

Soccer Kick Example



The Soccer Kick examples files will be available in an upcoming minor release of OpenSim 4.0. Until then, you can download the files [here](#) and place the unzipped folder in your resources directory (ie Documents/OpenSim/4.0/Models/SoccerKick).

This example is for students and educators interested in how elements of a musculoskeletal model come together to generate simulations of human movement.

The soccer kick is meant to be compelling, challenging, and fun, allowing students to experiment with motor control strategies.

Installation (4.0 and later)

1. Download the example files (e.g. [SoccerKickExamplefor4.0-latest.zip](#))
2. Unzip the archive into the resources folder of your installation (e.g. Documents/OpenSim/4.0/Models/SoccerKick)
3. Open the OpenSim application, close all open models.
4. Load the model Documents/OpenSim/4.0/Models/SoccerKick/SoccerKickingModel.osim
5. From the Scripts menu of the application, run the script Documents/OpenSim/4.0/Models/SoccerKick/SoccerDemoWithReset.py, this will open two new panels to control the model
6. Rearrange the panels and view as desired (panels can be dragged and docked using the tab handles, other panels can be closed if desired)
7. Use sliders to modify muscle forces, and when ready hit the kick... button, the player will hit the ball towards the goal.
8. click the button "Get Max Speed" to update the text field next to it with the max speed achieved.

Installation (pre 4.0)

1. Download the installer (e.g. OpenSim-SoccerKick-Installer-vX-win32) and run to install OpenSim on a Windows machine. Follow the instructions, accepting the defaults.
(If you have other OpenSim installations on the same machine and you're an API user, select to not add to the PATH).
2. Launch the OpenSim Exhibit GUI. It should appear under Programs->OpenSim Exhibit (2.4) or use the desktop shortcut.
3. You also need to make a one-time change to the preferences. Select Edit->Preferences. Then:
 - a. Display Contact Geometry=Off, so that the visuals of the simplified geometry used for contact doesn't clutter the screen.
 - b. Persist Models=Off, so that automatic restoration of loaded models doesn't interfere with demo upon OpenSim restart.
 - c. Make sure AntiAliasingFrames is set to zero.
4. Select Help -> CustomTools -> Soccer.oscript. You will need to perform this step every time you relaunch OpenSim.
5. This will launch three windows: Soccer Kick Controls, Instructions Window, and View.
6. If the View window is black, click on the View window and drag the mouse to rotate the view slightly.
7. Make sure that the Soccer Kick Controls window is large enough to include all of the sliders and buttons. Drag the separator between the controls window and Instructions Window to fit more text/instructions and eliminate white space. (The bottom button in the Soccer Controls window is "Reset View".)

Troubleshooting (Pre 4.0)

1. If you need to restart OpenSim, to restore the example, select Help -> CustomTools -> Soccer.oscript.
2. If the View, Controls or Instruction window are accidentally closed, select "Window"->"Add View", "Open Parameters Window", "Open Instructions Window" respectively.
3. Use the "Reset View" button, if you want to reset the original view on the soccer player and goal.
4. If the layout of the application is incorrect and you cannot restore it by dragging and re-docking or reopening windows:
 - a. Close the application.
 - b. Find the directory .opensim (usually under C:/Documents and Settings/AppData/Roaming/) and remove it.
 - c. Repeat steps 5 through 7 above.