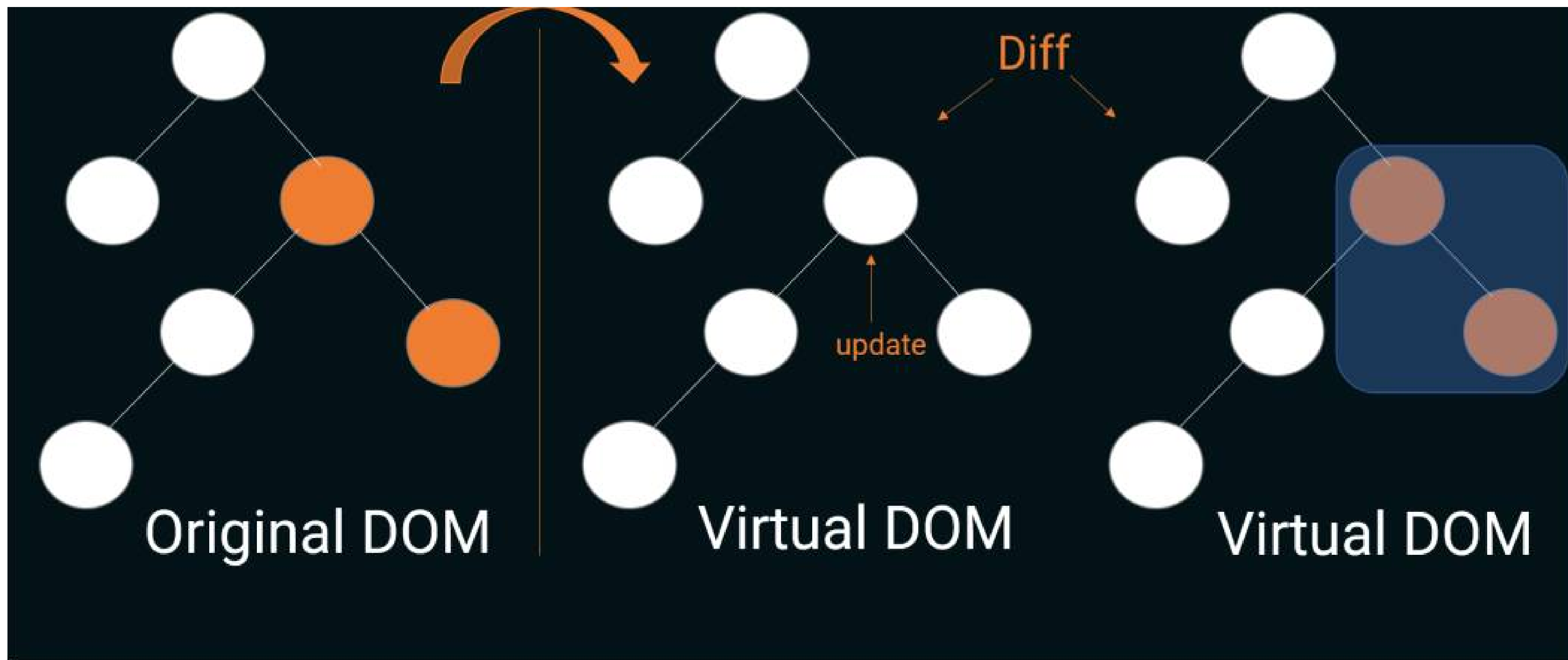
- **Data representation** of the objects that build the structure of the page.
- Can be used as a **programming Interface** to access DOM elements.
- On updates, ***The changed objects and other objects gets updated.***
- DOM Manipulation is **very expensive and memory intensive.**

