Terminal Velocity --- CTC Office – Users Guide

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Welcome to the Terminal Velocity CTC Office Module. This Users guide will provide a top down view of the CTC Office User Interface as well as how to operate the CTC Office.

If you are attempting to login to the CTC Office User Interface, you may see a screen similar to Figure 1. See Figure 2 for a close up of the target problem area.
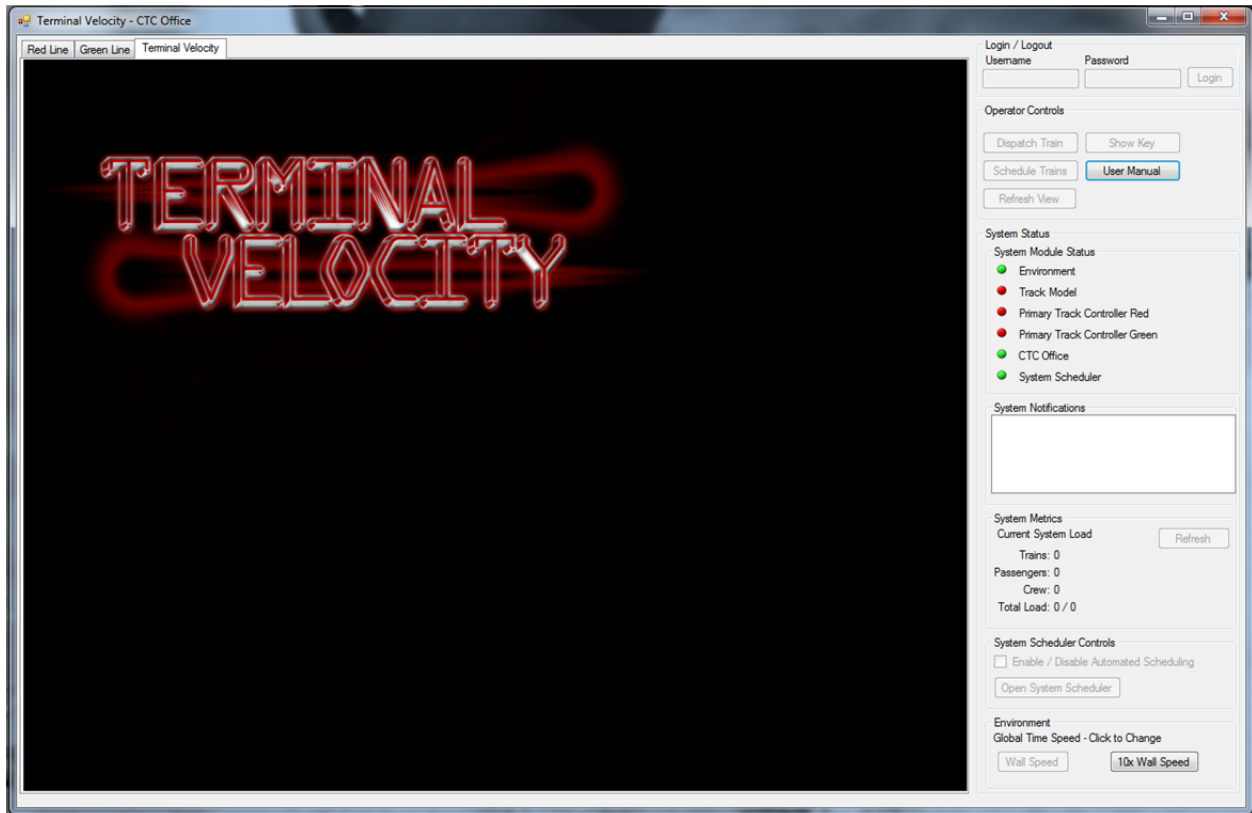

Figure 1 - CTC Office User Interface Login Locked

Figure 2 - CTC Office User Interface Login Locked – Target Area

This is a result to not having a valid track layout loaded in the Track Model. Please see the Track Model Documentation for information on how to load a new track layout. Once complete, you can continue with this guide. Figure 3 shows the System Status target area when the Red Line layout has been loaded.
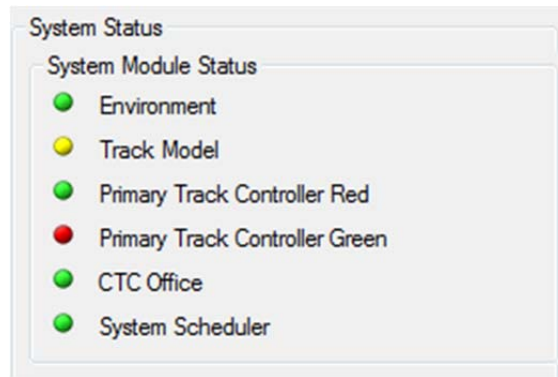
Figure 3 - System Status – Red Line Loaded.

