Assignment-1 Submission

Indian Institute of Technology Delhi

Software Rasterization

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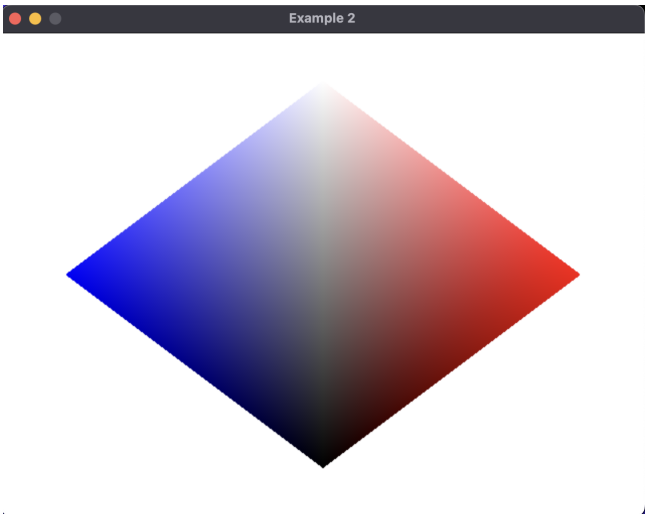
1 Example: e1.cpp

(a)

Figure 1: Tick mark rasterized correctly using SoftwareRasterizer

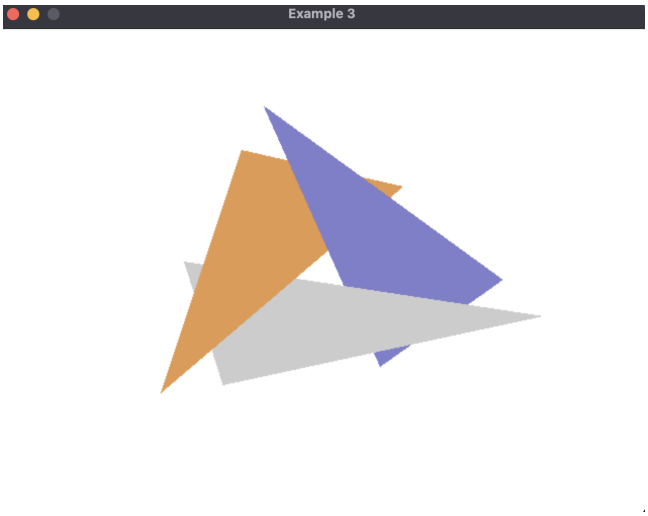
2 Example: e2.cpp



(a)

Figure 2: Color gradient square rasterized correctly using SoftwareRasterizer

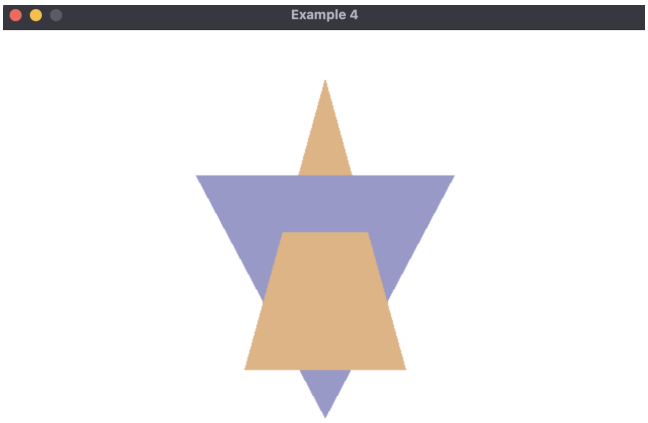
3 Example: e3.cpp



(a)

Figure 3: Occlusion triangle cycle rasterized correctly using SoftwareRasterizer

4 Example: e4.cpp



(a)

