

Nicholas Hampshire MScCAVE Masters Project Quick User Guide Dynamic Animation and Re-Modelling of L-Systems

-Build the project on Linux with the `build.sh` script in the `programming/` directory.

-To run the GUI version: `./lsAnimator` or the non-GUI version: `./lsAnimatorNoGui`

-Hold the Alt key and drag mouse clicks to navigate the 3D viewport.

-Use left mouse click alone to make a selection.

-Use the `h` hotkey to home the camera to the origin.

-L-Systems are required to be constructed from line segments and points.

-L-Systems can be loaded from `.obj` or `.geo` geometry files.

-Example L-System files: `programming/examples/lssystem001.geo`
`programming/examples/lssystem002.geo`

-Use middle click on an L-System branch to create a Puller force at the selection position.

-The stretch and bend resistance parameters of the L-System can be varied to obtain different behaviours, beware that very high resistances can lead to instability.

-To attach the L-System to a mesh, select the position on the mesh and press the “Place at current selection” button in the L-System tab.

-Forces can be used to dynamically animate the L-System.

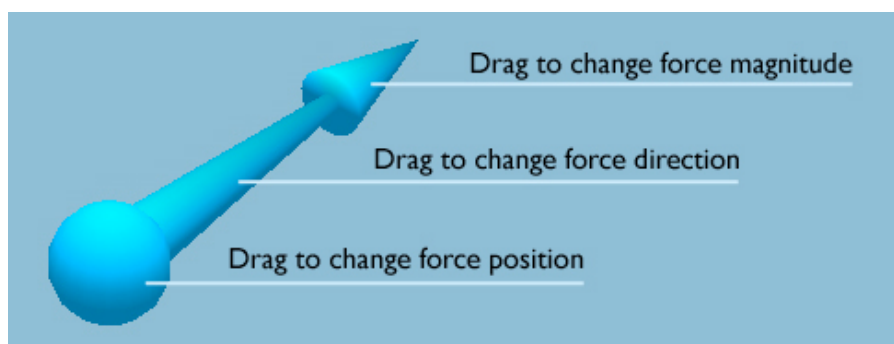
-Puller forces, coloured green, allow pulling of specific L-System bones.

-A bone on the L-System must be selected in order to create a Puller force.

-Uniform Vector forces, coloured yellow, apply a uniform directional force throughout the L-System.

-Velocity Field forces, coloured blue, apply fluid-based regionalised forces to the L-System.

-Manipulate forces with middle mouse click and drag:



-Meshes can be loaded by entering the `.obj` or `.geo` file path and name in the Mesh file field.

-Example mesh files: `programming/examples/mesh001.geo`
`programming/examples/mesh002.geo`