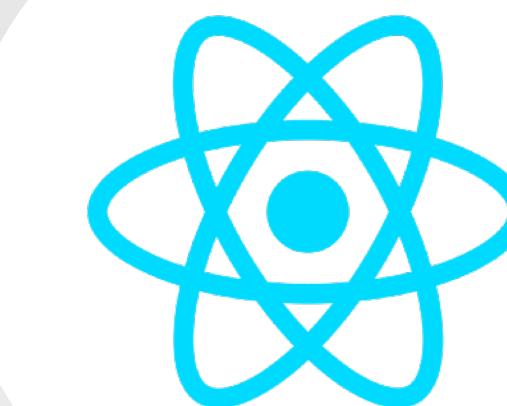


WHAT IS REACT?

REACT

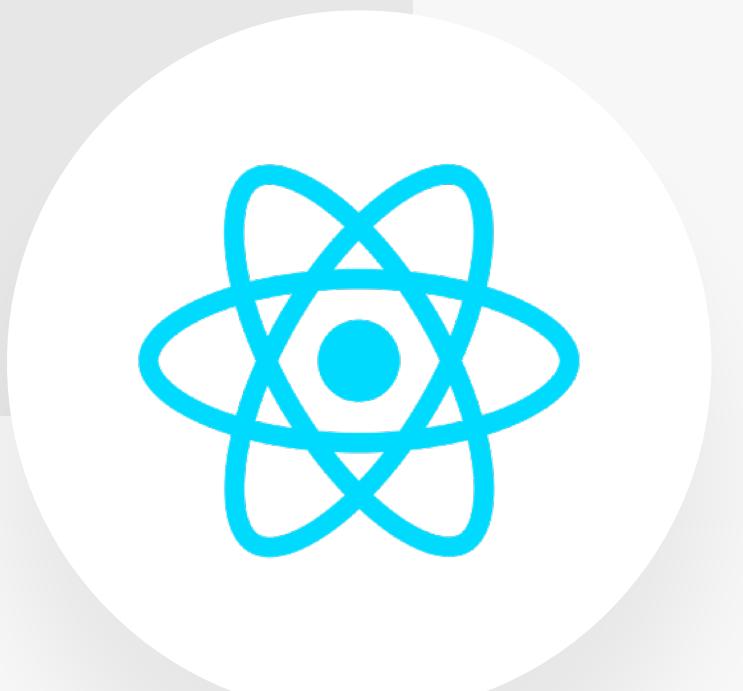
JAVASCRIPT LIBRARY FOR BUILDING
USER INTERFACES



WHAT IS REACT?

REACT

EXTREMELY POPULAR DECLARATIVE,
COMPONENT-BASED STATE-DRIVEN JAVASCRIPT
LIBRARY FOR BUILDING USER INTERFACES,
CREATED BY FACEBOOK



