Usability Report for CVT Simulator

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Revision History

Date	Version	Notes

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1 Symbols, Abbreviations, and Acronyms

acronym	definition
CD	Continuous Development
CI	Continuous Integration
CVT	Continuous Variable Transmission
GPS	Global Positioning System
IMU	Inertial Measurement Unit
GUI	Graphical User Interface
IM	Instance Model
MG	Module Guide
MIS	Module Interface Specification
MSE	Mean Squared Error
NFR	Nonfunctional Requirement
PR	Pull Request
R	Functional Requirement
RPM	Revolutions Per Minute
SRS	Software Requirements Specification
VnV	Verification and Validation

Table 1: Verification and Validation Acronyms

This document serves as a

2 General Information

2.1 Summary

2.2 Objectives

2.3 Relevant Documentation

3 Plan

3.1 Verification and Validation Team

3.2 Data Collection

Review Meetings

Baja Team Review

3.3 Design Verification Plan

3.3.1 Usability

The below test are to verify the usability of the system. They are based on NFR2 from the SRS document.

1. test-1

   Type: Manual

   Initial State:

   Input/Condition: Users within the Primary User role as well as Baja team members are asked to rate how simple the navigation process of the main interface. They are asked to rate this on a scale of (1-5) 1 being extremely difficult and 5 being extremely easy with the other options being 4: somewhat easy, 3: neutral and 2: somewhat difficult.

   Output/Result: The average output rating from all users is greater than or equal to a 4(somewhat easy or above expectations).

How test will be performed: Each user in the test group will be provided with a survey which provides a series of questions and a scale for each option where 1 represents Poor, 2 represents below expectation, 3 represents satisfactory, 4 represents above average and 5 represents excellent. The average rating will then be calculated and must be above or equal to 4 representing the system usability is above expectations.

2. test-2

   Type: Manual

   Initial State: The user has successfully installed the system on their device.

   Input/Condition: Users within the Primary User role as well as Baja team members are asked to rate the features inputting parameters, adjusting parameters, viewing data outputs and saving and exporting data on how easy it was to use each feature. They are asked to rate this on a scale of (1-5) 1 being extremely difficult and 5 being extremely easy with the other options being 4: somewhat easy, 3: neutral and 2: somewhat difficult.

   Output/Result: The average output rating from all users for each listed feature is greater than or equal to a 4(somewhat easy or above expectations).

   How test will be performed: Each user in the test group will be provided with a survey which provides a series of questions and a scale for each option where 1 represents Poor, 2 represents below expectation, 3 represents satisfactory, 4 represents above average and 5 represents excellent. The average rating will then be calculated and must be above or equal to 4 representing the system usability is above expectations.

3.3.2 Understandability

The below test are to verify the understandability of the system. They are based on NFR5 from the SRS document.

1. test-1

   Type: Manual.

   Initial State: The user has successfully installed the system on their device.

   Input/Condition: Users within the Primary User role as well as Baja team members are asked to rate how clear they found the features and functions

within the system. They are asked to rate this on a scale of (1-5) 1 being extremely unclear and 5 being extremely clear with the other options being 4: somewhat clear, 3: neutral and 2: somewhat unclear.

Output/Result: The average output rating from all users for each listed feature is greater than or equal to a 4(somewhat clear or above expectations).

How test will be performed: Each user in the test group will be provided with a survey which provides a series of questions and a scale for each option where 1 represents Poor, 2 represents below expectation, 3 represents satisfactory, 4 represents above average and 5 represents excellent. The average rating will then be calculated and must be above or equal to 4, representing the systems understandability is above expectations.

2. test-2

Type: Manual

Initial State: The user has successfully installed the system on their device.

Input/Condition: Users within the Primary User role as well as Baja team members are asked to rate their understanding of the simulation results and outputs. They are asked to rate this on a scale of (1-5) 1 being extremely unclear and 5 being extremely clear with the other options being 4: somewhat clear, 3: neutral and 2: somewhat unclear.

Output/Result: The average output rating from all users for each listed feature is greater than or equal to a 4(somewhat clear or above expectations).

How test will be performed: Each user in the test group will be provided with a survey which provides a series of questions and a scale for each option where 1 represents Poor, 2 represents below expectation, 3 represents satisfactory, 4 represents above average and 5 represents excellent. The average rating will then be calculated and must be above or equal to 4, representing the systems' understandability is above expectations.

Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Lifelong Learning.

The purpose of reflection questions is to give you a chance to assess your own learning and that of your group as a whole, and to find ways to improve in the future. Reflection is an important part of the learning process. Reflection is also an essential component of a successful software development process.

Reflections are most interesting and useful when they're honest, even if the stories they tell are imperfect. You will be marked based on your depth of thought and analysis, and not based on the content of the reflections themselves. Thus, for full marks we encourage you to answer openly and honestly and to avoid simply writing "what you think the evaluator wants to hear."

Please answer the following questions. Some questions can be answered on the team level, but where appropriate, each team member should write their own response: