React 4: Events & Conditional Rendering

IN608: Intermediate Application Development Concepts

Last Session’s Content

- State
- Lifecycle methods
  - Mounting
  - Updating
  - Unmounting
- React Hooks
  - useState
  - useEffect
- Data flow

Today's Content

- Events
- Conditional rendering

Events

Events

- Event handling with React elements is very similar to event handling on DOM elements
- There are two key syntax differences:
  - Camelcase is the naming convention for React events, not lowercase
  - With JSX, a function is passed as the event handler, not a string

```
// HTML
<button onclick="someEvent()"></button>

// JSX
<button onClick={someEvent}></button>
```

Events

- Create a new component file called `Register.js`
- Renders a button which the user can toggle between a “Registered” & “Unregistered” state

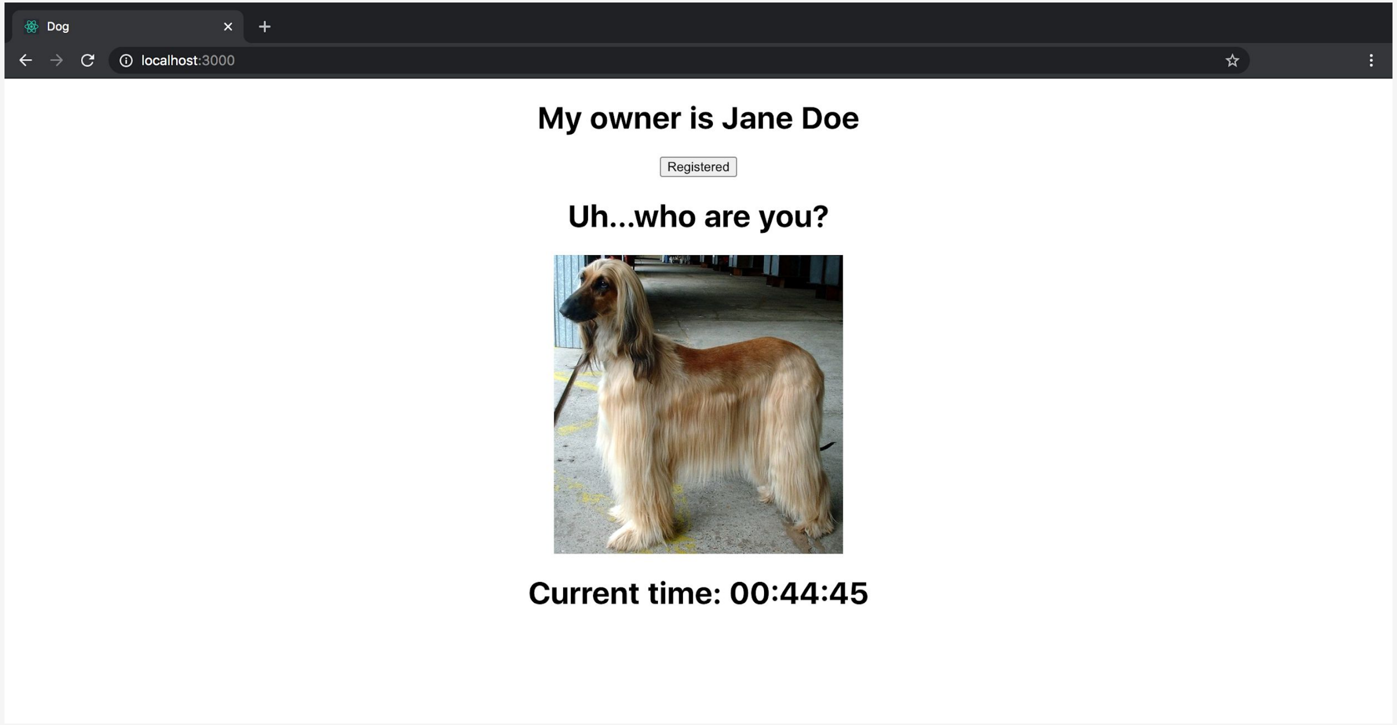
```
import React, { useState } from 'react'

const Register = () => {
  const [isRegistered, setIsRegistered] = useState(true)

  const handleRegisteredChange = () => setIsRegistered(!isRegistered)

  return (
    <button onClick={handleRegisteredChange}>
      {isRegistered ? 'Registered' : 'Unregistered'}
    </button>
  )
}

export default Register
```

