Visualizing Fractals with Three Dimensional Turtle

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The purpose of this experiment is to create a three dimensional turtle program that allows beginning programmers to visualize and program lines and shapes such as three dimensional fractals, which could help students being introduced to fractals get a better understanding of what fractals are. The turtle's position and heading is tracked. Turtles are allowed to go forward, yaw, pitch, and roll. This program was able to draw a third order three dimensional Hilbert curve in two seconds, making render speeds about 150 lines per second. Matplotlib, a plotting utility, could be replaced with Unity, a three dimensional game engine, this should drastically reduce rendering time.

Awards Won: