**CTC - Defect Report**

**Abby Magistro**

| **Bug: Train Dispatched Multiple Times With Real Time Clock** | | |
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| **Overview** | Description | In initial testing of the CTC and clock, the clock incremented a minute every second. When the clock was slowed down to real time speed, trains dispatched 60 times in a minute, for every time the clock updated and the time still matched the dispatch time. |
| Defect Type | Functionality Bug |
| Reported By | Abby Magistro |
| Date Reported | 3/24/2024 |
| **Details** | Branch | Abby\_Branch |
| Severity | High |
| Priority | High |
| Complexity | Low |
| Assigned To | Abby Magistro |
| Steps to Reproduce | With the clock at real time speed and incrementing every second, dispatch a train. |
| Observed Response | When the clock hits the correct dispatch time, |
| **Conclusion** | Status | Resolved |
| Notes | Reoccurred when clock implementation was changed. Eventually resolved by keeping an internal list of if a train had been dispatched already that was checked before dispatching it again. |
| Resolved By | Abby Magistro |
| Date Resolved | 3/24/2024 |

| **Bug: Train Tracking Stopped Working** | | |
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| **Overview** | Description | After connecting to all waysides for the green line, the block occupancies would show up on the CTC occupied blocks table. |
| Defect Type | Integration Bug |
| Reported By | Abby Magistro |
| Date Reported | 3/31/2024 |
| **Details** | Branch | Abby\_Branch |
| Severity | Medium |
| Priority | Medium |
| Complexity | High |
| Assigned To | Abby Magistro |
| Steps to Reproduce | Dispatch a train to any station and let it be dispatched from the yard. |
| Observed Response | Block occupancies will recognise the train on the first block and then lose track of the train. |
| **Conclusion** | Status | Resolved |
| Notes | Receiving occupancies for Wayside HW when there were no block occupancies there yet was overwriting the occupancies from Wayside SW. Was resolved by storing occupancies from different waysides in different lists. |
| Resolved By | Abby Magistro |
| Date Resolved | 3/31/2024 |

| **Bug: Not Selecting a Schedule File Crashes the Program** | | |
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| **Overview** | Description | When the “Upload Schedule” button is clicked, but the user exits without selecting a file, the program crashes. |
| Defect Type | Functional Bug |
| Reported By | Abby Magistro |
| Date Reported | 4/1/2024 |
| **Details** | Branch | Abby\_Branch |
| Severity | High |
| Priority | Low |
| Complexity | Low |
| Assigned To | Abby Magistro |
| Steps to Reproduce | Click the “Upload Schedule” button and hit exit without selecting a schedule file. |
| Observed Response | Program will crash, closing all UIs |
| **Conclusion** | Status | Resolved |
| Notes | Added a critical warning pop-up message to the user, and did not allow the code to proceed to the parser since there was no file. |
| Resolved By | Abby Magistro |
| Date Resolved | 4/1/2024 |

| **Bug: Train Tracking and Block Occupancies Crashed Program** | | |
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| **Overview** | Description | Occasionally there were issues with an out of bounds error where an occupied block was received, but there would be no occupancies for the train to check against at the beginning of the line. |
| Defect Type | Functionality Bug |
| Reported By | Abby Magistro |
| Date Reported | 4/2/2024 |
| **Details** | Branch | Abby\_Branch |
| Severity | High |
| Priority | High |
| Complexity | Medium |
| Assigned To | Abby Magistro |
| Steps to Reproduce | Unknown |
| Observed Response | Program will crash with an out of bounds error |
| **Conclusion** | Status | Resolved |
| Notes | Added a length validation before attempting to look at a list. Issue was a combination of things including how occupancies were stored. |
| Resolved By | Abby Magistro |
| Date Resolved | 4/2/2024 |

| **Bug: Occupancies Duplicated** | | |
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| **Overview** | Description | Blocks in the Wayside HW section of the green line appeared on the CTC UI three times. |
| Defect Type | Integration/Visual Bug |
| Reported By | Abby Magistro |
| Date Reported | 4/15/2024 |
| **Details** | Branch | Abby\_Branch |
| Severity | Low |
| Priority | Medium |
| Complexity | Medium |
| Assigned To | Abby Magistro |
| Steps to Reproduce | Dispatch a train to a station in the wayside HW section of green line, which is the later half. |
| Observed Response | Any occupancies will appear repeated three times on the CTC UI occupied blocks table. |
| **Conclusion** | Status | Resolved |
| Notes | Wayside HW was connected to CTC three times, instead of Wayside SW being connected three times. |
| Resolved By | Abby Magistro |
| Date Resolved | 4/15/2024 |

| **Bug: Trains Dispatched at Invalid Times Crashed the Program** | | |
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| **Overview** | Description | If a train was not given enough time to reach a station from the start time of the clock, the dispatch time would be in the past. This created errors with indexing in multiple modules. |
| Defect Type | Functionality Bug |
| Reported By | Abby Magistro |
| Date Reported | 4/15/2024 |
| **Details** | Branch | Abby\_Branch |
| Severity | High |
| Priority | High |
| Complexity | Medium |
| Assigned To | Abby Magistro |
| Steps to Reproduce | Dispatch a time to arrive at a station before it safely can do so. Then attempt to dispatch a train that would have a valid dispatch time. |
| Observed Response | Dispatch time will be set in the past for T1 but not T2, This will eventually crash the program with an out of range error. |
| **Conclusion** | Status | Resolved |
| Notes | Created a warning message if the dispatch time is less than 6 hours before the current time, and allow the user to cancel the manual dispatch attempt. |
| Resolved By | Abby Magistro |
| Date Resolved | 4/15/2024 |