```
/**
 * @file PascackJct.jsx
 * @author Joey Damico
 * @date September 25, 2019
 * @summary React JSX Component Class that is for Pascack Junction
Interlocking
 *
 * @description Extends the React Component Class and is the UI part
of the Pascack Junction Interlocking,
 * this class controls all the drawings of routes, and also gives a
visual reprenstation
 * of that status of the interlocking
 */

// Import React Component
import React, { Component } from 'react';
// Import CSS style sheet
import '../../../css/Bergen_County_Line/pascack_jct.css';

// Import Images
// Switch Images
import CX_135 from '../../../../public/images/CX_135.png';
import CX_135_Lined_Top from '../../../../public/images/
CX_135_Lined_Top.png';
import CX_135_Lined_Bottom from '../../../../public/images/
CX_135_Lined_Bottom.png';
import CX_135_Lined_Both from '../../../../public/images/
CX_135_Lined_Both.png';
import CX_135_R from '../../../../public/images/CX_135_R.png';
import CX_135_R_Lined from '../../../../public/images/
CX_135_R_Lined.png';
import CX_135_Lined_Top_Occupied_Bottom from '../../../../public/
images/CX_135_Lined_Top_Occupied_Bottom.png';
import CX_135_Occupied_Top_Lined_Bottom from '../../../../public/
images/CX_135_Occupied_Top_Lined_Bottom.png';
import CX_135_Occupied_Top from '../../../../public/images/
CX_135_Occupied_Top.png';
import CX_135_Occupied_Bottom from '../../../../public/images/
CX_135_Occupied_Bottom.png';
import CX_135_Occupied_Both from '../../../../public/images/
CX_135_Occupied_Both.png';
import CX_135_R_Occupied from '../../../../public/images/
CX_135_R_Occupied.png';

import CX_225 from '../../../../public/images/CX_225.png';
import CX_225_Lined_Top from '../../../../public/images/
CX_225_Lined_Top.png';
import CX_225_Lined_Bottom from '../../../../public/images/
CX_225_Lined_Bottom.png';
import CX_225_Lined_Both from '../../../../public/images/
```

```
CX_225_Lined_Both.png';
import CX_225_R from '../../../../public/images/CX_225_R.png';
import CX_225_R_Lined from '../../../../public/images/
CX_225_R_Lined.png';
import CX_225_Lined_Top_Occupied_Bottom from '../../../../public/
images/CX_225_Lined_Top_Occupied_Bottom.png';
import CX_225_Occupied_Top_Lined_Bottom from '../../../../public/
images/CX_225_Occupied_Top_Lined_Bottom.png';
import CX_225_Occupied_Top from '../../../../public/images/
CX_225_Occupied_Top.png';
import CX_225_Occupied_Bottom from '../../../../public/images/
CX_225_Occupied_Bottom.png';
import CX_225_Occupied_Both from '../../../../public/images/
CX_225_Occupied_Both.png';
import CX_225_R_Occupied from '../../../../public/images/
CX_225_R_Occupied.png';

// Signal Images
import SIG_W from '../../../../public/images/SIG_W.png';
import SIG_W_Clear from '../../../../public/images/SIG_W_Clear.png';
import SIG_W_Stop from '../../../../public/images/SIG_W_Stop.png';
import SIG_E from '../../../../public/images/SIG_E.png';
import SIG_E_Clear from '../../../../public/images/SIG_E_Clear.png';
import SIG_E_Stop from '../../../../public/images/SIG_E_Stop.png';

// Color Constants For Drawing Routes
const Empty = '#999999';
const Green = '#75fa4c';
const Red = '#eb3323';


/**
 * The React JSX Component Class for the Pascack Junction Interlocking
 * This class is a JSX React Component for the Pascack Junction
Interlocking, this will control all the UI for the comonent,
 * and the click events that will pass reference between the backend
and the user. This also controls drawing the
 * route drawings to show if a route(s) is setup in the interlocking
or if the route is occupied
 */
class PascackJct extends Component {
    /**
     * State
     * @summary Object that holds the state or status information for
the component
     *
     * @description This object holds all the information for the
interlocking that is required to display the routes
     * correctly Anything that has "this.props." is passed down from
the CTC interlocking class
```

```
     */
    state = {
        // Switch Status
        sw_1: this.props.status.sw_1,
        sw_3: this.props.status.sw_3,
        // Image File for the switch - Will change depending on route
        sw_1_src: CX_225,
        sw_3_src: CX_135,
        // Colors for tail tracks - Will change depending on route
        tail_1_w: Empty,
        tail_2_w: Empty,
        tail_1_e: Empty,
        tail_2_e: Empty,
        // Image File for the signals - Will change depending on route
        sig_2w_src: SIG_W,
        sig_4w_src: SIG_W,
        sig_2e_src: SIG_E,
        sig_4e_src: SIG_E,
        // Information For Interlocking Routes
