

MESH MAGIC 3D DOCUMENT

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Company: DFM-Engineering Vietnam

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I. DEVELOP ENVIRONMENT

1. Running environment
 - Window
2. Require library
 - Qt library
 - VTK library 5.8 or later

II. INTRODUCTION

- Mesh Magic 3D is a 3D viewer program allows users read, view and edit a stereo lithography STL file.
- Mesh Magic 3D was develop by DFM Engineering Vietnam in May 2015.

III. GUI AND FUNCTIONS

1. Main UI

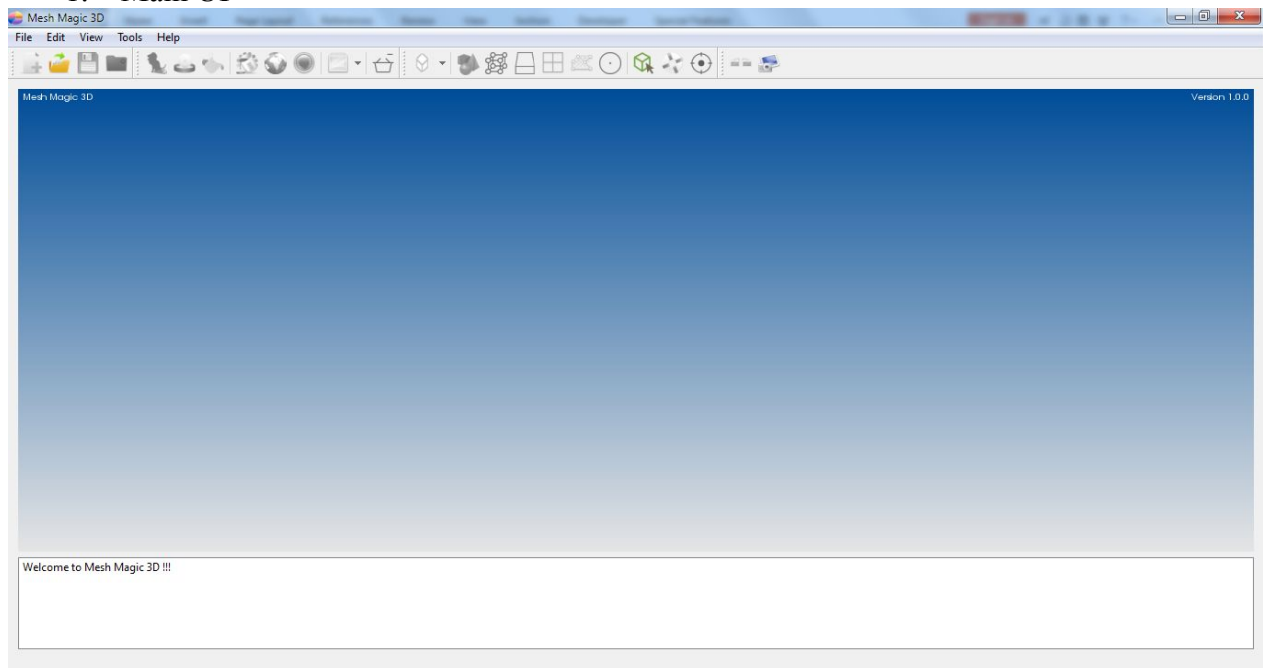


Figure 1: GUI Mesh Magic 3D

2. Functions

2.1. Open file

Format supported: STL

Click button  in toolbar or select in File menu

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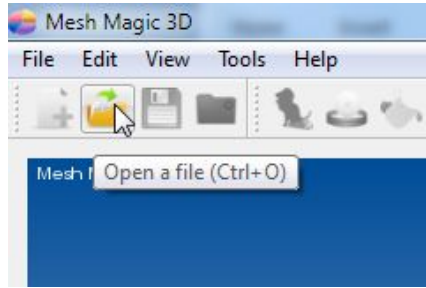


