Synertial

COBRA GLOVES

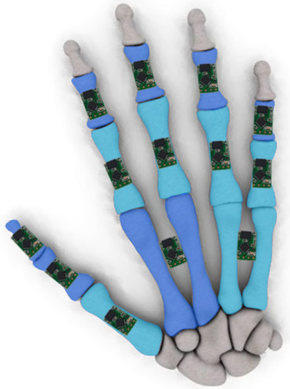
July 2017

V1

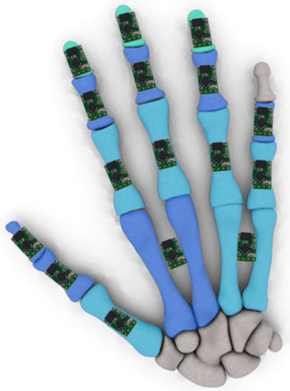
IGS-COBRA GLOVES

- 7, 13 & 16-Sensor Systems
- Use HTC Vive to get 6DoF Root
- 4th Generation Gloves. Ready for professional use
- New pinky and ring metacarpal sensors (Palm Flex)
- Open Kinematics: edit skeletons or calibration procedure
- Easily add arm sensors (or more)
- Easy to use interpolation for segments without sensors
- Calibrate accurately, repeatedly, with a single keystroke
- Use ordinary scanner to auto-measure phalanges lengths
- Change glove sizes in minutes, easily detachable electronics
- Ambidextrous, use same electronics for left or right
- Easy diagnostics & sensor replacement methods
- Patent-pending Calibration Mittens for higher accuracy
- Naked fingertips even for 16-sensor systems

CG-1400



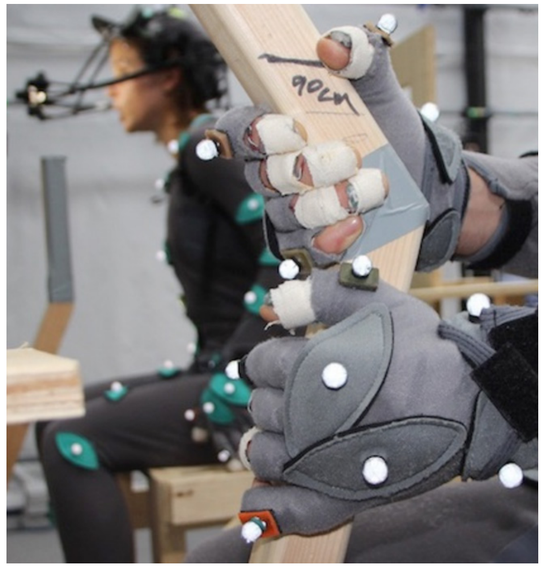
CG-2600



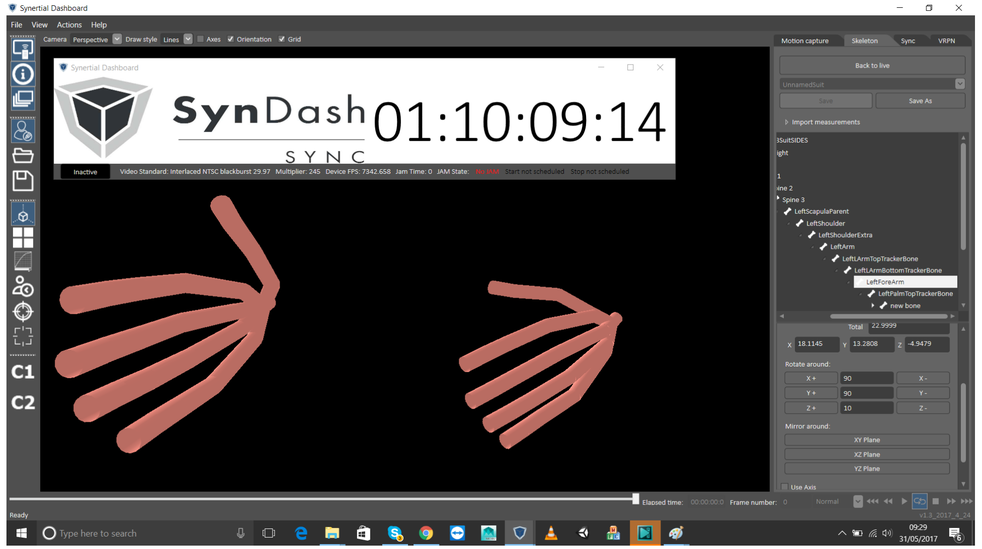
CG-3200

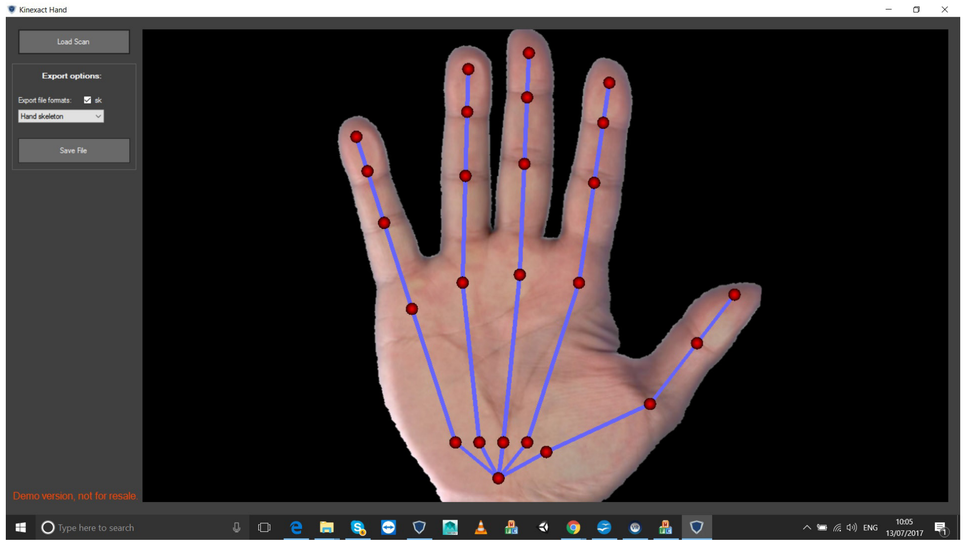
PERFECT SYNC WITH OPTICAL RIGS

Synertial's finger capture solutions can sync with Vicon and Optitrack HW through LAN and get triggered by functions in Blade and Motive. Captured finger data is given timestamp every frame and named by the host HW.



