**Train Controller (Software and Hardware) - Defect Report**

**Lauren Gilfillan and Chad Collina**

| **Incorrect Power Output when Changing KI and KP** | | |
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| **Overview** | Description | Calculated power output not responding correctly when changing Ki and Kp values. |
| Defect Type | Bug |
| Reported By | Lauren Gilfillan |
| Date Reported | 4/23/2024 |
| **Details** | Branch | TC\_Testing |
| Severity | High |
| Priority | High |
| Complexity | Low |
| Assigned To | Lauren Gilfillan |
| Steps to Reproduce | Dispatch a train. |
| Observed Response | Observe power while changing Ki and Kp   * Set to extreme values to see obvious defect |
| **Conclusion** | Status | Resolved |
| Notes | The backend to the Ki and Kp text boxes have flipped object names. The variables correspond correctly. |
| Resolved By | Lauren Gilfillan |
| Date Resolved | 4/93/2024 |

| **Bug: Incorrect power (Hardware)** | | |
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| **Overview** | Description | The serial connection is limiting the interval of calculations for the hardware run train. |
| Defect Type | Bug |
| Reported By | Chad Collina |
| Date Reported | 4/4/2024 |
| **Details** | Branch | HW\_Power |
| Severity | High |
| Priority | High |
| Complexity | High |
| Assigned To | Chad Collina |
| Steps to Reproduce | Dispatch a train running on hardware implementation. |
| Observed Response | Inconsistent power values were given to the train model causing inconsistent, and unpredictable movement. |
| **Conclusion** | Status | Fixed |
| Notes | Baud rate of 115200 required |
| Resolved By | Chad Collina |
| Date Resolved | 4/5/2024 |

| **Bug: Train overshooting Authority distance** | | |
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| **Overview** | Description | The train would consistently stop late, an inconsistent amount. |
| Defect Type | Bug |
| Reported By | Chad Collina |
| Date Reported | 4/3/2024 |
| **Details** | Branch | TCTMI |
| Severity | High |
| Priority | High |
| Complexity | High |
| Assigned To | Chad Collina, Lauren Gilfillan |
| Steps to Reproduce | Dispatch a train to any station with any commanded speed. |
| Observed Response | The train will miss the authority distance, passing the station. The overshoot of authority would vary with simulation speed. |
| **Conclusion** | Status | Fixed |
| Notes | Time is now simulated on a separate thread, decreases latency and increases overall simulation consistency |
| Resolved By | Lauren Gilfillan, Chad Collina |
| Date Resolved | 4/4/2024 |

| **Bug: Exceeding Commanded Speed** | | |
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| **Overview** | Description | The train would exceed the speed commanded by the CTC but would stay below the speed limit, in both automatic and manual mode. |
| Defect Type | Bug |
| Reported By | Lauren Gilfillan |
| Date Reported | 4/22/2024 |
| **Details** | Branch | TC\_Testing |
| Severity | High |
| Priority | Medium |
| Complexity | Low |
| Assigned To | Lauren Gilfillan |
| Steps to Reproduce | Dispatch a train with a commanded speed below the speed limit |
| Observed Response | The train ignores the commanded speed but follows the speed limit |
| **Conclusion** | Status | Resolved |
| Notes | Missing condition in speed check |
| Resolved By | Lauren Gilfillan |
| Date Resolved | 4/22/2024 |

| **Bug: Headlight switches** | | |
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| **Overview** | Description | The driver can turn on the headlights, but they can only turn off the headlights if they press ‘on’ then ‘off.’ If off is pressed twice, the toggle buttons now show that both ‘on’ and ‘off’ are untoggled. |
| Defect Type | Bug |
| Reported By | Chad Collina |
| Date Reported | 2/20/2024 |
| **Details** | Branch | TC\_ui |
| Severity | Low |
| Priority | Low |
| Complexity | Low |
| Assigned To | Lauren Gilfillan |
| Steps to Reproduce | Press headlight buttons in the order:   * On * On * Off * Off |
| Observed Response | The buttons that should toggle pressed and unpressed are now both unpressed |
| **Conclusion** | Status | Fixed |
| Notes | The logic was written to toggle in one direction but not reverse |
| Resolved By | Lauren Gilfillan |
| Date Resolved | 2/27/2024 |

| **Bug: Beacons** | | |
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| **Overview** | Description | Beacons are not announcing the stations at the proper times. |
| Defect Type | Bug |
| Reported By | Lauren Gilfillan |
| Date Reported | 2/23/2024 |
| **Details** | Branch | TC\_Testing |
| Severity | Low |
| Priority | Medium |
| Complexity | Low |
| Assigned To | Chad Collina |
| Steps to Reproduce | Dispatch a train to a station |
| Observed Response | Announcements never update. |
| **Conclusion** | Status | Fixed |
| Notes | Issues in beacon contents and the announcement signals |
| Resolved By | Lauren Gilfillan |
| Date Resolved | 2/27/2024 |