Background:

We measured chest wall and full body movements with BTS Smart Optoelectronic plethysmography using a 9 camera system (6 in front and 3 behind the subject) placed at approx. 2 m from the subject. The subject sequentially took a big breath, contracted his left bicep and produced a sound, while moving his arms and bending his knees. Trial capture time was approx. 17.1sec.

File Types:

-*.tdf (file type used by BTS system)
-*.c3d (exported to c3d via BTS software)
-*.dat (ascii file)

N.B. The dat files contain reconstructed chest wall volume signals (7 columns: 1: time, 2-5 volumes (pulmonary ribcage, abdominal ribcage, abdomen, total chest wall)), 6: sound (downsampled to capture frame rate), 7: EMG (downsampled)

Models used:

The models used for reconstruction are "modello89" for chest wall and "plug-in gait" for full body.

a) Modello89: Uses 89 hemispherical reflective markers placed in circumference around the chest wall in seven rows between the clavicles and the iliac crest.

b) Plug-in gait: Uses 39 markers placed on anatomical landmarks (head (4), trunk (11), arms (12), legs(12)) to measure full body kinematics.

Sampling rates

- Infra red cameras (9): 60Hz
- emg: 1000Hz
- sound: 960 Hz (for synchronization purposes only)
- video: 24 Hz

Files uploaded:

1. Original Files

-phil-mocap7..tdf	kinematics, video, sound, EMG
-phil-mocap7.c3d	kinematics, video, sound, EMG
-phil-mocap7.mpg	video from cam 1&2

2.Chest wall markers (tracked)

-phil-mocap7-cw .tdf	kinematics, sound, EMG, chest volumes
-phil-mocap7-cw.c3d	kinematics, sound, EMG
-phil-mocap7-cw.dat	volumes, sound, EMG

3. Full body (tracked)

-phil-mocap7-fb.tdf	kinematics, sound, EMG
-phil-mocap7-fb.c3d	kinematics, sound, EMG (unverified)

4. Static standing trials

-t-pose3.tdf	kinematics, video, sound(noise), EMG(noise)
-t-pose3.c3d	kinematics, video, sound(noise), EMG(noise)
-t-pose3.mpg	video from cam 1&2

5. Static standing trials (tracked)

-t-pose3-labeled..tdf	kinematics, video, sound(noise), EMG(noise)
-t-pose3-labeled.c3d	kinematics, video, sound(noise), EMG(noise)

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