

REACT

COMPONENTS

LEARNING OBJECTIVES

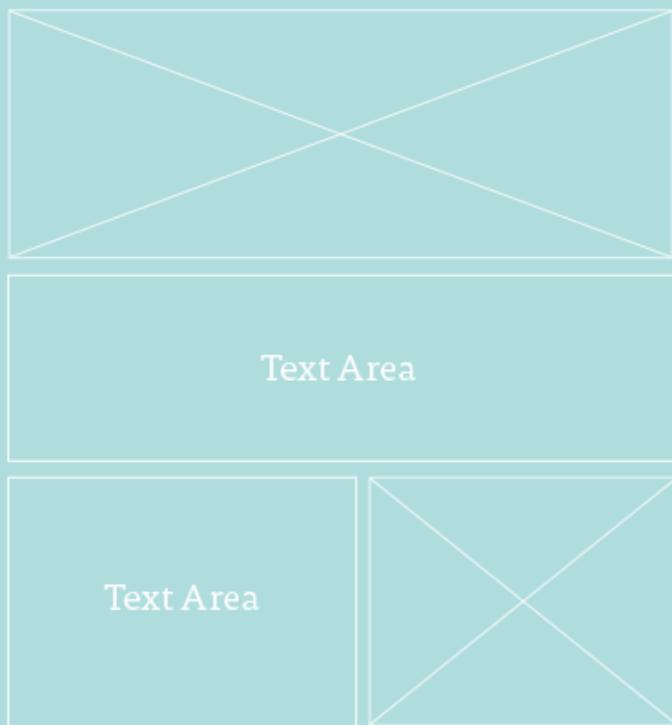
- ▶ What are components?
- ▶ Why use components?
- ▶ How do you create a component?
- ▶ How do you pass a component props?
- ▶ How do you access props in components?
- ▶ How do you iterate to create components?

COMPONENTS

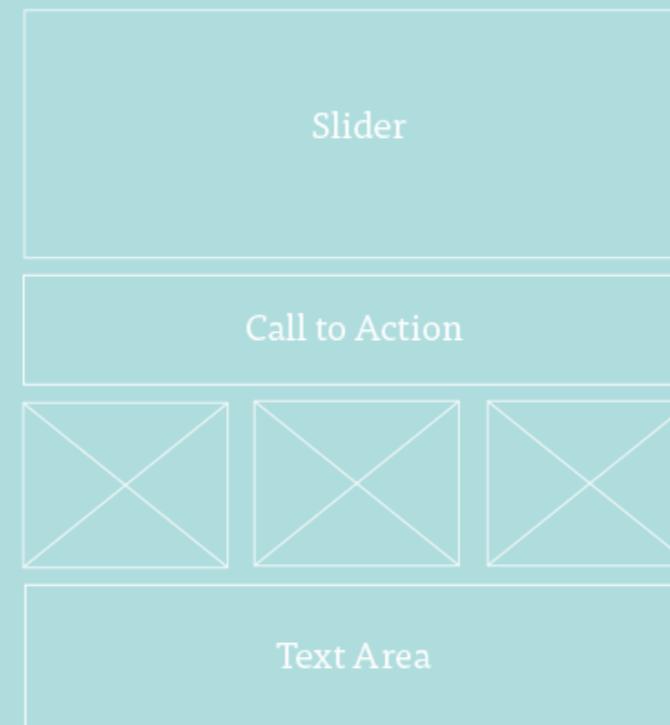
- ▶ Pieces of our application that we can define once and reuse all over the place.
- ▶ A way to modularize or compartmentalize features of our applications.

