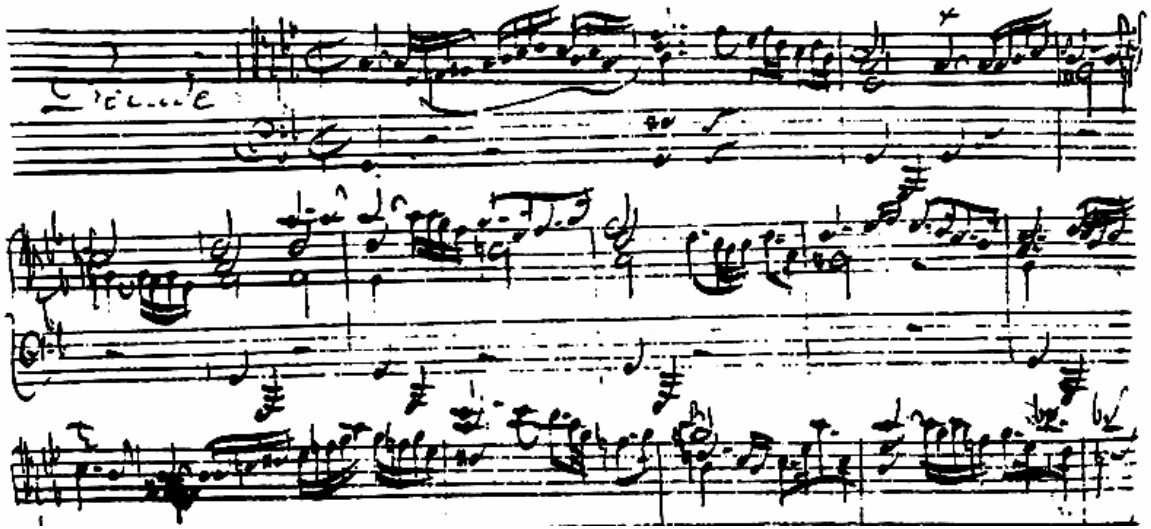
CAD goes baroque with SPACECLAIM
Some fancy examples

document version 0.1



CENTRALE PARIS

Pascal MORENTON
pascal.morenton@ecp.fr
http://cao.etudes.ecp.fr

1st book

- **Fugue #1 : modelizing a regular tetrahedron**

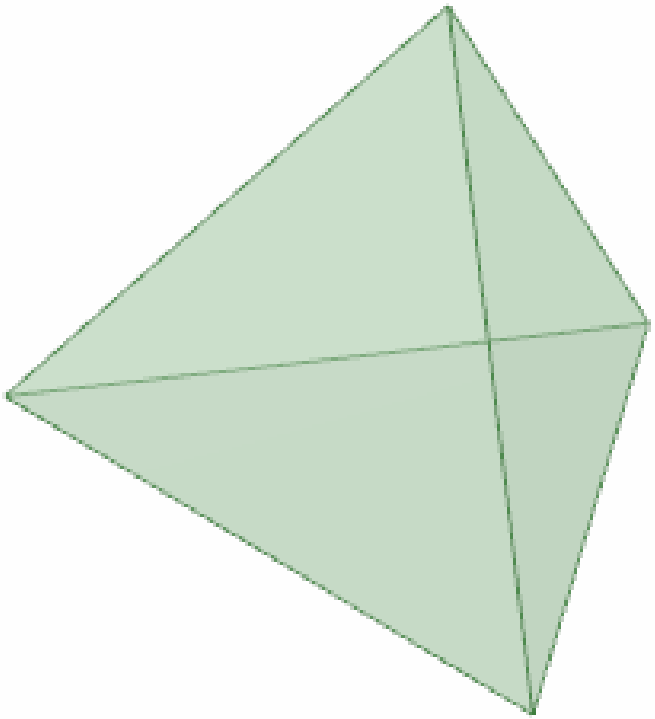
  from Philippe LAGUNA – Spaceclaim Europe

- Fugue #2 : changing the thickness of an imported shell

  with only one command

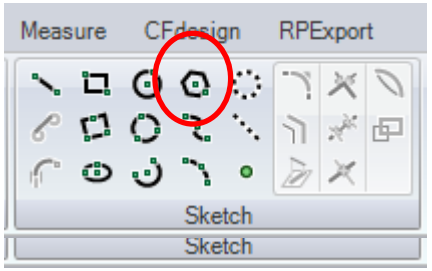
Fugue #1 : Modelizing a regular tetrahedron