Figure 2: Open toolbar

Or

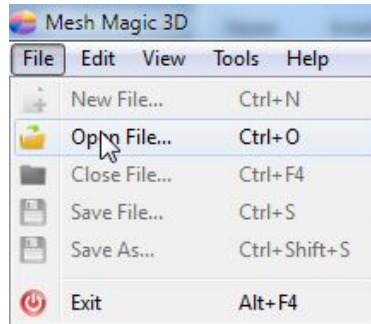


Figure 3: Open menu

Then choose the directory when you save a STL file and click Open

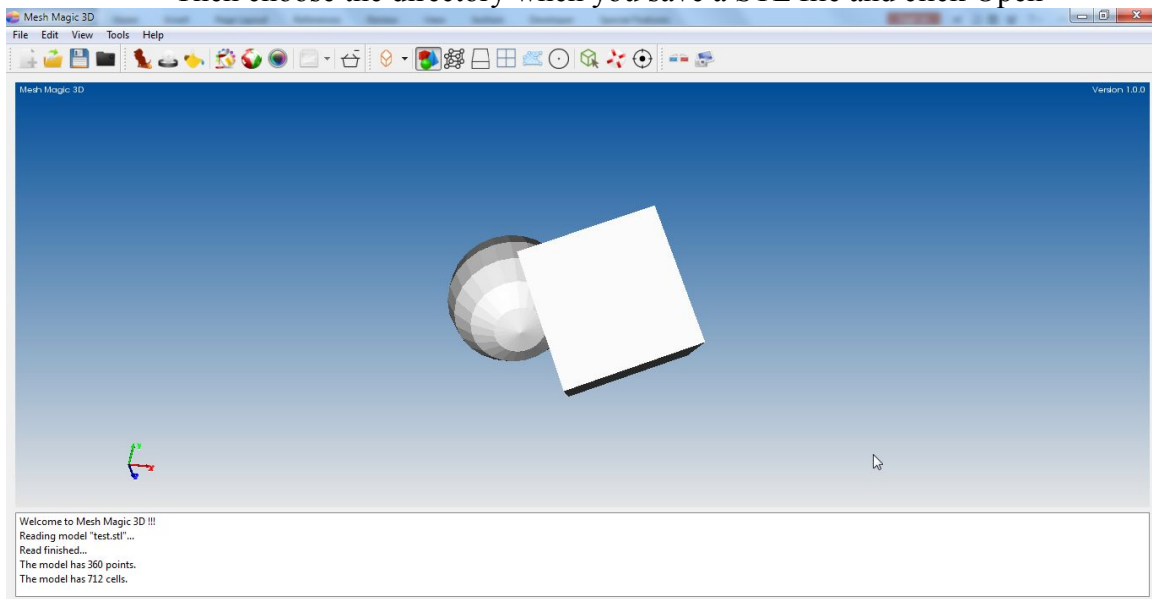


Figure 4: Open STL file

2.2. Save (Save As) file Format supported: STL

Click button  in toolbar or select in File menu



Figure 5: Save toolbar

Or

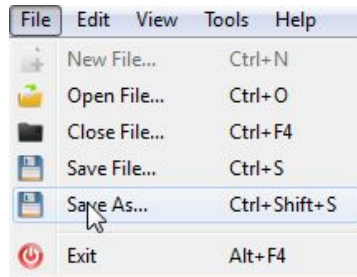



Figure 6: Save menu

2.3. Add shadow

Click button  in toolbar or select in Edit menu
Require video card driver must supporting frame buffer object

