Mysterious Steam CTC Office Test Plan James Trott

1. Login
2. Load Track
3. UI display
4. Add Train
5. Route Train
6. Select Train
7. Change Route
8. Set Authority
9. Calculate Throughput
10. Select Track Segment
11. Open Track
12. Close Track

**Test Vectors:**

1. Logging in (Input: Username<String> , Password<String>; Output: success<Boolean>)
   1. User starts program
   2. Log in UI is displayed
   3. User enters Username and Password into respected fields
   4. Displays an error when either are incorrect
   5. After three attempts, system exits
   6. After successful login, A filechooser pops up.

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| **Author** | **Tester** | **Pass/Fail** | **Comment** |
| James Trott | Zach | Pass |  |

1. Loading Track (Input: Track file name <String>; Output: Loaded Track)
   1. The user selects the red and green line .cvs files to load
   2. The corresponding track is loaded into the Track Controller.

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1. UI Display
   1. After successfully loading a track the entire GUI is displayed

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1. Adding a new Train (Input: Line, TrainID, Authority; Output TrainController)
   1. User clicks Add Train on the UI
   2. Dialog Box Appears
   3. A unique trainID is selected for new train automatically
   4. An authority is typed into the text field
   5. A radio button to choose the line is selected
   6. A new Instance of Train Controller is created
   7. Train Controller creates a new instance of Train Model
   8. The Train Controller is added to the list of Trains
   9. Returns success/fail

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1. Selecting a Train (Input: Dropdown menu; Output: Train selected and its data)
   1. User selects the arrow from the train dropdown menu.
   2. User then selects a train ID to view
   3. The ID that is selected is gotten from the train list
   4. The CTC Office displays the trains data in below it
   5. The metrics are displayed on the UI

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1. Sending Request(input: TrainID, Authority, Speed)
   1. User selects a TrainID from the dropdown box
   2. The User selects Send Request
   3. The Send Request Dialog is displayed
   4. The User is types in a new Speed they wish to send to the selected Train
   5. The User types in a authority they wish to send to the selected Train
   6. User presses the Add destination button to add any checked destinations
   7. User then Submit and a the new route is calculated

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1. Calculating Throughput(Input: number of people<integer>; Output: Throughput<integer>)
   1. Train Controller will have the number of people leaving and entering train
   2. CTC Office will loop through all train controllers and calculate throughput.
   3. Throughput is displayed on the screen

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1. Selecting a Track Segment (Input: Dropdown menu; Output: Track segment)
   1. User selects the track segment ID from dropdown menu
   2. The track segment that was selected is asked for by the track controller
   3. The segment ‘s data is then displayed on the UI.

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1. Opening a Track(Input: Track Segment; Output: Success/Fail<Boolean>)
   1. User selects a track segment
   2. The user then clicks Open
   3. The Track Controller will then determine if it is possible to close it that this time
   4. Returns Pass/fail

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