TEMPLATES

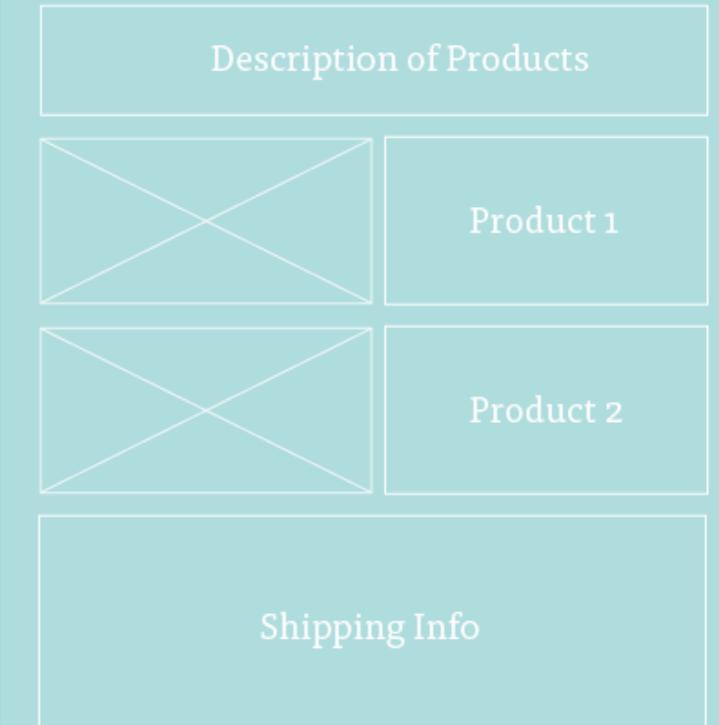
About Template



Homepage

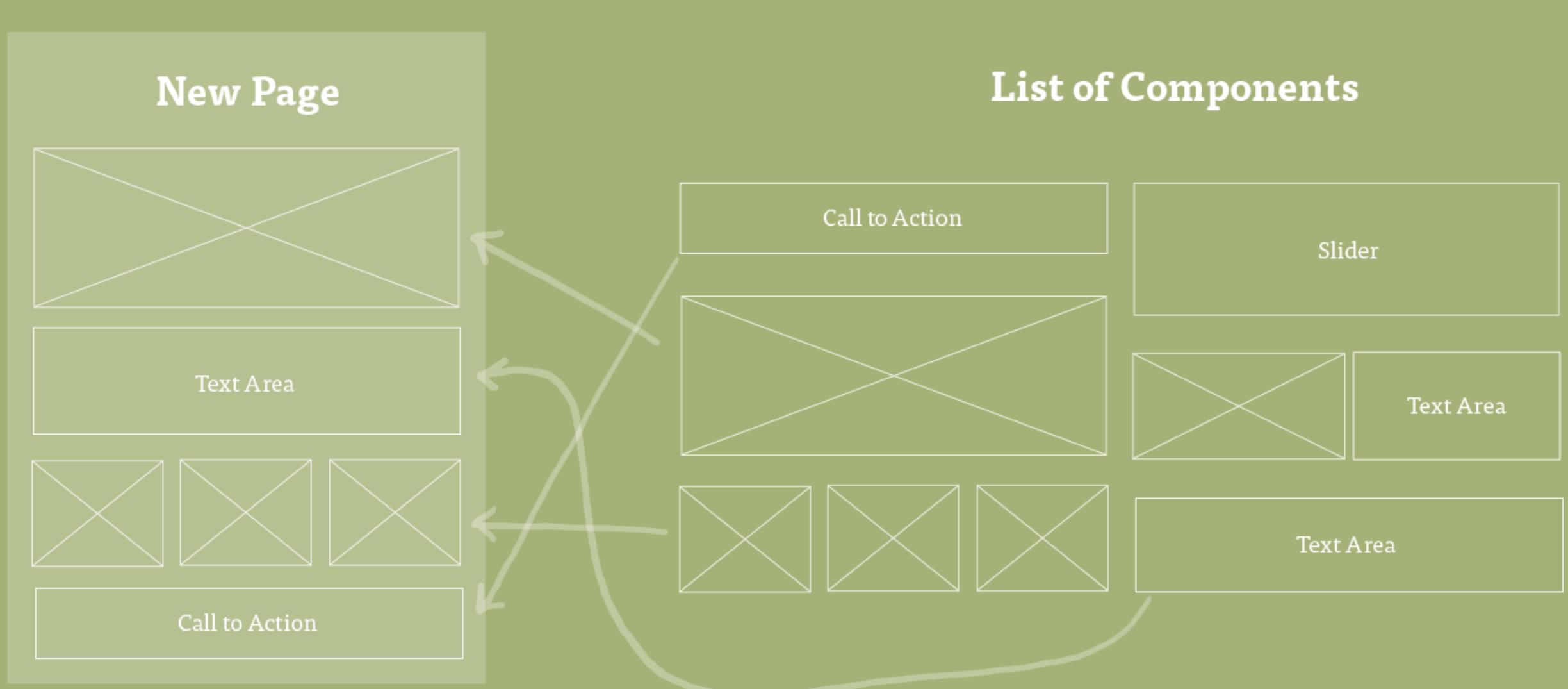


Products Template



FIXED TEMPLATES *choose a template, add content to the pre-made areas*

COMPONENTS



PAGE BUILDER + COMPONENTS build your layout using stackable components

← → C ⌂ ⌂

Bakerloo Line

▼
Go

Central Line

▼
Go

Circle Line

▼
Go

District Line

▼
Go

Hammersmith & City Line

▼
Go

Jubilee Line

▼
Go

Metropolitan Line

▼
Go

🔍

Station Name, Line

Platform 1

Destination	Due	Current location
White City	0:00	At Platform
Ealing Broadway	2:00	Holland Park
West Ruislip	4:30	Notting Hill Gate
Ealing Broadway	6:00	Queensway

Platform 2

Destination	Due	Current location
White City	0:00	At Platform
Ealing Broadway	2:00	Holland Park
West Ruislip	4:30	Notting Hill Gate
Ealing Broadway	6:00	Queensway

