

Introduction to ReactJS

DEVELOPING APPLICATIONS USING REACTJS



Objectives

- To understand what ReactJS is
- To understand how ReactJS works with the DOM

2

ReactJS – another JS Framework?

- WRONG!
- ReactJS is not a framework it's a UI Library
 - Developed at Facebook
 - Purpose is to facilitate the creation of interactive, stateful and reusable UI components
- Facebook have used React for Instagram and in Facebook itself!
 - Instagram's UI is completely made with React
 - Facebook's commenting UI is React-based
 - Parts of Netflix use React
- Often used as the "V" part of MVC
 - React is there to take data and display it!

3

What does React do?

- Performs work on client side
- Can be rendered on server side
 - Both client and server side can work together
- Uses a concept called Virtual DOM
- It performs the least amount of DOM manipulation possible for a fast, fluid interface yet still up to date

4

Virtual DOMs

- A copy of the actual DOM that React uses to decide what needs to be updated
 - If a component is changed as a result of code being executed, the page has to update
- Rather than update the whole page, React does two things:
 - First, it runs a **diffing** algorithm, which finds out what properties have changed in that object in the Virtual DOM
 - Second, **reconciliation** happens, where it updates the parts of the DOM identified by the **diffing** algorithm

5

Virtual DOMs

- This is really good for multiple reasons.
 1. *Memory*: since it's only changing what it needs to change, there's less overhead overall.
 2. *Fluidity*: the entire object (or page!) doesn't need to refresh whenever anything changes, only what needs to change.
- Server-side DOMs can be rendered to enable server-side React views
 - Even less overheads!

6

"V" for View

- As already stated, often the "V" part of MVC pattern
- React makes no assumptions about the rest of the technology stack
- Simply takes data and renders it to the UI

7

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8

Exercise Time

- No exercise for this chapter

9