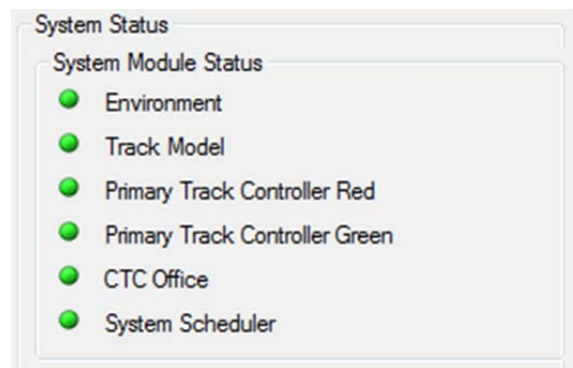Figure 4 shows the System Status when everything has been properly loaded.

Figure 4 - System Status – Properly Loaded

The CTC Office User Interface will allow you (the operator) to login to the system if only one line has been loaded. To login, enter "root" into the Username field and enter "admin" into the Password field. Figure 5 depicts what the Login Focus area should look like after these credentials are entered. Once entered, you (the operator) my click on the "Login" button to the right of the Password field. Alternatively, you can press the enter key.
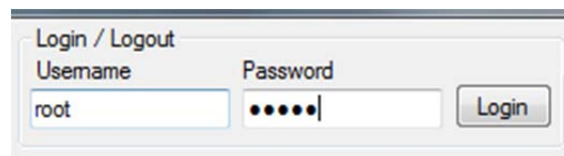

Figure 5 - Login Focus Area with Credentials Entered

Once the credentials have been verified, the CTC Office User Interface will show the Red Line by default. Figure 6 depicts this view. The Password field will then clear the entered password. This will prevent others from logging in after you log out without permission to use the system.
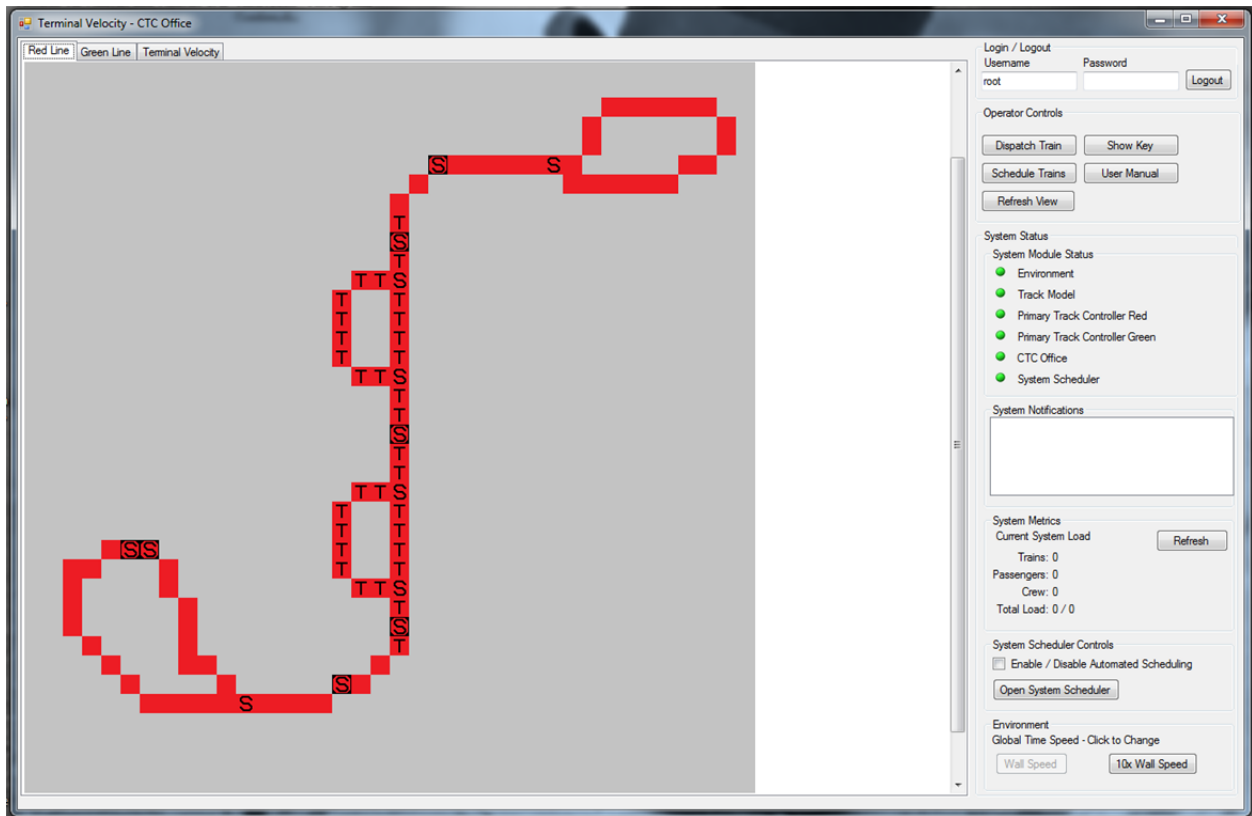
Figure 6 – CTC Office Logged In

