Algorithms on video analytics for incident detection and classification for retailer industry

Goal of the project:
Design and implementation of new algorithms and techniques for incident and events detection in video sequences from surveillance cameras in retailer industry. Specific goal: detection and classification of non-scan events in conveyor belt till store configuration.

Short description of the project:

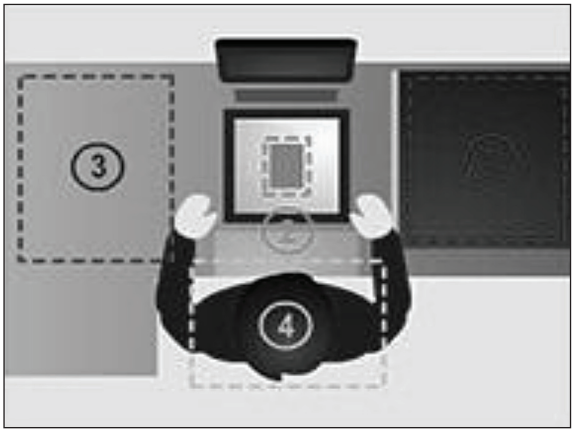

Fig. 1 Conveyor belt till configuration

Retail stores loose significant amount of money due non-scan incidents at POS. These incidents have various causes like human intention (e.g. s sweethearts) of unintended incidents (e.g. scan errors). Therefore huge benefits could be obtained from video analytics software ensuring automatic detection of these types of incidents. During this project we develop some novel algorithms that cover several cases for conveyor belt till configuration (fig. 1).

Project implemented by:
Department of Computer Science, Faculty of Automation and Computer Science

Implementation period:
January 2012- January 2013

Main activities:
Analyses and classification of non-scan POP events for conveyor belt till configuration. Developing techniques for cahier activities detection using specific image processing algorithms as background subtraction and optical flow. Design of algorithms for incident classification and events validation.

Results:
Algorithms for event detection and classification for conveyor belt till configuration in retail industry. These algorithms are used by the contractor in implementation of a novel solution for video analytics in retail industry.

Fields of interest:
Video processing, image processing, event classification.

Financed through/by:
Everseen Ltd., Ireland.

Research team:
Team leader: Assoc. Prof. Dr. Eng. Dan Pescaru PhD Student: Assist. Eng. Ovidiu Parvu, PhD student
Diploma students: Dinu Seres, Caius Muresan

Research centre:
Research Centre for Computers and Information Technology

Applicability and transferability of the results:
Results are used on the market solution provided by Everseen Ltd, Ireland, which own all commercial rights.

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