



STEAM VR™

Tracking Training



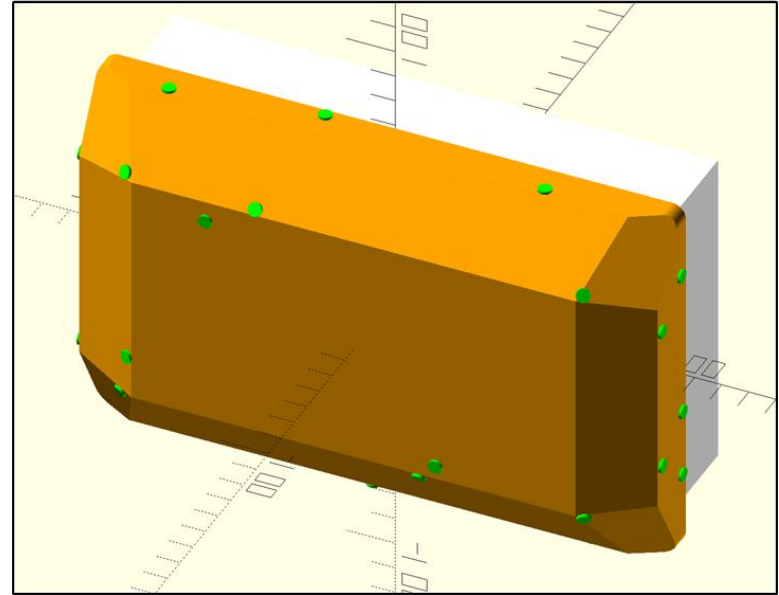
Design Tools Installation and Overview

Design Tools

- Tracked object performance is determined by its shape
 - Mechanical and electrical fabrication and assembly is expensive, making the performance of the object's shape a significant risk item
 - Successful product development requires managing risk
 - Validate design decisions to reduce risk through **simulation and prototyping**
 - **The HDK includes software and hardware to facilitate both!**
-
- Hardware is coming later, let's start with software...

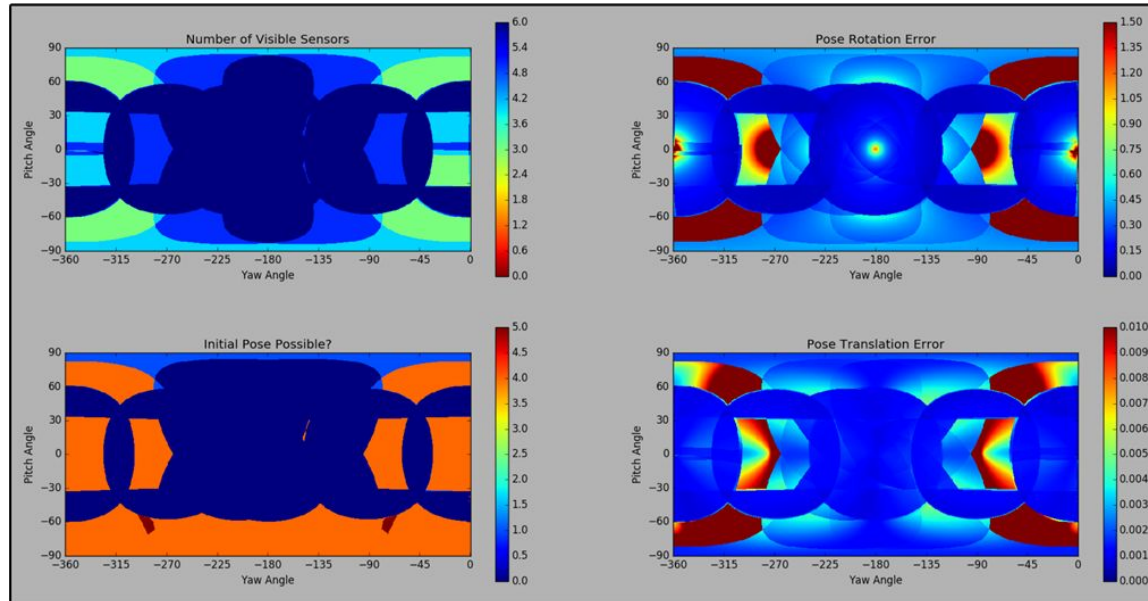
HDK Design Software Overview

- HMD Designer
 - Take STL files as input for sensors objects and obstacles
 - Generates sensor placement with up to 32 sensors
 - Produces SCAD models showing sensor placement
 - Simulates sensor placement and outputs results as a text file