Congratulations! You are now in control of the CTC Office User Interface, which controls the CTC Office Software. The right hand side of the screen has most of the information you will need in order to operate this system. From top to bottom, you will see the Login Area, the Standard Operator Controls Area (Figure 7), the System Status Area (with notifications), the System Metrics Area (Figure 8), The System Scheduler Area (Figure 9), and the Environment Global Time Area (Figure 10).

The Standard Operator Controls Area consists of buttons that allow you to Dispatch a Train, Show the System Schedule, Refresh the Track View, Show the Track View Key, and Open this user's guide for reference. To perform any of these actions just click on the proper button. More information on the Standard Operator Controls will be detailed later in this user's guide.
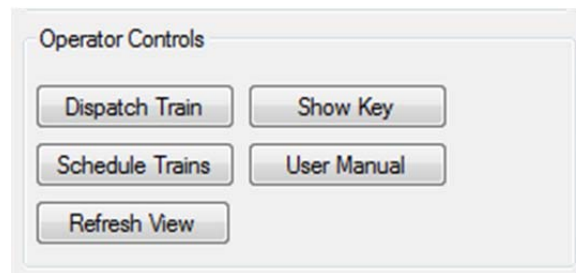

Figure 7 – Standard Operator Controls.

The System Metrics and notifications area will keep you up to date on what is going on in the system. The Notifications area will report the state of track blocks, the state of trains, and other useful information about the system. Additionally these notifications are logged (if logging is enabled). The System Metrics Area shows you the current load of the system. To manually refresh this information, click on the Refresh Button to the right. Additionally, these statistics will periodically update automatically.
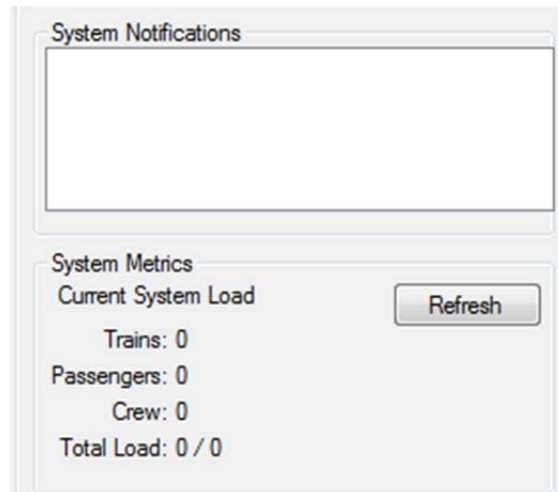

Figure 8 – System Metrics and Notifications

The System Scheduler Controls Area allows you to enable and disable automated scheduling. To enable or disable automated scheduling, you must check (to enable) or uncheck (to disable) the checkbox in this area. To view the current automated schedule, click on the Open System Scheduler Button. This button has the same functionality as the Schedule Trains Button in the Standard Operator Controls Area.
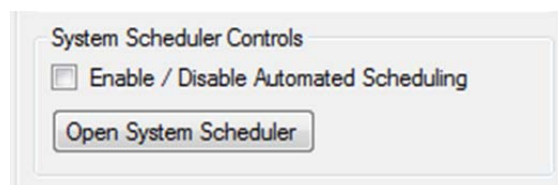