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.**

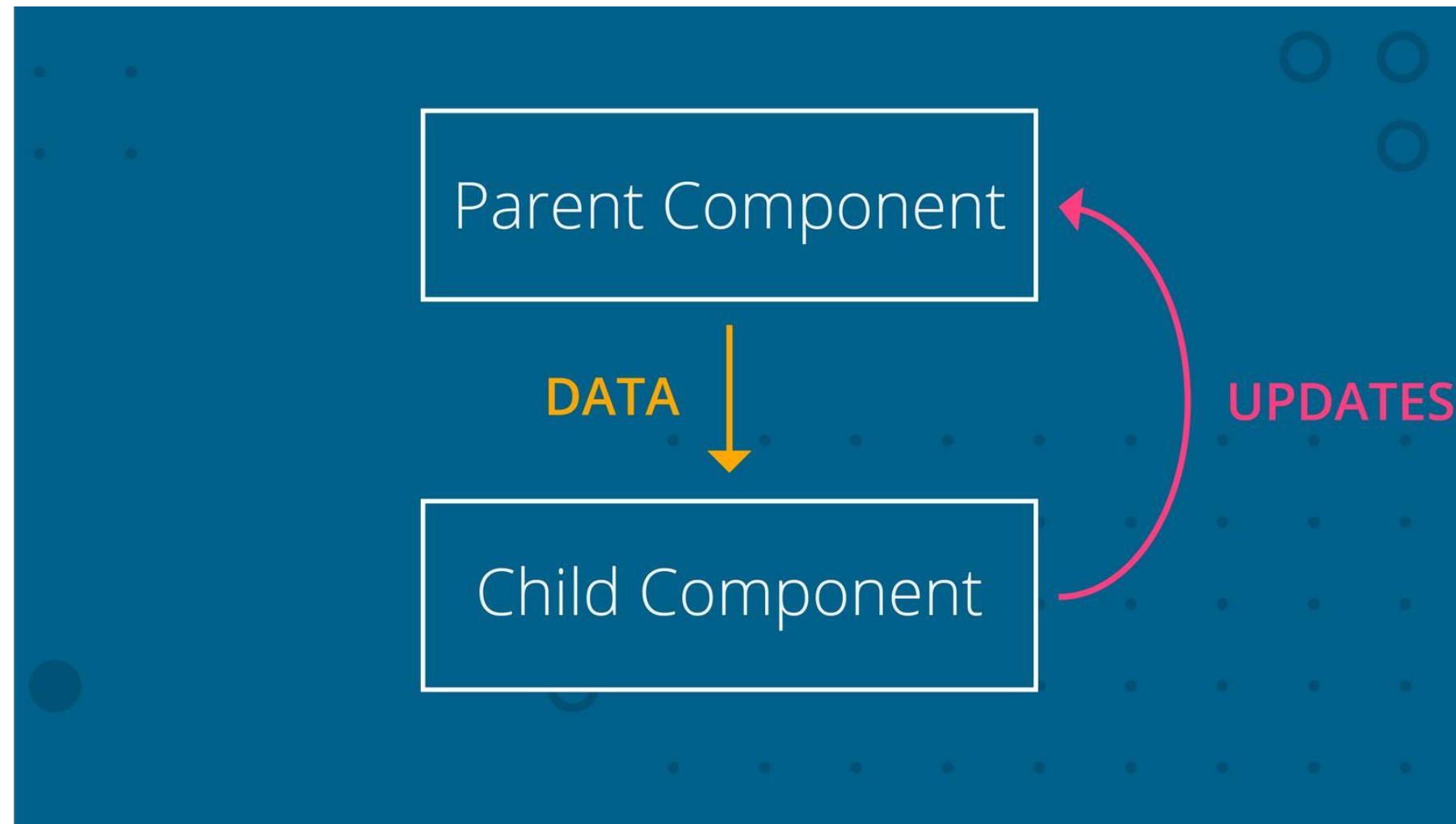


Original DOM



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>;
  }
}

