**3D Viewer Application**

This Graphics viewer is developed in WPF using following libraries

1. SharpGL
2. SharpGL.SceneGraph
3. SharpGL.WPF

This project is developed in Visual Studio 2012 verision.

**Code repository**

The code is available in the github. Please use git url - <https://github.com/alagezanmk/3dViewer.git> to clone the code in a new folder.

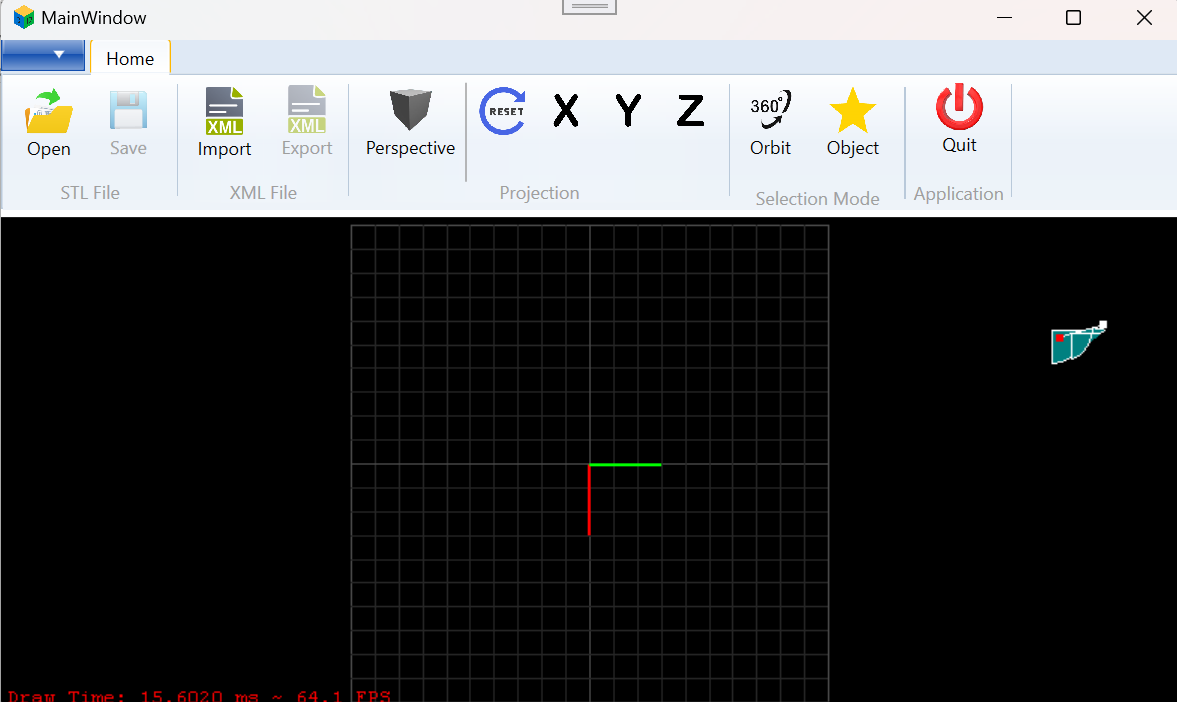
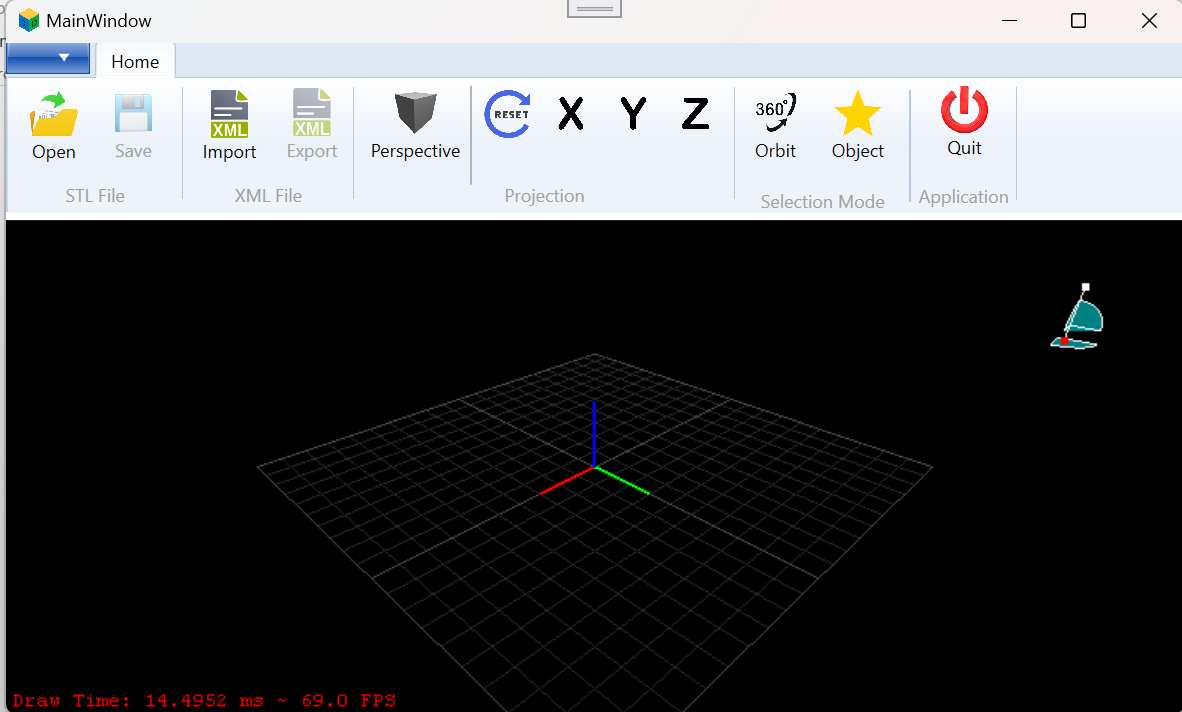
Git Command: **git clone** [**https://github.com/alagezanmk/3dViewer.git**](https://github.com/alagezanmk/3dViewer.git)

