Abstract

This research is concerned with the image registration problem as applied to real-time video watermarking. Watermarks embedded in video sequences can be corrupted by linear transformations of the video data. The object of this work is to find a computational efficient algorithm to restore the video sequence using image registration techniques. A survey on both video watermarking and image registration techniques is presented. An approach based on motion vectors is proposed and is found to be successful in restoring the video sequence for any affine transform based distortion. The algorithm is implemented in FPGA hardware targeted for a reconfigurable computing platform called SONIC. It is shown that the algorithm can efficiently restore the video data in real-time.