

Visualization Software for Computer Graphics Concepts

3D Transformation

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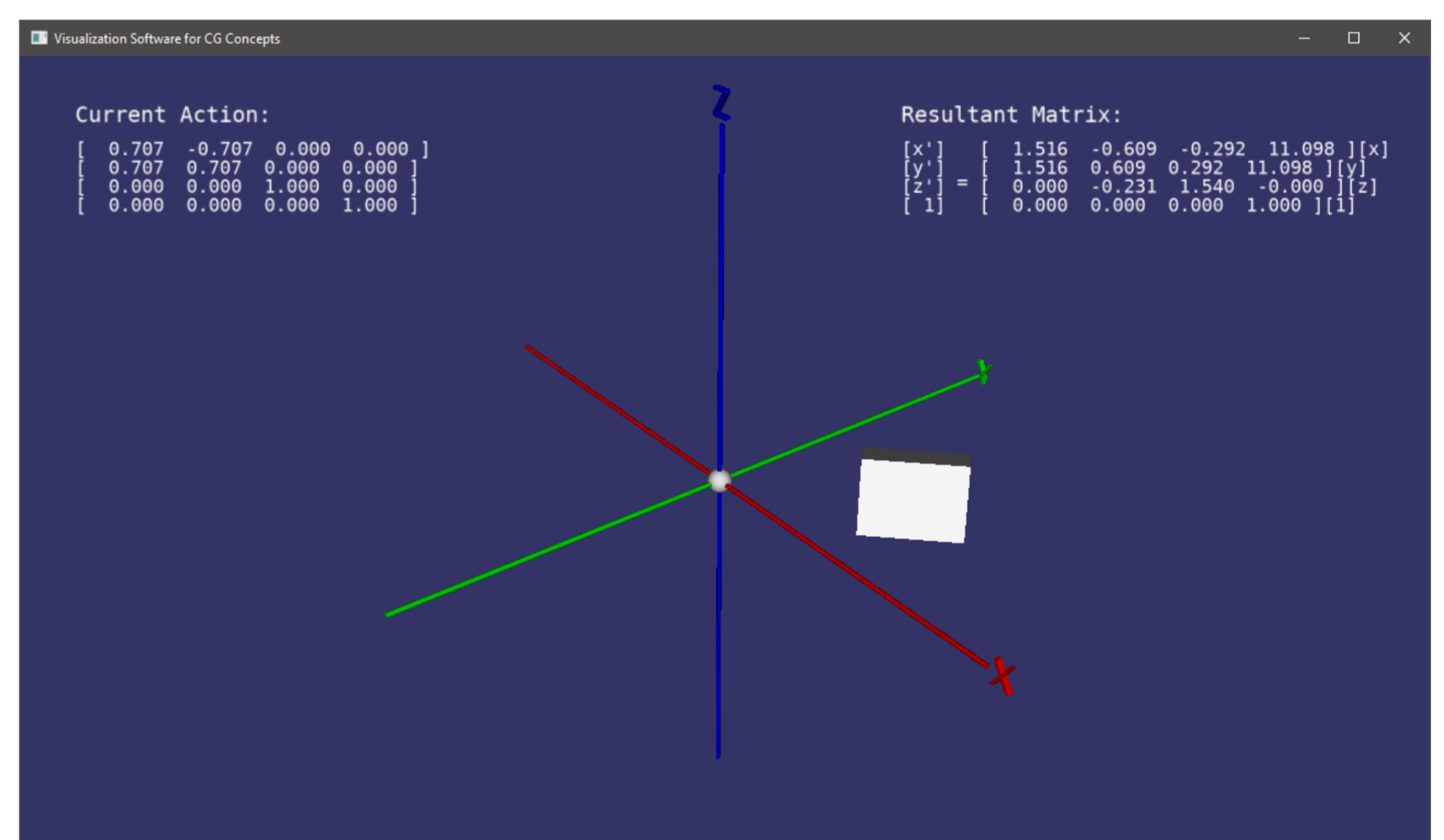
Supervisor: Prof Seah Hock Soon

Project Objectives:

