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Engineering & Consultancy

for

Computer Vision & Image Communication

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Video Ticker Detection and Recognition

General

The video ticker detection and recognition module targets on extraction and recognition of news ticker information, i.e. moving text overlaid to video broadcasts. News tickers contain potential information for video indexing and retrieval, due to their timely alignment to the video information. The ticker detection and recognition module transforms moving text in video back to static text. Text and motion detection algorithms generate a "mosaic" representation of a ticker. These mosaics are processed by a commercial state-of-the-art Optical Character Recognition (OCR) system.

Flexible ticker position

Either the expected position of the ticker is preset to the module or a text detection algorithm (e.g., **Real-time Video Text Detection and Recognition**) determines automatically the ticker position within the video.



Automatic ticker position detection

Motion detection and mosaic generation

Ticker motion is computed automatically by a motion detection algorithm. Resulting information is used to combine ticker parts from successive frames to a "mosaic" containing all text shown in the ticker. Usually, identical ticker text is present in several successive frames, albeit at different positions. Exploitation of temporal redundancies of the ticker information within successive frames reduces noise and possible compression artifacts in case of lossy coded video, improving overall recognition accuracy in the subsequent OCR stage, compared to text recognition applied on single

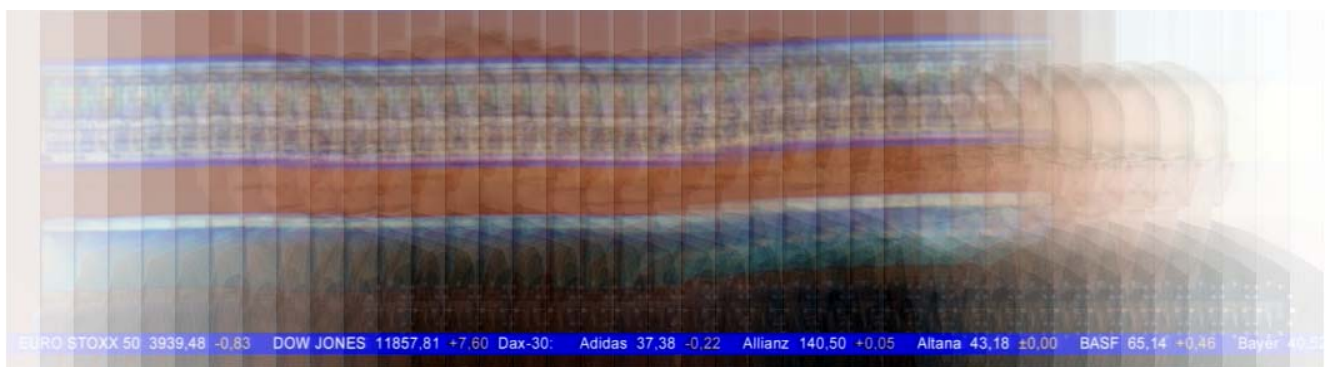


images.

Motion detection on a stock market news ticker

OCR on ticker mosaics

Finally, the combined ticker mosaics are fed into a commercial OCR system provided by a third party vendor. Use of the AXF format integrates **Video Ticker Detection and Recognition** can easily be integrated into existing digital media asset management systems.



Example ticker mosaic, with combined non-text regions added for illustration purpose