Abstract

In this paper, we propose an application that is able to scroll the screen with the human face. The eyes are detected and tracked in real-time to use their actions for scrolling events. The basic strategy for detection is fast extraction of the face from the image in front of the screen with a Six-Segmented Rectangular (SSR) filter. In the SSR filter, Between-the-Eyes is selected as a face representative because of its characteristic is common to most people and is easily seen for a wide range of face orientation. After detecting the eyes, the eye movement is used to trigger the scrolling event based on our proposed algorithm. This has practical applications in document readers used on computers, laptops, tablets and smartphones.

**Index Terms**

Computer Science  
Image Processing

**Keywords**

Six-Segmented Rectangular filter  
SSR filter  
face detection  
eye detecting  
眼 tracking  
scrolling  

human-computer interaction