S1 Table Pseudocode for preprocessing the joint data from the Kinect and Vicon system. The data was preprocessed by R2017a MATLAB. The Kinect data were transformed, filtered and synchronized (Line 1-17). The Vicon data were synchronized and down-sampled (Line 19-33). Butter, filter, floor and downsample are MATLAB functions.

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1:   Begin the Kinect data pre-processing procedure
2:       Load the Kinect data to array k_x, k_y and k_z
3:         % Data transformation for Kinect joint data
4:       Tran_x  ← k_z
5:       Tran_y  ← k_x
6:       Tran_z  ← k_y
7:       For the joint data in each dimension
8:             % Filter the data
9:          Order = 6; f_cut = 3; f_sample = 15 or 30
10:         [B,A] = butter(order,2* f_cut / f_sample);
11:         flt_data = filter(B,A,data);
12:           % Synchronization
13:         Start_point = end of the clipping motion
14:         Stop_point: timestamp of the last game event
15:         cut_data = flt_data(start:stop);
16      end For Loop
17:  end procedure
18:
19:  Begin the Vicon data pre-processing procedure
20:     Load the filtered Vicon data to array v_x, v_y and v_z
21:     % Vicon data has been filtered using Vicon software Nexus
22:     For the joint data in each dimension
23:           % Synchronization
24:         Start_point = end of the clipping motion
25:         Stop_point: timestamp of the last game event
26:         cut_data = data(start:stop);
27:           % Down sample
28:         Kinect_samples = number of samples of cut_data from Kinect
29:         Vicon_samples = number of samples of cut_data from Vicon
30:         DwSampleRate = floor (Vicon_samples / Kinect_samples)
31:        DwSample_data = downsample (cut_data, DwSampleRate);
32      end For Loop
33:  end procedure
```