Events

- In `App.js`

```
import React from 'react'
import Clock from './Clock'
import Owner from './Owner'
import Register from './Register'
import afghanHoundImg from '../img/afghan-hound.jpg'

const App = () => {
  const dog = {
    name: 'Bingo',
    breed: 'Afghan Hound',
    img: afghanHoundImg
  }

  const formatDog = (dog) => `Woof woof, my name is ${dog.name} & my breed is an ${dog.breed}`

  const getGreeting = (dog) => {
    if (dog) {
      return <h1>{formatDog(dog)}</h1>
    }
    return <h1>Uh...who are you?</h1>
  }

  return (
    <div className='main-container'>
      <Owner />
      <Register />
      {getGreeting()}
      <img src={dog.img} alt='afghan hound' width='300' />
      <Clock />
    </div>
  )
}

export default App
```

Events

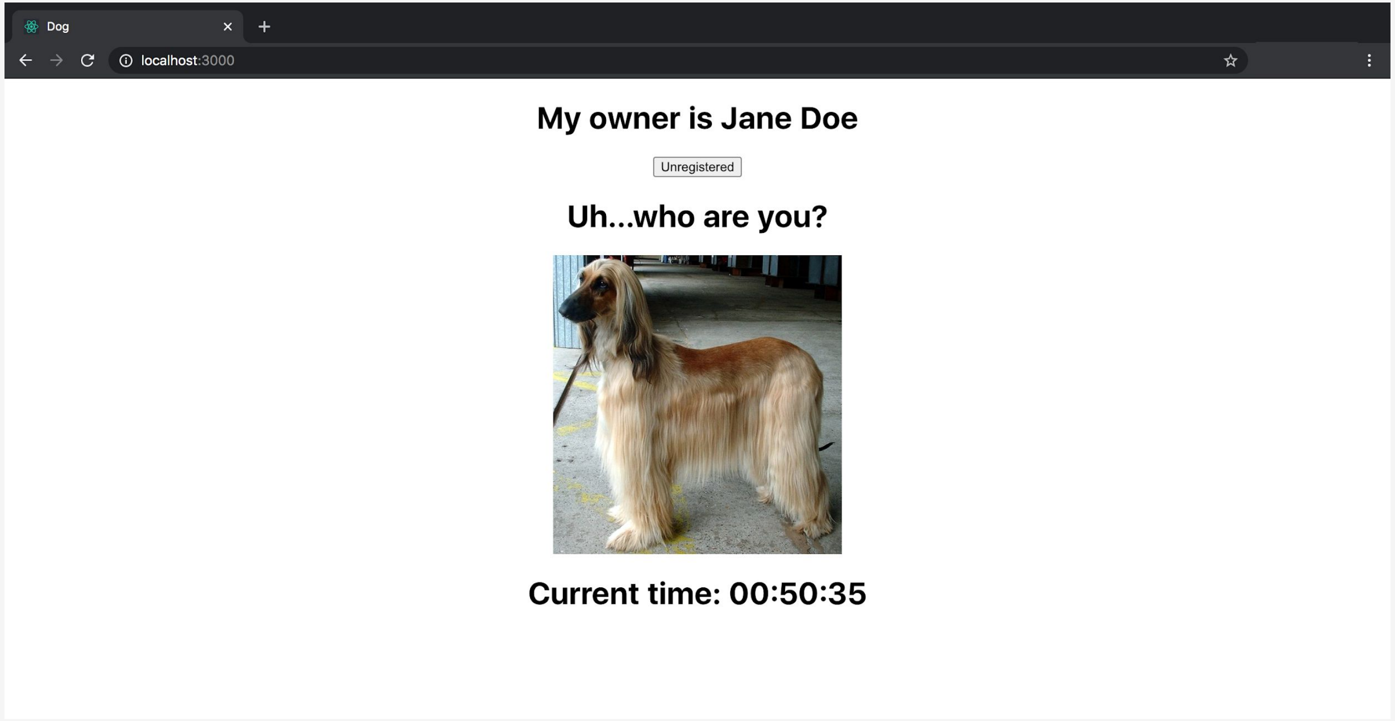


My owner is Jane Doe

Uh...who are you?

Current time: 00:44:45

Events



My owner is Jane Doe

Unregistered

Uh...who are you?

Current time: 00:50:35

Conditional Rendering

Conditional Rendering

- Conditional rendering in React works the same as in JavaScript
  - You can use conditional statements, i.e., `if`, `else`, `else if`, `switch` or the ternary operator
- A component decides based on one or several conditions which element it will return, then later render
- Consider the following two components:

```
import React from 'react'

const GuestGreeting = () => <h1>Please sign up</h1>

export default GuestGreeting
```

```
import React from 'react'

const UserGreeting = () => <h1>Welcome back</h1>

export default UserGreeting
```

- **Note:** These two components are in separate files. `GuestGreeting.js` & `UserGreeting.js`
- We will create a component which renders either `GuestGreeting` or `UserGreeting` based on whether a user is logged in

