

Activity

Title:

Tutorial #8 – Understanding the Dispatch Window Operation

Day:

Tuesday, 1200

Season & Weather:

Summer & clear

Difficulty:

Medium

Time to complete:

20 minutes

Description:

Activity

In this activity you will have the opportunity to familiarise yourself with the Open Rails Dispatch Window.

The Dispatch window can be used to identify various track layouts, and the current location of the Player and Artificial Intelligence (AI) trains.

It can also be used to resolve train \"deadlocks\" that may occur if two trains running in opposing directions try to pass each other on the same section of track.

In this activity you will:

- i) Be shown the basic operations of the Dispatch Window
- ii) Resolve a deadlock in each of the following scenarios:
 - a. Between the Player Train and an AI train (controlled AI train)
 - b. Between the Player Train and a Loose Consist (uncontrolled AI train)
 - c. Between two AI trains.

A series of pop-up messages will be displayed during the activity. Note you may need to scroll the message down in the pop-up window to see the full set of instructions.

Once you have read the instructions in each window, select the “Resume and close box” option on the pop-up window.

Briefing:

You will be driving a train from Mt Victoria to Bell. You will need to drive your train to various locations in order for the various pop up messages to be activated.

Due to poor train control a number of deadlocks have been created which have stopped trains from moving forward, and therefore you will need to follow the instructions to resolve the deadlocks.

Operational Information

Deadlock

A train deadlock occurs where two trains attempt to pass each other at the same time using the same track section (or path in OR terminology). Naturally this cannot happen without the trains crashing, so the OR signalling logic halts the two trains, usually in a position where both trains block each other's movements. Generally it requires human input to resolve a deadlock situation. To resolve a deadlock one of the trains needs to be moved out of the path of the other train.

Artificial Intelligence (AI) Train

An AI train is created by an activity builder when they create an activity. As part of the creation process a number of pieces of information are defined, such as a path through various track sections is defined, stopping and starting times at stations if appropriate, etc. The train will now run according to this information, and it will be controlled by the computer signalling intelligence built into OR.

Loose Consist

A loose consist is a set of wagons or a train with motive power which has been placed upon a track section. A loose consist is generally not defined to be mobile, but typically remains static. If the consist does not have its own motive power then it cannot be moved in OR without a locomotive being coupled to the consist.

Dispatch Window Basics

See Section 7.5 of the Open Rails Manual

Reference Information

For more detailed information on breaking refer to the following:

Open Rails Manual - <http://openrails.org/learn/manual-and-tutorials/>

Physic Information - <http://www.coalstonewcastle.com.au/physics/>

Tips

- It is recommended that you do regular saves of the activity (by pressing the F2 key) as this will allow you to restart the activity from a known good point if you need to repeat a part of the activity, rather than restarting the activity from the beginning.

Open Rail Settings

For optimal performance of this activity, please ensure that the following settings are applied in the Open Rails Options (press options button on main screen) menu.

General:

English Language

Automatic Pressure Units

Imperial UK Other Units

Graduated release air brakes

Dispatcher window

Video:

Fast full-screen alt-tab (See sect 6.3.3 of manual to determine whether this option should be selected)

Simulation:

Advanced adhesion model
Break couplers
Curve dependent resistance
Curve dependent speed limit
Tunnel dependent resistance
Wind dependent resistance
Steam locomotive hot start
Forced red at station stops
Extended AI train shunting
Autopilot

Experimental:

Location-linked passing path processing
Adhesion factor correction: 100%
Adhesion factor random change: 0%

More Activities available from:

<http://www.zigzag.coalstonewcastle.com.au/>

Activity feedback:

coals_to_newcastle@yahoo.com.au

Appendix 1 - Activity Tutorial Messages

(These are included to assist as a reference if required)

Departure from Mt Victoria

Before closing this Pop-up message, open the Dispatch Window by pressing the 'Ctrl + 9' keys. If you have two monitors then it is suggested that the game window be placed on one screen, and the Dispatch Window placed upon the second screen, otherwise you will need to have them both on the same monitor, and switch between the game and dispatch windows as required.

Once the Dispatch Window is open it is suggested that the 'Draw Path', 'Pick Signals' and 'Pick Switches' options located in the top RHS of the dispatch window are selected.

To navigate around the window, hold the left hand mouse button down and move the mouse. To zoom in and out of the window, scroll the mouse wheel.

To familiarise yourself with the scenario for this activity, zoom out and look at the disposition of the various trains on the route. The Player train is sitting at Mt Victoria (displayed as green boxes), and is unlabelled. The AI trains are labelled as AI trains, and are moving under the control of the OR signalling logic. A loose consist has been placed at Hartley Vale, on the section towards Bell. This is a static consist, and will not move without human intervention.

Zoom in to view the Player train at Mt Victoria.