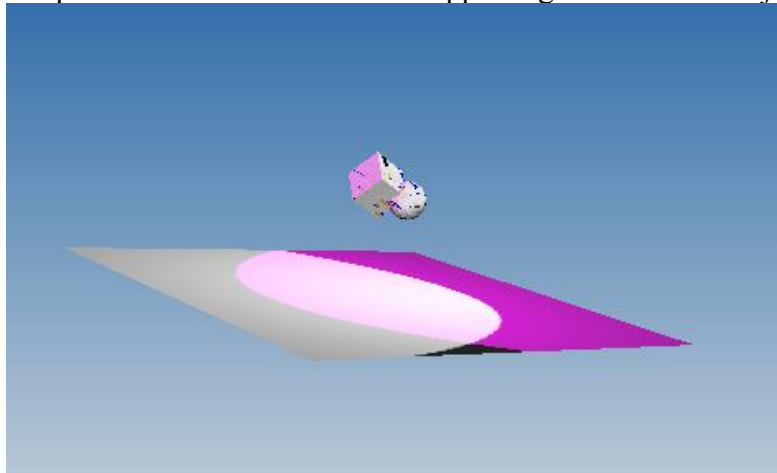


Figure 7: Add shadow

2.4. Add light

Click button  in toolbar or select in Edit menu

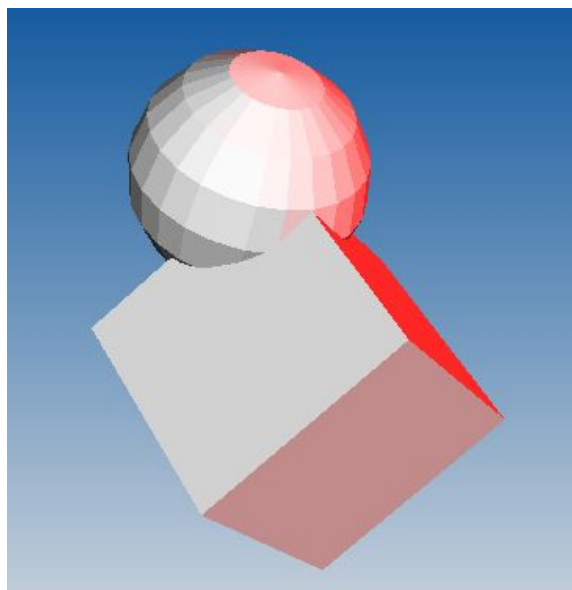


Figure 8: Add light

2.5. Add material

Add texture to the mesh. Format supported: JPEG, PNG

Click button  in toolbar or select in Edit menu

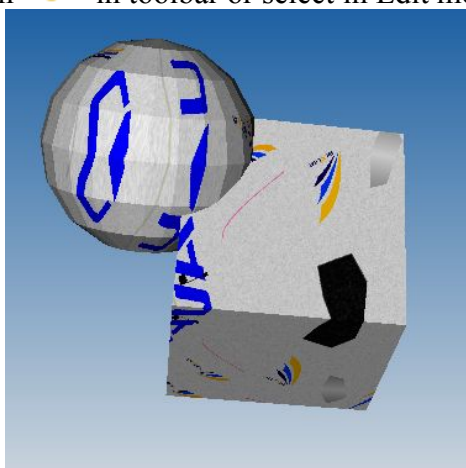


Figure 9: Add texture

2.6. Change color

Click button  in toolbar or select in Edit menu

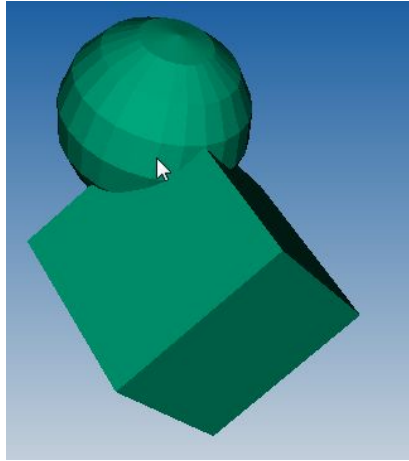


Figure 10: Change color

2.7. Show regions

Show all regions in the model with color

Click button  in toolbar or select in Edit menu

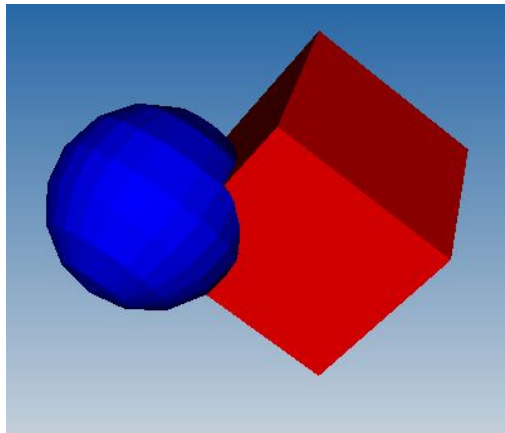


Figure 11: Show regions

2.8. Generate color by height