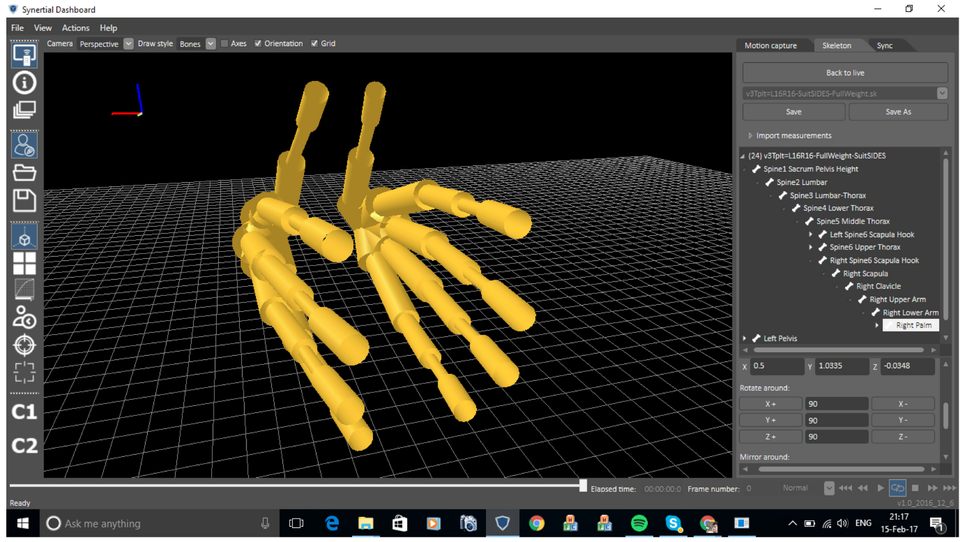
- Occlusion-free finger capture
- Timestamps every frame; up to 1000 FPS (29.97 standard)
- Jam-Sync: Low-drift sync HW (jam-sync once or twice per session)
- Start and stop glove takes triggered from inside Blade or Motive
- Finger data take the name of their corresponding optical takes
- Use Kinexact-Hand SW/HW to extract hand-skeleton measurements
- Rigid Mittens force fingers into their signature shapes during calibration so the actor doesn't have to learn how to
- Scalable number of simultaneous systems
- Change batteries without needing to restart or recalibrate
- Affordable spare parts schemes designed to minimize down-





PHALANX LENGTH MEASUREMENT

- Synertial has a tool to provide automated length measurement of phalanges: KINEXACT-HAND. Kinexact uses a hand scan to output a skeleton file with correct joint positions and angles. Users can edit using ‘Drag-n-Drop’ before exporting.



SYNDASH CAPTURE MANAGEMENT

Syndash allows you to edit and manage:

- Joint displacements of a skeleton
- Rates of interpolation/extrapolation
- Calibration poses
- HW sync to Vicon and Optitrack
- Create non-human or partial skeleton structure
- Create local coordinate with offsets with single axis extrapolations
- Post capture editing of the skeleton
- Export bvh & fbx; keeping skeleton & sensor motion in .sr
- .sr, native format for future skeleton editing of motions

PROCESSING HUB

Up to 240 HW fps; 120 standard

Start-up in under 3 Seconds,

AA Batteries, 5vDC wall adapter or power bank

Separate sync HW up to 1000 FPS (Standard 29.97 FPS), drawing power from main hub

Access-point agnostic WIFI; buy off-the-shelf router and configure as per your needs

Multiple PCs can run the same HW

12.8cm x 7.8cm x 2cm & locking connectors

WiFi, Ethernet or USB

SENSORS

IMUs only (Inertial Measurement Units) : 9-axes, gyroscopes, accelerometers and magnetometers

On-board processing on each sensor; yet the smallest sensors in the market

Internal update rate: 500Hz

Gyro range: 2000 degrees/sec

Accelerometer range: 16Gs

Dimensions: 15mm x 10mm x 2mm

GLOVE CLOTH AND SIZES

Electronics not attached to cloth

Change sizes or replace after washing in minutes

Types: Short fingered and long fingered glove-cloths in SS, S, M, and L sizes

Finger-less gloves for taping sensors and wiring directly onto fingers

Velcro-backed glove-cloth for passive marker attachment

IN THE CASE

Glove electronics

Wireless processing hub

Cable harness

Glove cloth (4 sizes)

WiFi router and cables

Basic capture software

Diagnostic software

Batteries & charger

PelicanTM case

WHY IGS-COBRA GLOVES ARE UNIQUE?

- Everybody’s finger sizes and skeleton structure is different; the competition’s kinematics are hard-coded and do not allow editing, we do; can even change calibration procedure.
- Gloves cannot be loose, and tight gloves are discomforting. We have various solutions.
- Accurate finger capture without naked finger tips is highly impractical.
- Without Synertial’s new palm flex sensors, hand capture accuracy is impossible.

(Calibration Jig)

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