# Reflection and Traceability Report on CVT Simulator

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[Reflection is an important component of getting the full benefits from a learning experience. Besides the intrinsic benefits of reflection, this document will be used to help the TAs grade how well your team responded to feedback. Therefore, traceability between Revision 0 and Revision 1 is and important part of the reflection exercise. In addition, several CEAB (Canadian Engineering Accreditation Board) Learning Outcomes (LOs) will be assessed based on your reflections. —TPLT]

## 1 Changes in Response to Feedback

[Summarize the changes made over the course of the project in response to feedback from TAs, the instructor, teammates, other teams, the project supervisor (if present), and from user testers. —TPLT]

[For those teams with an external supervisor, please highlight how the feedback from the supervisor shaped your project. In particular, you should highlight the supervisor's response to your Rev 0 demonstration to them. —TPLT]

[Version control can make the summary relatively easy, if you used issues and meaningful commits. If you feedback is in an issue, and you responded in the issue tracker, you can point to the issue as part of explaining your changes. If addressing the issue required changes to code or documentation, you can point to the specific commit that made the changes. Although the links are helpful for the details, you should include a label for each item of feedback so that the reader has an idea of what each item is about without the need to click on everything to find out. —TPLT]

[If you were not organized with your commits, traceability between feedback and commits will not be feasible to capture after the fact. You will instead need to spend time writing down a summary of the changes made in response to each item of feedback. —TPLT]

[You should address EVERY item of feedback. A table or itemized list is

recommended. You should record every item of feedback, along with the source of that feedback and the change you made in response to that feedback. The response can be a change to your documentation, code, or development process. The response can also be the reason why no changes were made in response to the feedback. To make this information manageable, you will record the feedback and response separately for each deliverable in the sections that follow. —TPLT]

[If the feedback is general or incomplete, the TA (or instructor) will not be able to grade your response to feedback. In that case your grade on this document, and likely the Revision 1 versions of the other documents will be low. —TPLT]

## 1.1 SRS and Hazard Analysis

The following table corresponds to SRS changes in response to feedback.

| **Feedback Item** | **Source of Feedback** | **Change Made in Response** | **Commit Reference** |
|---|---|---|---|
| Functional Requirements do not seem to have measurable/fit criteria associated with them Issue #38 | Peer review | No change made, Functional requirements were deemed measurable | N/A |
| Acknowledging possible floating point errors and specifying a tollerance range for error would be beneficial Issue #39 | Peer review | Added floating point accuracy consideration to NFR1. | b737c9d |
| Adding why specifc section were NA Issue #40 | Peer review | No change made, deemed not relevant | N/A |
| Traceability matrix not clear Issue #41 and Issue #64 | Peer review and TA feedback | Traceability Matrices fixed to be more clear and complete | f8dc185 d5080cc b7db68a |
| Reusability metric not practical Issue #42 | Peer feedback | No change made as was deemed practical as previous CVT information was available to us. | N/A |
| Remove unused SRS folders Issue #55. | Supervisor feedback | Removed used SRS folders from the repository | b6e45c2 |
| Add References Issue #61. | TA feedback | Added references to SRS where needed. | 1632c65 |
| Discuss standards Issue #62. | TA feedback | Added standards section. | 91148c8 |

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|---|---|---|---|
| Missing numerical rational as why certain numbers were chosen in requirements Issue #65. | TA feedback | Added rationale for the numbers selected. | b5b0137 |
| Missing phase in plane of requirements Issue #66. | TA feedback | Added phase in plan for requirements. | 43c023e |
| Add description of sheaves Issue #158 | Supervisor feedback | Added sheave description to improve user understanding. | e3953cc |

The following table corresponds to Hazard Analysis changes in response to feedback.

| **Feedback Item** | **Source of Feedback** | **Change Made in Response** | **Commit Reference** |
|---|---|---|---|
| The failure mode of "insufficient frictional forces" has no requirement associated with it according to the FMEA table Issue #48. | Peer review | Addressed why one failure mode did not have requirement due to assumptions made. | 430fb6d |
| Assumptions listed outside Assumptions section Issue #49. | Peer review | No change made as discussing some assumptions in the scope section was relevant. | N/A |
| Security requirements missing fit criteria Issue #50. | Peer review | No change made as security requirements were deemed practical and attainable. | N/A |
| Table is missing references for one failure mode Issue #52. | Peer review | No change made as this was addressed with Issue #48. | See 430fb6d |
| Table is missing failure modes and associated safety requirements for User Interface Component Issue #53. | Peer review | Added a section to address why there were no UI security requirements. | bce0b02 |
| Should consider cancellation errors under numerical stability Issue #54. | Peer review | No change as not planned for this revision of our product. | N/A |

## 1.2 Design and Design Documentation

The following table corresponds to the changes to the Module Guide(MG) and MIS documents.