Note that:

i - Switches (Points) are indicated by black dots on the track. To change the Switch, click on the black dot, and select the appropriate direction of movement, ie either 'To Main Route' or To 'Side Route'. The Main Route is the default switch direction, as opposed to the diverging switch direction. To confirm the selection click well away from any track work. When the dot changes to a grey value, it indicates that it is set for the diverging or 'Side Route'.

ii - Signals are shown as red, orange or green circles with a line pointing in the direction from which they are active. The Signal status can also be changed by clicking on the signal dot, and selecting the appropriate selection from the pop up menu, and then clicking well away from the track to confirm the selection. The colour of the signal will change to the appropriate colour.

Note the position and state of the switches and signals around the location of the Player service.

Try practising switching points and signals now by changing the ones located near the Engine Shed.

You have been cleared to leave from Mt Victoria, so close the Pop-up message window and leave the station.

Mt Victoria Starting Signal

The signal in front of you is at STOP (red), and you should be able to see a train travelling in the opposite direction being held at the opposing signal beyond your signal.

Both of these trains have been programmed to use the section of track past the No 1 Platform at Mt Victoria (ie both trains are trying to occupy the same track section at the same time, and hence a Deadlock has been created where neither train can proceed without some human intervention).

To resolve this Deadlock you, as the human controller, can complete the following steps:

- a. Set the departure signal in front of the Player train to STOP. (To prevent it clearing automatically)
- b. Open the 'Train List Window' by pressing 'Alt + F9'
- c. Look at the Dispatch Window to confirm the name of the train opposing you, and then click on the relevant name in the Train List Window (in this instance - 'Tutorial#8 Dispatch AI'). A red asterix should appear beside the name. By pressing an appropriate numeric key the camera can be changed for the newly selected train.
- d. Provided the Player train is stationary, click a second time on the train name in step c above with the 'Shift' key pressed. This will suspend any automated OR movement of Player train. The Player train will change to orange text to confirm if it has successfully been suspended. You now have control of 'Tutorial#8 Dispatch AI'. Note: As the train is standing on a gradient, the train may start rolling backwards, apply sufficient brakes to hold the train (put brake into LAP position).
- e. Press 'Ctrl + M' to set signalling to manual (Check F4 HUD to ensure signalling mode has changed to Manual).
- f. With the Dispatch Window, set the switch in front of your new train to the diverging path ('To Side Route') through the loop track, and also set the points at the far end of the platform to the default position (ie straight through on the left hand track - train path should be switched past the point). Also with the Dispatcher Window set the signal in front of you to CLEAR, and the starting signal at the other end of the loop (at end of platform) to CLEAR.
- g. Drive your train through the loop until you reach the original path of the AI train (ie past the points at the end of the platform). Set signal control back to AUTO.
- h. 'Tutorial#8 Dispatch AI' should now proceed normally as an AI train. Click twice on 'PLAYER' in the Train List Window and you will be switched back to controlling the PLAYER train.
- i. Set the points in front of the PLAYER train that was changed to allow the AI to go into the Loop, and set the departure signal to 'System Controlled'. This should now allow your train to depart from Mt Victoria with a clear section of track in front of you.

You have now resolved the 'Mexican Standoff'.

Hartley Vale Starting Signal

The signal in front of you is at STOP (red), and you should be able to see a train travelling in the opposite direction being held at the opposing signal beyond your signal.

In this instance the opposing train is a STATIC consist, and thus cannot move as an AI train. To resolve the deadlock the train will need to be moved to the passing loop. Note if the rest of the

activity relies on trains using the passing loop, then it maybe necessary for the STATIC train to be moved onto a siding where it will not 'foul' any other AI traffic.

To resolve the deadlock follow a similar process as was undertaken in the last scenario. In brief, move PLAYER control to the STATIC consist, set signal control to MANUAL and then set switches and signals to drive the train to the loop. Revert control to the PLAYER train, set switches and signals (System Controlled) for the PLAYER train, and proceed as normal.

Bell Approach Signal

The signal in front of you is at STOP (red). Looking at the Dispatch Window you will see a train travelling in the same direction being held at the platform beyond your signal, and this in turn is being held up by a train running in the opposite direction. Hence there are two AI trains that need to be cleared to allow your train to proceed.

In this instance the AI train labelled 'Tutorial #8 Dispatch AI #3' is the train blocking all movement. To resolve this deadlock a similar process will need to be followed as in the first scenario at Mt Victoria, however as the deadlock involves three trains extra work will be required.

In this instance hold 'Tutorial #8 Dispatch AI #2' at the platform where it is standing, and move 'Tutorial #8 Dispatch AI #3' to the loop. Once AI #3 is moved restore AI #2 back to system control and it should move off correctly.

As AI #3 has not been returned to its original path it will not perform as an AI train. To restore it to full AI operation it will be necessary to move it out onto the main line where its original path is still defined. Similar steps in switching PLAYER control will be required to do this.

Bell Station

You have now completed all the deadlock scenarios in this activity.

The activity is now complete.

Activity created by:

Peter Newell

2018

<http://www.zigzag.coalstonewcastle.com.au/>

coals_to_newcastle@yahoo.com.au