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Bellagio Fountain Simulation Abstract

We propose to create a simulation of the Bellagio fountains with small balls instead of water using the FPGA. Music will be input from the microphone jack and used to dynamically create a simulated fountain show. Audio will be processed based on amplitude, frequency, and other characteristics to determine which fountains fire, how high they fire, and what color each ball will be. The balls will interact with each other with realistic physics in a 3-dimensional environment. The balls will then be rendered on screen with a movable camera using raster graphics.