Click button  in toolbar or select in Edit menu

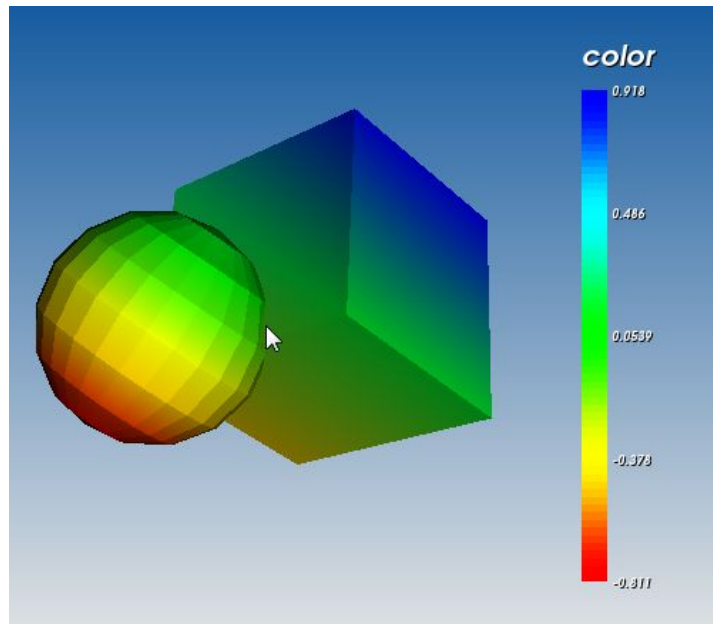


Figure 12: Generate color by height

2.9. Add a Cube (disable)

Click button  in toolbar or select in Edit menu

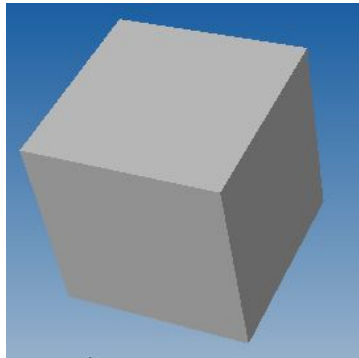


Figure 13: Add cube

2.10. Add a Sphere (disable)

Click button  in toolbar or select in Edit menu

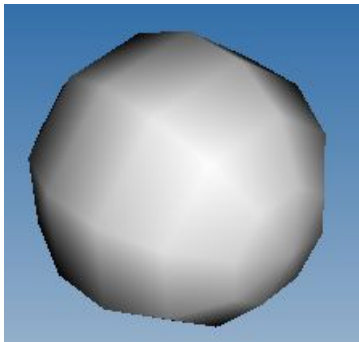



Figure 14: Add sphere

2.11. Add a Icosahedron (disable)

Click button  in toolbar or select in Edit menu

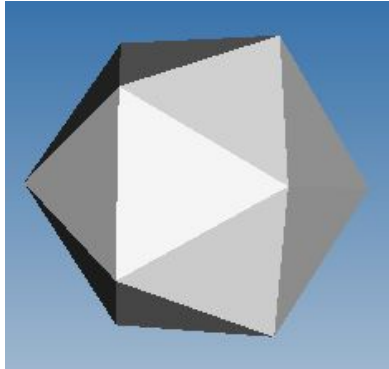


Figure 15: Add Icosahedron

2.12. Add a Torus (disable)

Click button  in toolbar or select in Edit menu

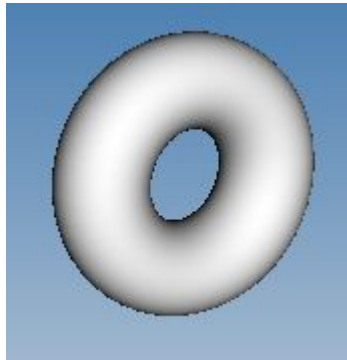


Figure 16: Add torus