| Feedback Item | Source of Feedback | Change Made in Response | Commit Reference |
|---|---|---|---|
| MG - Section 6 not valueable to the reader Issue #100. | Peer review | No change made as section 6 was deemed valueable. | N/A |
| MG - Link back to SRS to reduce duplicate information and add traceability Issue #101. | Peer review | Link to SRS was provided. | c947278 |
| MG - Anticipated changes could be more clear Issue #103. | Peer review | No change made as the anticipated change's section was deemed strait forward. | N/A |
| MG - Should the GUI module not make use of initialize module Issue #104. | Peer review | No change made as not applicable. | N/A |
| MIS - Some exceptions were left blank. Issue #102. | Peer review | Blank exceptions were removed. | 5c48147 |

The following table corresponds to the changes made in the design of the CVT Simulator's design.

| Feedback Item | Source of Feedback | Change Made in Response | Commit Reference |
|---|---|---|---|
| Add units to the user inputs to improve user understanding. Issue #153. | Supervisor feedback | Units were added beside inputs. | 54bafd2 |
| Add ability to upload dxf files for ramp geometry. Issue #153. | Supervisor feedback | No changes as did not have time to implement. | N/A |
| Check for users entering negative inputs Issue #154. | Supervisor feedback | Users are not allowed to enter negative numbers. | 54bafd2 |
| Provide default values in the input fields Issue #156. | Supervisor feedback | Users are given default values allowing them to quickly tune CVT. | 54bafd2 |

| | | | |
|---|---|---|---|
| Provide user with loading information to improve user feedback Issue #204 | Supervisor feedback | Added a loading bar to provide the user loading progress. | pull-207 |

### 1.3 VnV Plan and Report

The following table corresponds to changes regarding the VnV Plan.

| **Feedback Item** | **Source of Feedback** | **Change Made in Response** | **Commit Reference** |
|---|---|---|---|
| Confusion with Validation report extra Issue #76 | Peer review | No change made, as one of our extras is a Validation report | N/A |
| Repetitive information that can be listed in your development plan Issue #77 | Peer review | No change as was deemed not repetitive | N/A |
| Opportunity for more automated tests Issue #78 | Peer review | No change as not planed for this revision of the product. | N/A |
| More granular items in the SRS verification plan checklist Issue #85 | Peer review | No change as not planed for this revision of the product. | N/A |
| The checklist format was not consistent. Issue #86 | Peer review | Checklist format was fixed so that the format of each checklist was consistent | 13e3596 |
| Traceability labels could be shorter Issue #88 | Peer review | No change made, as test labels were deemed appropriate | N/A |

## 2 Challenge Level and Extras

### 2.1 Challenge Level

[State the challenge level (advanced, general, basic) for your project. Your challenge level should exactly match what is included in your problem statement. This should be the challenge level agreed on between you and the course instructor. —TPLT]

### 2.2 Extras

[Summarize the extras (if any) that were tackled by this project. Extras can include usability testing, code walkthroughs, user documentation, formal proof, GenderMag personas, Design Thinking, etc. Extras should have already been approved by the course instructor as included in your problem statement. —TPLT]

## 3 Design Iteration (LO11 (PrototypeIterate))

[Explain how you arrived at your final design and implementation. How did the design evolve from the first version to the final version? —TPLT]

[Don't just say what you changed, say why you changed it. The needs of the client should be part of the explanation. For example, if you made changes in response to usability testing, explain what the testing found and what changes it led to. —TPLT]

## 4 Design Decisions (LO12)

[Reflect and justify your design decisions. How did limitations, assumptions, and constraints influence your decisions? Discuss each of these separately. —TPLT]

## 5 Economic Considerations (LO23)

[Is there a market for your product? What would be involved in marketing your product? What is your estimate of the cost to produce a version that you could sell? What would you charge for your product? How many units would you have to sell to make money? If your product isn't something that would be sold, like an open source project, how would you go about attracting users? How many potential users currently exist? —TPLT]

## 6 Reflection on Project Management (LO24)

[This question focuses on processes and tools used for project management. —TPLT]

### 6.1 How Does Your Project Management Compare to Your Development Plan

[Did you follow your Development plan, with respect to the team meeting plan, team communication plan, team member roles and workflow plan. Did you use the technology you planned on using? —TPLT]

### 6.2 What Went Well?

[What went well for your project management in terms of processes and technology? —TPLT]

### 6.3 What Went Wrong?

[What went wrong in terms of processes and technology? —TPLT]

### 6.4 What Would you Do Differently Next Time?

[What will you do differently for your next project? —TPLT]

## 7 Reflection on Capstone

[This question focuses on what you learned during the course of the capstone project. —TPLT]

### 7.1 Which Courses Were Relevant

[Which of the courses you have taken were relevant for the capstone project? —TPLT]

### 7.2 Knowledge/Skills Outside of Courses

[What skills/knowledge did you need to acquire for your capstone project that was outside of the courses you took? —TPLT]