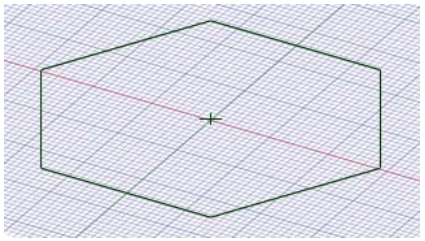
We want to modelize the regular tetrahedron shown below



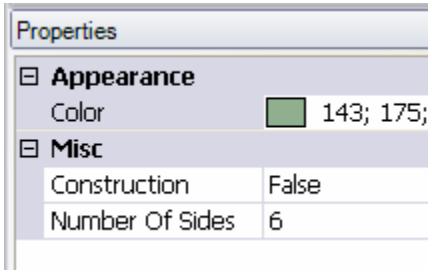
STEP 1 : Sketching a isoceles triangle

- Sketch a polygon

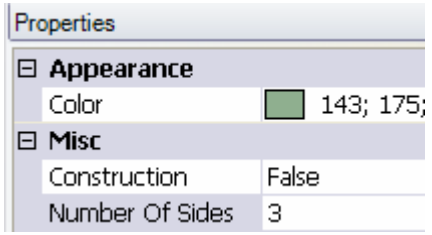




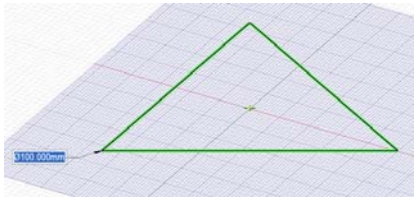
- Switch to the **Properties** tab of the left panel and select the polygon



- Change the number of sides to **3**

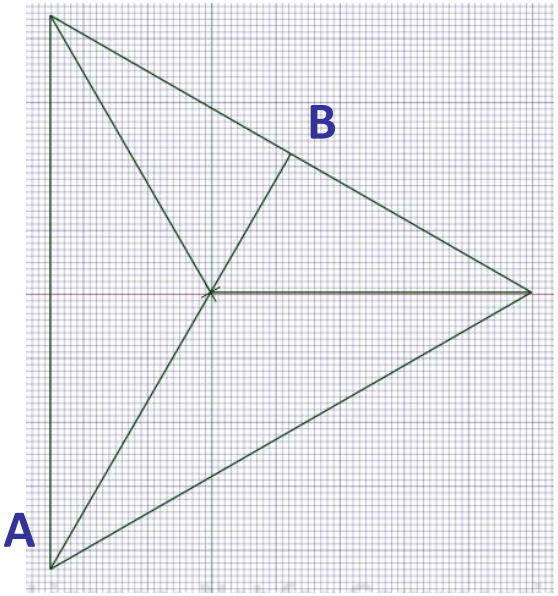


- You have now a isoceles triangle

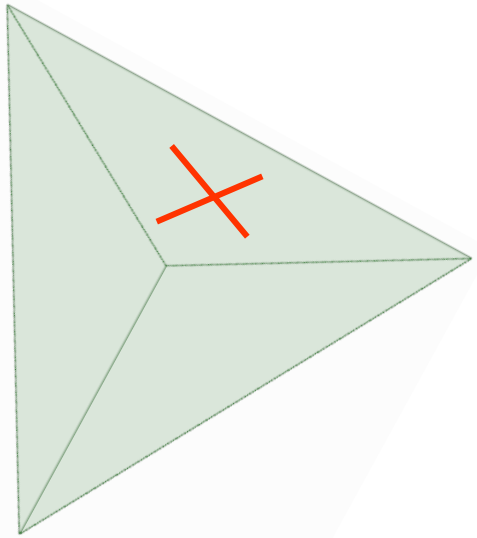


STEP 2 : Drawing the altitudes of the triangle

- Sketch the following lignes which are the altitudes of the triangle
- Measure the distance beetween the two points A et B which is the length of the triangle's altitude

