CSUN NETWORKING

React and its Applications

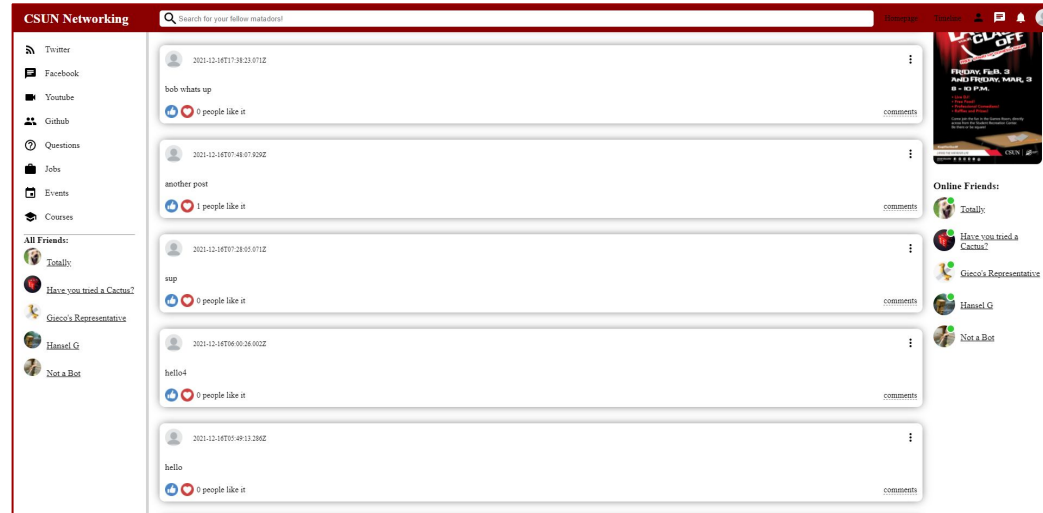**Brought to you by:**

Tristin Greenstein

Aram Durgaryan

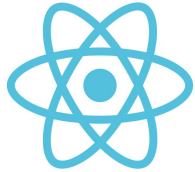Danielle Valenzuela

Artin Mirzayans

Agenda

- Framework

- Approach

- Design

- Demonstration

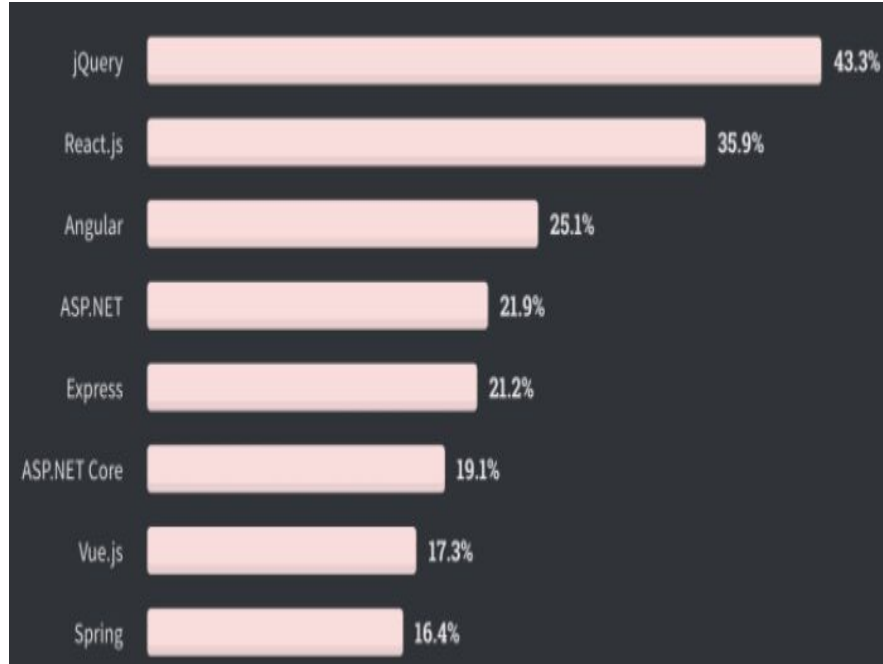- Conclusion

What is the library?