**How to run**

1. Open git folder **git://3DViewer/3DViewer**
2. Double click the **3DViewer.sln** to open Visual Studio
3. Select the **Build -> Build solution**
4. Check the build is successful
5. To run - select the **Debug -> Start without or Start without Debugging**

**Application**

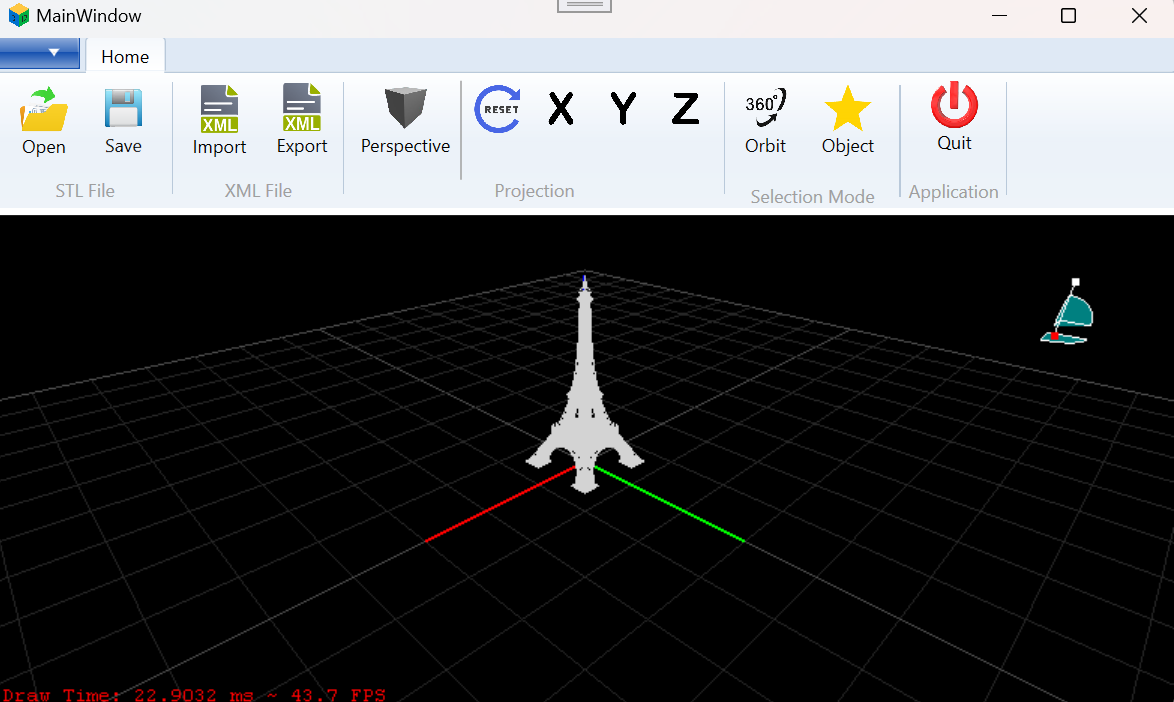
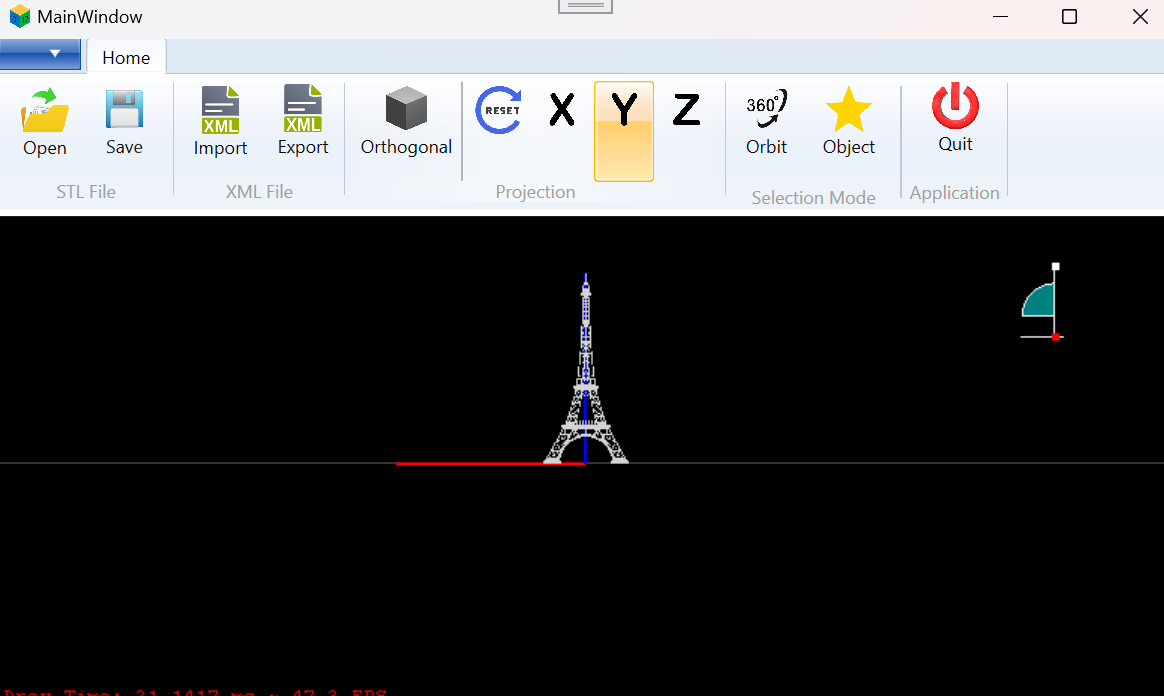
1. Application GUI