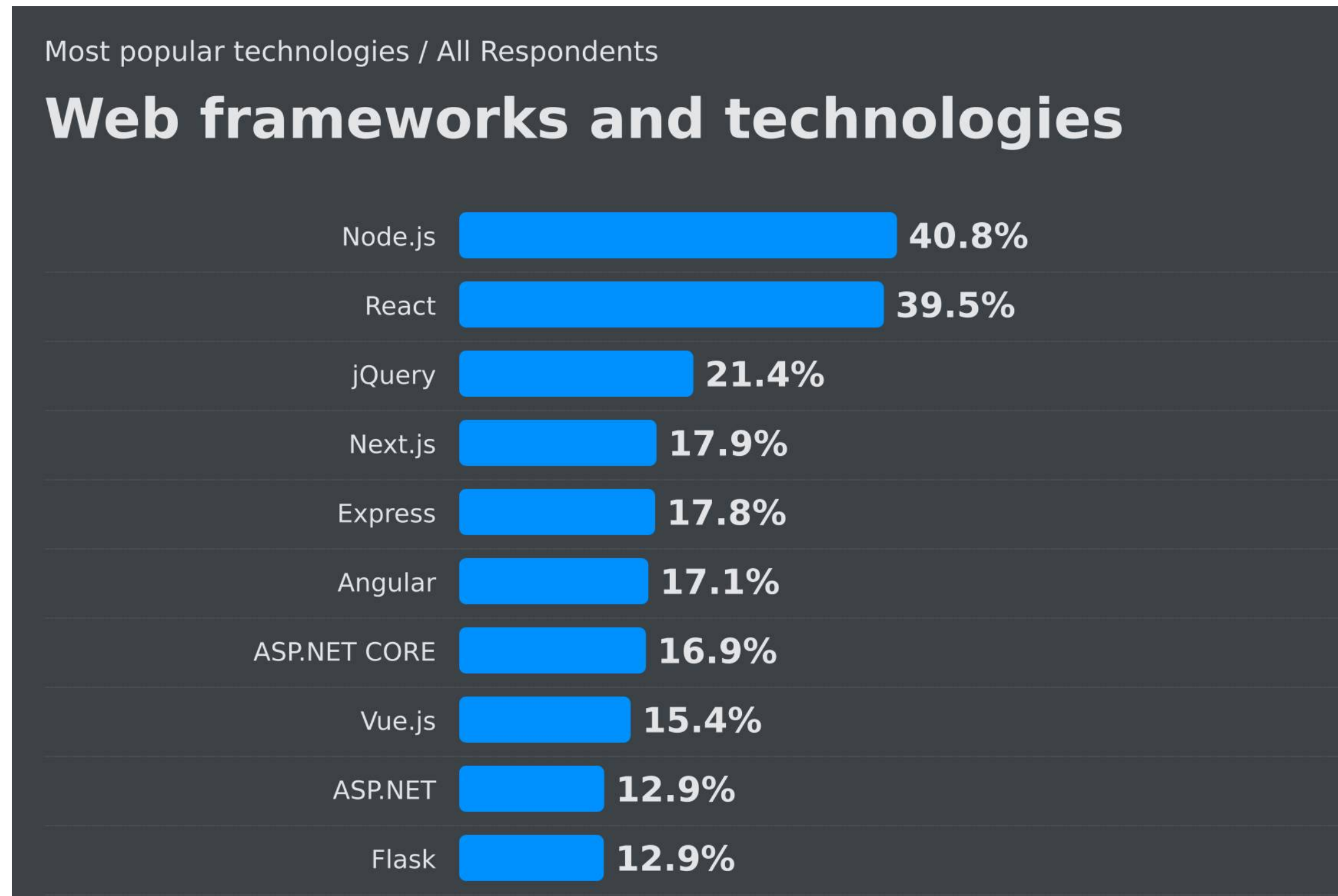
ReactDOM.render(
  <Hello toWhat="world" />,
  document.getElementById("root")
);

//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 [Stackoverflow Survey 2024](#)



