

Mr. Dancing Robot Man

Sc. B. Computer Science/Math Capstone Project

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Abstract

Mr. Dancing Robot Man is a dancing simulation created in C++ using OpenGL as a final project for cs123 by myself and Perry Rosenberg '16. In this experience you control an animated robot who dances around a platform, waving his wacky arms and legs around. The simulation supports many rendering features—deferred lighting, shadows, particles, and bloom. It also has a skeletal animation system using inverse kinematics to animate the robot as he runs around the platform. While this was completed as my final project for cs123, it built upon my existing game engine I built with Perry in cs1972 the previous semester. A large part of this project was porting over all of my existing code which was written in old OpenGL to using a modern pipeline. The skeletal animation system with IK was mostly ported over from cs148 (Building Intelligent Robots), where we wrote an IK system in JavaScript. Ultimately, this project was the culmination of a year of hard work, and still images don't capture the funk of the robot.