REACT IS BASED ON COMPONENTS

Based on components

Declarative

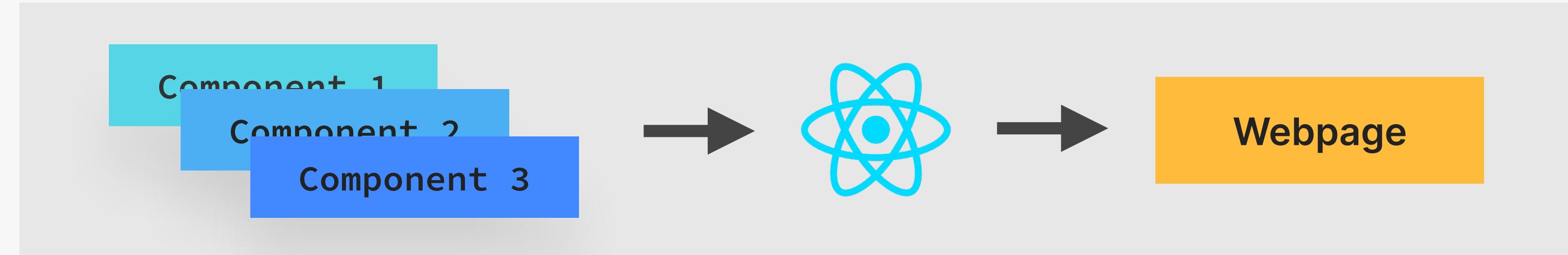
State-driven

JavaScript library

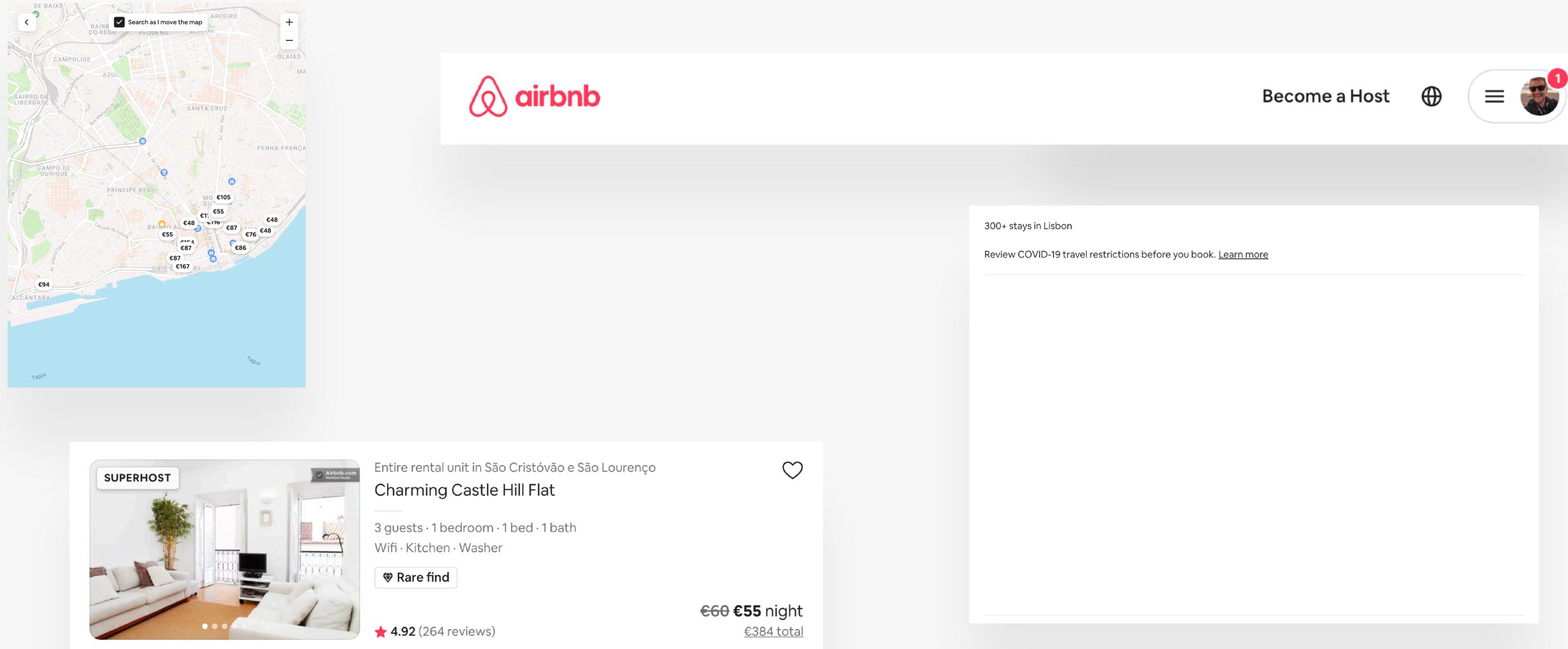
Extremely popular

Created by facebook

👉 Components are the **building blocks** of user interfaces in React



👉 We build complex UIs by **building and combining multiple components**



REACT IS BASED ON COMPONENTS

Based on components

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Created by facebook

The screenshot shows the Airbnb search interface. At the top, there's a red header bar with the Airbnb logo, a 'NavBar' section, and search filters for 'Lisbon', 'Oct 9–16, 2023', 'Add guests', and a search icon. To the right are links for 'Become a Host', a profile icon with a notification count of 1, and a menu icon.

The main area is titled 'Results' and displays three listing cards:

- Listing 1:** Charming Castle Hill Flat, São Cristóvão e São Lourenço. It's a SUPERHOST listing with a rare find badge. It sleeps 3 guests in 1 bedroom (1 bed) and 1 bathroom. It includes WiFi, Kitchen, and Washer. It costs €60 per night for a total of €384. It has a 4.92 rating from 264 reviews.
- Listing 2:** Feel Alfama at BCA | Cascao 18, São Vicente de Fora. It's a SUPERHOST listing. It sleeps 2 guests in 1 bedroom (1 bed) and 1 bathroom. It includes WiFi, Kitchen, Washer, and Air conditioning. It costs €48 per night for a total of €333. It has a 4.92 rating from 252 reviews.
- Listing 3:** Entire rental unit in Alfama. It's a SUPERHOST listing. It sleeps 4 guests in 1 bedroom (2 beds) and 1.5 bathrooms. It includes WiFi, Kitchen, Washer, and Air conditioning. It costs €93 per night for a total of €597. It has a 4.98 rating from 44 reviews.

To the right of the listings is a map of Lisbon showing price ranges for different neighborhoods. The map is overlaid with colored circles indicating price levels, with labels like €105, €55, €48, etc., scattered across the city. The Tagus River is visible at the bottom right.

