
## The Project

The **LASIE** project aims at designing and implementing an **open and expandable framework** that will significantly increase the efficiency of current investigation practices, by providing an automated initial analysis of the vast amounts of heterogeneous forensic data that analysts have to cope with. LASIE will provide a set of tools and processes to support law enforcement agents and investigators or analysts in their everyday work. The proposed system is expected to significantly reduce the required investigation time by utilizing automatic processes for analysing multimedia contents, as well as visual analytics from an inference engine able to highlight otherwise hidden information

In this newsletter we will focus on the explanation of the first use cases of the LASIE project and the promotion of a conference oriented to LASIE objectives which will be held in London in 2015.

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## LASIE has finalised the 3 Use Cases where our technology will be applied. These cases are the following:

**Use Case 1:**

The first use will tackle a very diverse set of situations in day to day police investigations. This use case relates to the identification of criminal offenders using the LASIE system, more specifically functionality related to image processing for detection and identification of criminal offenders.
The use case has been specified after a very exhaustive process and discussions with the users on the project and exploiting the vast experience of The Central Forensic Image Team at Scotland Yard. It emerges from the fact that image processing aided investigations are mostly interested in identifying and matching distinctive regions or patterns across frames of security camera video sequences, such as from closed-circuit television (CCTV).
LASIE will accurately identify the same regions or patterns of interest in a large set of images a videos. Patterns of interest include colour regions, tattoos, logos and any other distinctive feature that appear in a given anchor image used for the investigation. This will lead to identify offenders across a large scale number of videos from different footage (e.g. local authority footage, police cameras, crime scenario cameras, public houses, social media, TV news, etc.)
The use case will cover 3 scenarios: first scenario relates to criminal offences conducted in the context of riots, the second relates to the terrorist attack and the third scenario to a crowd disaster.

**Use Case 2:**

One of the responsibilities that police from many different cities and countries take is focused on the investigation of accidents that has occurred at a workplace, such as at a construction site. This is a wide set of cases where LASIE project aims to offer all necessary technologies and tools to fully exploit available evidence data in view of their presentation in a solid manner to the court.

This set of technologies and tools are provided by the LASIE project, analysing previous accident cases data from heterogeneous sources, in addition to data collected from the current case, that lead to development of theories about how the accident happened such as criminal responsibility, lack of safety measures, ...

Concerning an accident at workplace scenario, LASIE project aims to serve mainly the following needs:

- 3D reconstruction of the site based on image, video and depth map captures (helpful for obtaining a better understanding of the circumstances)
- handwritten/calligraphic documents analysis, checking the authenticity of signatures and papers (this effort if done manually could take a great amount of time)
- full analysis of previous cases feedback that leads to extraction of rules and recommendations proposing investigation guidelines.

As a result from this analysis, LASIE project will provide an evidence data exporting tool, easing the storage of the overall investigation process output and make it available in a suitable manner as to be presented to the court.

**Use Case 3:**

The third use case deals with the investigation of a missing person: a man, a woman or a child who has disappeared and whose status as alive or dead cannot be confirmed. For the investigation, a variety of information is at the disposal of the police including web-resources and a variety of other information. LASIE will provide all the available tools for analysing all communications; thus, revealing the identity of the criminals and presenting the collected evidence in court or locating the missing person.

The use case has been specified taking into account that there are a lot of possible variations and particularities related to the disappearance of a person. Therefore, working hand-in-hand with the metropolitan police of London and Madrid, a huge number of requirements have been gathered to create a complete use case.

LASIE system will support the research of investigators, who will exploit large amount of data to solve the case:

- Confronting each an audio recording to many hours of audio data from various sources/quality (mobile calls, audio/video posts, CCTV recordings).
- Examining a huge amount of blog/social networks posts, SMS and text messages which content will have to be cross-correlated to extract relevant information.
- Examining numerous pages of background information (articles from newspapers, investigations reports, witness reports) to understand the background of a specific situation.

A great amount of technological challenges should be achieved to reach the goals of the use case.

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## Conference announcement

Announcement of the sponsoring and participation at ICDP 2015, 6th International Conference on Imaging for Crime Prevention and Detection which will be held 15-17 July 2015, in Queen Mary University London, UK.

This conference follows the successful IDSS (Intelligent Distributed Surveillance Systems) events held in 2003 and 2004 and ICDP 2005, 2006, 2009, 2011 and 2013, to bring together researchers, industry, end-users, law-enforcing agencies and citizens groups to share experiences and explore areas where additional research, development and better working practices are needed, identify possible collaboration and consider the societal impact of such technologies.

The 6th International Conference on Imaging for Crime Detection and Prevention (ICDP-15) aims to create an important networking forum in which participants can discuss the present and future of image-based technologies for crime detection and prevention.

The deadline for the call for papers is 15th April 2015.

More information on www.icdp-conf.org

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