Skeleton Recordings Binary Format of API GET /recordings



Disclaimer

The information on this page is designed to assist in our client's development. The document copyright is owned by AlutmView System Inc., and it is not allowed to share or publish it without AltumView System's permission. If you accidentally receive this documentation, please delete it.

Revision Note

Version	Date	Author	Description
1	8 August 2023	Andrew Au	Initial version

Skeleton recordings have the following binary data format, starting with the header:

Version (1 byte int unsigned)

Record Type (1 byte int unsigned)

• Value of 1 for now to indicate "skeleton_record" type, may extend in the future

Aspect Ratio (1 byte int unsigned)

- The most significant 4 bits represent width scale minus 1, the least significant 4 bits represent height scale minus 1.
- + | Width Scale 1 (bit 7 to bit 4) | Height Scale 1 (bit 3 to bit 0) |
- Example: 16:9 aspect ratio is represented as 0xF8

Padding (1 byte)

• Ignore

Group ID (4 bytes int unsigned)

Camera ID (4 bytes int unsigned)

Number of Frames (4 bytes int unsigned)

Frame Data Begins: e.g. Frame 1, Frame 2, Frame 3...

Each frame data has the following format:

Delta Time from last frame, in milliseconds (2 bytes int unsigned)

Number of people (2 bytes int unsigned)

People data begins: e.g. Person 1, Person 2, Person 3...

Each person data has the following format:

Person ID (4 bytes int signed)

Tracker ID (1 byte int unsigned)

Number of Key Points (1 byte int unsigned)

Event: fight, fall, hand-wave, region of interest (1 byte)

- | Reserved (bit 7 to bit 4) | Fight (bit 3) | ROI (bit 2) | Wave (bit 1) | Fall (bit 0) |
- Set bit indicates a detected event. Otherwise the bit is cleared.

Action Label (1 byte)

• Ignore. For internal use only.

Action Probabilities (8 bytes)

• Ignore. For internaly use only.

Keypoints Data Begins: e.g. Keypoint 1, Keypoint 2, Keypoint 3...

Each keypoint data has the following format (note that undetected/missing keypoints are removed):

Descriptor (1 byte)

- | Ignore (bit 7 to bit 5) | Skeleton Keypoint Index (bit 4 to bit 0) |

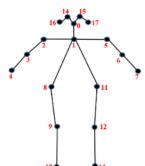
_____ Probability (1 byte int unsigned)

· Ignore. For internal use only.

X-coordinate (2 bytes int unsigned) (must divide by 65536 to get the normalized value)

Y-coordinate (2 bytes int unsigned) (must divide by 65536 to get the normalized value)

Note that if a key point is missing or undetected, the keypoint is removed from the data. This is unlike the stream data where undetected keypoints are simply zeroed out. The skeleton keypoint :



- 0: Nose 1: Neck 2: Rshoulder 3: Relbow 4: Rwrist 5: Lshoulder

- 6: Lelbow 7: Lwrist 8: Rhip
- 9:Rknee 10: Rankle

- 10: Rankle 11: Lhip 12: Lknee 13: Lankle 14: Reye 15: Leye 16: Rear 17: Lear