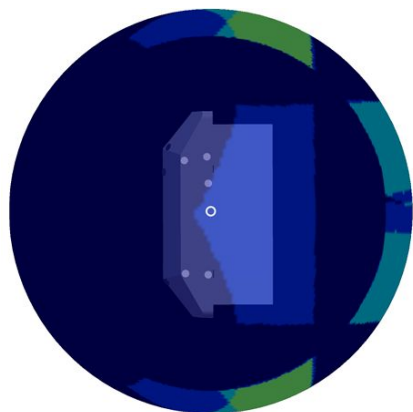
HDK Design Software Overview

- Sensor Simulation Plotter (aka sensor_sim_plot)
 - Produces 2D plots of simulation results

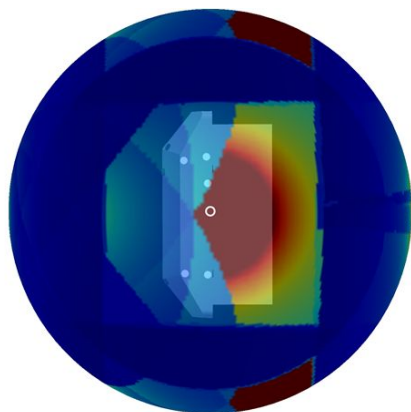


HDK Design Software Overview

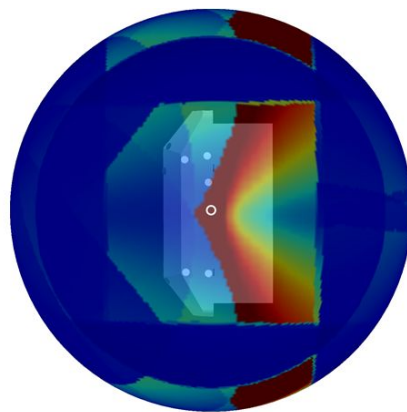
- HMD Designer Viewer
 - Produces 3D plots of simulation results
 - Highlights visible sensors