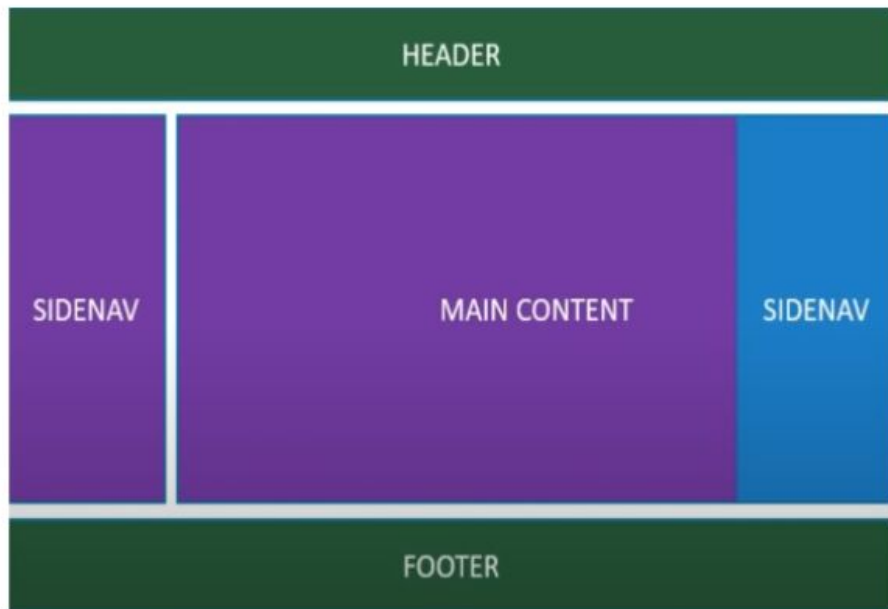**React JS**

- Developed by Jordan Walke, a software engineer at Facebook
- Javascript library for building user interfaces
- Praised for its simplicity and flexibility
- Increasingly more popular each year

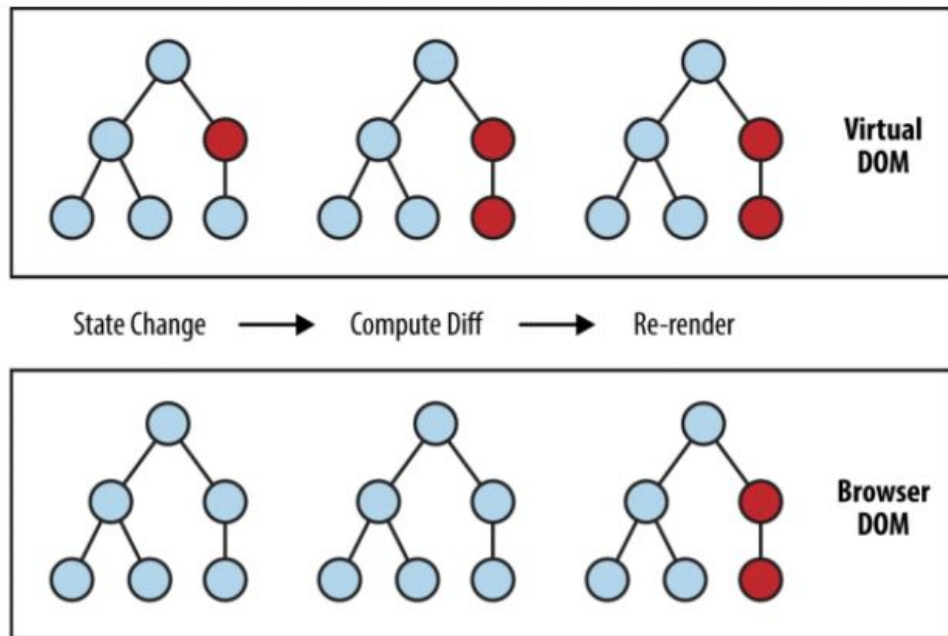|	
jQuery	43.3%
React.js	35.9%
Angular	25.1%
ASP.NET	21.9%
Express	21.2%
ASP.NET Core	19.1%
Vue.js	17.3%
Spring	16.4%

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Overview (Components & Hooks)

- Components
  - Building blocks of react applications
- React Hooks
  - Use react features without writing a class

Overview (Virtual DOM)

1. Virtual DOM is passed UI updates
2. React compares Virtual DOM to Actual DOM and identifies changes
3. Uitlizes diffing algorithm to process changes to the Browser DOM in an efficient manner
4. DOM's sync in a process called reconciliation and the DOM re-renders

State Change ➝ Compute Diff ➝ Re-render

List of all technologies used

- Visual Studio Code
  - Programming IDE
- MongoDB Atlas
  - Database
- Postman (https://www.postman.com/)
  - Testing platform for API responses

- Heroku
  - Host the server that calls the Database
- Netifly
  - Host the front end application
- GitHub Desktop App
  - Used for keeping project files in sync

- Discord Social Communication App
  - Communication hub for team mates

Motivation - reasons to use library

➔ **Ease of learning**
   ◆ In comparison to other libraries, learning Reactjs is easier. Developers well versed in JavaScript can learn coding with Reactjs quite easily.
➔ **Huge Javascript library**
   ◆ Reactjs comes with a vast JavaScript library that greatly increases the app's performance.
➔ **Support for accessibility**
   ◆ Reactjs includes APIs that enable developers to build more accessible apps.
➔ **Javascript extension**
   ◆ For react.js, the JavaScript extension combines HTML syntax with JavaScript making it easier for developers to interact with the browser.
➔ **Large Community**
   ◆ You can get access to a large community of experts to solve any problems. Plus, this is a great way to keep yourself updated.

