**MOTIVA Dataset - User Guide**

**Introduction**

This document provides a detailed description of the files included in the MOTIVA dataset. It serves

as a guide for researchers and users who wish to understand and utilize the dataset effectively.

**Dataset Files Description**

**Test Time.csv (CSV)**

Contains timing information for the tests. It includes columns such as 'Test ID', 'Start Time', and 'Duration'.

**Test Descriptions.pdf (PDF)**

A document describing the different tests performed, their objectives, and execution details.

**README.txt (TXT)**

General information about the dataset, including version, authorship, and usage instructions.

**Sensor\_Details.pdf (PDF)**

Contains detailed specifications about the sensors used in the study, including placement, calibration, and

accuracy.

**Metadata.xml (XML)**

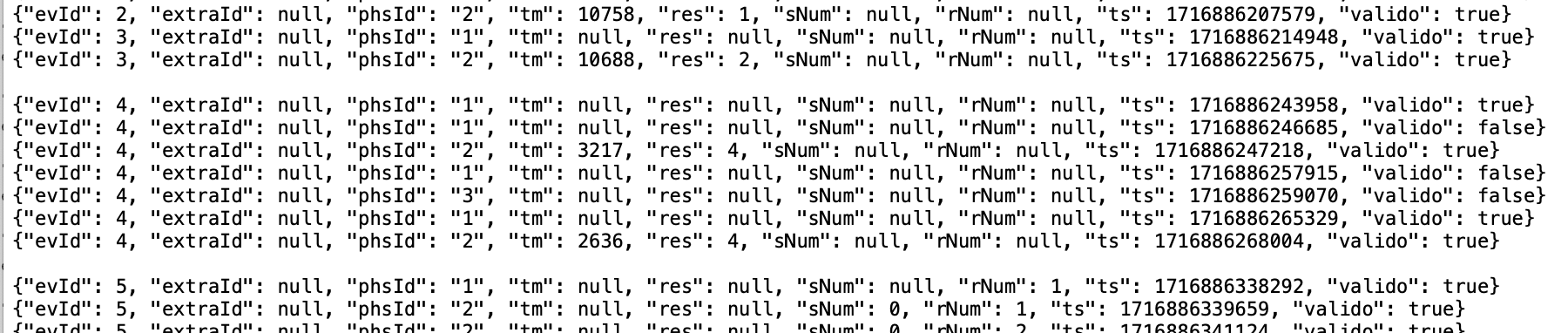
Metadata file structured according to the DDI standard, documenting dataset variables, events, and sensor

data.

**RAW Data (Folder)**

Directory containing raw sensor data collected during the tests. Files are stored in CSV format per sensor.

**Detailed Explanation of Key Variables**



**evID - Exercise Identifier (Yellow)**

Represents the exercise being performed according to the following mapping:

1: SPPB\_FEET\_TOGETHER

2: SPPB\_SEMITANDEM\_FEET

3: SPPB\_TANDEM\_FEET

4: SPPB\_3M\_WALK

5: SPPB\_CHAIR\_STANDS

6: WALKING\_ON\_LINE

7: HEEL\_TO\_TOE\_WALK

8: OBSTACLE\_COURSE

9: WALKING\_IN\_FIGURE\_8

10: WALKING\_WITH\_BALL

11: STAIRS\_UP\_DOWN

12: LIFTING\_BOTTLE

13: SQUEEZING\_BALL

14: WRINGING\_TOWEL

15: LEG\_EXTENSION\_WITH\_ANKLE\_WEIGHT

16: ASSISTED\_CHAIR\_RISE

17: SIMULATED\_SQUAT

18: UNASSISTED\_CHAIR\_RISE

19: LEG\_STRETCHING

20: ARM\_STRETCHING

21: ARM\_STRETCHING\_WHILE\_SEATED

**phsID - Phase Identifier (Red)**

Indicates the phase of the movement:

1: Outward phase

2: Return phase (end of movement)

3: Null (undefined phase)

**sNum - Series Number (Red)**

Represents the series number in the dataset. Each test or trial may be broken into multiple series, allowing better segmentation of the recorded data.

**rNum - Repetition Number (Red)**

Indicates the repetition number of the exercise within the session. This is useful to track multiple attempts of the same test

**ts – Timestamp (Red)**

Represents the UNIX timestamp in milliseconds, indicating the exact time when the event occurred

**Valido (Purple)**Defines whether the timestamp was valid for use or had faults.

**CSV File Naming Convention**

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File Name Format: IdPaciente\_Fecha\_PosicionSensor.csv

Each CSV file follows a structured naming convention:

- \*\*IdPaciente\*\*: Unique identifier for the patient.

- \*\*Fecha\*\*: Date of the data recording in YYYYMMDD format.

- \*\*PosicionSensor\*\*: Indicates the location of the sensor on the body.

**Sensor Position Mapping**

1: CINTURA

2: BRAZO DERECHO (BD)

3: BRAZO IZQUIERDO (BI)

4: ANTEBRAZO DERECHO (AD)

5: ANTEBRAZO IZQUIERDO (AI)

6: MUSLO DERECHO (MD)

7: MUSLO IZQUIERDO (MI)

8: PANTORRILLA DERECHO (PD)

9: PANTORRILLA IZQUIERDO (PI)

**CSV File Column Descriptions**

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The CSV files contain the following columns, representing sensor data collected during the execution of

different exercises. Each row corresponds to a specific time instance where the sensor recorded data.

**timestamp (s)**

Time stamp in seconds from the start of data collection.

**milisegundos (ms)**

Time stamp in milliseconds for higher precision.

**acc\_x**

Acceleration along the X-axis in m/s².

**acc\_y**

Acceleration along the Y-axis in m/s².

**acc\_z**

Acceleration along the Z-axis in m/s².

**gyro\_x**

Angular velocity along the X-axis in rad/s.

**gyro\_y**

Angular velocity along the Y-axis in rad/s.

**gyro\_z**

Angular velocity along the Z-axis in rad/s.