        occupied_1: this.props.status.occupied_trk_1,
        occupied_2: this.props.status.occupied_trk_2,
        route_1: this.props.status.routed_1,
        route_2: this.props.status.routed_2,
        routes: this.props.status.routes
    };

    /**
     * componentWillReceiveProps()
     * @summary Function that updates the state of the component
     *
     * @description The data that is being changed is passed down from
the CTC classes in the simulation backend
     *
     * @param nextProps, the new data to set the component state too
     */
    componentWillReceiveProps(nextProps){
        this.setState({
            sw_1: nextProps.status.sw_1,
            sw_3: nextProps.status.sw_3,

            occupied_1: nextProps.status.occupied_trk_1,
            occupied_2: nextProps.status.occupied_trk_2,
            route_1: nextProps.status.routed_1,
            route_2: nextProps.status.routed_2,
            routes: nextProps.status.routes
        });
    }
    // ---- END componentWillReceiveProps() ----

    /**
```

```
     * render()
     * @summary standard React function that draws the interlocking to
the screen
     */
    render() {
        // Clear all the drawings from the interlocking so if a train
clears the route is gone
        this.reset_drawings();
        // Set the switch images based off the state of each crossover
        this.set_switch_images();
        // Draw all the current routes in the interlocking
        this.set_route_drawings();

        // Returns the HTML to draw the interlocking and it's current
state to the screen
        return (
            <div>
                {/* Tags */}
                <div className="pascack_title">PASCACK</div>
                <div className="pascack_milepost">MP 7.6</div>
                {/* West Side Tail Tracks */}
                <div className="pascack_1_west" style={{background:
this.state.tail_1_w}}></div>
                <div className="pascack_2_west" style={{background:
this.state.tail_2_w}}></div>
                {/* Switches */}
                <div className="pascack_SW_1"
onClick={this.props.throw_sw_1}><img src={this.state.sw_1_src}/></div>
                <div className="pascack_SW_3"
onClick={this.props.throw_sw_3}><img src={this.state.sw_3_src}/></div>
                {/* East Side Tail Tracks */}
                <div className="pascack_1_east" style={{background:
this.state.tail_1_e}}></div>
                <div className="pascack_2_east" style={{background:
this.state.tail_2_e}}></div>
                {/* Signals */}
                <div className="pascack_sig_2w"
onClick={this.props.click_sig_2w}><img src={this.state.sig_2w_src}/></
div>
                <div className="pascack_sig_4w"
onClick={this.props.click_sig_4w}><img src={this.state.sig_4w_src}/></
div>
                <div className="pascack_sig_2e"
onClick={this.props.click_sig_2e}><img src={this.state.sig_2e_src}/></
div>
                <div className="pascack_sig_4e"
onClick={this.props.click_sig_4e}><img src={this.state.sig_4e_src}/></
div>
            </div>
        );
    }
    // ---- END render() ----

    /**
     * @summary Sets the drawing for the route through the
interlocking
     *
     * @description Function takes what routes are currently set in
the Interlocking class and displays that route in the UI, the drawing
     * will change depending on if the interlocking is occupied or not
     */
    set_route_drawings() {
        let color_1 = Empty;
        let color_2 = Empty;

        // Setting the color of the tracks depending on if the
interlocking in occupied or not
        if (this.state.route_1) {
            color_1 = Green;
        }
        if (this.state.route_2) {
            color_2 = Green;
        }
        if (this.state.occupied_1) {
            color_1 = Red;
        }
        if (this.state.occupied_2) {
            color_2 = Red;
        }

        // Loop through all the routes
        for (let i = 0; i < this.state.routes.length; i++) {
            if (this.state.routes[i] === "W_1_1__|__1_bt_pascack" ||
this.state.routes[i] === "E_1_1__|__1_pascack_hx") {
                // Tail Tracks
                this.state.tail_1_e = color_1;
                this.state.tail_1_w = color_1;

                // Route Is Occupied
                if (this.state.occupied_1) {
                    // Switches
                    if (this.state.route_2) {
                        this.state.sw_1_src =
CX_225_Occupied_Top_Lined_Bottom;
                        this.state.sw_3_src =
