Hand Engine 1.5.1 Release Notes

New version	Hand Engine 1.5.1
Previous version	Hand Engine 1.5.0
Deprecated versions	Hand Engine 1.5.0
Release date	12/11/2021
Operating system	Windows 10, 64bit
Meaning of icons	+added, ^changed, !note, #fixed, -removed
Requirement	****Batch Processing functionality requires a glove and dongle firmware update (glove firmware v01.00.19 and dongle firmware version v01.01.00). Both versions are included in Launcher firmware bundle version 1.3.** **New Firmware Update Process via Launcher (Open Beta)** How to Update Your Mocap Pro Glove and USB Dongle Firmware via the StretchSense Launcher **Legacy Firmware Update Process** Glove Firmware Update Process Dongle Firmware Update Process

1. Introduction

This document describes the new features, improvements and bug fixes included in software update 1.5.1 for Hand Engine

2. Main Features and Improvements

Batch Processing: Automation of raw CSV files export to FBX**

+ Raw files recorded locally on your PC or recorded directly onto your gloves via SD card can be batch processed by Hand Engine into FBX files. Navigate to File>Batch Processing to access the Batch Processing tool in Hand Engine

! *Only files recorded using 1.5.0 or higher with the latest firmware can be batch processed (glove firmware v01.00.19 and dongle firmware version v01.01.00)*

^ In a file structure change for files recorded locally on your PC, the default recording directory is changed to C:\Users\Public\Documents\StretchSense\Hand Engine\Captures

^ In a file structure change for files recorded on an SD Card the default recording directory is changed to D:\StretchSense\Hand Engine\Captures

^ For both the files recorded to the PC and the SD card, when a recording is created, a date folder is created in The Captures folder. Every recording on that date produces a Take folder. The Take folder includes all files recorded for that take including FBX files, raw CSV files, calibration files and meta files for each performer for each active glove during that take (see below for details)

! *File name changes in detail (PC):*

- P1: Files prefixed with P1 relate to Performer 1. If you recorded with more than one performer during a take then the files will have the prefix P2, P3, etc.
- P1L.FBX and P1R.FBX: left hand only FBX and right hand only FBX respectively, as recorded in Hand Engine.
- P1FullBody.FBX: left hand data and right hand data recorded onto a single full-body skeleton, as recorded in Hand Engine.
- P1L.CAL and P1R.CAL: left hand calibration data and right hand calibration data respectively.
- P1L.CSV and P1R.CSV: left hand raw data and right hand raw data respectively.
- P1LMeta.JSON and P1RMeta.JSON: left hand metadata and right hand Metadata data respectively, includes information about time and date of take and all settings used.

! *File name changes in detail (SD Card):*

- P1LSD.CSV/P1RSD.CSV: Left hand raw data and right hand raw data respectively, recorded on the SD card onboard the glove (Only data for that glove is recorded)
- P1LMetaSD.JSON/P1RMetaSD.JSON: Left hand metadata and right hand metadata respectively, recorded on the SD card onboard the glove (Only data for that glove is recorded)

! For detailed information on Batch Processing please refer to the KnowledgeBase how-to-guide on Batch Processing

Express Model Performance Upgrade

+ 25% performance gain in the number of poses that can be reliably recreated with an Express calibration

+ Thumb performance improvement with reduced clipping of fingers

Preview Feature: Calibration Tuning with Additive Poses in Hybrid Mode

+ In Hybrid Mode, captured pose calibrations can now be added to Express calibrations. Using this method, Hybrid Mode can be used to fine tune Express calibrations

+ By first creating an Express calibration as a base for your continuous movement, the user can then add individual poses by ticking the Blend checkbox for each pose they wish to add. Users can check, uncheck or delete poses as they wish. To apply the changes, users must then click the Hybrid button in the Output section. Without this step, the changes will not be applied

Hand Engine Animator and Studio consolidated into a single Hand Engine license type from 1.5.0 onwards

+ From 1.5 onwards our two license types, Hand Engine Animator and Studio, are consolidated into one, simplifying our licensing model for customers. Previously, Hand Engine Animator license allowed for two pairs of gloves and Hand Engine Studio allowed six pairs of gloves

+ With the new license, you will be able to pick how many pairs of gloves you would like, between two and six pairs. This change provides you with more flexibility

+ For Hand Engine Animator users, the change will be applied in the background and it will not have any impact on their Hand Engine experience

+ For Hand Engine Studio users, you will have already been provided with an updated Hand Engine license on your StretchSense account for use with Hand Engine 1.5 or later. Your existing Hand Engine Studio license can still be used to access older versions of Hand Engine Studio

3. Other Minor Changes

+ Directly after completing a batch process, the Hand Engine UI is Reset.

+ A confirmation prompt has been added for when users choose to delete a performer or profile, providing the option to confirm or cancel the decision to permanently delete a profile or perform

^ File, Settings and Help menu UI text contrast has been improved

^ Remapping wizard text instructions have been updated

^ License activation page now directs users to support@stretchsense.com rather than sales@stretchsense.com

- Due to file structure changes, the ability to customize the Take Name Format in Settings>Preferences for the files being saved has been removed

4. Bug Fixes

 # Fixed an issue when trying to batch export files locally recorded on the PC resulting in an error message "Cannot read property 'calibration' of undefined" error. Files previously recorded in 1.5.0 will be able to be batch exported in 1.5.1.

5. Known Issues

Attempting to Restore Session after Batch processing can lead to an infinite loading screen requiring a restart

Batch Exporting left and right raw files to Full Body FBX can on rare occasions lead to data being written on only one hand

If any remote system sends duplicate start trigger commands the system will create multiple folders with same take name but will write to only one folder

Clicking the scan button does not auto-assign a COMPORT. After clicking scan the user must first select the COMPORT they would like to use from the dropdown list then click the 'on' switch

When manually exporting, recorded CSV files will use the Take Name set in Hand Engine rather than the Take Name used in the CSV file name