2.13. Delete a cell

Click button  in toolbar or select in Edit menu

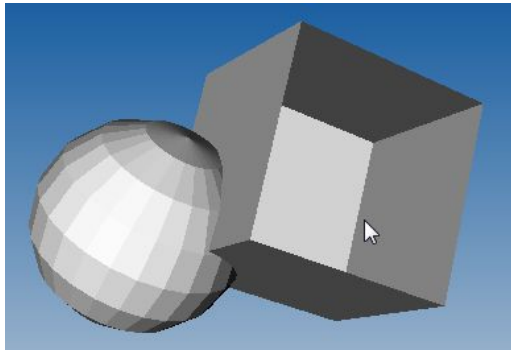


Figure 17: Delete a cell

2.14. Select a object

Click button  in toolbar or select in Edit menu

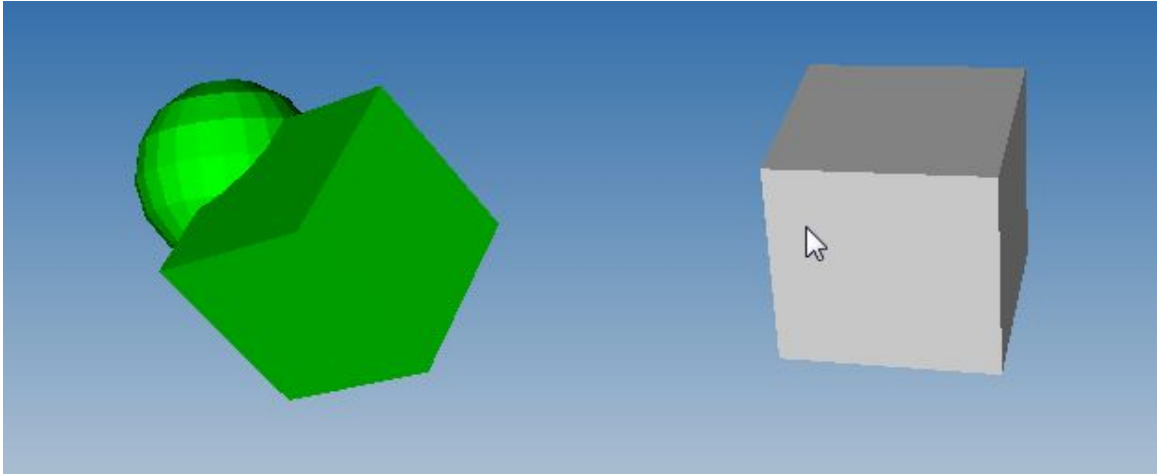


Figure 18: Select object

To delete selected object, press Backspace key or Delete key

2.15. Select an triangle

Click button  in toolbar or select in Edit menu

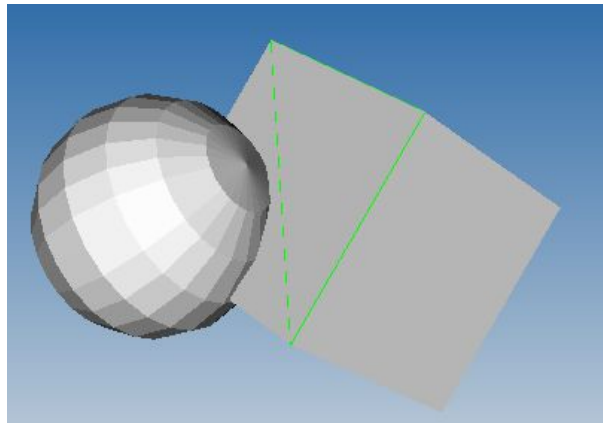


Figure 19: Select triangle

To delete selected triangle, press Backspace key or Delete key

2.16. Select cells (through face)

Click button  in toolbar or select in Edit menu, then press “r” key

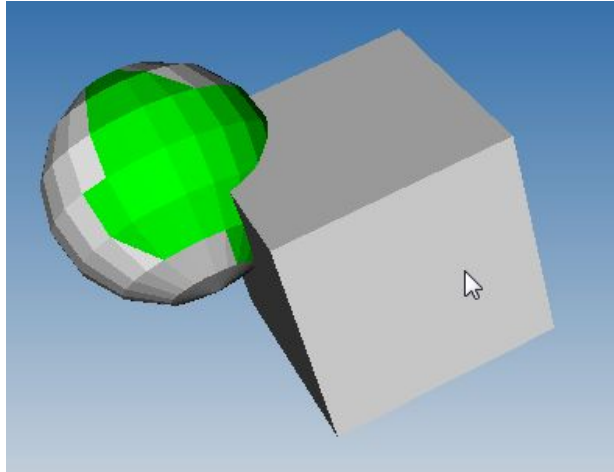


Figure 20: Select cells through face