Conditional Rendering

- Create a new component file called `Greeting.js`
- Renders a different greeting depending on the value of `isLoggedIn` prop

```
import React from 'react'
import GuestGreeting from './GuestGreeting'
import UserGreeting from './UserGreeting'

const GuestGreeting = (props) => {
  const isLoggedIn = props.isLoggedIn
  return isLoggedIn ? <UserGreeting /> : <GuestGreeting />
}

export default Greeting
```

Conditional Rendering

- Consider the following two components:

```
import React from 'react'

const LoginButton= (props) => <button onClick={props.onClick}>Login</button>

export default LoginButton
```

```
import React from 'react'

const LogoutButton= (props) => <button onClick={props.onClick}>Logout</button>

export default LogoutButton
```

- **Note:** These two components are in separate files

Conditional Rendering

- Create a new component file called `LoginControl.js`

```
import React, { useState } from 'react'
import Greeting from './Greeting'
import LoginButton from './LoginButton'
import LogoutButton from './LogoutButton'

const LoginControl = () => {
  const [isLoggedIn, setIsLoggedIn] = useState(true)

  const handleLoginClick = () => setIsLoggedIn(!isLoggedIn) // true
  const handleLogoutClick = () => setIsLoggedIn(!isLoggedIn) // false

  const button = isLoggedIn ? (
    <LogoutButton onClick={handleLogoutClick} />
  ) : (
      <LoginButton onClick={handleLoginClick} />
  )

  return (
    <React.Fragment>
      <Greeting isLoggedIn={isLoggedIn} />
      {button}
    </React.Fragment>
  )
}

export default LoginControl
```

Conditional Rendering

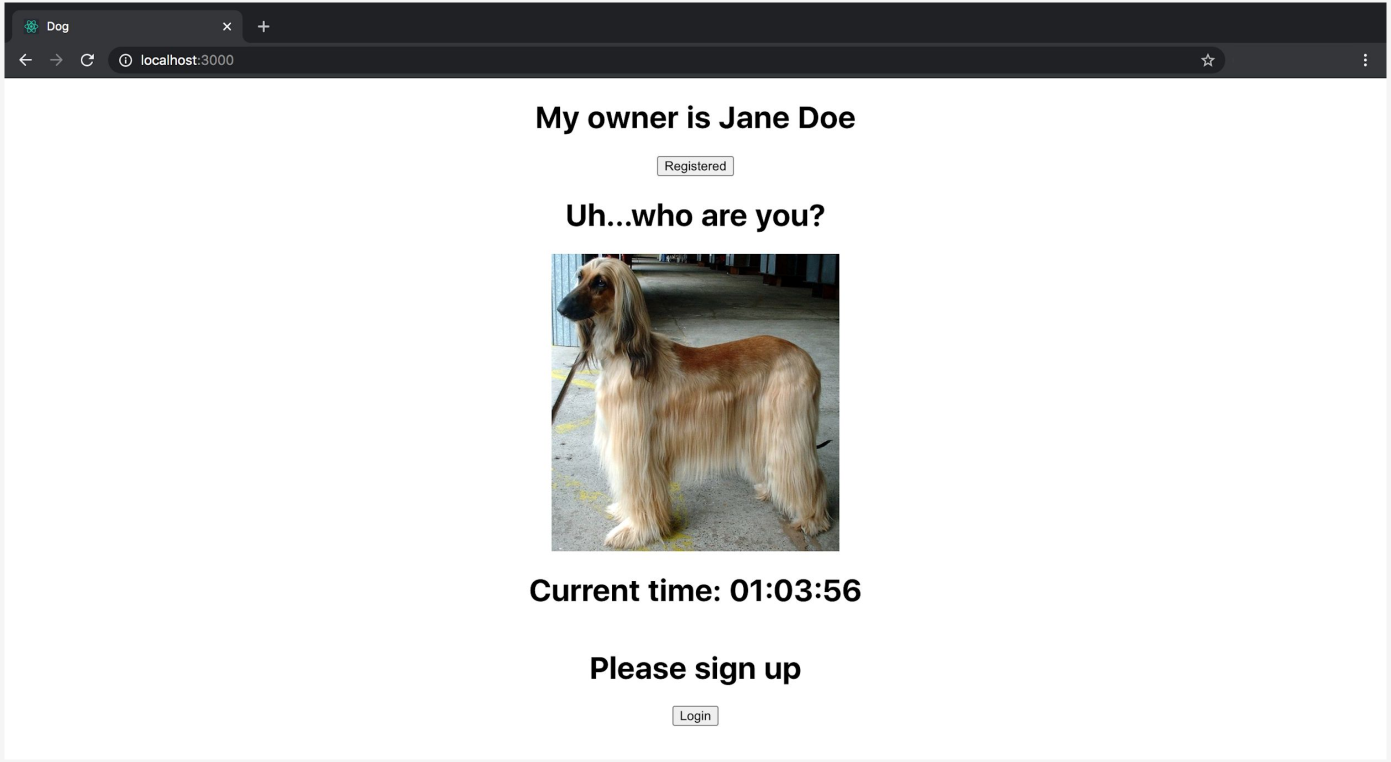
- Renders `Greeting` & either `LoginButton` or `LogoutButton` depending on its current state, i.e., `isLoggedIn`
- `React.Fragment` - group a list of children without adding extra node to the DOM

