**Standard Operating Procedure (SOP) for Using the DVJ Analysis Script**

**Objective**

This SOP provides a step-by-step guide to set up the environment, execute the script, and modify it for specific datasets.

**Prerequisites**

1. **System Requirements**:
   * Operating System: Windows/macOS/Linux
   * Python 3.9 or higher
   * At least 8GB of RAM
2. **Software Requirements**:
   * Anaconda distribution for Python
   * Basic familiarity with terminal commands

**Step 1: Installing Required Software**

1. **Install Anaconda**:
   * Download Anaconda from [the official website](https://www.anaconda.com/).
   * Follow the installation instructions for your operating system.
2. **Create a Python Environment**: Open a terminal or Anaconda Prompt and run:

conda create -n dvj\_analysis python=3.9

conda activate dvj\_analysis

1. **Install Dependencies**: Run the following commands to install the required Python packages:

pip install pandas numpy matplotlib scipy

**Step 2: Preparing the Script**

1. **Download the Script**: Place the script file (dvj.py) in your working directory.
2. **Set the Base Directory**: Modify the BASE\_DIR variable in the script to point to the directory containing your participant data:

**Helpful hint**: find the folder where your data is saved, right click and ‘Copy as path’

BASE\_DIR = r"your\_directory\_path\_here"

1. **Input File Names**: Update the file\_names list with the names of the files you wish to process:

file\_names = ["file1.txt", "file2.txt", "file3.txt"]

1. **Output Directory**: The script automatically saves outputs to a subdirectory under the base directory. Ensure you have write permissions for this directory.

**This script was made with the following folder structure**: main study folder -> subject folder -> loadsol data -> outputs folder and .txt files for loadsol data

**Step 3: Running the Script**

1. Open a terminal
2. Activate conda environment

conda activate dvj\_analysis

1. Change directory to where script is located

Cd "C:\file path"

1. **Execute the Script:**

python dvj\_processing.py

1. **Follow Prompts**:
   * The script will guide you through cropping the data manually using plots.
   * Select regions of interest using the mouse and confirm selections in the terminal.
   * You have to exit out of the plot to see the prompts in the terminal.

**Step 4: Outputs**

1. **Cropped Data**:
   * Saved as CSV files in the output directory with the \_trimmed suffix.
2. **Metrics**:
   * Saved as drop\_vertical\_jump\_metrics.csv in the output directory.
3. **Plots**:
   * Phase plots and normalized waveforms are saved as .png files in the output directory.