Figure 9 – System Scheduler Controls

The Environment Time Modification Area is only enabled for simulation purposes and can be disabled when implemented outside of simulation. The two buttons in this area allow you to toggle system operation at normal wall speed, or at 10 times normal wall speed. This feature allows the trains to move faster throughout the system.
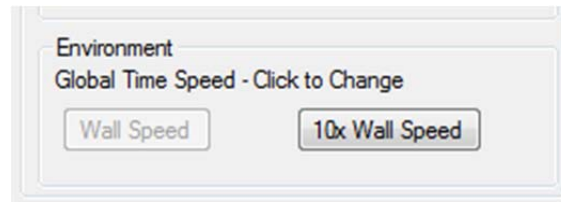
Figure 10 – Environment Time Modification Area

Occasionally while running the system, other indicator light will appear in the System Status area. These indicator lights can be seen in Figure 11. The light to the right of the CTC Office text indicates that a tool has been opened and is currently still open. The light to the right of the System Scheduler text indicates that the System Scheduler has the ability to process its automated schedule. However, this does not mean that the automated System Scheduler is actually scheduling. If you feel that the scheduler is not scheduling, you can uncheck and then recheck the Enable/Disable Automated Scheduling checkbox.
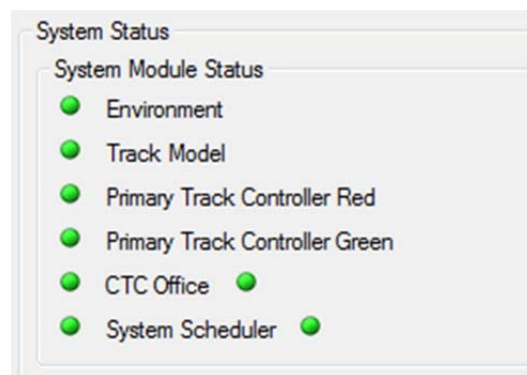

Figure 11 – CTC Office Extended System Status.

The last information screen that you will need to know about is the Track Layout Key. In order to view this key, please click on the Show Key button in the Standard Operator Controls area. This will generate a new window that depicts all of the possible images you will run in to while operating the CTC Office User Interface. This Track Layout Key is depicted in Figure 12. The Track Layout Key should be relatively self-explanatory. However, if you require more information on the actual track pieces depicted in the key, please seek further information from the track model.
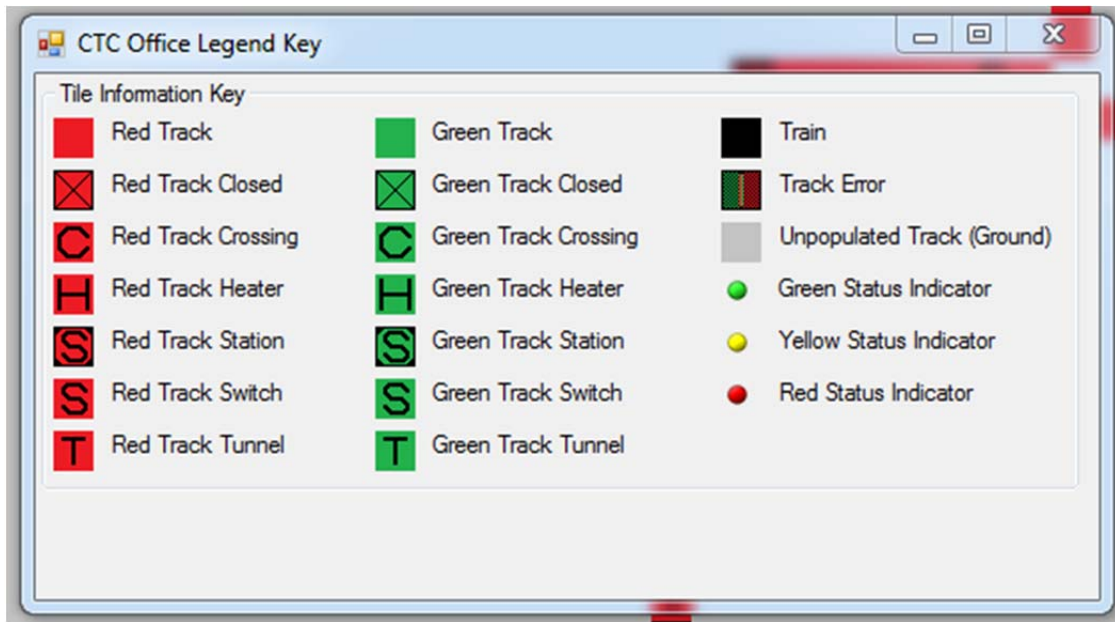
Figure 12 – Track Layout Key

