# Solution Development Log

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**Tutorial**: 12:30PM EN401 Tuan

***Instructions: Replace highlighted text above with your details. This document is to be maintained throughout the development of your solution and must provide an accurate and specific description of all unit, online and Generative AI resources engaged with in the development of your solution. You should be as specific as possible regarding any resources or AI queries that were used and how the information obtained was utilised in the solution you have submitted. There is no page limit.***

Table 1 List in this table all online resources engaged in the development of your solution and give each a label which you can refer to after. Replace the grey example text with your own, and add rows to the table as needed.

|  |  |  |
| --- | --- | --- |
| Resource ID | Resource | Location/URL |
| 1 | Unit Modules | Canvas |
| 2 | Unit Labs | Canvas |
| 3 | Unit Live Online | Canvas |
| 4 | Assignment PDF | Provided on Canvas under Assignments |
| 5 | Logisim Evolution | <https://github.com/logisim-evolution/logisim-evolution/releases> |
| 6 | ChatGPT | [https://chat.openai.com](https://chat.openai.com/) |

Table 2 Log all unit resources and online resources (other than Gen-AI) that were referred to in the development of your solution. This log should be comprehensive and as specific as possible. Replace the grey example text with your own and add rows to the table as needed.

|  |  |  |
| --- | --- | --- |
| Date | Resource ID | Details |
| 17/03/2025 | 1 | Used week 3 module’s video to design a Toggle Flip-Flop for Start/Stop button implementation (Stage 1). |
| 18/03/2025 | 2 | Used Lab 1 exercises for implementing binary counters and understanding how to wrap values. |
| 21/03/2025 | 3 | Reviewed online tutorial regarding the use of the Reset button logic in class. |
| 23/03/2025 | 1 | Referenced Lab 4 for hex digit decoding and preventing illegal display outputs (Stage 3). |
| 24/03/2025 | 1 | Reviewed for cascading counters logic used in Minutes display. |
| 25/03/2025 | 4 | Followed stage breakdown as described in Assignment PDF to guide implementation sequence. |
| 26/03/2025 | 5 | Verified that Logisim version 3.9.0 was compatible with provided Main.circ and testing. |

Table 3 Log all Gen-AI interactions that were used during the development of your solution. This log should be comprehensive and as specific as possible. Replace the grey example text with your own and add rows to the table as needed.

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Resource ID | Query or Queries | How utilised in your submission |
| 25/03/2025 | 6 | Q5: “How do I freeze a stopwatch display when a Split button is pressed while the main timer keeps running?” | Guided implementation for Stage 5 Split Time logic with memory-based hold on input unless Reset or Split is re-pressed. |