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/**
 * @file CentralValley.jsx
 * @author Joey Damico
 * @date July 16, 2019
 * @summary React JSX Component Class that is for CP Central Valley
 *
 * Extends the React Component Class and is the UI part of CP Central
Valley,
 * this class controls all the drawings of routes, and also gives a
visual reprenstation
 * of that status of the interlocking
 */

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

// Import Images
// Switch Images
import SW_U_E from '../../../../public/images/SW_U_E.png';
import SW_U_E_Lined from '../../../../public/images/SW_U_E_Lined.png';
import SW_U_E_Occupied from '../../../../public/images/
SW_U_E_Occupied.png';
import SW_U_E_R from '../../../../public/images/SW_U_E_R.png';
import SW_U_E_R_Lined from '../../../../public/images/
SW_U_E_R_Lined.png';
import SW_U_E_R_Occupied from '../../../../public/images/
SW_U_E_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 Central Valley Interlocking
 *
 * This class is a JSX React Component for the Central Valley
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
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 * route drawings to show if a route(s) is setup in the interlocking
or if the route is occupied
 */
class CentralValley extends Component {
    /**
     * State
     * @summary Object that holds the state or status information for
the component
     *
     * 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_21: this.props.status.sw_21,
        // Image File for the switch - Will change depending on route
        sw_21_src: SW_U_E,
        // Image File for the signals - Will change depending on route
        sig_2w_src: SIG_W,
        sig_1w_src: SIG_W,
        sig_1e_src: SIG_E,
        // Colors for tail tracks - Will change depending on route
        tail_w: Empty,
        tail_1_e: Empty,
        tail_2_e: Empty,
        // Information For Interlocking Routes
        occupied: this.props.status.occupied,
        routes: this.props.status.routes
    };

    /**
     * @summary Function that updates the state of the component
     *
     * 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_21: nextProps.status.sw_21,
            occupied: nextProps.status.occupied,
            routes: nextProps.status.routes
        });
    }
    // ---- END componentWillReceiveProps() ----
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    /**
     * @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_img();
        // 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>
                {/* Title Text */}
                <div className="valley_title">CP CENTRAL VALLEY</div>
                <div className="valley_milepost">MP 47.8JS</div>

                {/* West Side Tail Tracks */}
                <div className="valley_west" style={{background:
this.state.tail_w}}></div>

                {/* Switches */}
                <div className="valley_SW_21"
onClick={this.props.throw_sw_21}><img src={this.state.sw_21_src}/></
div>

                {/* East Side Tail Tracks */}
                <div className="valley_2_east" style={{background:
this.state.tail_2_e}}></div>
                <div className="valley_1_east" style={{background:
this.state.tail_1_e}}></div>

                {/* Signal */}
                {/* West */}
                <div className="valley_sig_2w"
onClick={this.props.click_sig_2w}><img src={this.state.sig_2w_src}/></
div>
                <div className="valley_sig_1w"
onClick={this.props.click_sig_1w}><img src={this.state.sig_1w_src}/></
div>
                {/* East */}
                <div className="valley_sig_1e"
onClick={this.props.click_sig_1e}><img src={this.state.sig_1e_src}/></
div>
            </div>
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        );
    }
    // ---- END render() ----

    /**
     * @summary Sets the drawing for the route through the
interlocking
     *
     * 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() {
        // Setting the color of the tracks depending on if the
interlocking in occupied or not
        let color = null;
        if (this.state.occupied) {
            color = Red;
        }
        else {
            color = Green;
        }
        for (let i = 0; i < this.state.routes.length; i++) {
            // Routes with Track 1 on both the West and East sides
            if (this.state.routes[i] === "W_1_1__|__1_hudson_valley"
|| this.state.routes[i] === "E_1_1__|__1_valley_harriman") {
                // Tail Tracks
                this.state.tail_1_e = color;
                this.state.tail_w = color;

                // Drawing if the interlocking is occupied
                if (this.state.occupied) {
                    // Switch Image
                    this.state.sw_21_src = SW_U_E_Occupied;

                    // Signal Images
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_1w_src = SIG_W_Stop;
                    this.state.sig_1e_src = SIG_E_Stop;
                }
                // Routing is not occupied
                else {
                    // Switch Image
                    this.state.sw_21_src = SW_U_E_Lined;

                    // Signal Images
                    // West Bound
                    if (this.state.routes[i] === "W_1_1__|
__1_hudson_valley") {
                        this.state.sig_2w_src = SIG_W_Stop;
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                        this.state.sig_1w_src = SIG_W_Clear;
                        this.state.sig_1e_src = SIG_E_Stop;
                    }
                    // East Bound
                    else {
                        this.state.sig_2w_src = SIG_W_Stop;
                        this.state.sig_1w_src = SIG_W_Stop;
                        this.state.sig_1e_src = SIG_E_Clear;
                    }
                }
            }
            // Routes With Track 2 on West Side and Track 1 on East
Side
            else if (this.state.routes[i] === "W_2_1__|
__1_hudson_valley" || this.state.routes[i] === "E_1_2__|
__2_valley_harriman") {
                // Tail Tracks
                this.state.tail_2_e = color;
                this.state.tail_w = color;

                // Drawing if the interlocking is occupied
                if (this.state.occupied) {
                    // Switch Image
                    this.state.sw_21_src = SW_U_E_R_Occupied;

                    // Signal Images
                    this.state.sig_2w_src = SIG_W_Stop;
                    this.state.sig_1w_src = SIG_W_Stop;
                    this.state.sig_1e_src = SIG_E_Stop;
                }
                // Routing that is not occupied
                else {
                    // Switch Image
                    this.state.sw_21_src = SW_U_E_R_Lined;

                    // Signal Images
                    // West Bound Route
                    if (this.state.routes[i] === "W_2_1__|
__1_hudson_valley") {
                        this.state.sig_2w_src = SIG_W_Clear;
                        this.state.sig_1w_src = SIG_W_Stop;
                        this.state.sig_1e_src = SIG_E_Stop;
                    }
                    // East Bound Route
                    else {
                        this.state.sig_2w_src = SIG_W_Stop;
                        this.state.sig_1w_src = SIG_W_Stop;
                        this.state.sig_1e_src = SIG_E_Clear;
                    }
                }
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            }
        }
    }
    // ---- END set_route_drawings() ----

    /**
     * @summary Changes image sources for the switches, depending on
switch status
     *
     * 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_img() {
        // Switch #21
        // Reversed
        if (this.state.sw_21) {
            this.state.sw_21_src = SW_U_E_R;
        }
        // Normal
        else {
            this.state.sw_21_src = SW_U_E;
        }
    }
    // ---- END set_switch_image() ----

    /**
     * @summary Function to reset the signal images and track colors
     *
     * 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.sig_2w_src = SIG_W;
        this.state.sig_1w_src = SIG_W;
        this.state.sig_1e_src = SIG_E;

        this.state.tail_w = Empty;
        this.state.tail_1_e = Empty;
        this.state.tail_2_e = Empty;
    }
    //---- END reset_drawings() ----
}
```

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