Train Controller User Manual

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1 Track Model

1.1 UI Layout

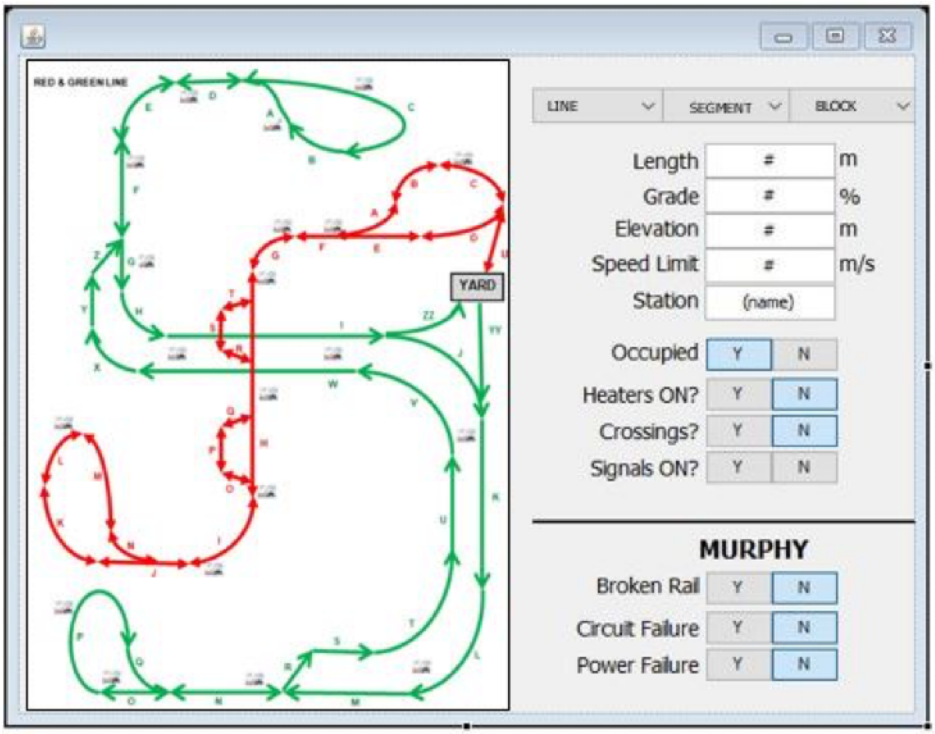

Figure 1: The current Track UI layoutl

1.2 UI Buttons and Actions

1.2.1 Line, Section, and Block Selection

- Line Selection - The user may select the line to view from the "line" dropdown list of lines
- Section - The user may select the section to view from the "section" dropdown menu
- Block - The user may select the block from the block dropdown menu

After selecting the Line / Section / Block, the user may view the pertinent information on the panels of the screen.

1.2.2 Static Information

The user may view the static information about the track on the righthand panel. This information will be loaded into the program via an excel file at initialization. The following information is displayed:

- Length - The length of the selected block (feet)
- Incline / Grade - The grade of the selected block (percent)
- Elevation - The elevation of the selected block (feet)
- Speed Limit - The speed limit of the selected block (miles per hour)
- Station - If a station is on this block, a station name will be given. If there is no station on the block, this field will be empty

The values will be provided in imperial units. Furthermore, the track direction and infrastructure (such as underground) will be reflected in the graphical display on the left. Track direction will be marked with the arrows as shown, and infrastructure will be marked via a drawing scheme. Switches will be marked graphically with an "open" or "cllosed" on the map between the sections which are connected.

1.3 Dynamic Information

Additionally, the following dynamic information will be provided based upon the runtime environment of the train system:

- Occupied - Is the selected block of the track occupied
- Heaters - If the selected block has heaters, are they on?
- Crossings - Are railway crossings down? ("Yes" implies the railway crosisngs are down)
- Signals ON - Are the train light signals currently on?

The railway crossings terminology may be chagned as to make the information presented clearer.

1.4 User Interfacing

In this module, no control of the tracks state from the external user interface is provided. This is a reflection of the underlying philosophy that the track model itself should be "dropped out" and replaced by a physical track when the end user (the train company). In this case, the track models primary duties – loading passengers onto the track and turning the heaters on and off – will be handled automatically, with the ability to programmatically control the variables. Additionally,