Abstract

There has been number of android mobile apps available for clients to solve their daily problems. This paper presents a Motion Gesture based mobile (GESMO) app in Android which allows user to draw gestures in the air resulting opening of a desired app assigned to corresponding gesture. This gesture may be the first letter of an app name which is to be launched. In order to start the motion, user must press and hold any point on the screen until the motion is completed. Once motion completes, it is released. For sensing the motion, we used two built-in sensors from mobile devices: accelerometer and gyroscope. The paper proposes a two-stage approach for spotting and recognition of generated stroke gesture. The spotting stage uses a Support Vector Machine (SVM) to identify data fragments containing one stroke gesture. The recognition stage uses Hidden Markov Models (HMM) to generate the text representation from the motion sensor data. With this technique, you can successfully receive 70-80% accuracy in detecting an air gesture for mobile devices.

References


4. Sandip Agrawal; Ionut constandache; Shravan Gaonkar; Romitroy Choudhuri; Kevin Caves; Frank DeRuyter, “Using Mobile Phones to Write in Air”, MobiSys’s 11, Proceedings of the 9th international conference on Mobile systems, applications, and services , ACM June 28–July 1 2011.

5. Po-Kuan Huang; Tung-Yang Lin; Hsu-Ting Lin; Chi-Hao Wu; Ching-Chun Hsiao; Chao-Kang Liao; Lemmens, P., "Real-time stereo matching for 3D hand gesture recognition," SoC Design Conference (ISOCC), 2012 International , vol., no., pp.29,32, 4-7 Nov. 2012.


Index Terms
Computer Science Communications

Keywords
Motion Sensors, Air Gestures, Support Vector Machine (SVM), Hidden Markov Models (HMM).