

CS474 Computer Graphics Assignment

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Following Assignments were implemented

1. Bezier Curves
2. B-Spline Curves
3. 2-D Affine Transformations
4. Bresenham's Algo for circle
5. Fractal Trees
6. Fractals – Mandelbrot set

Implemented in a flexible framework in which algorithms can be implemented easily with automatic rendering. Features an easy to use and attractive GUI

In addition the following project was developed :

Lights... Camera... Action... → A polygon based 3D Rendering and Animation Package which implements various techniques including :

1. Perspective View
2. 3D Transformations
3. Illumination Models including Ambient , Diffusion and Specular
4. 3D objects stored as polygons
5. Wireframe generation of desired accuracy for smooth shading
6. Basic objects like cuboid , sphere , cylinder , cone etc. generated using wireframes.
7. Solid Object Generation includes other objects like a donut (torus) , superellipses of various kinds.
8. 3D Fractal Terrain Generation with adjustable roughness
9. 3D Fractal Trees of various kinds
10. 3D Animation including straight line and curvilinear motion.
11. Hidden surface removal using Normal method and Sorting Techniques

A separate report for the last software is included.