< Network />

Bakerloo Line

<Line />

Stations

Central Line

<Line />

Stations

Circle Line

<Line />

Stations

District Line

<Line />

Stations

Hammersmith & City Line

<Line />

Stations

Jubilee Line

<Line />

Stations

Metropolitan Line

<Line />

Stations

Station Name, Line

<Predictions />

Platform 1

<DepartureBoard />

Destination	Due	Current location
White City	0:00	At Platform
Ealing Broadway	2:00	Holland Park
West Ruislip	4:30	Notting Hill Gate
Ealing Broadway	6:00	Queensway

Platform 2

<DepartureBoard />

Destination	Due	Current location
White City	0:00	At Platform
Ealing Broadway	2:00	Holland Park
West Ruislip	4:30	Notting Hill Gate
Ealing Broadway	6:00	Queensway

CREATING A NEW COMPONENT

```
import React, { Component } from 'react'

class Hello extends Component {
  render() {
    return (
      <h1>Hello World!</h1>
    )
  }
}

export default Hello;
```

► What is happening here?

CREATING A NEW COMPONENT

```
import React, { Component } from 'react'

class Hello extends Component {
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      <h1>Hello World!</h1>
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  }
}

export default Hello;
```

- ▶ Bring in outside stuff from react
- ▶ Create a class that inherits from Component
- ▶ Have a render method that returns what we want to see

CREATING A NEW COMPONENT

```
import React, { Component } from 'react'

class Hello extends Component {
  render() {
    return (
      <div>
        <h1>Hello World!</h1>
        <p>How are you today?</p>
      </div>
    )
  }
}

export default Hello;
```

- ▶ Components must only return a **SINGLE** element.
- ▶ That element can have children though!

USING A COMPONENT

```
import React, { Component } from 'react';
import Hello from './Hello';

class App extends Component {
  render() {
    return (
      <div className="App">
        <Hello />
      </div>
    );
  }
}

export default App;
```

- ▶ Import component where you want to use it
- ▶ Use the class as if it were its own HTML element

YOU DO

Create a Person component that renders:

An **h3** with a person's name

A **p** tag with the person's email

PROPS

- ▶ Arguments passed into a component, as though they were arguments to a function
- ▶ Allow data to flow downward into components from parents to children

PASSING PROPS TO CHILDREN

```
import React, { Component } from 'react';
import Hello from './Hello';

class App extends Component {
  render() {
    return (
      <div className="App">
        <Hello name={"Jackie"} />
      </div>
    );
  }
}

export default App;
```

- ▶ We can pass props from a parent element to a child just like we would give html elements attributes

PASSING PROPS TO CHILDREN

```
import React, { Component } from 'react'

class Hello extends Component {
  render() {
    return (
      <div>
        <h1>Hello {this.props.name}!</h1>
        <p>How are you today?</p>
      </div>
    )
  }
}

export default Hello;
```

- ▶ All classes that extend Component have props
- ▶ We can access them through the keyword **this**
- ▶ Props act like an object where the different attributes can be accessed with dot notation

YOU DO

Edit your Person component to take use
props for your person's name and email

ITERATION TO CREATE COMPONENTS

```
import React, { Component } from 'react';
import Hello from './Hello';
var names = ["Trevor", "Jackie", "Rosco"]

class App extends Component {
  renderHellos(){
    return names.map(function(name, index){
      return <Hello name={name} key={index} />
    })
  }
  render() {
    return (
      <div className="App">
        {this.renderHellos()}
      </div>
    );
  }
}

export default App;
```

- ▶ We want to take the data from an array and change it into a list of elements
- ▶ Good time for map!
- ▶ In render this array will be interpreted as just multiple elements
- ▶ The key is used to uniquely identify similar elements to assist with faster re-rendering

YOU DO

Create a function to render multiple
people using map

Welcome to Hogwarts!



GRIFFINDOR

founder: Godric Gryffindor
mascot: lion

Values

courage
bravery
nerve
chivalry

Colors

scarlet
gold

Students

Harry Potter
Hermione Granger
Ron Weasley



HUFFLEPUFF

founder: Helga Hufflepuff
mascot: badger

Values

hardwork
patience
justice
loyalty

Colors

canary yellow
black

Students

Cedric Diggory
Susan Bones
Nymphadora Tonks



RAVENCLAW

founder: Rowena Ravenclaw
mascot: eagle

Values

intelligence
creativity
learning
wit

Colors

blue
bronze

Students

Luna Lovegood
Cho Chang
Padma Patil



SLYTHERIN

founder: Salazar Slytherin
mascot: serpent

Values

ambition
cunning
leadership
resourcefulness

Colors

green
silver

Students

Draco Malfoy
Pansy Parkinson
Tom Riddle

YOU DO

Harry Potter React

Run `npm install`

HOUSE

Create a House component that takes

A house object as a prop

And renders its image, name, founder, and mascot

Render each of the houses in App passing the house as a prop

TITLED LIST

Create a `TitledList` component that takes

A title and a list as props

And renders the title as a `h3` and a `ul` of each of the list items

Use `TitledList` to render each house's values, color, and students