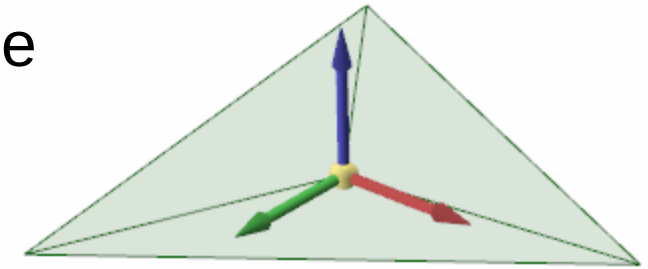


- In 3D mode, select and delete the extra-line we'll don't use

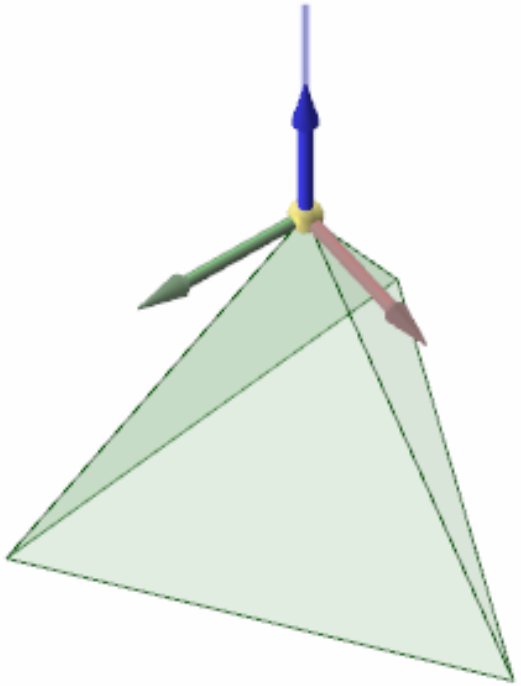


STEP 3 : Moving the orthocenter of the triangle

Select the **MOVE** command and select the orthocenter of the triangle (which is a center)

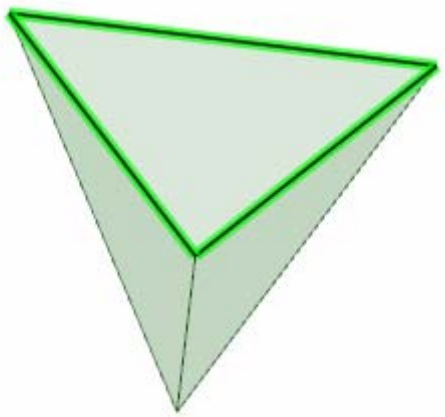


Move the point; The distance equals to the altitude length measured before

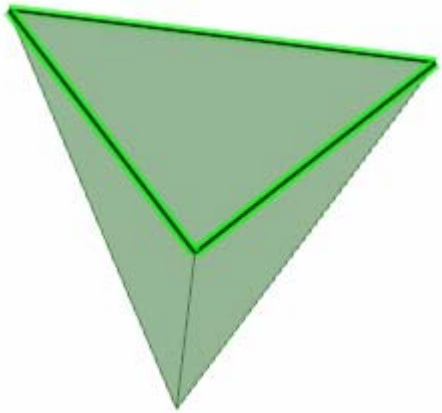


STEP 4 : Filling the fourth face

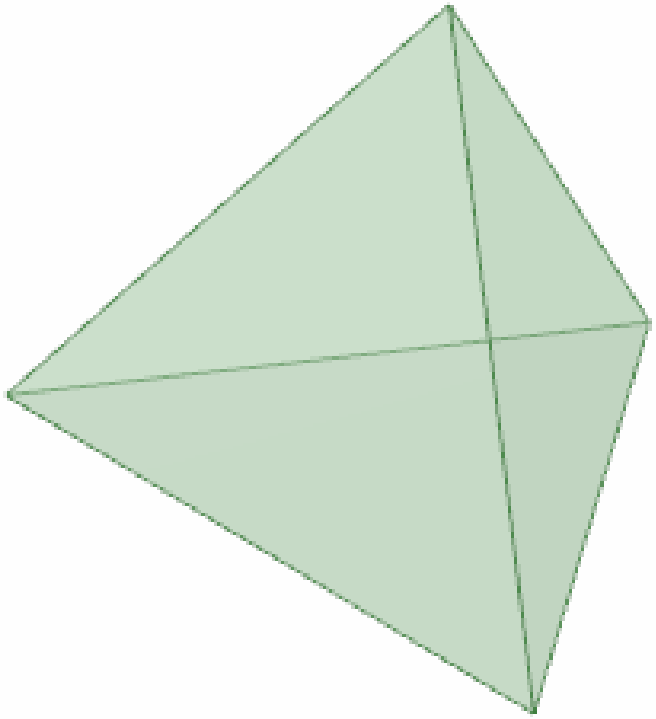
A face is missing; Select the edge of this missing face



Fill the selected edges; the four faces are now transformed into one solid tetrahedron



End of the Fugue #1



That’s it ! You have a regular tetrahedron.

