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

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

// Import Images
// Switch Images
import SW_U_W from '../public/images/SW_U_W.png';
import SW_U_W_Lined from '../public/images/SW_U_W_Lined.png';
import SW_U_W_Occupied from '../public/images/
SW_U_W_Occupied.png';
import SW_U_W_R from '../public/images/SW_U_W_R.png';
import SW_U_W_R_Lined from '../public/images/
SW_U_W_R_Lined.png';
import SW_U_W_R_Occupied from '../public/images/
SW_U_W_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 Howells Interlocking
 *
 * This class is a JSX React Component for the Howells Interlocking,
this will control all the UI for the comonent,
 * and the click events that will pass reference between the backend

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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 Howells 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_3: this.props.status.sw_3,
    // Image File for the switch - Will change depending on route
    sw_3_src: SW_U_W,
    // Colors for tail tracks - Will change depending on route
    tail_1_w: Empty,
    tail_2_w: Empty,
    tail_e: Empty,
    // Image File for the signals - Will change depending on route
    sig_2w_src: SIG_W,
    sig_2e_src: SIG_E,
    sig_2es_src: SIG_E,
    // Information For Interlocking Routes
    occupied: this.props.status.occupied,
    routes: this.props.status.routes
  };

  /**
   * componentWillReceiveProps()
   * @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_3: nextProps.status.sw_3,
      occupied: nextProps.status.occupied,
      routes: nextProps.status.routes
    });
  }

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    }
    // ---- 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_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>
                {/* Tags */}
                <div className="howells_title">CP HOWELLS</div>
                <div className="howells_milepost">MP 69.1SR</div>
                {/* West Side Tail Tracks */}
                <div className="howells_2_west" style={{background:
this.state.tail_2_w}}></div>
                <div className="howells_1_west" style={{background:
this.state.tail_1_w}}></div>
                {/* Switches */}
                <div className="howells_SW_3"
onClick={this.props.throw_sw_3}><img src={this.state.sw_3_src}/></div>
                {/* East Side Tail Tracks */}
                <div className="howells_east" style={{background:
this.state.tail_e}}></div>
                {/* Signals */}
                <div className="howells_sig_2es"
onClick={this.props.click_sig_2es}><img src={this.state.sig_2es_src}/
></div>
                <div className="howells_sig_2e"
onClick={this.props.click_sig_2e}><img src={this.state.sig_2e_src}/></
div>
                <div className="howells_sig_2w"
onClick={this.props.click_sig_2w}><img src={this.state.sig_2w_src}/></
div>
            </div>
        );
    }
    // ---- END render() ----

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/**
 * @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 is occupied or not
    let color = null;
    if (this.state.occupied) {
        color = Red;
    }
    else {
        color = Green;
    }

    // Loop through all the routes
    for (let i = 0; i < this.state.routes.length; i++) {
        if (this.state.routes[i] === "W_1_1__|__1_ov_howells" ||
this.state.routes[i] === "E_1_1__|__1_howells_hall") {
            // Tail Tracks
            this.state.tail_e = color;
            this.state.tail_1_w = color;

            // The Route Is Occupied
            if (this.state.occupied) {
                // Switches
                this.state.sw_3_src = SW_U_W_Occupied;

                // Signals
                this.state.sig_2w_src = SIG_W_Stop;
                this.state.sig_2e_src = SIG_E_Stop;
            }
            // The Route Is NOT Occupied
            else {
                // Switches
                this.state.sw_3_src = SW_U_W_Lined;

                // Signals
                // West Bound Signals
                if (this.state.routes[i] === "W_1_1__|
__1_ov_howells") {
                    this.state.sig_2w_src = SIG_W_Clear;
                    this.state.sig_2e_src = SIG_E_Stop;
                    this.state.sig_2es_src = SIG_E_Stop;
                }
                // East Bound Signals

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        else {
            this.state.sig_2w_src = SIG_W_Stop;
            this.state.sig_2e_src = SIG_E_Clear;
            this.state.sig_2es_src = SIG_E_Stop;
        }
    }
}
else if (this.state.routes[i] === "W_1_2__|__2_ov_howells"
|| this.state.routes[i] === "E_2_1__|__1_howells_hall") {
    // Tail Tracks
    this.state.tail_e = color;
    this.state.tail_2_w = color;

    // The Route Is Occupied
    if (this.state.occupied) {
        // Switches
        this.state.sw_3_src = SW_U_W_R_Occupied;

        // Signals
        this.state.sig_2w_src = SIG_W_Stop;
        this.state.sig_2e_src = SIG_E_Stop;
        this.state.sig_2es_src = SIG_E_Stop;
    }
    // The Route Is NOT Occupied
    else {
        // Switches
        this.state.sw_3_src = SW_U_W_R_Lined;

        // Signals
        // West Bound Signals
        if (this.state.routes[i] === "W_1_2__|
__2_ov_howells") {
            this.state.sig_2w_src = SIG_W_Clear;
            this.state.sig_2e_src = SIG_E_Stop;
            this.state.sig_2es_src = SIG_E_Stop;
        }
        // East Bound Signals
        else {
            this.state.sig_2w_src = SIG_W_Stop;
            this.state.sig_2e_src = SIG_E_Stop;
            this.state.sig_2es_src = SIG_E_Clear;
        }
    }
}
}
}
}
// ---- END set_route_drawings() ----

/**
 * set_switch_img()

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        * @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 respectively
        */
set_switch_img() {
    // Set SW #3
    // SW #3 Reversed
    if (this.state.sw_3) {
        this.state.sw_3_src = SW_U_W_R;
    }
    // SW #3 Normal
    else {
        this.state.sw_3_src = SW_U_W;
    }
}
// ---- END set_switch_img() ----

/**
 * @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.tail_1_w = Empty;
    this.state.tail_2_w = Empty;
    this.state.tail_e = Empty;

    this.state.sig_2w_src = SIG_W;
    this.state.sig_2e_src = SIG_E;
    this.state.sig_2es_src = SIG_E;
}
//---- END reset_drawings() ----
}

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

```