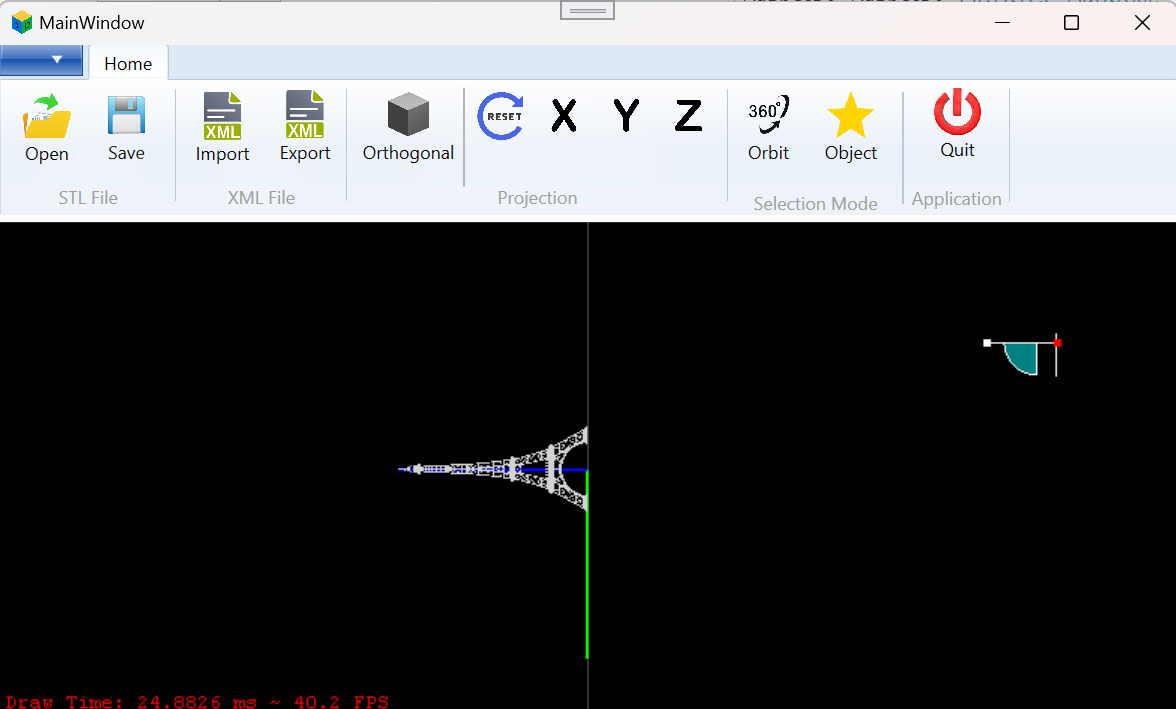
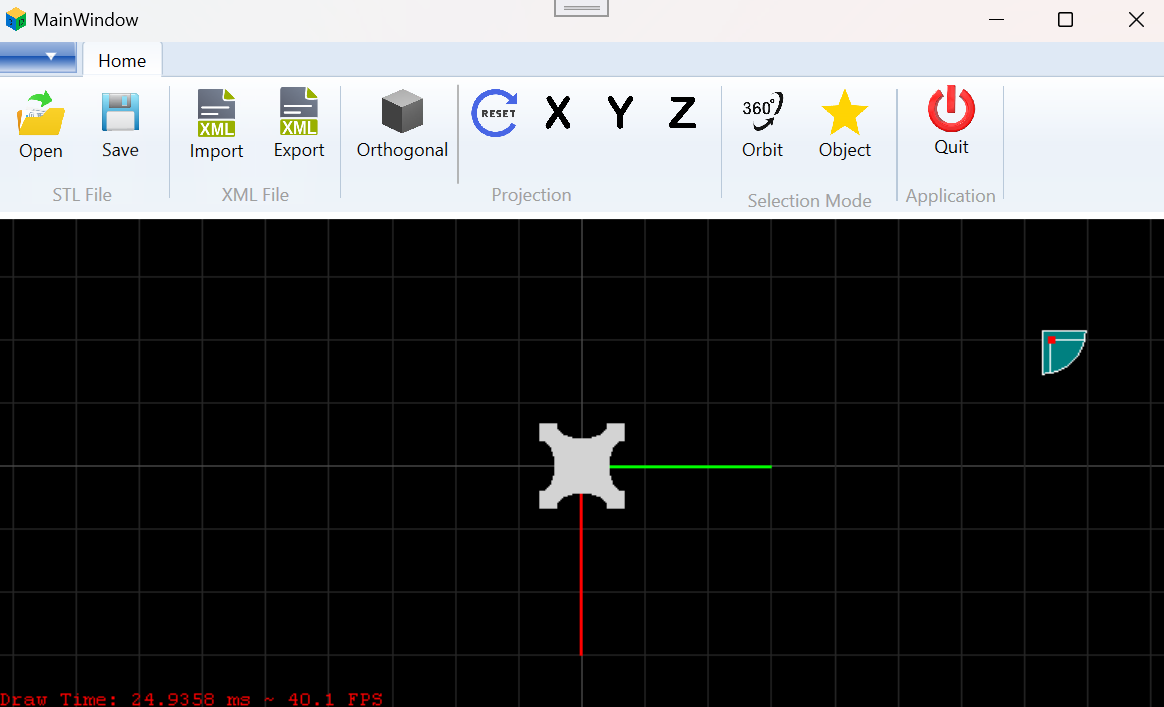


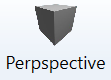
1. Open the **STL file** by click Open icon