Let's dispatch a train. Begin by clicking the Dispatch Train button in the Standard Operator Controls. Once clicked, a new Routing Tool Window will appear and prompt you to select a route. The only options for dispatch are Red Line and Green Line. Once the train is on the track, you will be able to set a Point Route for the Train. Figure 13 depicts the Routing Tool (with point routing enabled). You can close the Routing Tool Window to cancel the dispatching of a Train.
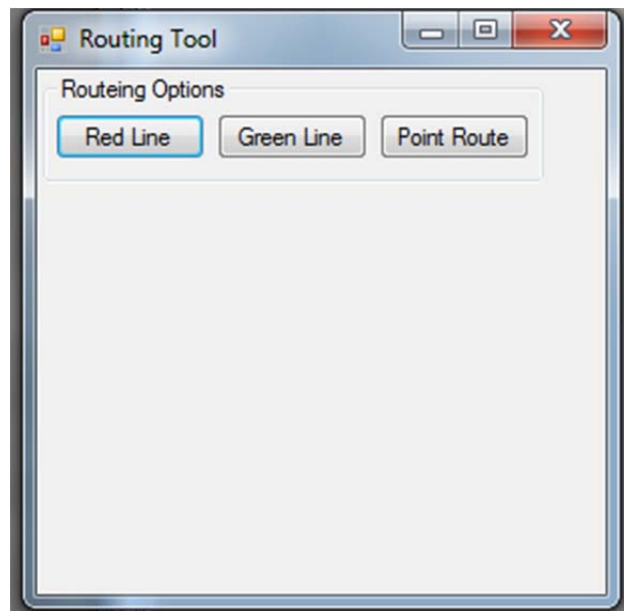

Figure 13 – Routing Tool Window

Congratulations! You now have a Train in the system. If the Train did not automatically appear on the track, you can manually refresh the view by clicking the Refresh View button in the Standard Operator Controls. If you dispatched a train on a different line than you currently viewing, you can select the line via the tabs located at the top of the CTC Office User Interface Window.

Figure 14 shows the CTC Office User Interface Window with a Train on the Red Line. To view the Train Identification Number, you can simply hover over the Train image in the Track Layout. This is depicted in both Figure 15 and Figure 16. Alternatively, you can right click on the Train image to view its number via the Right Click Operations Menu.
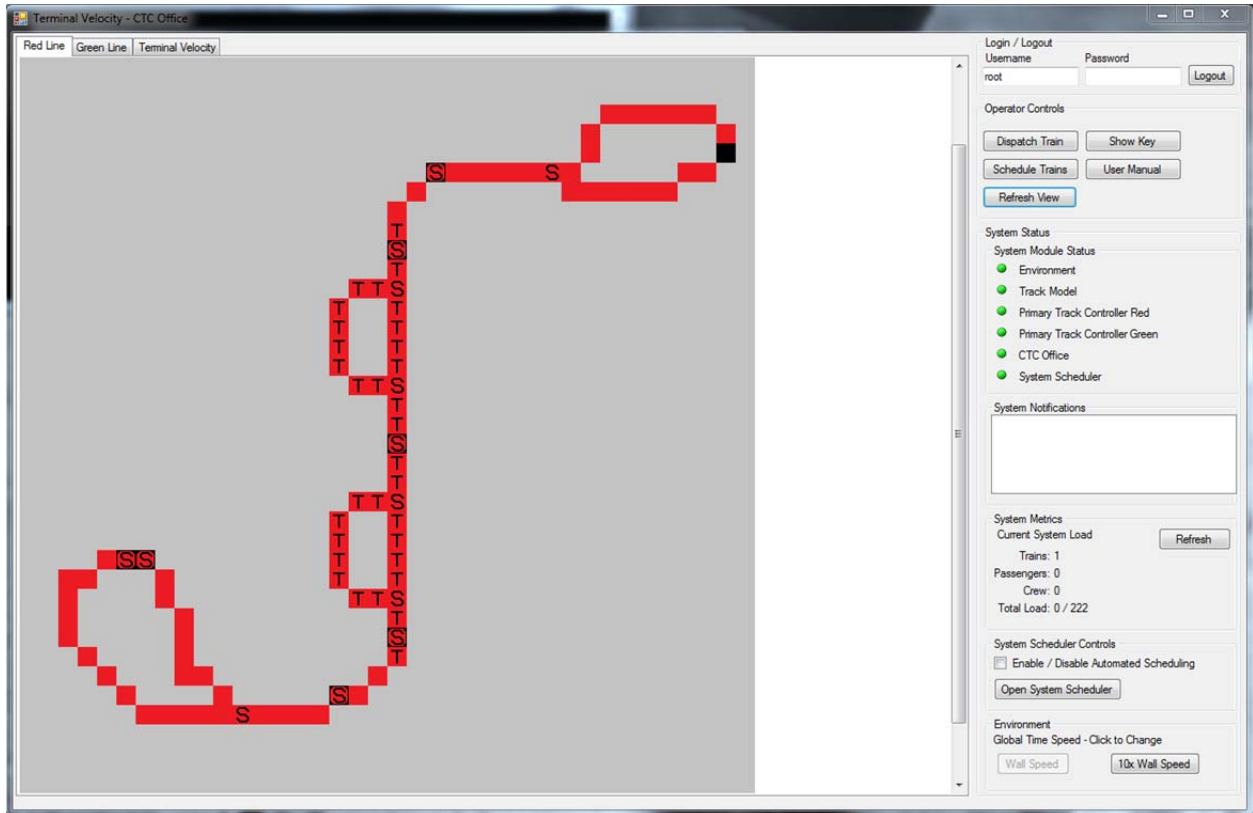

