**The zoo standard v.1.2 05.03.2013**

This document attempts to formalize the ad-hoc *zoosystem* procedures previously implemented in the zoosystem 2006-2012.

1. **Overview of zoosystem structure**
   1. *Basic structure*

All zoofiles follow a basic form. Data must always be placed in a channel branch while the zoosystem contains various metadata information (Fig. 1 and Table 1).

Fig. 1: Diagrammatic representation of fields in zoosystem files.

Table 1: Summary of key fields in zoosystem files

|  |  |
| --- | --- |
| **Branch** | **info** |
| *chi.line* | Contains n x 1 or n x 3 data for all channels recorded |
| *chi.event* | Contains local or global events. Each event is a 1 x 3 vector [indx value 0] |
| *zoosystem.Video* | Contains metadata for video channels (e.g. marker data) |
| *zoosystem.Analog* | Contains metadata for analog channels (e.g. force plate or EMG data) |
| *zoosystem.Header* | Contains header info from original data collection device |
| *zoosystem.Units* | Records the units of data in all channels |
| *zoosystem.SourceFile* | Location of original data file used to create zoofile |
| *zoosystem.Anthro* | Anthropometric data can be stored in this field |
| *zoosystem.CompInfo* | All metadata computed in Matlab can be stored here |

* 1. *Frames*

For a zoo file created from a vicon c3d file (csv no longer supported), the first and last frames correspond to the first and last frames selected in Vicon. This information remains present in the ORIGINAL\_START\_FRAME and ORIGINAL\_END\_FRAME of the zoosystem branch. If the capture is subsequently cut between two new points using bmch\_partition, these fields are updated.

* 1. *Events*

If events (in sec) exist in the vicon system these are copied to zoosystem and converted to frames as follows:

EventFrame = (ViconTime\*VidFreq) – ORIGINAL\_START\_FRAME + 1

By default, event data is stored in the SACR channel. If motion capture data does not contain SACR field, events are added to first marker data field.