REACT IS DECLARATIVE

Based on components

Declarative

State-driven

JavaScript library

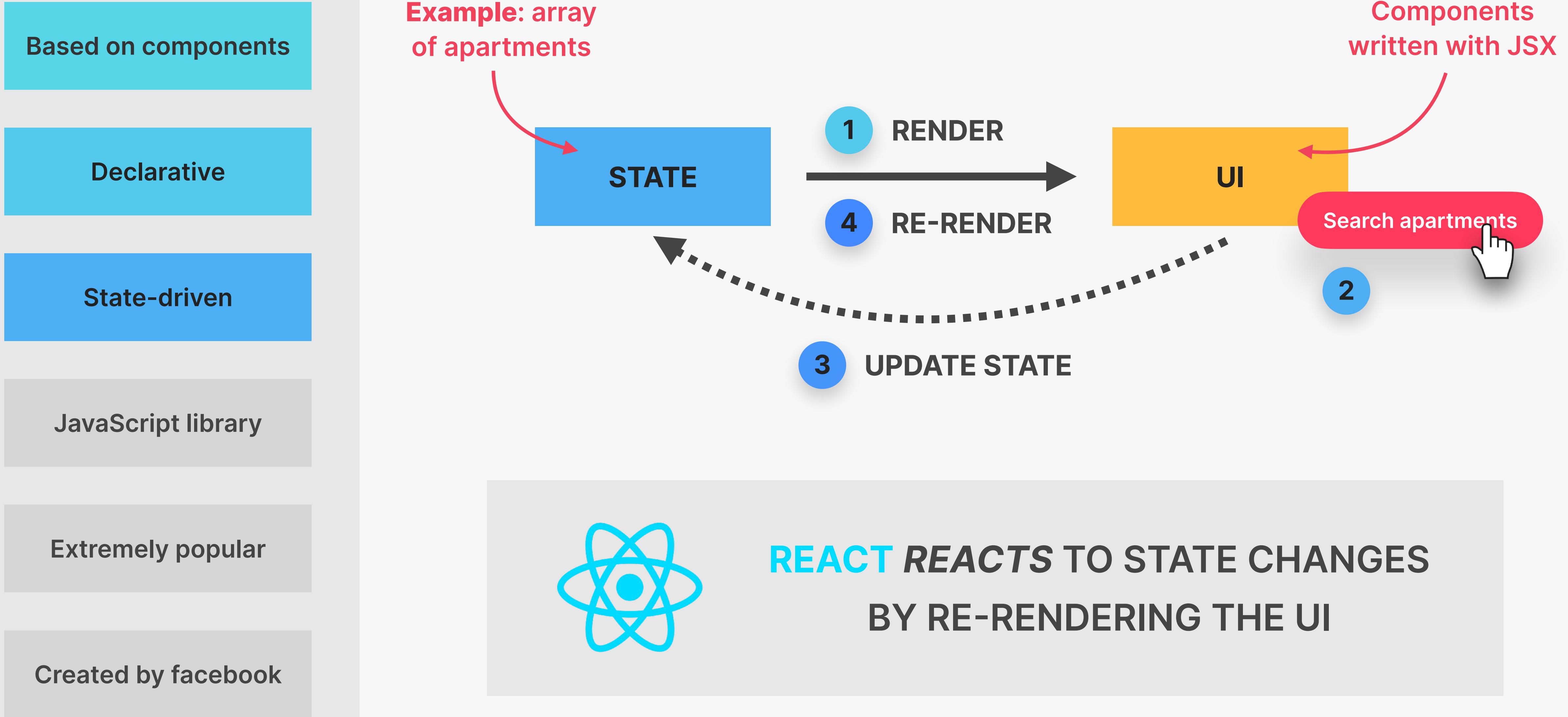
Extremely popular

Created by facebook

- 👉 We describe how components look like and how they work using a **declarative syntax called JSX**
- 👉 **Declarative:** telling React what a component should look like, **based on current data/state**
- 👉 React is **abstraction** away from DOM: we **never touch the DOM**
- 👉 JSX: a syntax that **combines** **HTML** **CSS** **JavaScript** as well as referencing **other components**

```
JSX returned from a component
return (
  <main>
    <NavBar>
      <h1 style={{ fontSize: '3.2rem' }}>AirBnB</h1>
      <Search />
      <a href="#">Become a host</a>
    </NavBar>
    <Results>
      <p style={{ fontSize: '1.6rem', margin: '1.2rem' }}>
        {numListings} stays in Lisbon
      </p>
      <Listing listing={listings[0]} />
      <Listing listing={listings[1]} />
      <Listing listing={listings[2]} />
    </Results>
    <Map listings={listings} onClick={moveMap} />
  </main>
);
```