To delete selected cells, press Backspace key or Delete key

2.17. Select cell with neighbors

Click button  in toolbar or select in Edit menu

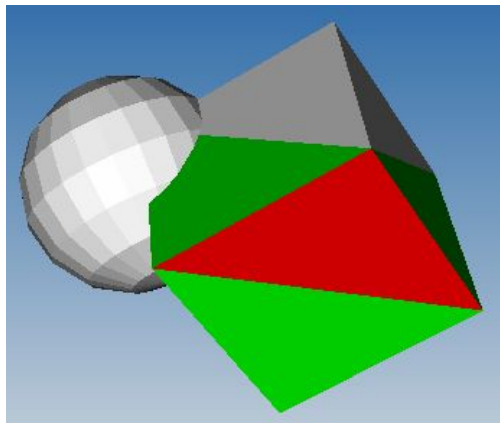


Figure 21: Select cell with neighbors

To delete selected cell and cell neighbors, press Backspace key or Delete key

2.18. Select line (disable)

Not implement

2.19. Select points (through face)

Click button  in toolbar or select in Edit menu, then press “r” key

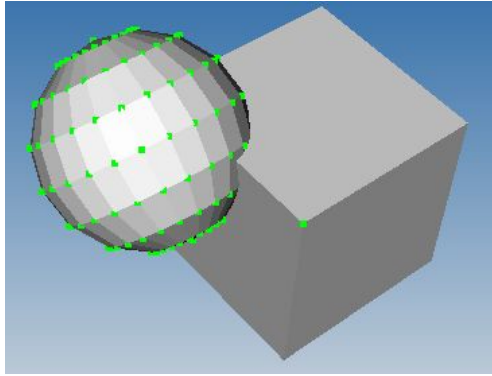



Figure 22: Select points through face

2.20. Select point with neighbors

Click button  in toolbar or select in Edit menu

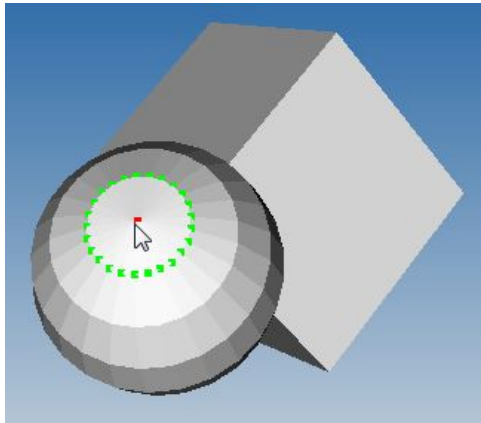


Figure 23: Select point with neighbors

2.21. Show model as solid