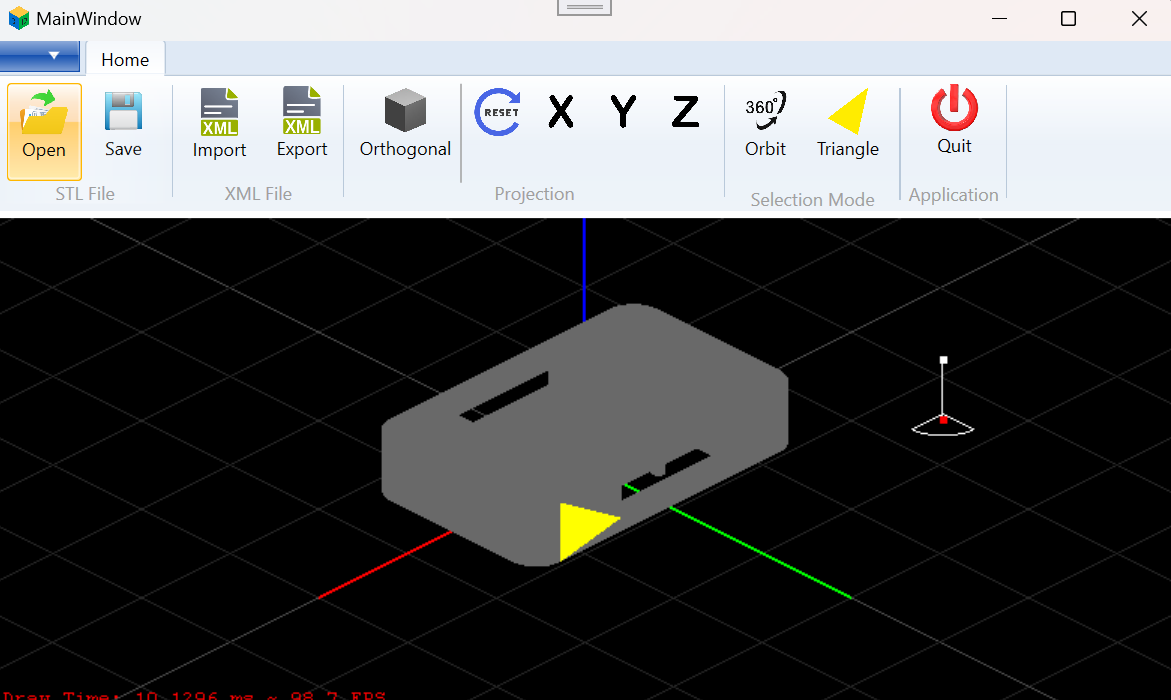
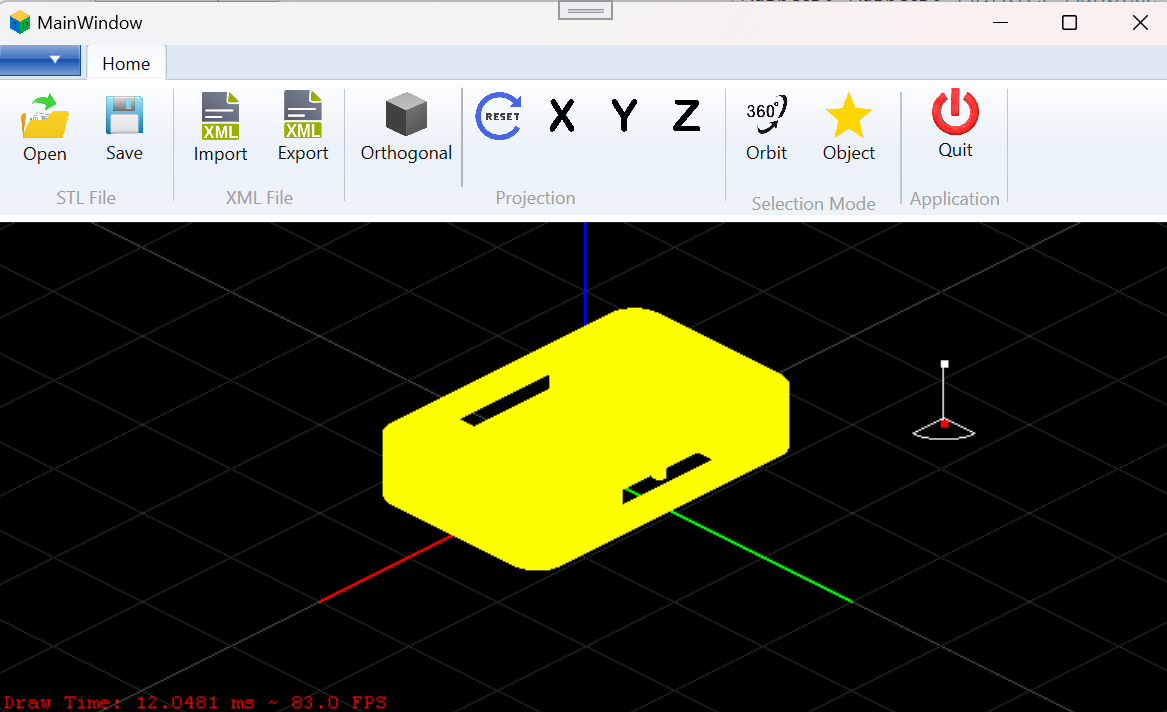
1. Application will show the loaded model as shown below