Conditional Rendering

- In `App.js`
- `import LoginControl from './LoginControl'`
- Declare `<LoginControl />` in `App()`

```
const App = () => {
  return (
    <div className='main-container'>
      <Owner />
      <Register />
      {getGreeting()}
      <img src={dog.img} alt='afghan hound' width='300' />
      <Clock />
      <LoginControl />
    </div>
  )
}
```

Conditional Rendering



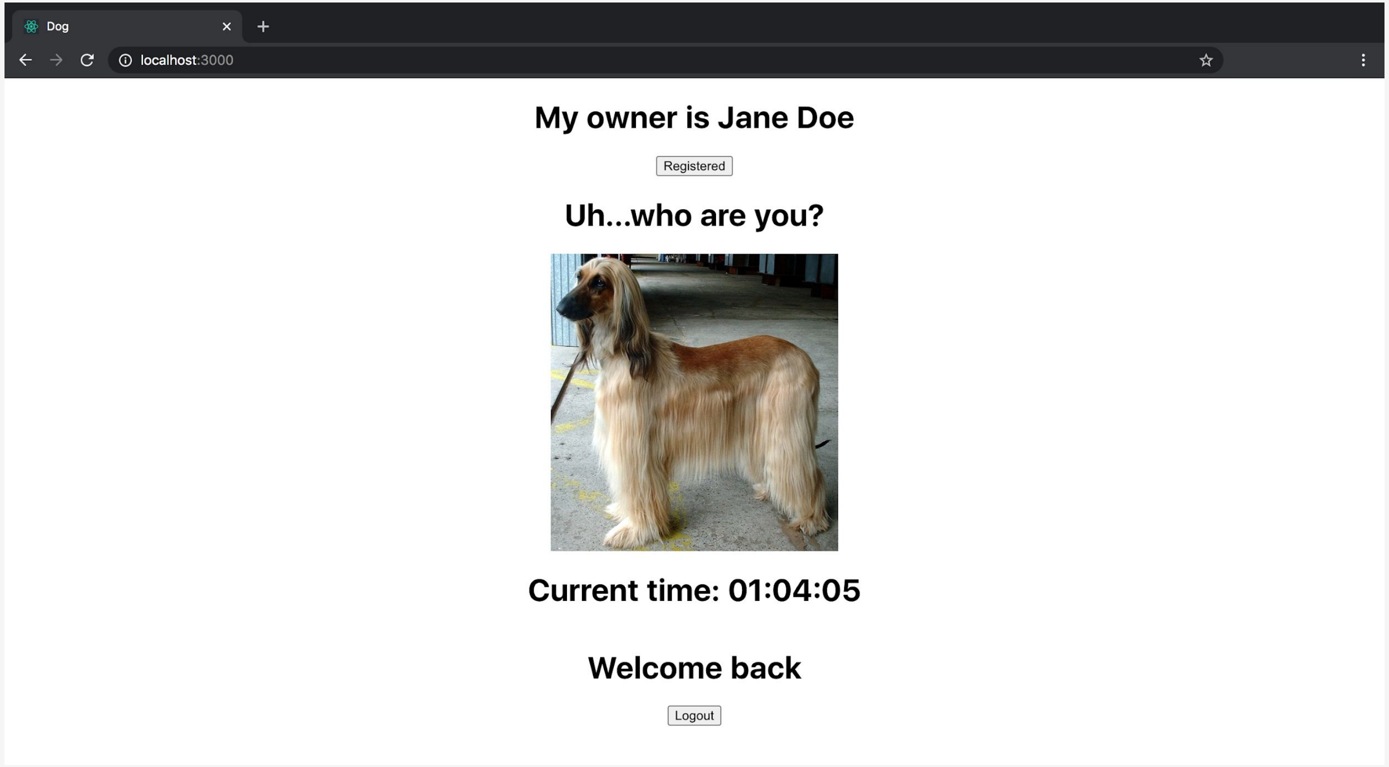
My owner is Jane Doe

Uh...who are you?

Current time: 01:03:56

Please sign up

Conditional Rendering



My owner is Jane Doe

Uh...who are you?

Current time: 01:04:05

Welcome back

Programming Activity

- Checkout to master - `git checkout master`
- Create a new branch called 19-practical - `git checkout -b 19-practical`
- Open the file `19-practical.pdf` and work on the tasks described