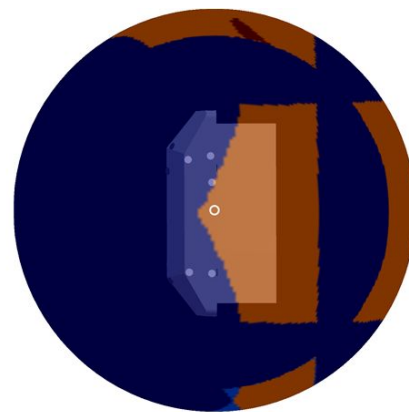
1: Number of Visible Sensors



2: Rotation Error



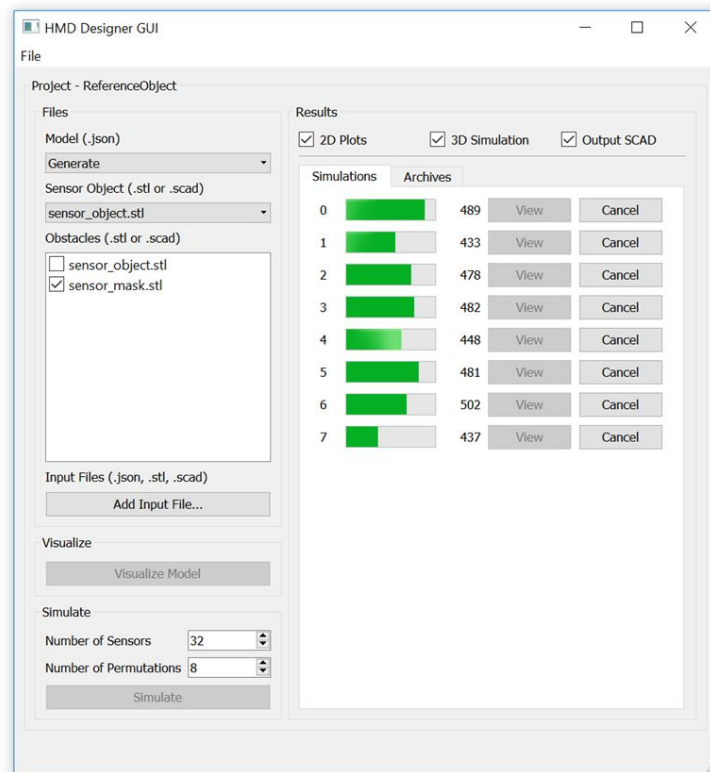
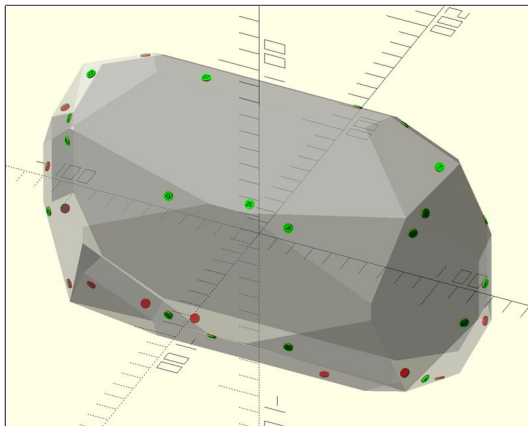
3: Translation Error



4: Initial Pose Possible?

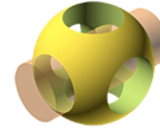
HMD Designer GUI

- HMD Designer GUI
 - Provides a graphical user interface for the command line tools above
 - Adds a few more features...



Useful 3rd Party Tools

- OpenSCAD
 - Used by HMD Designer to generate 3D models
- MeshLab
 - Free viewer for STL and OBJ files
- Blender
 - Used to create render models for SteamVR™



OpenSCAD
The Programmers Solid 3D CAD Modeller

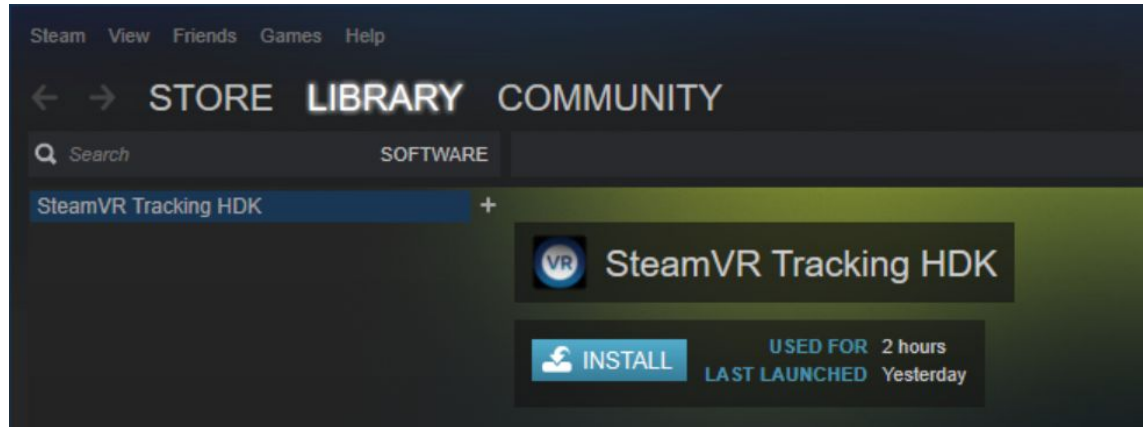


MeshLab



HDK Installation

- Install Steam®
- Login with your user name
- Navigate to Library → Software → SteamVR Tracking HDK
- Click Install