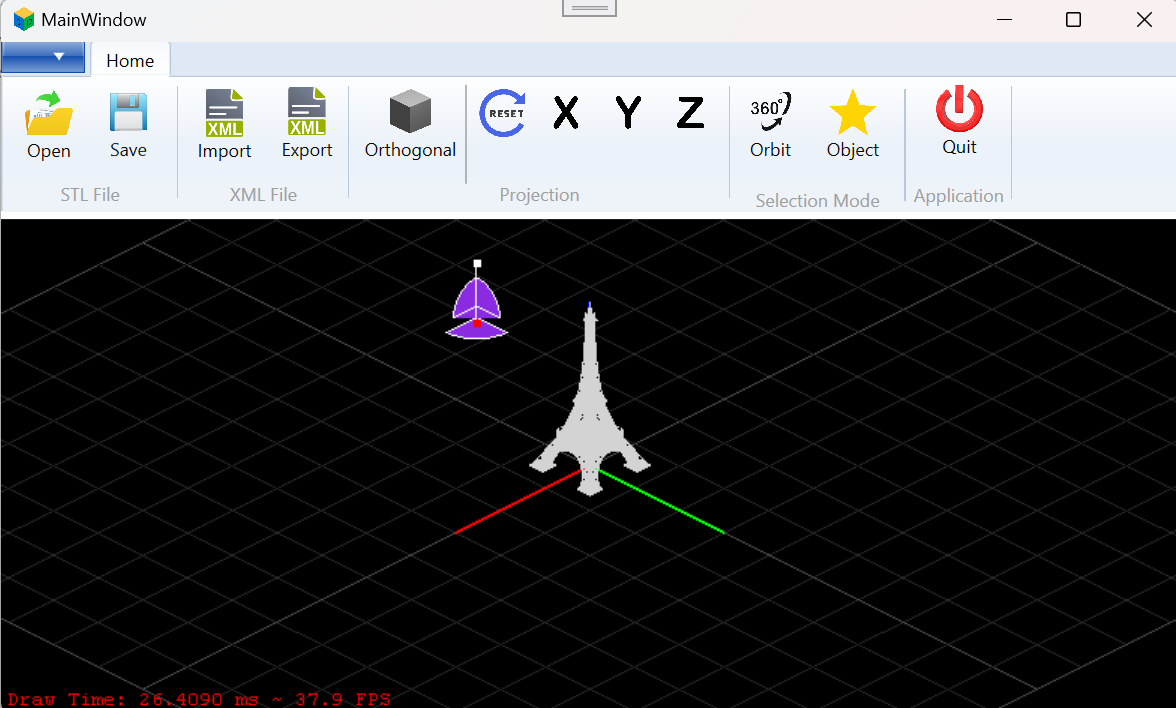
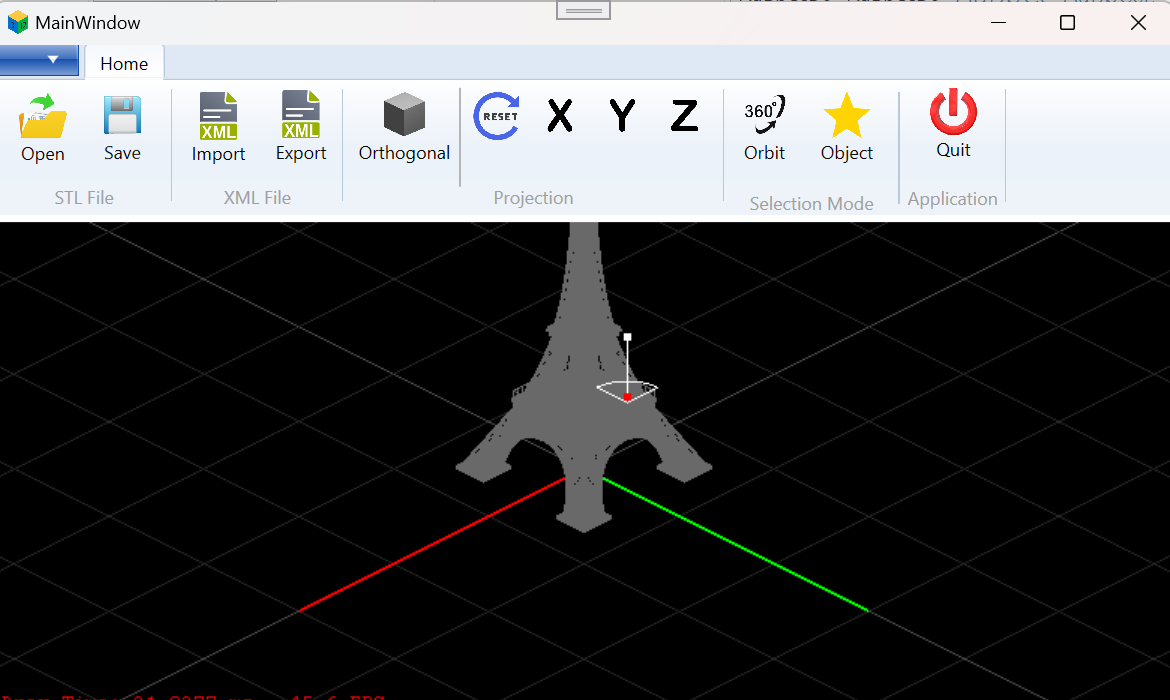
 

