

# React Components: State and Props

Jogesh K. Muppala



THE DEPARTMENT OF  
**COMPUTER SCIENCE & ENGINEERING**  
計算機科學及工程學系



香港科技大學  
THE HONG KONG UNIVERSITY OF  
SCIENCE AND TECHNOLOGY

# State

- Each component can store its own local information in its “state”
  - Private and fully controlled by the component
  - Can be passed as props to children
- Only class components can have local state

# State

- State declared within the constructor:

```
class Menu extends Component {  
  constructor(props) {  
    super(props);  
  
    this.state = {  
      selectedDish: null  
    }  
  }  
  ...  
}
```

- State should only be modified using `setState()`

```
onDishSelect(dish) {  
  this.setState({  
    selectedDish: dish  
  });  
}
```

- Never do the following:

```
this.state.selectedDish = dish;
```

# Props

- JSX attributes are passed into a component as a single object
  - Available in the component as “props”
  - Can pass in multiple attributes
  - Cannot modify props within the component
- Examples:
  - `<Menu dishes={this.state.dishes} />`
    - Here the dishes are available as props within the Menu Component and can be accessed as `this.props.dishes`
  - `<Dishdetail dish={this.state.dish} comments={this.state.comments} />`
    - Here dish is available as props within the Dishdetail Component and can be accessed as `this.props.dish`, and comments as `this.props.comments`

# Handling Events

- Handling events is similar to the way you handle events on DOM elements:
  - Use camelCase to specify events
  - Pass function as the event handler
- Example:  
`<Card onClick={() => this.onDishSelect(dish)}>`

# Lifting State Up

- Sometimes several components may share the same data
- Changes to data in one component needs to be reflected to another component
- Best to move the shared state to a common ancestor component

# Lists and Keys

- Lists are handled similar to JavaScript

- Example:

```
const menu = this.props.dishes.map((dish) => {  
  return (  
    <div key={dish.id}>  
      <h1>{dish.name}</h1>  
      <p>{dish.description}</p>  
    </div>  
  );  
});
```

- Keys should be given to elements inside the array
  - Help identify which items have changed, are added or removed