In 1968, Andy Warhol said “In the future, everyone will be world-famous for 15 minutes.” Well, that future has come because now everyone can be a worldwide celebrity as a consequence of generation me meeting digital multimedia technology. Today, there are numerous online sites and services that can turn your pictures into fun, shared content or even works of art. We’ve long been able to use our own pictures to create photo albums, calendars, stationary, or even t-shirts and coffee mugs. But technology is now enabling much more.

Many personal photo-management tools and sites provide the ability to automatically create rich content, such as movies and collages, from your photos. For example, Google Picasa (see http://picasa.google.com/) can create mosaics from your photos, and it gives you the ability to select only certain pictures or use only selected automatically recognized faces. Similarly, Apple iPhoto (see http://www.apple.com/ilife/iphoto/) and Windows Live Movie Maker (see http://explore.live.com/windows-live-movie-maker) can turn your photos into slide shows and movies with special effects, transitions, and sound. Photo-tagging is also becoming a critical linking mechanism within social networks. For example, Facebook allows its users to tag your appearance in uploaded photos, and notifications are then automatically broadcast within your social network of friends and family when you are tagged.

One of the fun sites that appeared during the holidays is Elf Yourself from Jib Jab (see http://elfyourself.jibjab.com/). The service allows you to upload a photo of your face onto the dancing body of an elf to create an animation that can be shared. The service is not too advanced in its use of automatic face detection to crop and place persons within the animations. Instead, it relies on a few simple editing tools. But it’s easy enough to use and the results are very entertaining.

The use of multimedia technology in the creative arts is growing. Multimedia artists typically use computers to create visual images for advertising, movies, television programs, video, computer games, or other electronic media. With the increasing reliance on artists to create digital or multimedia artwork, the US Labor Department expects the number of people working in multimedia arts to rise by 14 percent between 2008 and 2018, which will be the main driver of growth in the arts profession (see http://www.bls.gov/oco/ocos092.htm).

Much of this new growth in multimedia arts will come from exploiting increasingly advanced technologies for analysis and synthesis of multimedia content. Automatic face detection and recognition will find more regular use. Similarly, automatic recognition and extraction of human objects will make it easier to create new content from images extracted from photos and videos. In addition, tools and techniques for synthesis of multimedia content will improve as content analysis gets better. For example, once human objects are extracted from pictures or video, they could be registered to a human body model, then the model could be animated automatically. This would then give the ability to create new content based on high-level descriptions such as “take my picture from last week’s holiday and create a new movie of me disco-dancing.”

Eventually, these advanced capabilities will be a reality. The only question is whose face is going to be the one dancing all the way to the bank.

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With the proliferation of multimedia data on the Web, surveillance cameras in cities, and mobile phones in everyday life, we see an enormous growth in multimedia data that needs to be secured to prevent illegal use, to be analyzed by forensic investigators to detect and reconstruct illegal activities, or to be used as a source of intelligence. The sheer volume of such datasets makes manual inspection of all data impossible. Tools are needed to support investigators in their quest for relevant clues and evidence and in their efforts toward preventing crime. Such tools could support the protection, management, processing, interpretation, and visualization of multimedia data in the different steps of the investigation process.

In recent years, the multimedia community has developed new exciting solutions for managing large collections of video footage, images, audio, and other multimedia content; extracting and categorizing knowledge; recognizing patterns; indexing and retrieving information; and modeling data in various domains. Due to the inherent uncertainty and complexity of the data appearing in criminal cases, applying these techniques is not straightforward. The time is ripe, however, to tailor these techniques for forensics, security and intelligence.

The target group of contributors for this special issue is composed of researchers working on innovative multimedia technology and companies developing tools used in forensics, security, and intelligence. This special issue is designed to bring the synergy needed to develop new and effective solutions to improve all aspects of crime prevention and investigation.

Topics for this special issue include, but are not limited to, the following:

Forensics
- Forgery detection and identification, detection of stenography
- Device characterization and identification
- Media forensic applications and attack analysis
- Crime scene reconstruction and annotation
- Forensic investigation of surveillance data, video analytics
- Multimodal analysis of surveillance data
- Multimodal analysis of biometric traces
- Authenticity of multimedia data

Security
- Digital/encrypted domain watermarking for multimedia
- Signal processing in the encrypted domain
- Multimedia content protection and violation detection
- Digital rights management
- Robust hashing and content fingerprinting
- Cryptography for content protection

Intelligence
- Searching for illicit content in multimedia data
- Image, video, and text linking
- Multimedia near duplicate detection and retrieval
- Multimedia interfaces, visual analytics
- Identity detection
- Scalable multimedia search

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Submission Procedures and Guidelines
Submit your paper at https://mc.manuscriptcentral.com/cs-ieee. When uploading your paper, please select the appropriate special issue title under the category “Manuscript Type.” If you have any questions regarding the submission system, please contact Andy Morton at mm-ma@computer.org. All submissions will undergo a blind peer review by at least two expert reviewers to ensure a high standard of quality. Referees will consider originality, significance, technical soundness, clarity of exposition, and relevance to the special issue topics. All submissions must contain original, previously unpublished research or engineering work. Papers must stay within the following limits: 6,500 words maximum, 12 total combined figures and tables with each figure counting as 200 words toward the total word count, and 18 references.

Submission Deadlines:
- 15 April 2011: Full paper must be submitted using online manuscript submission service and prepared according to our instructions (Author Resources: http://www.computer.org/multimedia/authors.htm).
- 1 July 2011: Notification of acceptance, rejection, or revisions.
- 3 October 2011: Final versions due.