React Component ♥

The heart of every react application

Functional Component vs Class Components



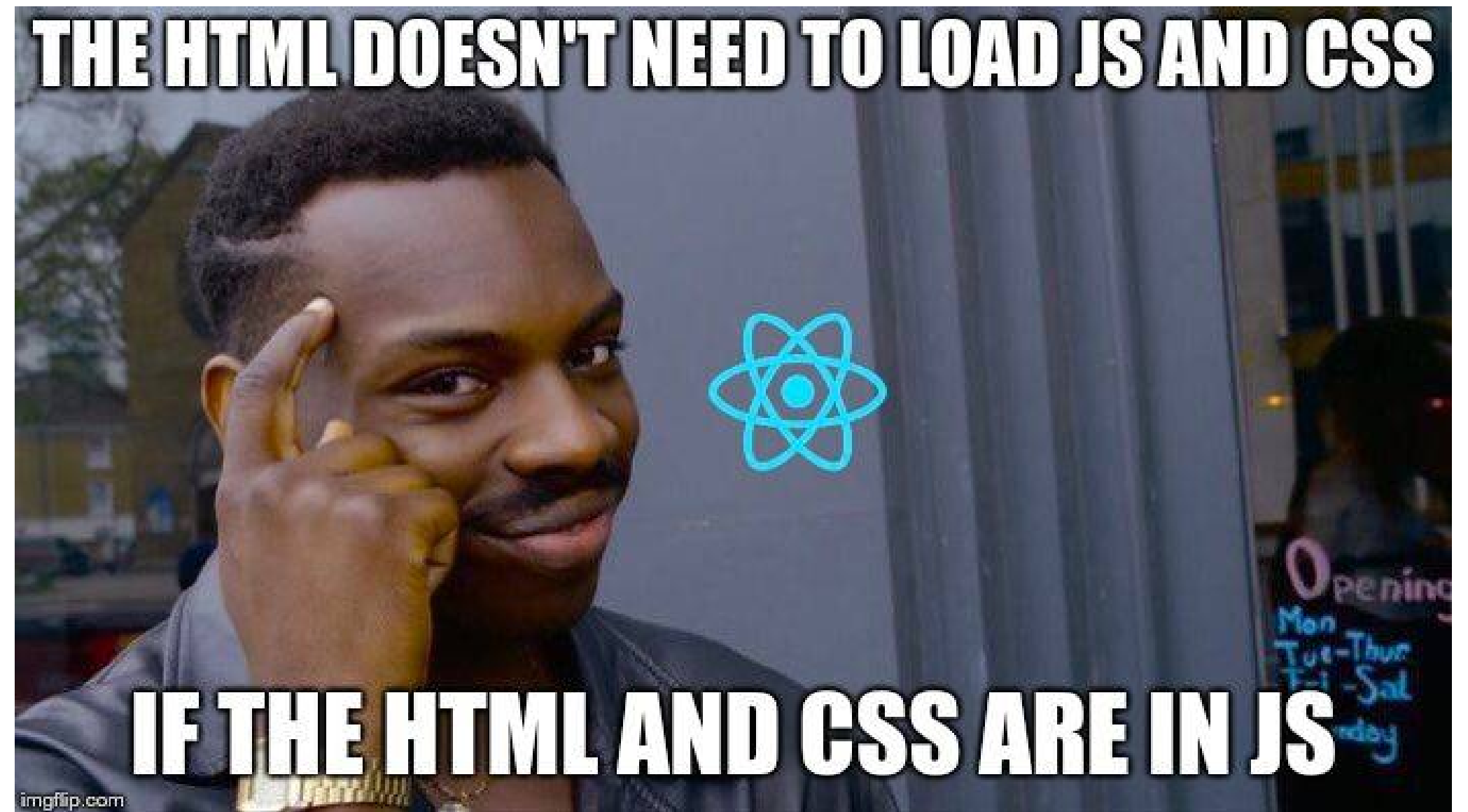
```
1  //uses functional component
2  function App() {
3      return <div className='App'>This is a functional component</div>;
4  }
5
6  //uses class component
7  class ClassApp extends React.Component {
8      render() {
9          return <div className='App'>This is a class component</div>;
10     }
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 circle or email me at a.lotfy@fci-cu.edu.eg



Follow me on Github [@ahmeddxfoad](https://github.com/ahmeddxfoad)
code and slides are found at this [github repo](#)

