

Optical Input Targeting Game

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We plan to design a 2-part system consisting of a 2D graphics engine and another module to process an optical input signal from a video camera into a cursor control signal. The graphics system design will use sprites to draw both an arbitrary set of sprites to the screen along with the system's interpretation of the cursor position. The optical input module will be responsible for generating a set of coordinates for the cursor based on the position of a dot of red laser light in the camera image. There will also be a facility to calibrate the translation between the input camera image coordinates and the output graphics cursor coordinates such that the cursor will be drawn directly underneath the dot of laser light on the screen.

Depending on our progress throughout the final project, we hope to include an implementation of a duck-hunt clone as an example of the system functionality.