Rotosplay Technologies

http://www.ece.cmu.edu/~ece549/spring09/team8/index.html

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Motivation

Real time display tables are prohibitively expensive for the average person with a personal computer.

Persistence of vision is an artful effect which has not been used in a real time display. In this project, we explore its potential.

We decided to create a touch screen display which could receive images from a personal computer.

Development Environment

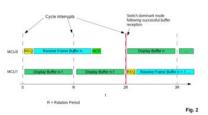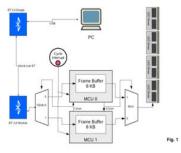525nm Oval 4mm LEDs
Serial LED Drivers

2 MCU ARM Cortex M3s

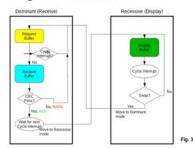Bluetooth UART controller module

AME 12V Blower Motor

Architecture

Fig. 2

Two microprocessors double buffer the image: while one sends data to the LEDs, the other receives data for the next image.

Decision Diagram (per MCU)
Fig. 3

Bluetooth module transmits data between the spinning platter and the host computer.

Fig. 1

Platter is powered by copper brushes rubbing against the spinning shaft.

Persistence of vision creates an image onscreen.

Results

We can display images using persistence of vision.

Power is transmitted through the drive shaft.

A row of 16 LEDs spin on the platter, dispaying images on command.

We created a piece of interactive art rather than a workspace planning tool.