REACT IS STATE-DRIVEN



**REACT REACTS TO STATE CHANGES
BY RE-RENDERING THE UI**

REACT IS A JAVASCRIPT LIBRARY

Based on components

Declarative

State-driven

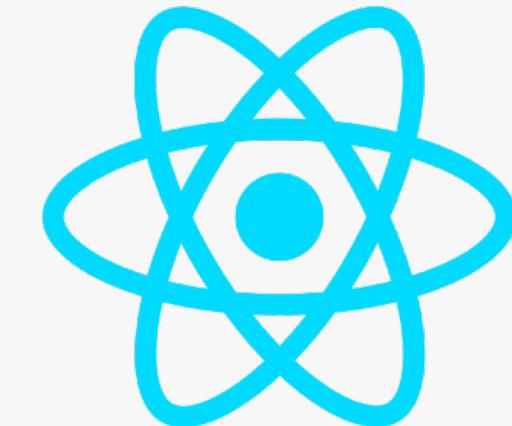
JavaScript library

Extremely popular

Created by facebook



Is React a **library** or a framework?



Because React is only the “view” layer. We need to pick multiple external libraries to build a complete application

NEXT.js Remix

Complete frameworks built on top of React

REACT IS EXTREMELY POPULAR

Based on components

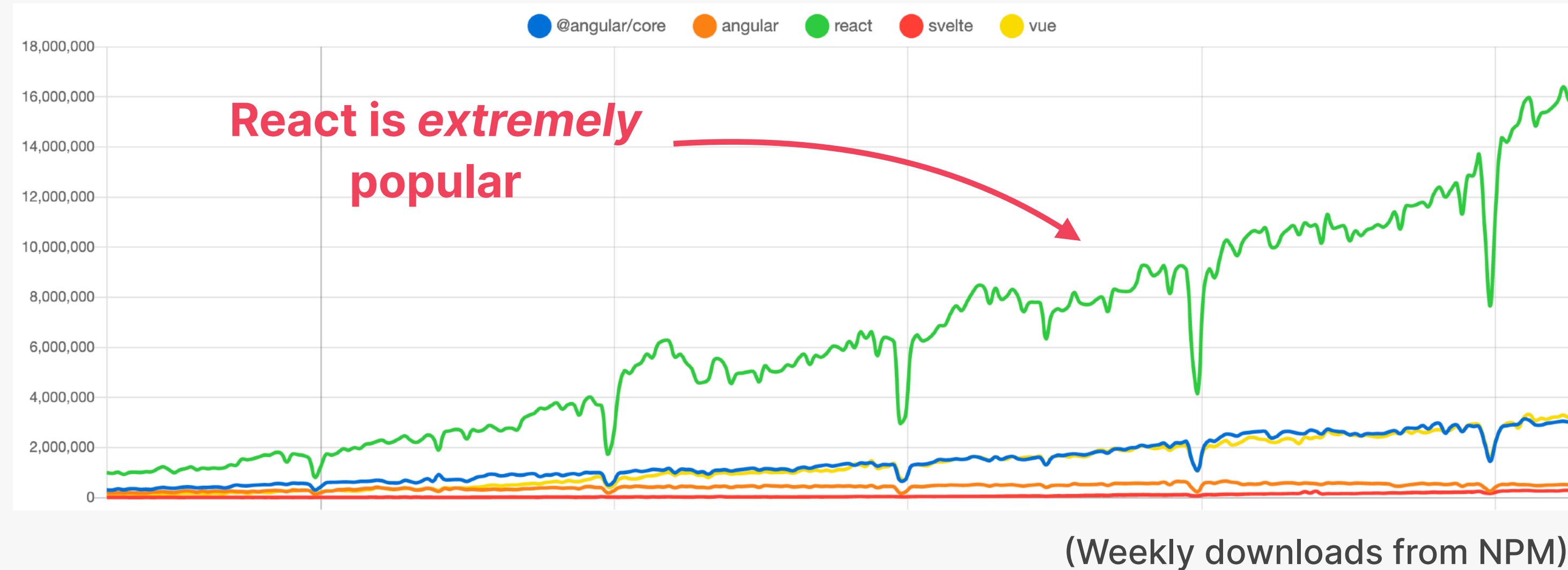
Declarative

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JavaScript library

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Created by facebook



✓ Many large companies have adopted React



✓ Huge job market with high demand for React developers 💰

✓ Large and vibrant React developer community

✓ Gigantic third-party library ecosystem

REACT WAS CREATED BY FACEBOOK

Based on components

Declarative

State-driven

JavaScript library

Extremely popular

Created by facebook



- 👉 React was created in **2011** by Jordan Walke, an engineer working at Facebook at the time
- 👉 React was open-sourced in **2013**, and has since then completely transformed front-end web development

facebook

Meta



SUMMARY

1

Rendering components on a webpage (UI) based on their current state

2

Keeping the UI in sync with state, by re-rendering (*reacting*) when state changes

