

Midway Math

Project Postmortem

What is *Midway Math*?

Midway Math is an edutainment game which teaches the player basic addition and subtraction skills. Along with solving math problems, the player is expected to interact with the game world by throwing a ball at a pyramid of crates, with the ultimate goal being to knock them all down to the ground.

How was *Midway Math* developed? How long was the development cycle?

With the exception of the physics and collision detection libraries, Midway Math was developed from scratch in C++ using DirectX 8. A custom written 3D engine was enhanced to support user interface, sound, and physics subsystems among others. A set of game specific objects were derived from existing objects to support the enhanced subsystem created for Midway Math. The game took approximately three and a half weeks of part time development, with an additional two weeks of part time design work.

What I set out to accomplish

In designing and developing Midway Math, I wanted to test the strengths and weaknesses of my existing 3D engine, while at the same time enhancing it for another project. Some initial goals of Midway Math outlined in the Game Treatment document were:

- Two game levels representing popular carnival games
- 2D animations to present a storyline
- Customizable difficulty levels
- Integration of the *Tokamak* physics library
- Education with the *Direct Sound* family of DirectX interface
- A reusable set of C++ classes for developing Direct3D user interfaces
- Education about FPS (first person shooter) camera-style type games

What was actually accomplished

Though I accomplished many of my technical goals, some of the major areas of game play are absent. These are:

- Only one game level; restricted to crate models instead of bottles, as was originally designed
- Lack of story line and cut scene animations
- Limited sound effects with no music
- Lack of feed back and scoring system to save high scores
- Difficulty is preprogrammed, math problems are based solely on C's *rand()* function
- A bug with the physics engine and a design flaw which could potentially never end the game were left in the final code, due to time constraints