CX_135_Occupied_Top_Lined_Bottom;
                    }
                    else if (this.state.occupied_2) {
                        this.state.sw_1_src = CX_225_Occupied_Both;
                        this.state.sw_3_src = CX_135_Occupied_Both;
                    }
                    else {
                        this.state.sw_1_src = CX_225_Occupied_Top;
                        this.state.sw_3_src = CX_135_Occupied_Top;
                    }

                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Stop;
                }
                // Route Is Not Occupied
                else {
                    // Switches
                    if (this.state.route_2) {
                        this.state.sw_1_src = CX_225_Lined_Both;
                        this.state.sw_3_src = CX_135_Lined_Both;
                    }
                    else if (this.state.occupied_2) {
                        this.state.sw_1_src = 
CX_225_Lined_Top_Occupied_Bottom;
                        this.state.sw_3_src = 
CX_135_Lined_Top_Occupied_Bottom;
                    }
                    else {
                        this.state.sw_1_src = CX_225_Lined_Top;
                        this.state.sw_3_src = CX_135_Lined_Top;
                    }

                    // Signals
                    // West Bound Signals
                    if (this.state.routes[i] === "W_1_1__|
__1_bt_pascack") {
                        this.state.sig_2w_src = SIG_W_Clear;
                        this.state.sig_2e_src = SIG_E_Stop;
                    }
                    // East Bound Signals
                    else {
                        this.state.sig_2w_src = SIG_W_Stop;
                        this.state.sig_2e_src = SIG_E_Clear;
                    }
                }
            }
            else if (this.state.routes[i] === "W_2_2__|__2_bt_pascack" 
|| this.state.routes[i] === "E_2_2__|__2_pascack_hx") {
                // Tail Tracks
                this.state.tail_2_e = color_2;
                this.state.tail_2_w = color_2;

                if (this.state.occupied_2) {
                    // Switches
                    // Switches
                    if (this.state.route_1) {
                        this.state.sw_1_src = 
CX_225_Lined_Top_Occupied_Bottom;
                        this.state.sw_3_src = 
CX_135_Lined_Top_Occupied_Bottom;
                    }
                    else if (this.state.occupied_1) {
                        this.state.sw_1_src = CX_225_Occupied_Both;
                        this.state.sw_3_src = CX_135_Occupied_Both;
                    }
                    else {
                        this.state.sw_1_src = CX_225_Occupied_Bottom;
                        this.state.sw_3_src = CX_135_Occupied_Bottom;
                    }

                    // Signals
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
                else {
                    // Switches
                    // Switches
                    if (this.state.route_1) {
                        this.state.sw_1_src = CX_225_Lined_Both;
                        this.state.sw_3_src = CX_135_Lined_Both;
                    }
                    else if (this.state.occupied_1) {
                        this.state.sw_1_src = 
CX_225_Occupied_Top_Lined_Bottom;
                        this.state.sw_3_src = 
CX_135_Occupied_Top_Lined_Bottom;
                    }
                    else {
                        this.state.sw_1_src = CX_225_Lined_Bottom;
                        this.state.sw_3_src = CX_135_Lined_Bottom;
                    }

                    // Signals
                    // West Bound Signals
                    if (this.state.routes[i] === "W_2_2__|
__2_bt_pascack") {
                        this.state.sig_4w_src = SIG_W_Clear;
                        this.state.sig_4e_src = SIG_E_Stop;
                    }
                    // East Bound Signals
                    else {
                        this.state.sig_4w_src = SIG_W_Stop;
                        this.state.sig_4e_src = SIG_E_Clear;
                    }
                }
            }
            else if (this.state.routes[i] === "W_1_2__|
__2_bt_pascack") {
                // Tail Tracks
                this.state.tail_1_e = color_1;
                this.state.tail_2_w = color_1;

                if (this.state.occupied_1) {
                    // Switches
                    this.state.sw_1_src = CX_225_R_Occupied;
                    this.state.sw_3_src = CX_135_Occupied_Top;

                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
