Introduction to MERN Stack

01

Today's Goals

- ReactJS
  - Introduction
  - Setting up a project
  - Understanding the project structure
  - Components Structure
  - JSX
  - State
  - Life cycle of components

What is ReactJS?

- React is a javascript library for building user interface

- Developed at Facebook

- Used to build SPAs (Single Page Applications)

- Based on components (Pieces of reusable codes)
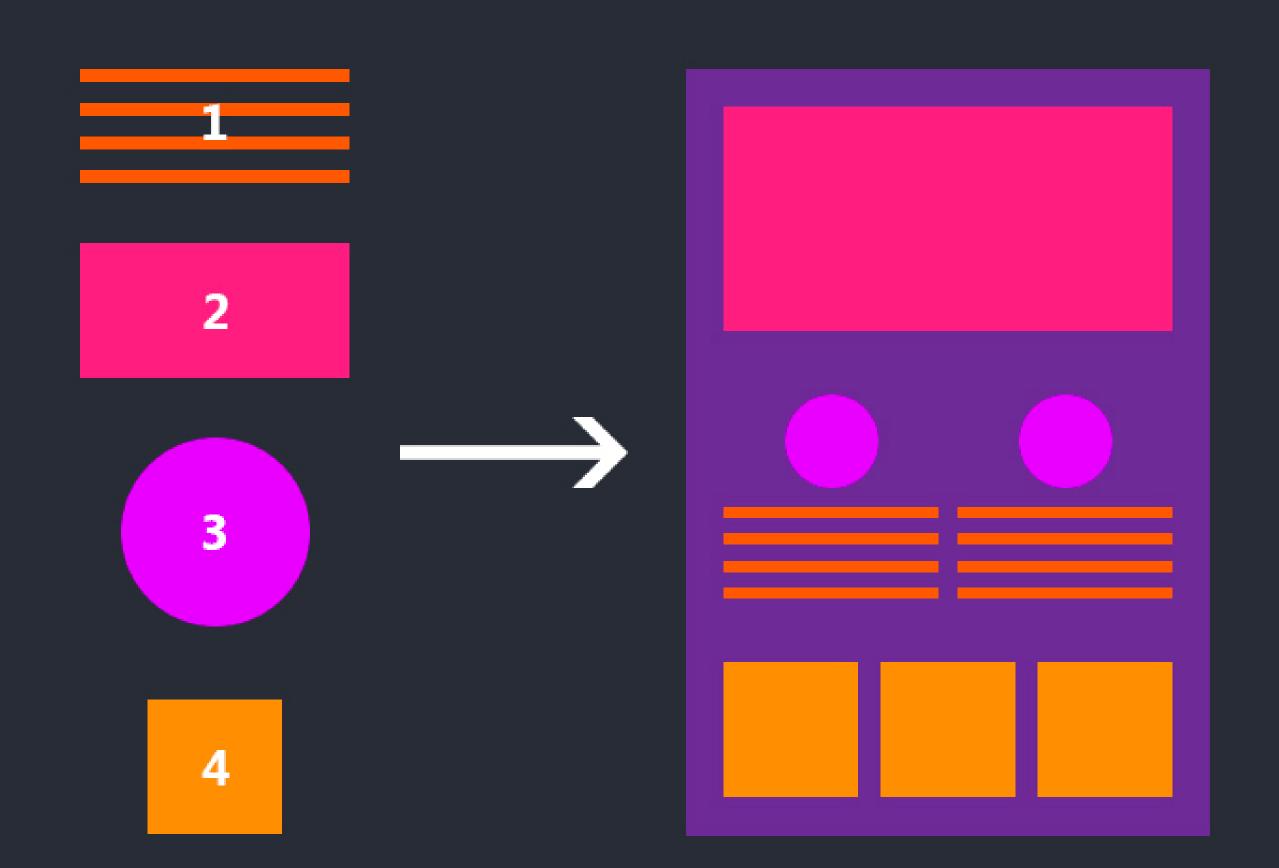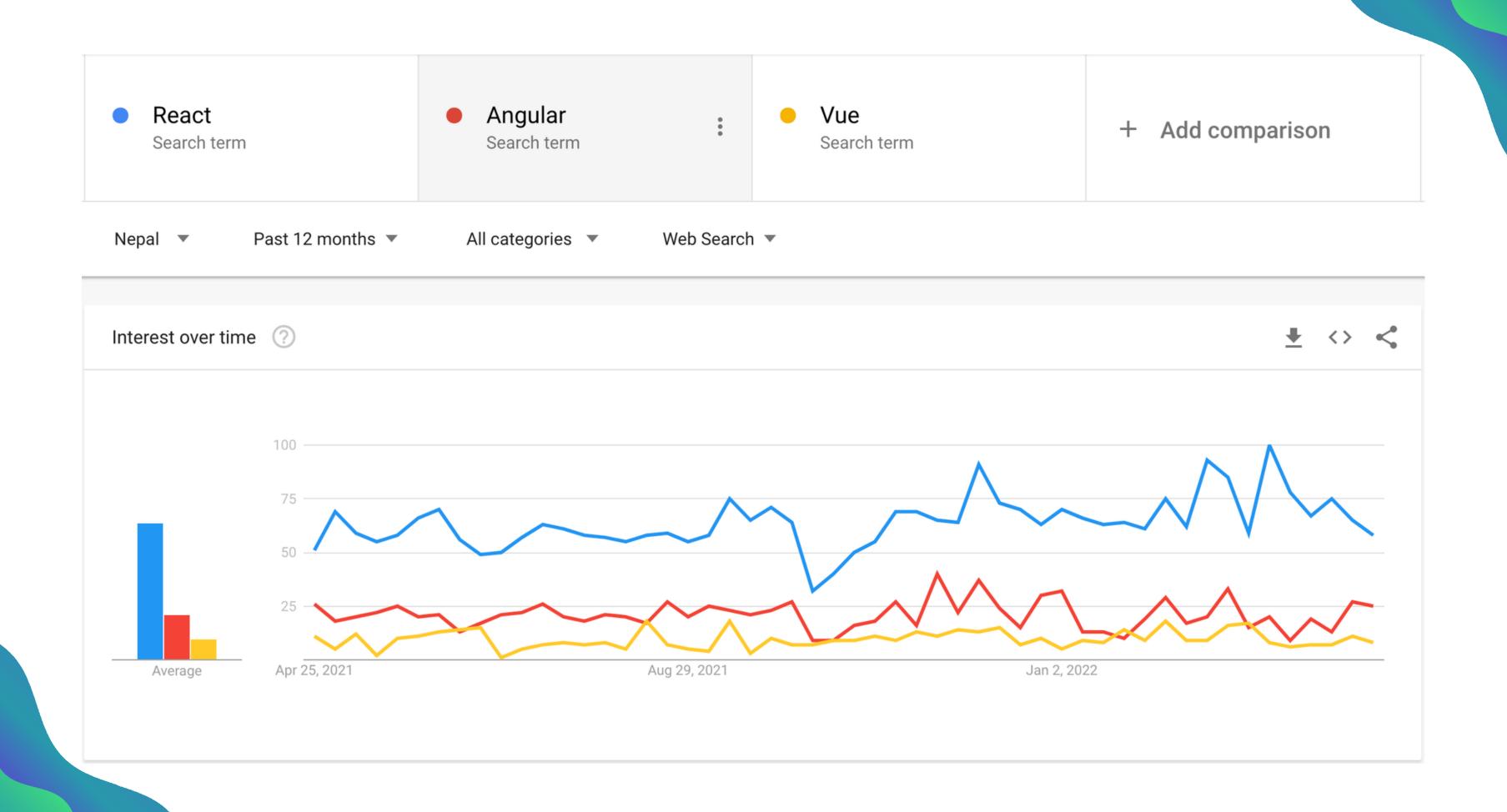
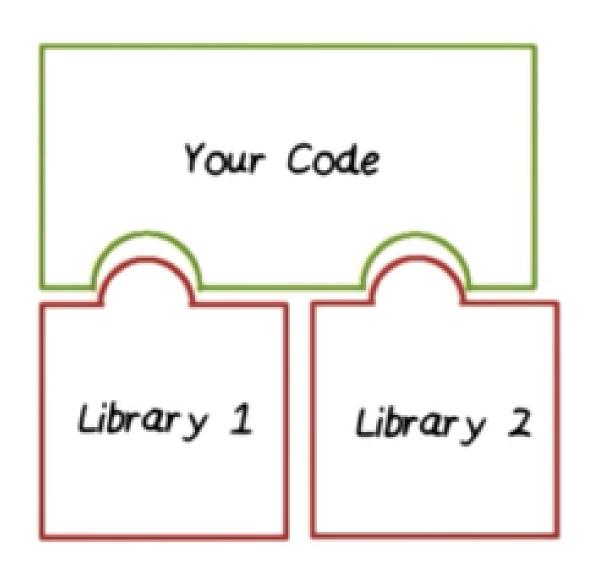- Uses virtual DOM (Document Object Model)

