

Communicat

initialization, special lighting, or prior face detection is required. The system has been tested with interactive games and a spelling program. Results demonstrate overall detection accuracy of 95.6% and an average rate of 18 frames per second.

1 Introduction

In recent years, there has been an effort to augment traditional human-computer interfaces like the keyboard and mouse with intelligent interfaces that allow users to interact with the computer more nat

gradient flow fields [11], co



Figure 2: Thresholded difference image prior to erosion (left), and same image after erosion (right). Erosion removes noise caused by insignificant motion in the scene.

Finally, candidate eye ”

4 Hardware

Development and testing of the system was done with a Sony EVI-D30 color video CCD camera, a Matrox Meteor II image capture board, and a 1 GHz dual processor PIII with 256 MB RAM. Testing with people with disabilities was done on a 800 MHz single processor PIII with 128 MB RAM. Grayscale images are processed at 320×240 pixels. When possible, two monitors are helpful but not necessary when running the Blink Link, for this allows one to monitor the status of the eye track

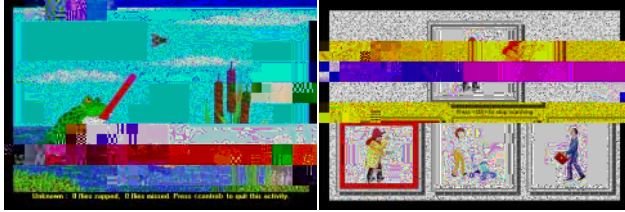


Figure 8: Sample games testing reaction time (left) and visual matchin

demonstra