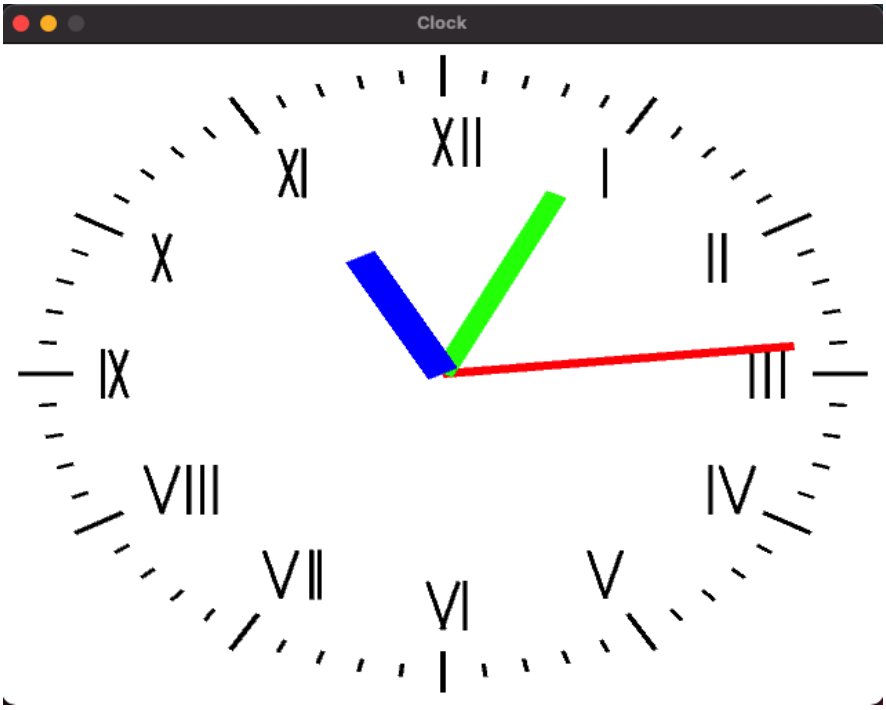
Figure 4: Intersection triangles rasterized correctly using SoftwareRasterizer

5 Example: e5.cpp

(a) (b)

Figure 5: Rotating 3D square rasterized correctly using SoftwareRasterizer

6 Clock rasterization

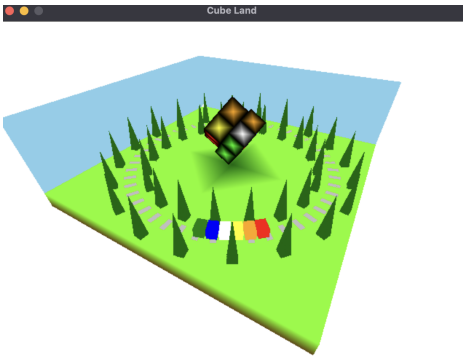


(a)

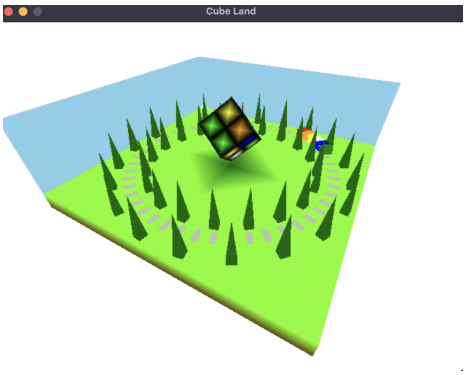
Figure 6: Clock created using only transformations (affine) on a unit square centred at origin

7 3D scene rasterization

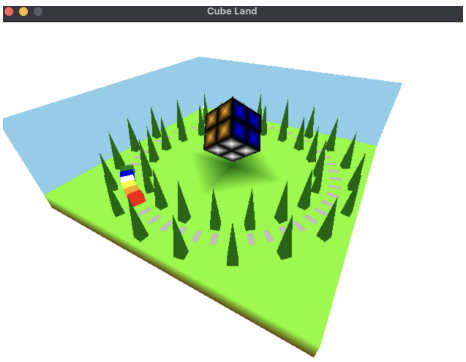
In this challenge, we designed a *Cube Land*, which is essentially a forest-themed location, with a big (divine!) Rubik's cube at its centre (2×2). This cube is being solved one step at a time, and it stops solving itself once solved. Also, the cube is rotating about the Z-axis continuously as the scene progresses. The scene also consists of sky-blue sky, forest trees and a passing-through railway (cube-way) that consists of *six* coaches corresponding to the colours present in the cube. It constantly revolves around the cube along the track-path as specified, and seems to be mysteriously related to the cube present at the centre (strange!). Screenshots on the following page give a glimpse into this dynamic 3D world.



(a)



(b)



(c)

Figure 7: (a) Cube is unsolved; (b) Some z-fighting is present; (c) Cube is solved!