Velomobile Control & Telemetry System

Use Case Specification

Display Velocity

Version 1.1

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Ver.** | **Description** | **Author** |
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# Display Velocity

## Brief Description

This system will display the velocity of the vehicle.

## Requirements Trace

1.4.1

## Involved Actors

Rider – The user will need physical access to the system.

Velocity Sensor – Will report the velocity to the system.

# Flow of Events

## Basic Flow

This use case begins when the rider needs to view their velocity.

1. The velocity sensor indicates a new velocity value is available.
2. The system acquires the raw velocity value.
3. The system converts the raw velocity value to the velocity internal representation.
4. The system converts the internal value to a display value.
5. The system displays the velocity value.

# Preconditions

Wheel size must be entered in the vehicle setup.

# Post Conditions

Velocity Sensor is ready to acquire the next value.

# Scenarios

## Happy Day

**Assumptions**: Velocity sensor has a raw value representing 10.0 mph.

**Steps:**

1. The velocity sensor indicates a new velocity value representing 10.0 mph available.
2. The system acquires the raw 2.8 rps[[1]](#footnote-1).
3. The system checks that the value is within system specification.
4. The system converts the raw 2.8 rps to the velocity internal representation 10.0 mph.
5. The system converts of 10.0 mph a string “10.0 mph”.
6. The system displays “10.0 mph”.

## Rainy Day

**Assumptions:** Velocity sensor has a raw value representing 200.0 mph.

**Steps:**

1. The velocity sensor indicates a new velocity value representing 200.0 mph available.
2. The system acquires the raw 56.0 rps.
3. The system checks that the value is within system specification.
4. The system discards the information and continues in normal state.

1. RPS – Revolutions Per Second [↑](#footnote-ref-1)