1st book

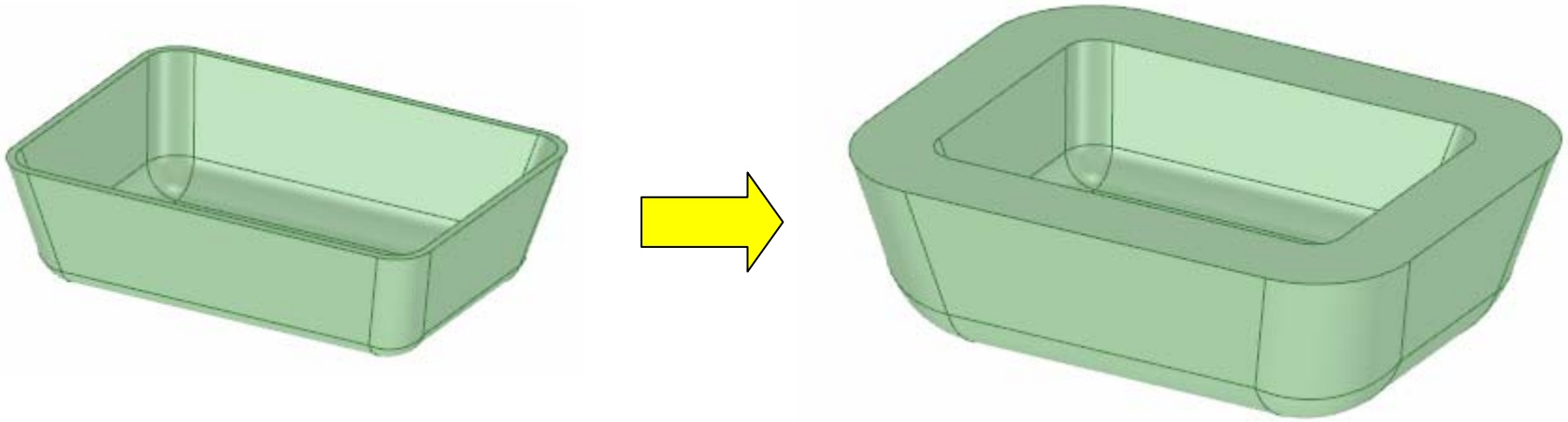
- Fugue #1 : modelizing a regular tetrahedron

  from Philippe LAGUNA – Spaceclaim Europe

- **Fugue #2 : changing the thickness of an imported shell**

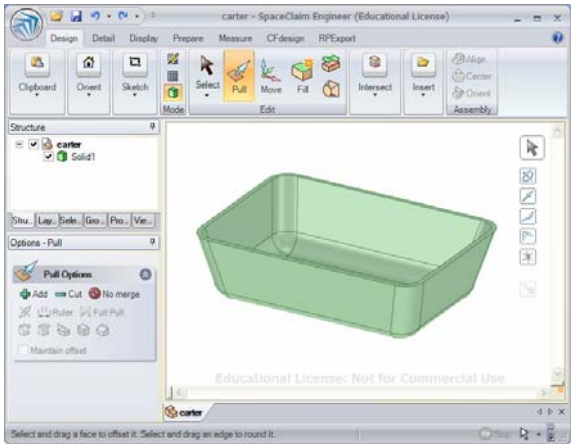
Fugue #2 : changing the thickness of a imported shell

We want to change the thickness of a shell which was imported from another CAD system via a STEP file