Click button  in toolbar or select in Edit menu

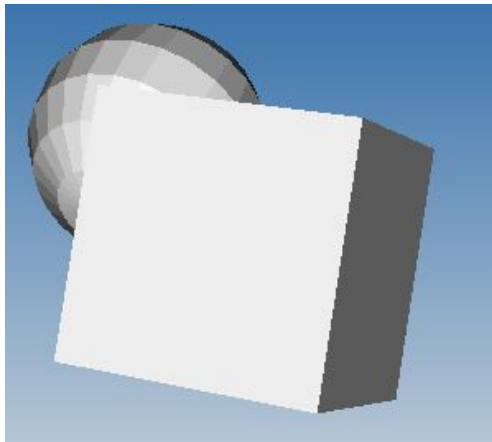


Figure 24: Show solid

2.22. Show model as wire frame

Click button  in toolbar or select in Edit menu

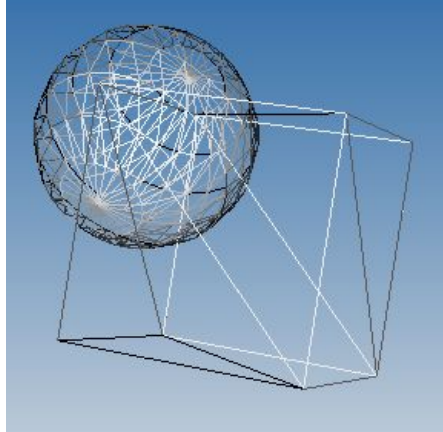


Figure 25: Show wire frame

2.23. Show model as outline

Click button  in toolbar or select in Edit menu

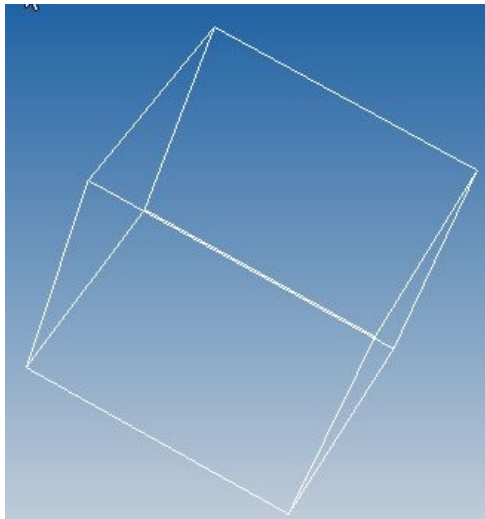


Figure 26: Show outline

2.24. Show model as edges

Click button  in toolbar or select in Edit menu

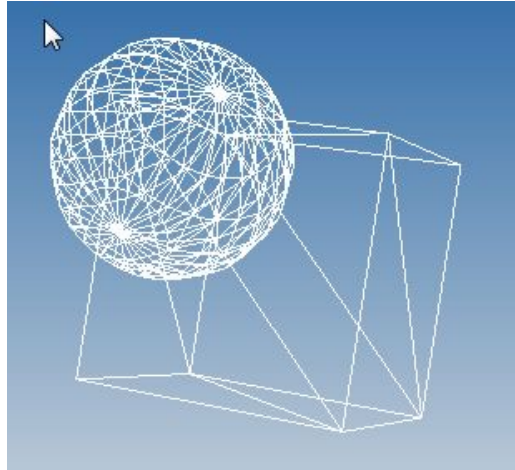


Figure 27: Show edges

2.25. Show model as polygons

Click button  in toolbar or select in Edit menu

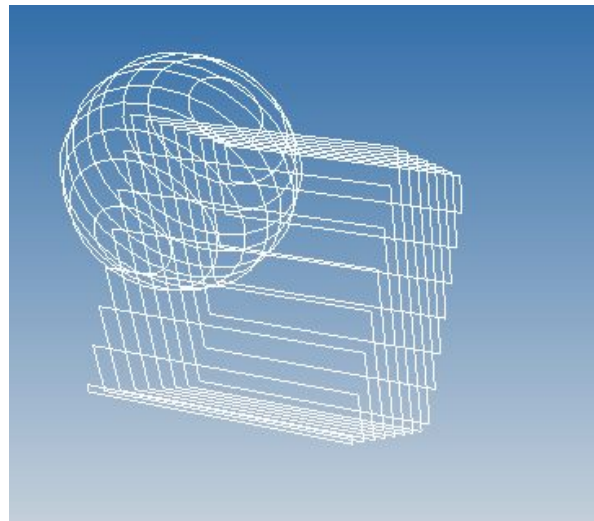


Figure 28: Show polyons

2.26. Show model as points