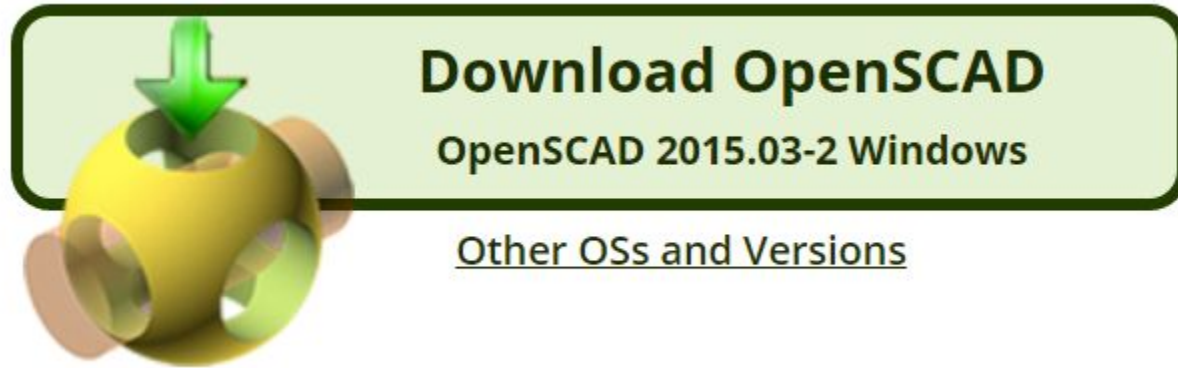


HDK Files

- “Launch the HDK in design files” to open an explorer window
- Drop back one level to see all HDK files
 - C:\Program Files (x86)\Steam\steamapps\common\SteamVR Tracking HDK
- Navigate to the training folder
 - ...\\SteamVR Tracking HDK\\training
- Copy exercises to the desktop
 - ...\\SteamVR Tracking HDK\\training\\exercises
 - ...\\Desktop\\exercises

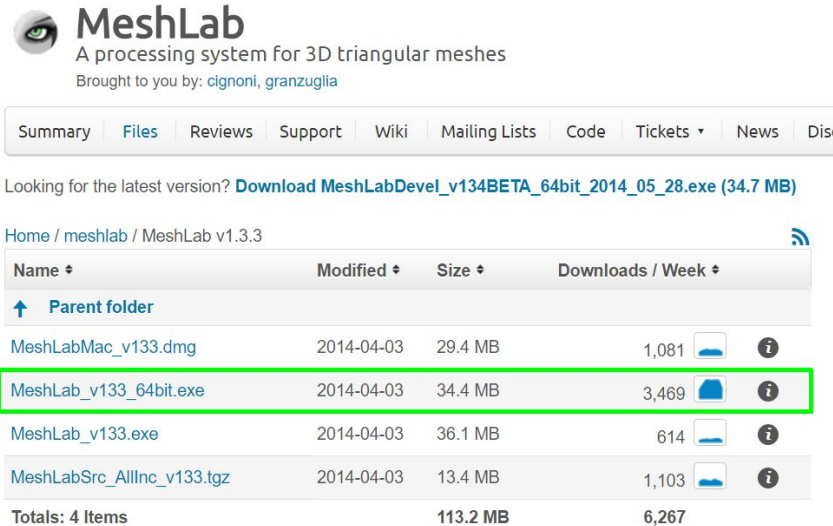
OpenSCAD Installation

- Navigate to www.openscad.org
- Click the download link and follow the prompts



MeshLab Installation

- Navigate to meshlab.sourceforge.net
- Click the download link and follow the prompts



MeshLab
A processing system for 3D triangular meshes
Brought to you by: [signoni](#), [granzuglia](#)

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Looking for the latest version? [Download MeshLabDevel_v134BETA_64bit_2014_05_28.exe \(34.7 MB\)](#)

Home / meshlab / MeshLab v1.3.3

Name	Modified	Size	Downloads / Week
↑ Parent folder			
MeshLabMac_v133.dmg	2014-04-03	29.4 MB	1,081
MeshLab_v133_64bit.exe	2014-04-03	34.4 MB	3,469
MeshLab_v133.exe	2014-04-03	36.1 MB	614
MeshLabSrc_AllInc_v133.tgz	2014-04-03	13.4 MB	1,103
Totals: 4 Items		113.2 MB	6,267

Blender Installation

- Navigate to www.blender.org/download
- Click the download link and follow the prompts