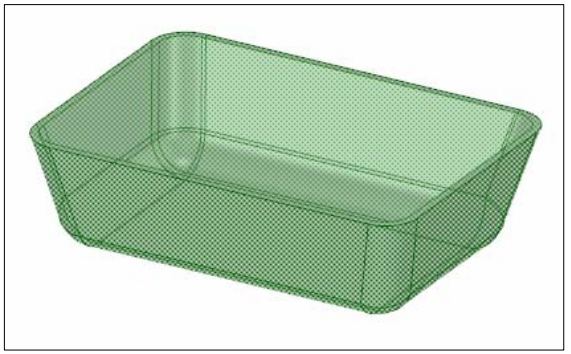
STEP 1 : importing a STEP file

Open a step file containing the solid model

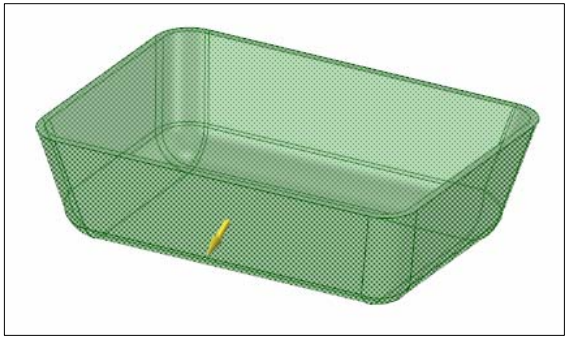


Of course, we have not any thickness parameter to control the shell. The imported solid is a « dead » body

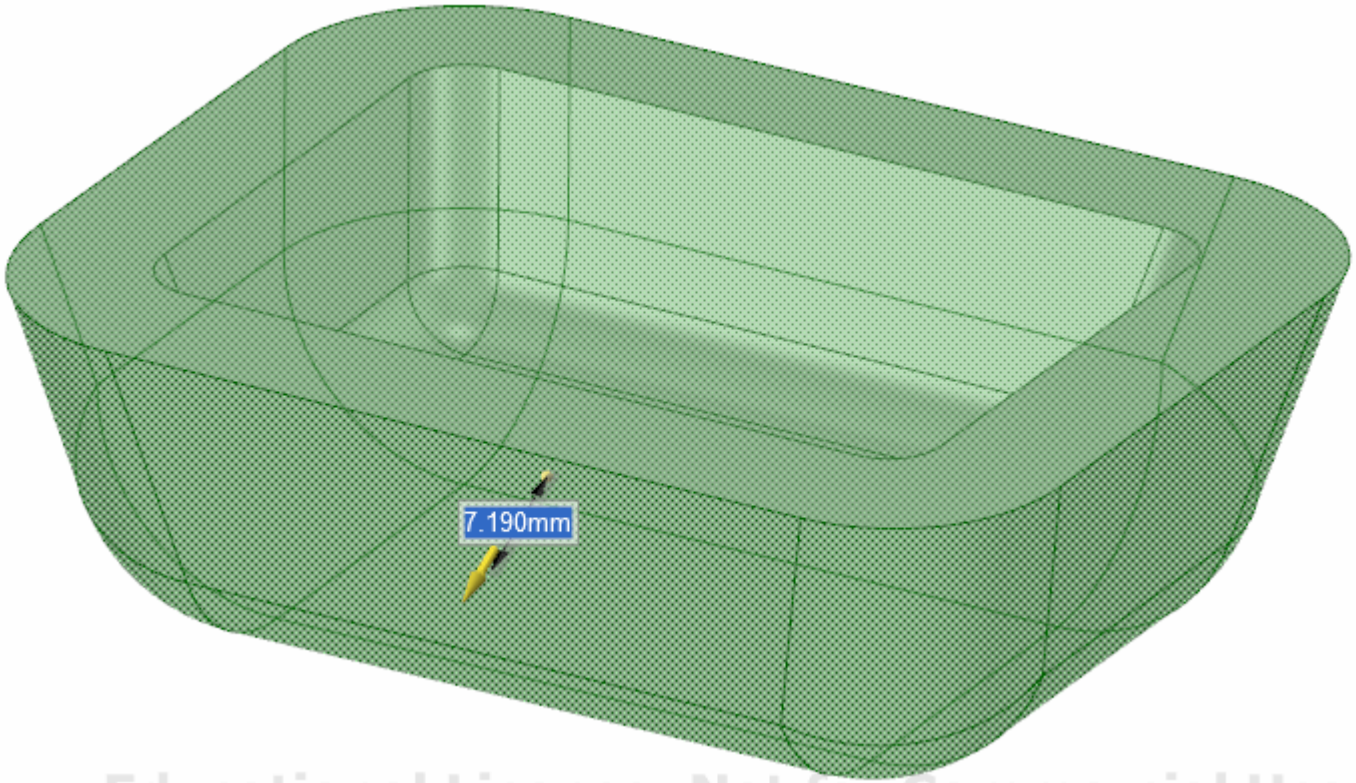
Select one of the external face and double-click to select all the external faces of the body



Select the **PULL** command and move your mouse



End of the Fugue #2



That’s it ! You have changed the thickness of an imported shell

you can try this method on much more complicated shapes