Click button  in toolbar or select in Edit menu

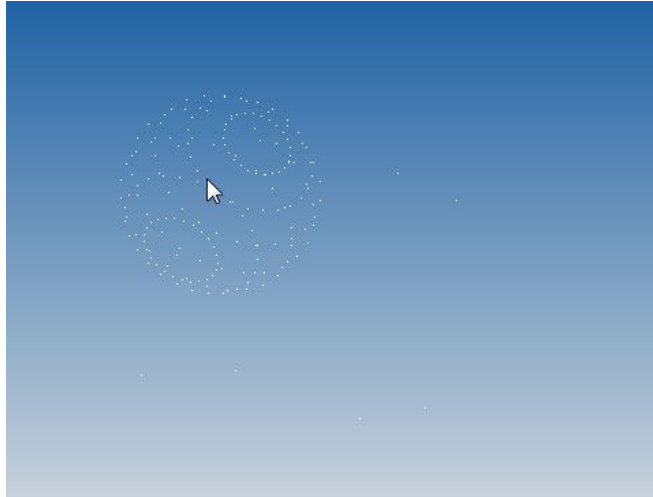



Figure 29: Show points

2.27. Rendering with Anaglyph (Red - Blue)

Click button  in toolbar or select in Tool menu

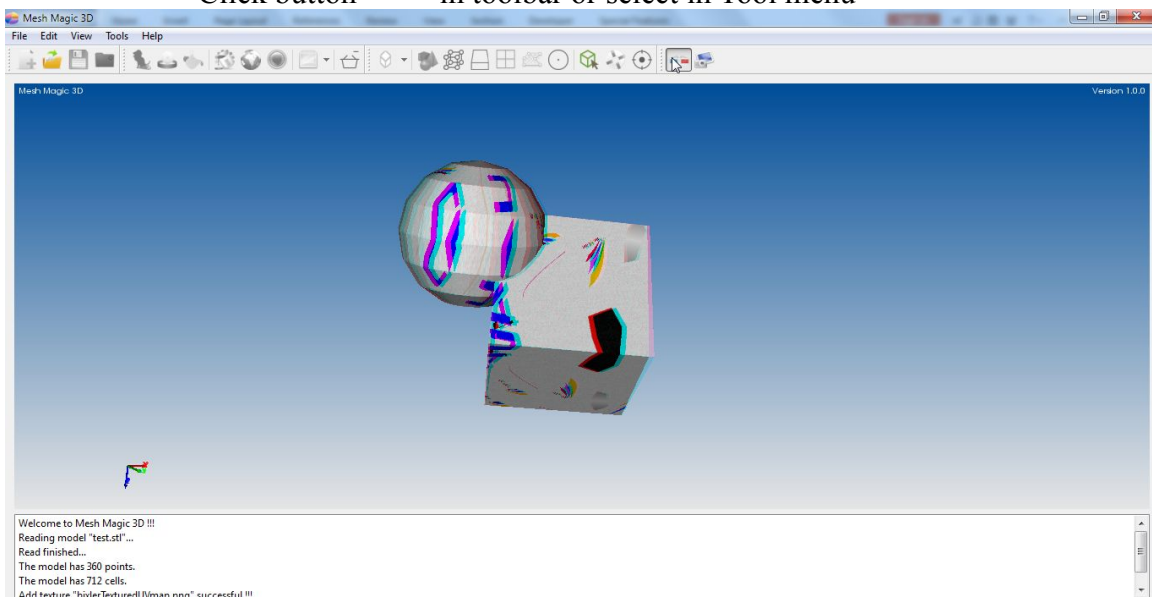



Figure 30: Rendering Anaglyph

2.28. Screen capture

Save window as a image. Format supported: JPEG, PNG

Click button  in toolbar or select in Tool menu

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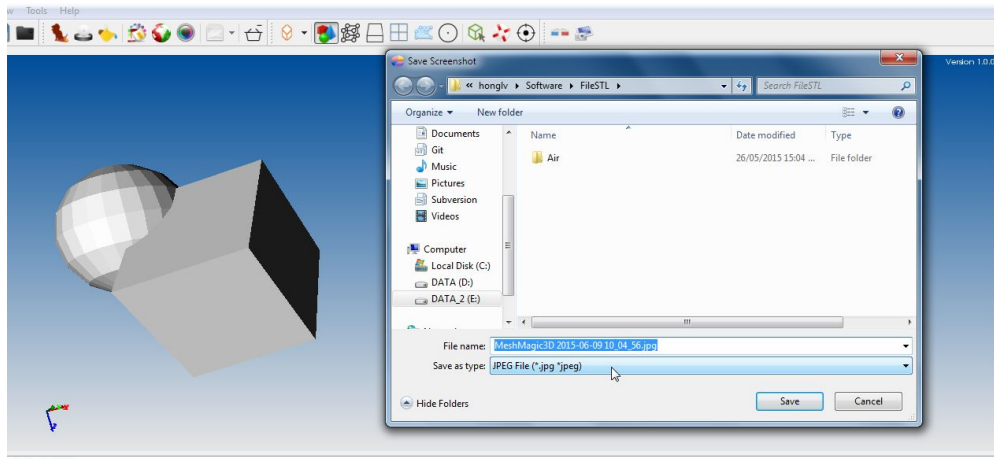


Figure 31: Save window as image

2.29. Some other functions

In View menu, some function help you reset setting render.

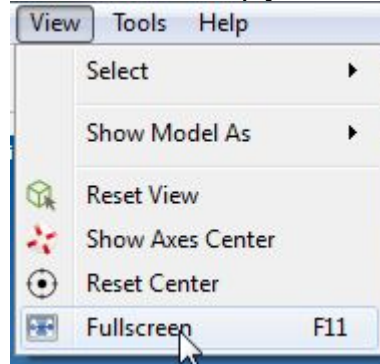


Figure 32: View menu

IV. CAREER DEVELOPMENT