ABSTRACT

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Title   : Application of Face Recognition In Home Security System Using Local Binary Pattern Histograms (LBPH) Based Microprocessor System Raspberry Pi

This research discusses about face recognition system which implemented on home security system using Raspberry Pi as data processor and webcam as its sensor. This research uses Local Binary Pattern Histograms (LBPH) method as extraction method. An important process that is taken by Local Binary Pattern Histograms as an extraction method. First camera initialization. Both pre-processing images are done to eliminate noise in the data, clarify the feature image, reduce the size of the data and convert the original data in order to obtain the data in accordance with the needs. Croping, resizing, and image conversion RGB to grayscale is a pre-processing image. From two research experiments conducted between simulation and experiment using Raspberry Pi, obtained the percentage of facial recognition accuracy from simulation of 83.35% and experiments of 72.25% using 10 databases. While at 15 and 20 databases used obtained face recognition accuracy rate of 100%, and 88.9% for 15 databases on raspberry pi. This indicates that the number of databases used greatly affects the level of facial recognition accuracy. The more databases are used, the greater the level of facial recognition accuracy, and the easier it will be for the system to identify faces.

Keywords: Face recognition, Raspberry pi, home security system, Local Binary Pattern Histograms, extraction method

akurasi pengenalan wajah, dan akan semakin memudahkan sistem dalam mengidentifikasi wajah.

Kata Kunci: *Pengenalan wajah, Raspberry Pi, sistem keamanan rumah, Local Binary Pattern Histograms, metode ekstraksi*