                else {
                    // Switches
                    this.state.sw_1_src = CX_225_R_Lined;
                    this.state.sw_3_src = CX_135_Lined_Top;

                    // Signals
                    this.state.sig_2w_src = SIG_W_Clear;
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
            }
            else if (this.state.routes[i] === "E_2_1__|
__1_pascack_hx") {
                // Tail Tracks
                this.state.tail_1_e = color_2;
                this.state.tail_2_w = color_2;

                if (this.state.occupied_2) {
                    // Switches
                    this.state.sw_1_src = CX_225_R_Occupied;
                    this.state.sw_3_src = CX_135_Occupied_Top;

                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
                else {
                    // Switches
                    this.state.sw_1_src = CX_225_R_Lined;
                    this.state.sw_3_src = CX_135_Lined_Top;

                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_4e_src = SIG_E_Clear;
                }
            }
            else if (this.state.routes[i] === "W_2_1__|
__1_bt_pascack") {
                // Tail Tracks
                this.state.tail_2_e = color_2;
                this.state.tail_1_w = color_2;

                if (this.state.occupied_2) {
                    // Switches
                    this.state.sw_1_src = CX_225_Occupied_Top;
                    this.state.sw_3_src = CX_135_R_Occupied;

                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
                else {
                    // Switches
                    this.state.sw_1_src = CX_225_Lined_Top;
                    this.state.sw_3_src = CX_135_R_Lined;

                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_4w_src = SIG_W_Clear;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
            }
            else if (this.state.routes[i] === "E_1_2__|
__2_pascack_hx") {
                // Tail Tracks
                this.state.tail_2_e = color_1;
                this.state.tail_1_w = color_1;

                if (this.state.occupied_1) {
                    // Switches
                    this.state.sw_1_src = CX_225_Occupied_Top;
                    this.state.sw_3_src = CX_135_R_Occupied;
                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
                else {
                    // Switches
                    this.state.sw_1_src = CX_225_Lined_Top;
                    this.state.sw_3_src = CX_135_R_Lined;

                    // Signals
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_4w_src = SIG_W_Stop;
                    this.state.sig_2e_src = SIG_E_Clear;
                    this.state.sig_4e_src = SIG_E_Stop;
                }
            }
        }
    }
    // ---- END set_route_drawings() ----

    /**
     * set_switch_images()
     * @summary Changes image sources for the switches, depending on
switch status
     *
     * @description This function uses the data passed in through
status from the CTC classes and
     * shows if the switches are reversed or not on the screen, by
changing the image
     * source files, to the correct .png file respectivly
     */
    set_switch_images() {
        // Set SW #1
        // SW #1 Reversed
        if (this.state.sw_1) {
            this.state.sw_1_src = CX_225_R;
        }
        // SW #1 Normal
        else {
            this.state.sw_1_src = CX_225;
        }

        // Set SW #3
        // SW #3 Reversed
        if (this.state.sw_3) {
            this.state.sw_3_src = CX_135_R;
        }
        // SW #3 Normal
        else {
            this.state.sw_3_src = CX_135;
        }
    }
    // ---- END set_switch_images() ----

    /**
     * @summary Function to reset the signal images and track colors
     *
     * @description This function is need, because if the player was
to remove a route,
     * or when the train clears the interlocking nothing will clear
the route
     * the is displaying on the screen, even if it's gone in the
backend
     */
    reset_drawings() {
        this.state.tail_1_w = Empty;
        this.state.tail_2_w = Empty;
        this.state.tail_1_e = Empty;
        this.state.tail_2_e = Empty;

        this.state.sig_2w_src = SIG_W;
        this.state.sig_4w_src = SIG_W;
        this.state.sig_2e_src = SIG_E;
        this.state.sig_4e_src = SIG_E;
    }
    //---- END reset_drawings() ----
}

// Export the interlocking to be drawn on the screen
export default PascackJct;
```