

Virtual Lab for OpenSim

Appendix (Creating the v3d_lab)

For example if a lab was set up such that the person walked in the -X direction, +Z was vertical, and +Y was to the subjects left. (See Appendix for an example of Visual3d mdh script could be used to create a compatible virtual lab.

```
!! Segment v3d_lab ! HYBRID_SEGMENT ! /CALIBRATION_FILE= /TYPE=Visual_3D /NAME=v3d_lab
/REFERENCE_OBJECT=Medial Distal+Lateral Distal+Medial Proximal+Lateral Proximal+Proximal
Joint+Distal Joint+Additional Object+Additional Plane+Distal Radius+Proximal Radius
/REFERENCE_OBJECT_NAMES=v3d_lab_med_distal+v3d_lab_lat_distal+v3d_lab_med_prox+v3d_lab_la
t_prox++++Medial+v3d_lab_Distal_Radius+v3d_lab_Proximal_Radius
/REFERENCE_OBJECT_TYPES=LANDMARK+LANDMARK+LANDMARK+LANDMARK++++METRIC+MET
RIC /USE_CAL_TARGETS_FOR_TRACKING=FALSE
/TRACKING_TYPES=LANDMARK+LANDMARK+LANDMARK+LANDMARK
/TRACKING_NAMES=v3d_lab_lat_prox+v3d_lab_med_prox+v3d_lab_lat_distal+v3d_lab_med_distal !
/USE_OPTIMAL_TRACKING=TRUE /KINEMATIC_ONLY=TRUE ! /STATIC_MODEL=FALSE
/GRAPHICS_ROT_X=0 /GRAPHICS_ROT_Y=0 /GRAPHICS_ROT_Z=0 /GRAPHICS_SCALE_X=1
/GRAPHICS_SCALE_Y=1 /GRAPHICS_SCALE_Z=1 /GRAPHICS_TRANSLATE_X=0
/GRAPHICS_TRANSLATE_Y=0 /GRAPHICS_TRANSLATE_Z=0 ! /GRAPHICS_UNIT_SCALE=1.000000
/MASS=0.000000 ! /GEOMETRY= /PROX_TO.CG_AXIAL=0.5*v3d_lab_SEG_LENGTH
/PROX_TO.CG_ML=0*v3d_lab_SEG_LENGTH /PROX_TO.CG_AP=0*v3d_lab_SEG_LENGTH /IXX=0 /IYY=0
/IZZ=0 ! /AP_DIRECTION= ! /AXIAL_DIRECTION= ! /OBJFILE= ! /COLFILE= ! /DEPTH= ; ! Landmarks
Add_Landmark /LANDMARK_NAME=v3d_lab_lat_prox ! /CALIBRATION_FILE= !
/USER_GENERATED=TRUE ! /USE_PERCENTAGE=FALSE ! /CALIBRATION_ONLY=FALSE !
/USE_TARGETS=FALSE /SEGMENT_NAME=LAB ! /TARGET_TYPES= ! /TARGET_NAMES= ! /MCSX=0.0
/MCSY=0.001 ! /MCSZ=0.0 ! /LANDMARK_LOCATION= ! /REFERENCE_LOCATION_NAME= !
/REFERENCE_LOCATION_TYPE= ! /USE_REFERENCE_LOCATION=FALSE ; Add_Landmark
/LANDMARK_NAME=v3d_lab_med_prox ! /CALIBRATION_FILE= ! /USER_GENERATED=TRUE !
/USE_PERCENTAGE=FALSE ! /CALIBRATION_ONLY=FALSE ! /USE_TARGETS=FALSE
/SEGMENT_NAME=LAB ! /TARGET_TYPES= ! /TARGET_NAMES= ! /MCSX=0.0 /MCSY=-0.001 !
/MCSZ=0.0 ! /LANDMARK_LOCATION= ! /REFERENCE_LOCATION_NAME= !
/REFERENCE_LOCATION_TYPE= ! /USE_REFERENCE_LOCATION=FALSE ; Add_Landmark
/LANDMARK_NAME=v3d_lab_lat_distal ! /CALIBRATION_FILE= ! /USER_GENERATED=TRUE !
/USE_PERCENTAGE=FALSE ! /CALIBRATION_ONLY=FALSE ! /USE_TARGETS=FALSE
/SEGMENT_NAME=LAB ! /TARGET_TYPES= ! /TARGET_NAMES= ! /MCSX=0.0 /MCSY=0.001
/MCSZ=-0.001 ! /LANDMARK_LOCATION= ! /REFERENCE_LOCATION_NAME= !
/REFERENCE_LOCATION_TYPE= ! /USE_REFERENCE_LOCATION=FALSE ; Add_Landmark
/LANDMARK_NAME=v3d_lab_med_distal ! /CALIBRATION_FILE= ! /USER_GENERATED=TRUE !
/USE_PERCENTAGE=FALSE ! /CALIBRATION_ONLY=FALSE ! /USE_TARGETS=FALSE
/SEGMENT_NAME=LAB ! /TARGET_TYPES= ! /TARGET_NAMES= ! /MCSX=0.0 /MCSY=-0.001
/MCSZ=-0.001 ! /LANDMARK_LOCATION= ! /REFERENCE_LOCATION_NAME= !
/REFERENCE_LOCATION_TYPE= ! /USE_REFERENCE_LOCATION=FALSE ;
```

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