**Wayside (Hardware) - Defect Report**

**Lillian Jones**

| **Bug: Serial Communication Failure** | | |
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| **Overview** | Description | Serial information from RPi is incorrectly read by the computer. This results in the module stalling, and eventual system failure. |
| Defect Type | Bug |
| Reported By | Lillian Jones |
| Date Reported | 4/5/2024 |
| **Details** | Branch | lilly-branch |
| Severity | High |
| Priority | High |
| Complexity | High |
| Assigned To | Lillian Jones |
| Steps to Reproduce | 1. Dispatch a train to a station within the Wayside #1 bounds (Ex. Whited) |
| Observed Response | The system runs for a different amount of time during each iteration. Eventually, the system stops updating, and the program terminates. |
| **Conclusion** | Status | Resolved |
| Notes | Occasionally, the program would receive two bytes of information serially rather than one. This prevented the terminating character from being read by the machine, keeping the program in an infinite loop. Measures were added to only read one byte every time. |
| Resolved By | Lillian Jones |
| Date Resolved | 4/9/2024 |

| **Bug: Closed Blocks Not Displaying with Occupancies** | | |
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| **Overview** | Description | Upon CTC closing a block for maintenance, the wayside module does not calculate switch, light, and crossing positions until a change in train occupancy is detected. |
| Defect Type | Bug |
| Reported By | Lillian Jones |
| Date Reported | 4/11/24 |
| **Details** | Branch | lilly-branch |
| Severity | Low |
| Priority | Low |
| Complexity | Medium |
| Assigned To | Lillian Jones, Abby Magistro |
| Steps to Reproduce | 1. Dispatch a train to a station within the Wayside #1 bounds (Ex. Whited) 2. Close a train for maintenance using the CTC UI |
| Observed Response | Closed blocks are not displayed with other occupancies and track attributes are not calculated until the train moves (new, non-closure occupancy is detected) |
| **Conclusion** | Status | Resolved |
| Notes | Function was restructured to call “modeHandler” as soon as a closed block is received. |
| Resolved By | Lillian Jones |
| Date Resolved | 4/13/2024 |

| **Bug: Boolean Authority Updating Incorrectly** | | |
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| **Overview** | Description | Per-block authority was not correctly updating, as some blocks were incorrectly set to have 0 authority. |
| Defect Type | Bug |
| Reported By | Lillian Jones |
| Date Reported | 4/11/24 |
| **Details** | Branch | lilly-branch |
| Severity | Medium |
| Priority | Medium |
| Complexity | Medium |
| Assigned To | Lillian Jones |
| Steps to Reproduce | 1. Dispatch a train to a station within the Wayside #1 bounds (Ex. Whited) 2. Dispatch an additional train to the same region/close a block for maintenance to to activate collision prevention. |
| Observed Response | Per-block authority calculated in accordance with light color is overriding collision prevention authority. This could allow trains to collide. |
| **Conclusion** | Status | Resolved |
| Notes | Order of function calls was reversed, allowing collision prevention authority to be prioritized. |
| Resolved By | Lillian Jones |
| Date Resolved | 4/13/2024 |

| **Bug: D13 Switch Causing Train Error** | | |
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| **Overview** | Description | When a train attempts to travel from block A1 to D13, the system crashes, despite the switch being in the correct orientation. |
| Defect Type | Bug |
| Reported By | Lillian Jones |
| Date Reported | 4/14/24 |
| **Details** | Branch | lilly-branch |
| Severity | High |
| Priority | Medium |
| Complexity | High |
| Assigned To | Lillian Jones, Anh Nguyen |
| Steps to Reproduce | 1. Dispatch a train to a station that requires the train to complete the A-B-C loop in Green line (Ex. Whited) |
| Observed Response | System crashes when attempting to transfer the train from block A1 to D13, even when the switch is in the correct orientation. |
| **Conclusion** | Status | Unresolved |
| Notes | - |
| Resolved By | - |
| Date Resolved | - |