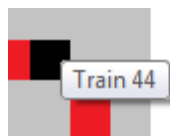Figure 14 – Train on the Red Line

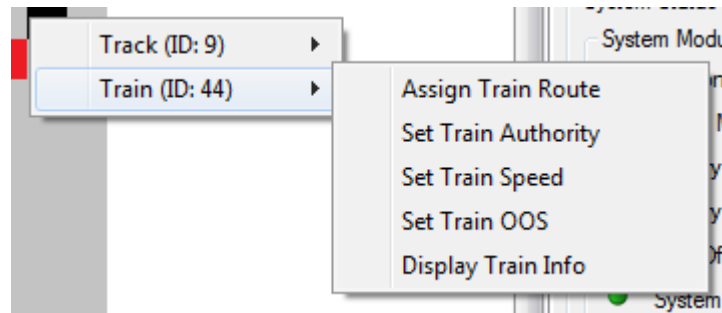Figure 15 – Hover Train Identification Number

Figure 16 – Train Context Menu

Now that you know you can access more Operator Controls by right clicking on a train, let's discuss what these options do. The first option Assign Train Route opens the Routing Tool Window as discussed above. To create a point route, follow the popup boxes on the screen for further instruction. The guide will revisit options two and three. The fourth option, Set Train OOS (Out of Service), automatically reroutes the selected Train to go to the Yard (which is not depicted in the CTC Office User Interface). The fifth option, Display Train Info, opens a Train Controller Information window. To obtain more information about the Train Controller Information window, please review the Train Controller Users Guide. Only one Train Controller Information window can be opened at a time.

Option two, Set Train Authority, opens a new Authority Tool Window. This window can be seen if Figure 17. To set the authority limit of a train, enter an authority value (integer number of blocks to travel) into the text field and click submit. If there is an error with the entry, a popup will notify you. Upon a successful authority request submission, the Authority Tool Window will automatically close.
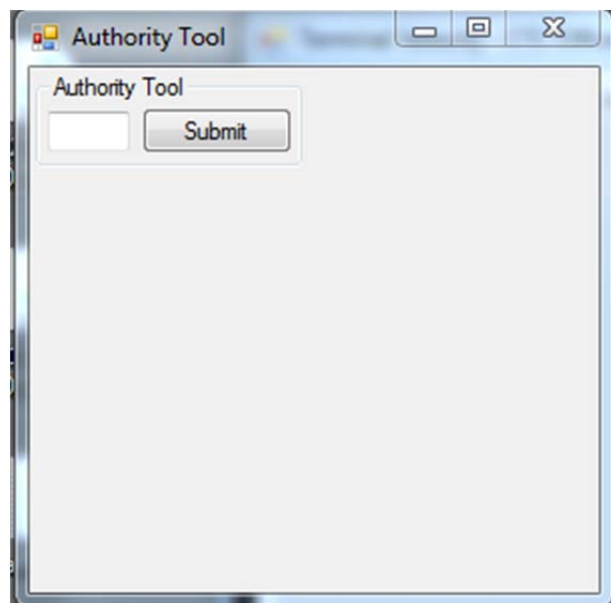

