Chapter 23: User interface solutions

Let's say we get inspired of some ideas from modern user interfaces used in programs and convert them to React components. That's what "**User interface solutions**" topic consists of. Attribution is appretiated.

Section 23.1: Basic Pane

```
import React from 'react';

class Pane extends React.Component {
    constructor(props) {
        super(props);
    }

    render() {
        return React.createElement(
            'section', this.props
        );
    }
}
```

Section 23.2: Panel

```
import React from 'react';

class Panel extends React.Component {
    constructor(props) {
        super(props);
    }

    render(...elements) {
        var props = Object.assign({
            className: this.props.active ? 'active' : '',
            tabIndex: -1
        }, this.props);

        var css = this.css();
        if (css != '') {
            elements.unshift(React.createElement(
                'style', null,
                css
            ));
        }

        return React.createElement(
            'div', props,
            ...elements
        );
    }

    static title() {
        return '';
    }
    static css() {
        return '';
    }
}
```

Major differences from simple pane are:

- panel has focus in instance when it is called by script or clicked by mouse;
- panel has `title` static method per component, so it may be extended by other panel component with overridden `title` (reason here is that function can be then called again on rendering for localization purposes, but in bounds of this example `title` doesn't make sense);
- it can contain individual stylesheet declared in `css` static method (you can pre-load file contents from `PANEL.css`).

Section 23.3: Tab

```
import React from 'react';

class Tab extends React.Component {
    constructor(props) {
        super(props);
    }

    render() {
        var props = Object.assign({
            className: this.props.active ? 'active' : ''
        }, this.props);
        return React.createElement(
            'li', props,
            React.createElement(
                'span', props,
                props.panelClass.title()
            )
        );
    }
}
```

`panelClass` property of `Tab` instance must contain class of *panel* used for description.

Section 23.4: PanelGroup

```
import React from 'react';
import Tab from './Tab.js';

class PanelGroup extends React.Component {
    constructor(props) {
        super(props);
        this.setState({
            panels: props.panels
        });
    }

    render() {
        this.tabSet = [];
        this.panelSet = [];
        for (let panelData of this.state.panels) {
            var tabIsActive = this.state.activeTab == panelData.name;
            this.tabSet.push(React.createElement(
                Tab, {
                    name: panelData.name,
                    active: tabIsActive,
                    panelClass: panelData.class,
                    onMouseDown: () => this.openTab(panelData.name)
                }
```

```
            ));
            this.panelSet.push(React.createElement(
                panelData.class, {
                    id: panelData.name,
                    active: tabIsActive,
                    ref: tabIsActive ? 'activePanel' : null
                }
            ));
        }
        return React.createElement(
            'div', { className: 'PanelGroup' },
            React.createElement(
                'nav', null,
                React.createElement(
                    'ul', null,
                    ...this.tabSet
                )
            ),
            ...this.panelSet
        );
    }

    openTab(name) {
        this.setState({ activeTab: name });
        this.findDOMNode(this.refs.activePanel).focus();
    }
}
```

`panels` property of `PanelGroup` instance must contain array with objects. Every object there declares important data about panels:

- **`name`** - identifier of panel used by controller script;
- **`class`** - panel's class.

Don't forget to set property `activeTab` to name of needed tab.

Clarification

When tab is down, needed panel is getting class name `active` on DOM element (means that it gonna be visible) and it's focused now.

Section 23.5: Example view with `PanelGroup`s

```
import React from 'react';
import Pane from './components/Pane.js';
import Panel from './components/Panel.js';
import PanelGroup from './components/PanelGroup.js';

class MainView extends React.Component {
    constructor(props) {
        super(props);
    }

    render() {
        return React.createElement(
            'main', null,
            React.createElement(
                Pane, { id: 'common' },
                React.createElement(
                    PanelGroup, {
```

```
                        panels: [
                            {
                                name: 'console',
                                panelClass: ConsolePanel
                            },
                            {
                                name: 'figures',
                                panelClass: FiguresPanel
                            }
                        ],
                        activeTab: 'console'
                    }
                )
            ),
            React.createElement(
                Pane, { id: 'side' },
                React.createElement(
                    PanelGroup, {
                        panels: [
                            {
                                name: 'properties',
                                panelClass: PropertiesPanel
                            }
                        ],
                        activeTab: 'properties'
                    }
                )
            )
        );
    }
}

class ConsolePanel extends Panel {
    constructor(props) {
        super(props);
    }

    static title() {
        return 'Console';
    }
}

class FiguresPanel extends Panel {
    constructor(props) {
        super(props);
    }

    static title() {
        return 'Figures';
    }
}

class PropertiesPanel extends Panel {
    constructor(props) {
        super(props);
    }

    static title() {
        return 'Properties';
    }
}
```