1. The following icons are for STL files methods
   1.  - to save as Binary STL File
   2.  to export open STL File as XML Format file
   3.  to import STL Model in XML Format
2. The Icons  and  can be clicked to switch between **Perspective and Orthogonal** Projections
3. For Zoom, Pan and Oribit
   1. Use **Mousewheel** to **Zoom in/out**
   2. If **Pan - Selection Mode** is selected  
      1. Click **Left Mouse button** and Mouse move to **Pan**
         1. Press **Control Key** to **Pan Depth in/out**
      2. Click **Shift Key** & **Left Mouse button** and Mouse move to **Orbit**
         1. Press **Control Key** to **Orbit in Z angle**
   3. If **Zoom - Selection Mode** is selected 
      1. Click **Left Mouse button** and Mouse move to **Orbit**
         1. Press **Control Key** to **Orbit in Z angle**
      2. Click **Shift Key** & **Left Mouse button** and Mouse move to **Pan**
         1. Press **Control Key** to **Pan Depth in/out**
4. **Select Modes: Triangle** or **Object** can be toggled **by pressing F10**

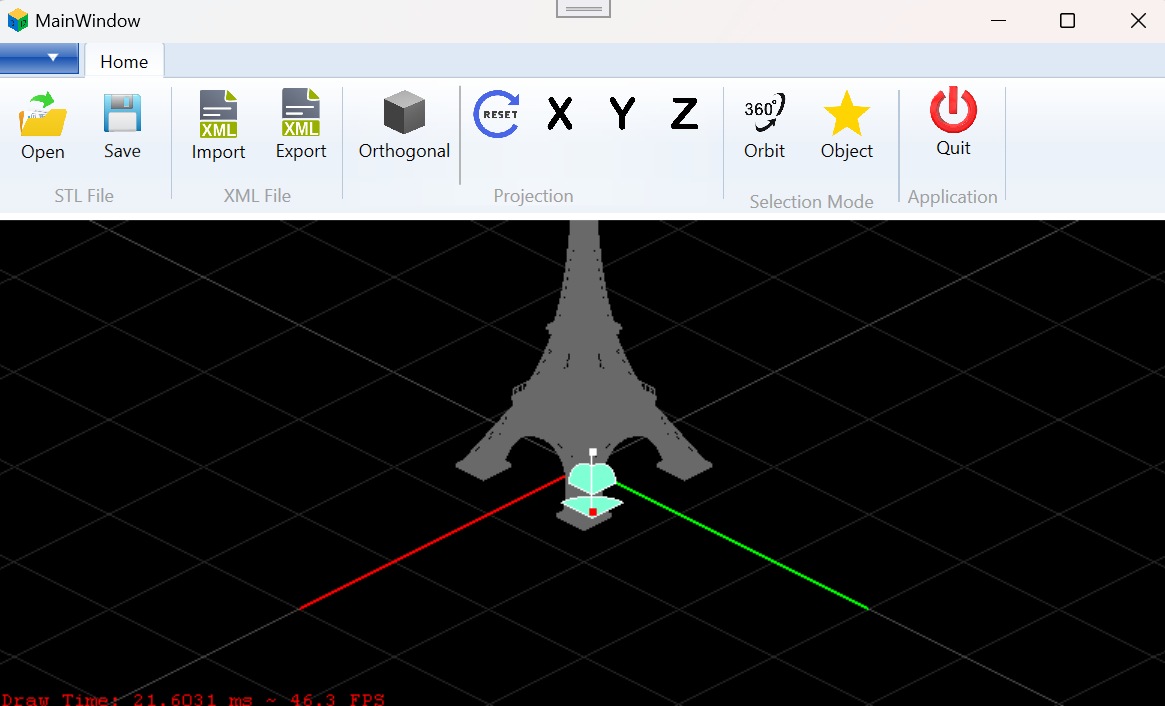
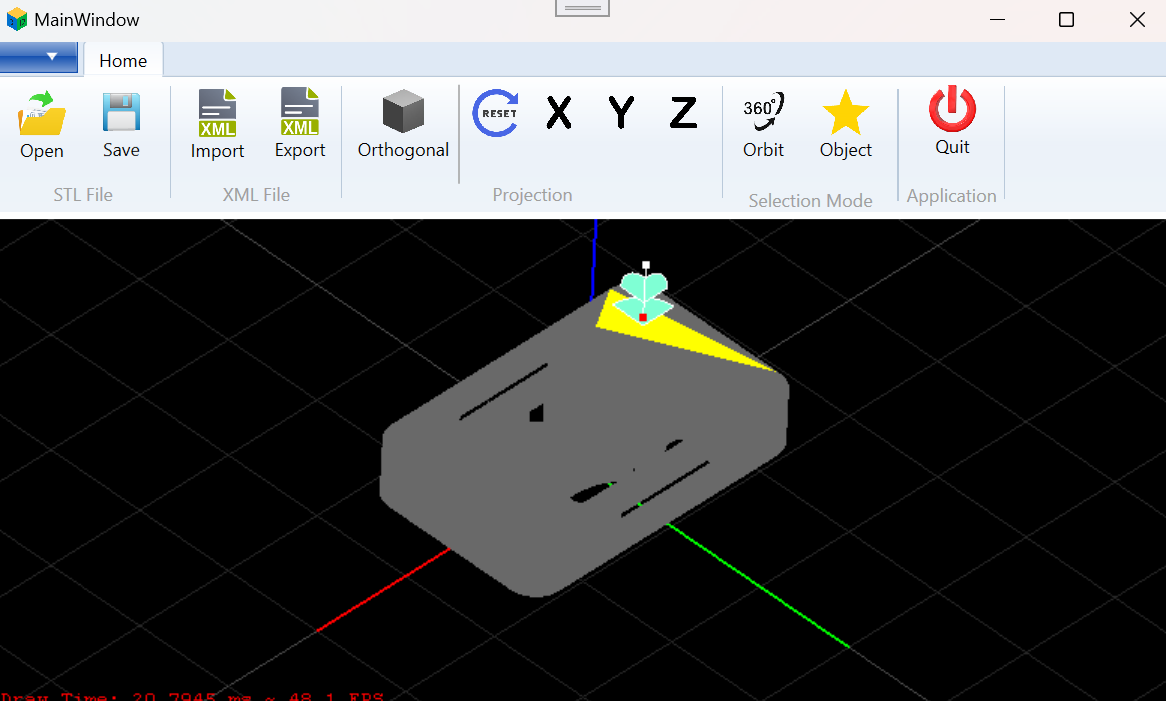
orclick **Icon  or **

** **

1. **Axis Icons** 
   1. Click **** to initial Projection
   2. Click , ,  to X, Y, Z Axis Projection
   3. Pressing **Control Key** and **Mouse Left** click these any of four Icons to reset to **initial Zoom**
2.  **Catia compass** is displayed view Top Right. This can be moved to any view place.

Moved and Selected Compass Moving Compass

1. Snapped Compass 2. Snapped Compass

* 1. Dragging **Catia compass** to any STL point will snap to **pointed triangle**
  2. Dragging snapped **Catia compass** to free space will gain **world coordinate**