React Components

React
Search term

Angular
Search term

Vue
Search term

+ Add comparison

Nepal ▼   Past 12 months ▼   All categories ▼   Web Search ▼

Interest over time ⑦   ⬇ <> ⤴

100

75

50

25

Average

Apr 25, 2021   Aug 29, 2021   Jan 2, 2022
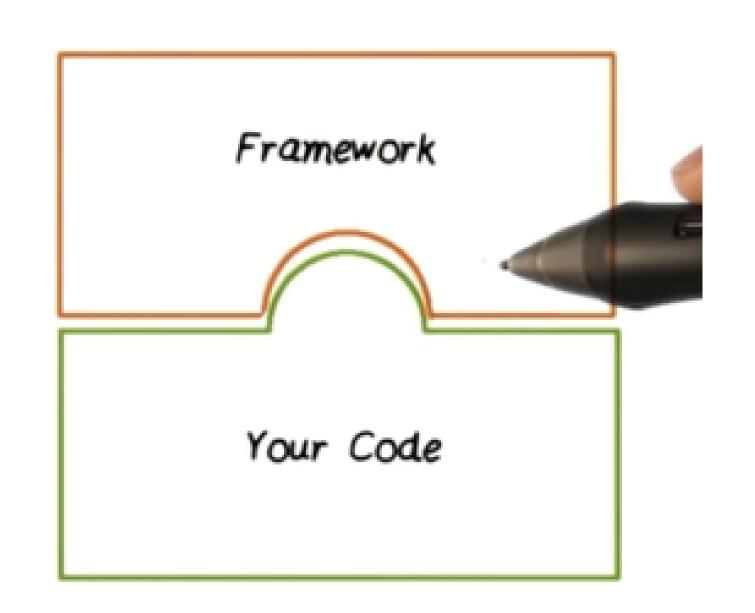
Library vs Framework

Setting up a React project

npx create-react-app <project_name> (Recommended)

or

npm install -g create-react-app
create-react-app <project_name>

Setting up a React project with Typescript

npx create-react-app <project_name> --template typescript
(Recommended)
or
npm install -g create-react-app
create-react-app <project_name>

Understanding the project structure

JSX

- JSX stands for JavaScript XML.

- JSX allows us to write HTML in React.

- JSX makes it easier to write and add HTML in React.

Components

- Components are independent and reusable bits of code.

- They serve the same purpose as JavaScript functions, but work in isolation and return HTML.

- Components come in two types, Class components and Function components

Class Components

- A class component must include the extends React.Component statement.
- This statement creates an inheritance to React.Component, and gives your component access to React.Component's functions.
- The component also requires a render() method, this method returns HTML.
- Eg:

```
class Car extends React.Component {
  render() {
    return <h2>Hi, I am a Car!</h2>;
  }
}
```

Function Components

- A Function component also returns HTML, and behaves much the same way as a Class component, but Function components can be written using much less code, are easier to understand.
- Eg:

```
function Car() {
  return <h2>Hi, I am a Car!</h2>;
}
```

State

- The state is a built-in React object that is used to contain data or information about the component.

- A component's state can change over time; whenever it changes, the component re-renders.

- The change in state can happen as a response to user action or system-generated events and these changes determine the behavior of the component and how it will render.

Props

These are parameters passed to components
Can only be passed from parent to child

Let's make a counter using React

Let's summarize

Any Questions?

Recap **Quiz**

1 **React is a framework**

True

False

Recap **Quiz**

1 **React is a framework**

True

False

Recap **Quiz**

2 **JSX and HTML are same**

True

False

Recap **Quiz**

2 **JSX and HTML are same**

True

False

Recap **Quiz**

3 **How do you use class in JSX?**

class

classname

className

None of the above

Recap **Quiz**

3 **How do you use class in JSX?**

class

classname

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None of the above

Recap **Quiz**

4 **How do you pass data from one component to another?**

Parameters

Arguments

Props

Recap **Quiz**

4 **How do you pass data from one component to another?**
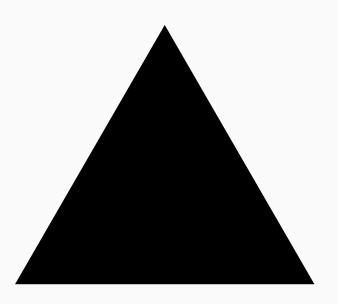
Parameters
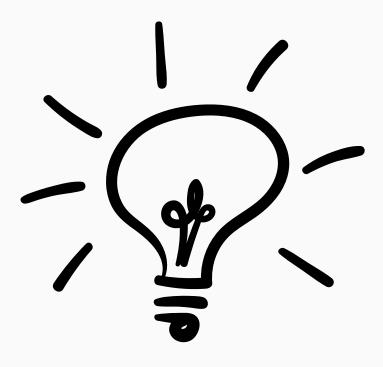
Arguments

Props

Feedback Time

Plusses
What went right?

Deltas
What went wrong?

Learnings
What did you learn?

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