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How does React work?

- ❖ **A JavaScript Library**
  - ➢ Creates UI using Declarative Code
- ❖ **Components**

- ❖ Two Parts
  - ➢ Front End
    - ■ Page Components
      - ● Styles
      - ● User Input
        - ◆ useEffect, Handlers,
    - ■ Index
      - ● App

```
<App>
  <NavBar />
  <Header title="ReactJS Academy" />
  <BookFilter />
  <BookList />
  <Footer />
</App>
```

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Links:

➜ **Documentation**
  ◆ MongoDB Documentation
  ◆ Documentation | Heroku Dev Center
  ◆ Getting Started – React (reactjs.org)
  ◆ npm-install | npm Docs (npmjs.com)
➜ **Starter code**
  ◆ Hello World – React (reactjs.org)
➜ **Tutorials**
  ◆ Tutorial: Intro to React – React (reactjs.org)
  ◆ How to Create a React App with a Node Backend: The Complete Guide (freecodecamp.org)

Hello world example

[LINK TO GLITCH.COM
HELLO WORLD
DEMO](#)

Demonstration

Lessons learned

- Relationships between server and database

- How front end can dynamically work through mapping

- React Functionality

Alternative libraries and frameworks

- Bootstrap

- JQuery

- Angular 2

- Vue.js
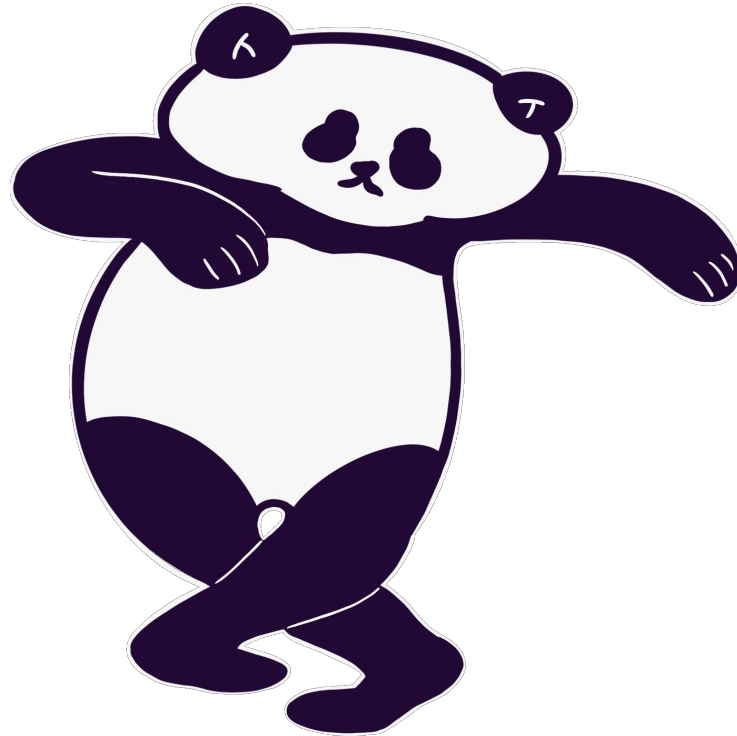
- Ember.js

Pros/cons vs our framework/library

➔ **Pros**
   - ◆ **Easier learning curve compared to other framework**
   - ◆ **Has a lot of community support**
   - ◆ **Commonly used**

➔ **Cons**
   - ◆ **ReactJS only covers UI layers of the application and nothing else. While Angular offer more features, they can support UI, routing, validating user forms, and more.**
   - ◆ **Slow documentation, in result of a rapid development pace. The proper documentation can't keep up.**

That's it folks

References

- https://stackshare.io/react/alternatives
- What are some alternatives to React? - StackShare
- Pros and Cons of ReactJS - javatpoint
- Angular vs React vs Vue - My Thoughts (academind.com)
- https://www.koombea.com/blog/react-pros-and-cons-what-are-the-advantages-and-disadvantages-of-reactjs/
- Download | Node.js (nodejs.org)
- React – A JavaScript library for building user interfaces (reactjs.org)
- What is a REST API? | IBM
- Postman
- Personal apps | Heroku
- https://www.mongodb.com/