Figure 17 – Authority Tool Window

Option three, Set Train Speed, opens a new Speed Tool Window. This window can be seen if Figure 18. To set the speed limit of a train, enter a speed limit value into the text field and click submit. If there is an error with the entry, a popup will notify you. Upon a successful speed limit request submission, the Speed Tool Window will automatically close.
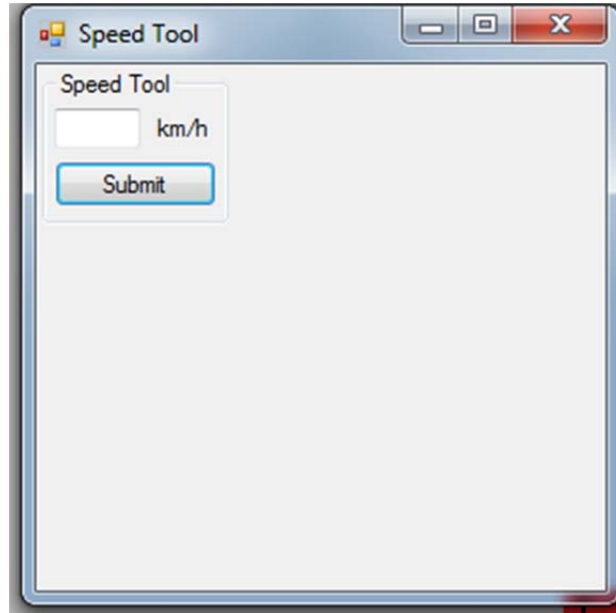

Figure 18 – Speed Tool Window

To request maintenance on a Track Piece within the system, you simply right click on the block and select Close Track from the Right Click Context Menu. Additionally, you can request for a Closed Track Piece to be opened in the same manner. The opening of a block is not depicted in this guide. This Menu can be seen in Figure 19, and a close up view of this menu can be seen in Figure 20.
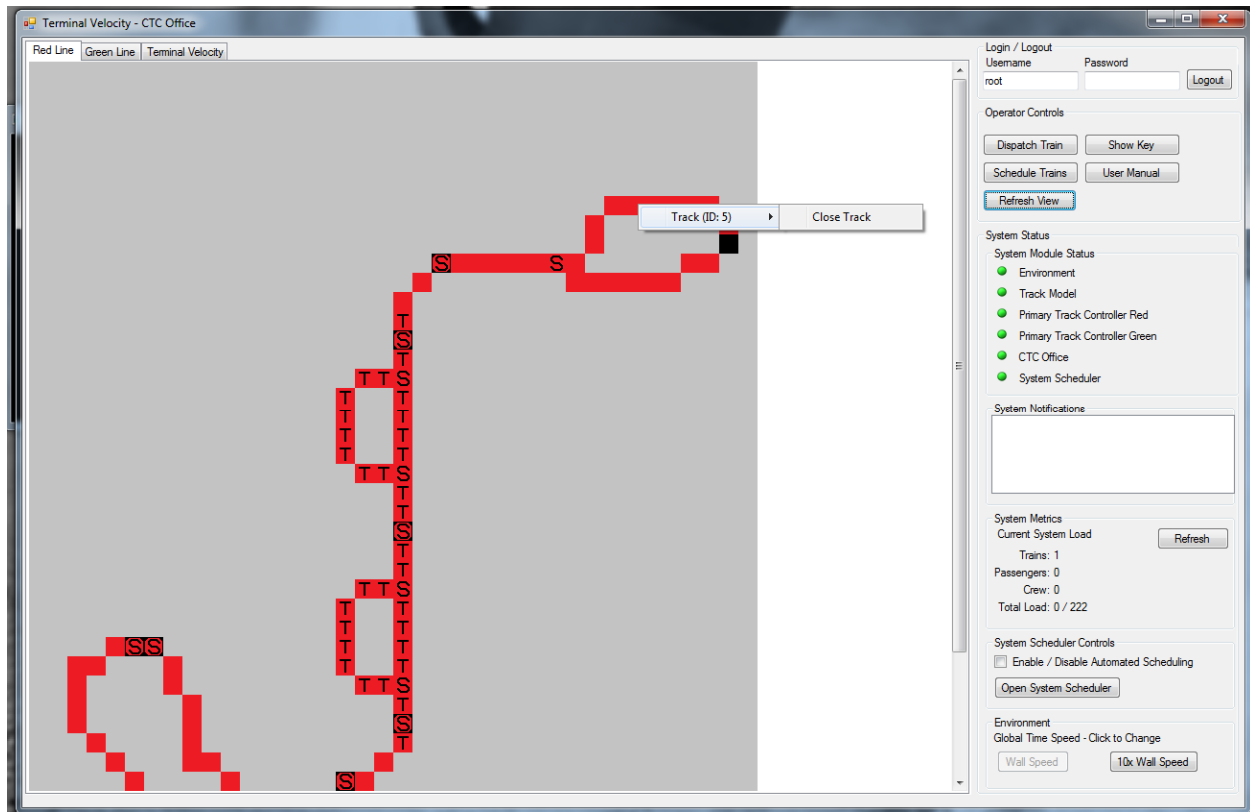
Figure 19 – Track Context Menu (1)