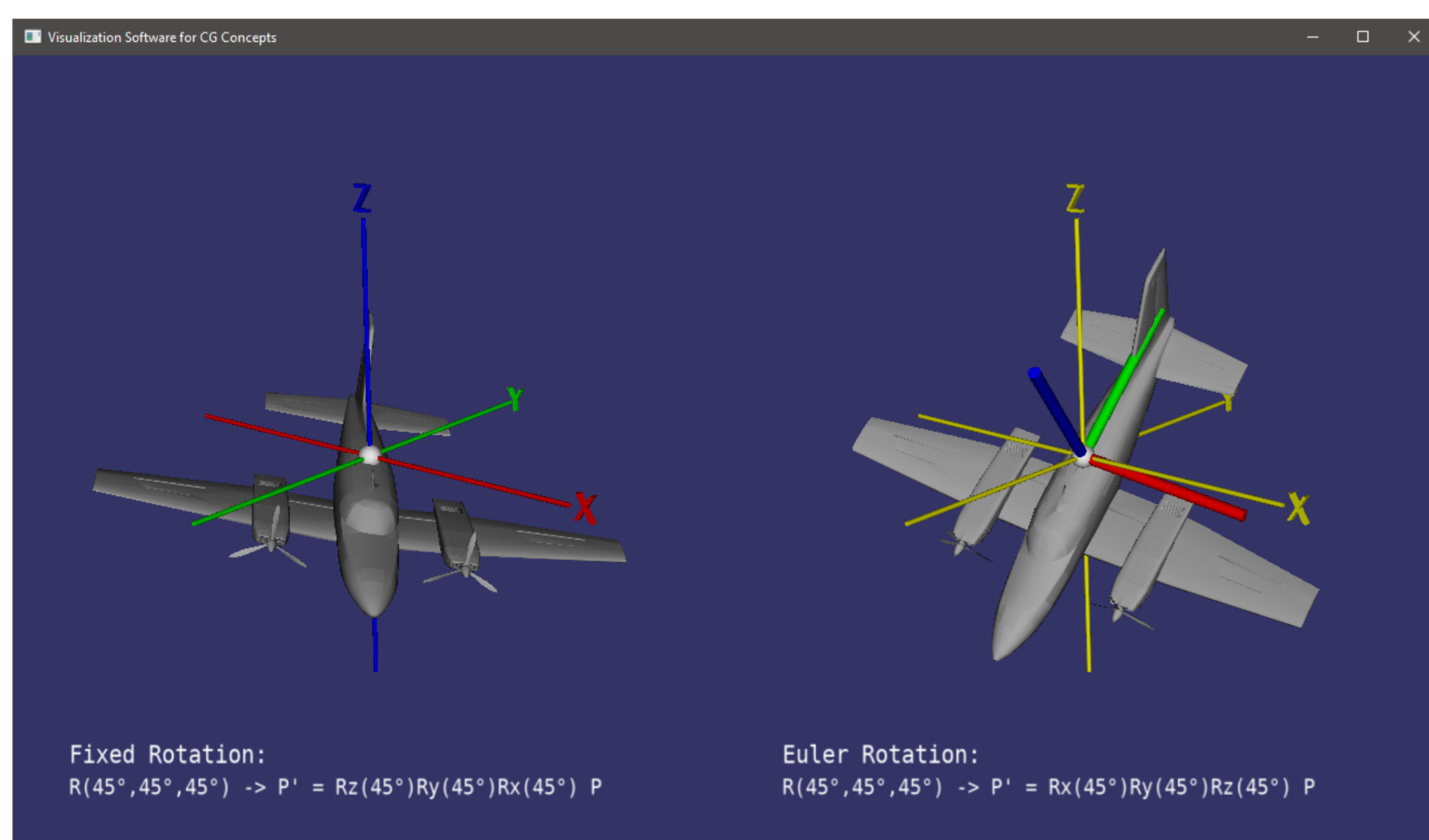
The project aims to develop a visualization software for computer graphics concepts, focusing on 3D transformation. Linear transformation, fixed vs Euler rotations and quaternion representation are presented in an interactive manner that helps learners visualize these ideas. The features show the direct relationship between the mathematical inputs and their effects in the 3D space.

