

Live-Action RC Mario Kart™

6.111 Final Project Abstract

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ABSTRACT

Mario Kart 64 is a go-kart style racing video game created by Nintendo in which four players can each control one of eight Mario characters. The characters race in karts around a track, collecting power-ups and maneuvering to win the race. The goal of this project is to bring the classic Nintendo 64 video game to the physical world using a projector and camera, several miniature RC cars, and an FPGA. The FPGA will render an image of a two-dimensional track, which will be projected onto a flat platform from above. The camera, mounted next to the projector, will determine the positions of the cars using IR LEDs as they race around on the platform. This camera data will be passed into the game logic on the FPGA to determine the state of the game and to control the performance of the cars accordingly. Using Nintendo 64 controllers, players will be able to collect power-ups, monitor their progress on the track, and compete with their friends.

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