Abstract

This project aims to present an application that is able of replacing the traditional mouse with the human face as a new way to interact with the computer. Facial features (nose tip and eyes) are detected and tracked in real-time to use their actions as mouse events. In our work we were trying to compensate people who have hands disabilities that prevent them from using the mouse by designing an application that uses facial features (nose tip and eyes) to interact with the computer. It can be applied to a wide range of face scales. Our basic strategy for detection is fast extraction of face candidates with a Six-Segmented Rectangular (SSR) filter and face verification by a support vector machine. A motion cue is used in a simple way to avoid picking up false candidates in the background. In face tracking, the patterns of between-the-eyes are tracked with updating template matching.

References

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**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

Six-segmented Rectangular (ssr) Filter