Abstract

The need to enhance communication between humans and computers has been instrumental in determining new communication models, and accordingly new ways of interacting with machines. A vision based Hand Gesture Recognition system can be useful to recognize hand gesture in air, with devices like camera equipped smart phones and cameras connected to computers. The fast improvement of smartphones during the last decade has been predominantly determined by interaction and visualization innovations. Despite the fact that touchscreens have significantly enhanced interaction technology, future smartphone clients will request more natural inputs, for example, free-hand association in 3D space. To extract the features of air gesture we used statistical technique which is Principal Component Analysis (PCA). The recognition approach used in this paper is based on Support Vector Machine
(SVM). Proposed Hand Gesture System is location and orientation invariant. All the processes to recognize the hand gesture are done on the device. This approach can be easily adapted to a real time system.

References

- Jie Song, Gabor Soros, Fabrizio Pece, Sean Ryan Fanello, Shahram Izadi, Cem Keskin, Otmar Hilliges, "In air Gestures Around Unmodified Mobile Devices", UIST'14, October 5–8, 2014, Honolulu, HI, USA.

Index Terms

Computer Science  
Image Processing

Keywords

Hand Gesture Recognition  
Android  
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