Implementation:

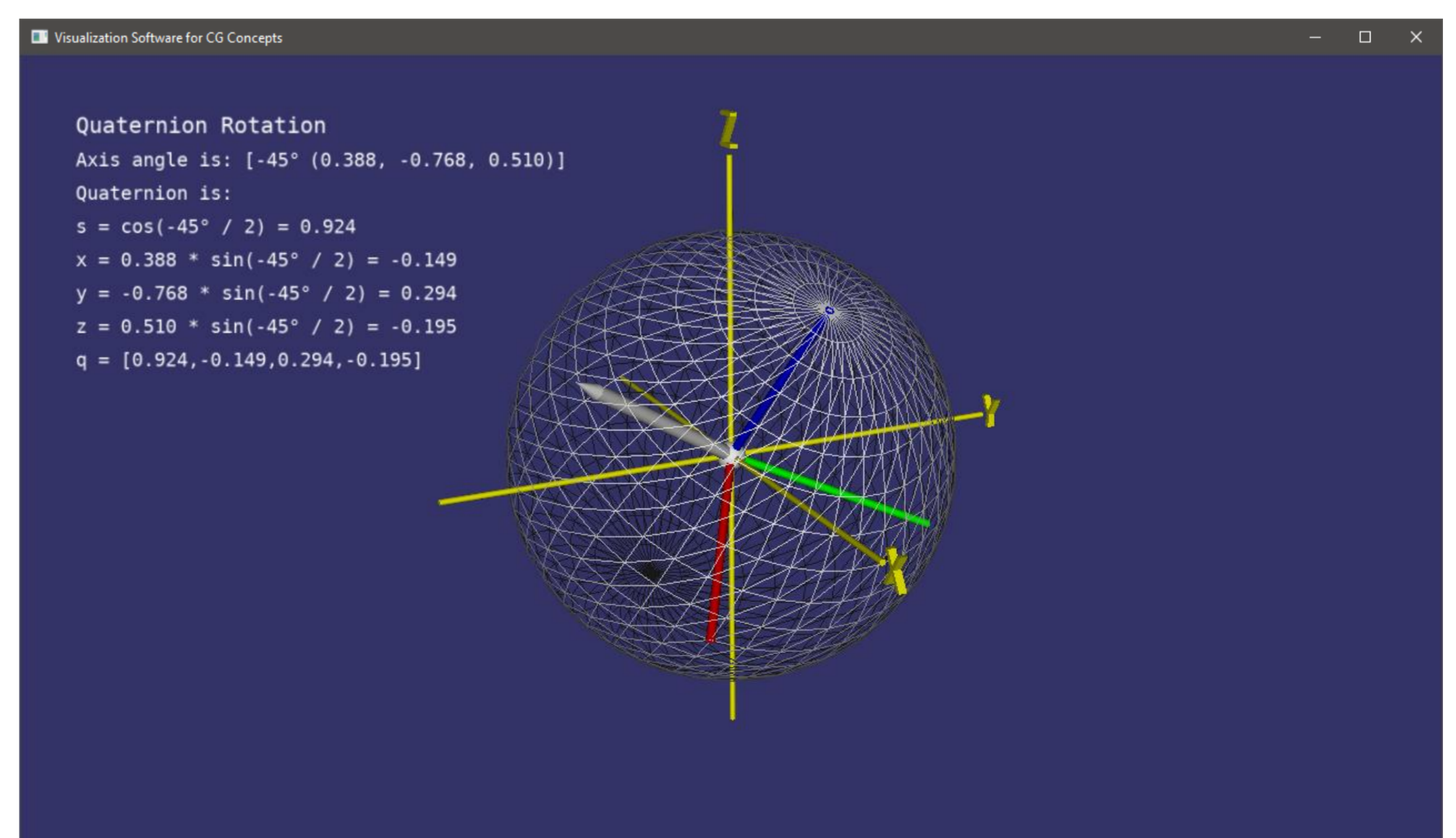
An open-source 3D graphics engine OpenSceneGraph was used to develop the prototype. The software aims to be easy to use and engaging through interactable elements.



Linear Transformation Demonstration



Fixed vs Euler Rotation Comparison



Quaternion Representation