Name(s)

Aaron P. Gallagher

Project Number

S1205

Project Title

The Effect of Threading and Optimization on the Framerate of a Python-Based Partlcle Engine

Abstract

Objectives/Goals

The objective of this project was to test threaded versus non-threaded and optimization techniques in a Python-based particle generator script.

Methods/Materials

This project used python version 2.3.3, TextWrangler, the pygame libraries, and an iBook G3/700. Different versions of a benchmarking script were used to test different optimizations and the use of threading.

Results

Non-threaded with dirty rectangle optimization was tested to produce the fastest benchmark, non-threaded unoptimized the next fastest, threaded with dirty rectangle optimization next fastest, and threaded unoptimized last.

Conclusions/Discussion

The results supported the hypothesis and the objective of the project was reach. These results and the code may be reused to produce quick particle generators for use in games or making aesthetically pleasing graphical patterns.

Summary Statement

This project is about making a Python-based particle engine with the highest framerate possible.

Help Received

George Feineman assisted in the concept and some of the math.

Ap2/05