Figure 20 - Track Context Menu (2)

The last feature that will be covered in this users guide is the Station Name Hover Feature. By simply moving your mouse over a Track Piece and holding your mouse pointer above the Station Block (this mouse movement is called hovering) the name of the Station will appear. This is depicted in Figure 21 and a closer view can be seen in Figure 22.
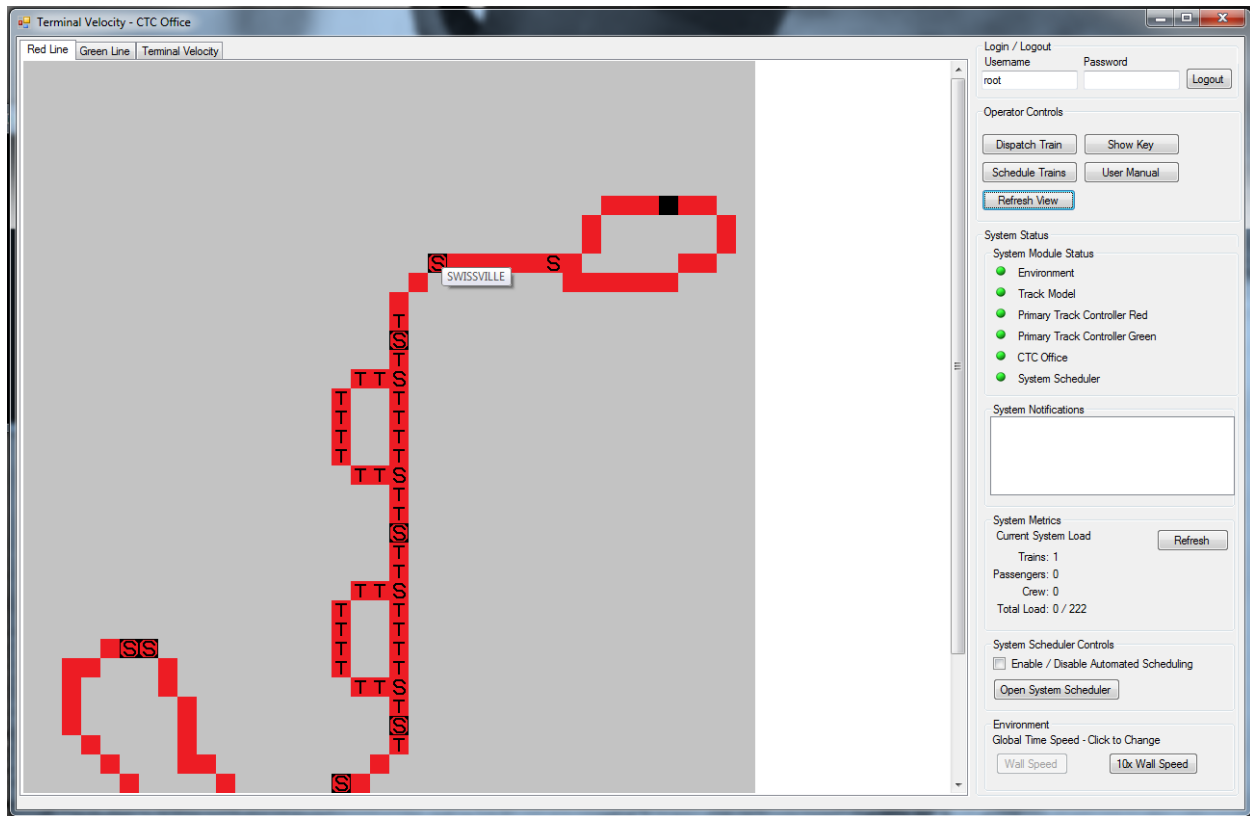
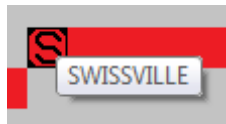Figure 21 – Hovering over a Station Track Piece (1)

Figure 22 – Hovering over a Station Track Piece (2)

Thank You for taking the time to read through this guide. Hopefully after reading this guide, you will be able to properly operate the CTC Office User Interface. Please contact the developer(s) if further assistance is required, or if you would like to make a feature request.

Regards,

The Terminal Velocity Developers.