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3D taken for granted

Interestingly we have seen many recent claims recently about products on the market with a 3D or even 4D capability. This sophisticated sounding term essentially means that the product can handle perspective (the fourth dimension is time). Often this involves using 2 cameras. Almost 8 years ago iOmniscient pioneered the technique of understanding perspective within a 2D video image. This ability to handle perspective with a **SINGLE CAMERA** is available in all IQ products. We don't make a big noise about it as it is one of the simpler aspects of our system which is capable of far more complex and sophisticated analysis.

Winner - Engineers Australia Award – 2010

Adding to its long list of International Awards, iOmniscient has won the nationwide Engineers Australia Prize.

The Prize was awarded for its implementation of the Safety System on the China Fast Train project.



iOmniscient appoints ClearView in the UK



ClearView Communications is a leading integrator of high-end security equipment and systems. Based in Chelmsford, Essex in the UK, they design, install and support systems around the world. Clearview has many large customers. In the UK these include Police, Government, Oil & Gas, Education and many large commercial organizations.

After extensive evaluation Clearview has decided to standardise on iOmniscient products and will be exhibiting them at both HOSDB and IFSEC.

See us at
Intersec Trade Fair and Conference
16th- 18th January, 2011
Dubai, UAE

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Newsletter

India's Durga Puja protected by iOmniscient



Every year millions of devotees congregate in different parts of India in what is one of their most colourful festivals. The primary requirement in such an environment is managing crowds. Security officials need to understand if criminal elements have infiltrated the crowd, if suspicious objects have been abandoned in crowded places and how many people there are at a location at any time.

In 2010 iOmniscient's comprehensive video analytics system which combines detection and identification capabilities was used to provide security at the Durga Puja. iOmniscient's system was used as no other supplier can cope with Crowded Scenes.

Understanding Facial Recognition

As the first Facial Recognition systems for Crowded Places begin to get deployed in the market by iOmniscient we have found a growing tendency from competitors to try and obfuscate the differences that exist between traditional Face Recognition and iOmniscient's Face Recognition in a Crowd. Here we will explain at a very high level, some of the key differences.

Traditional Facial Recognition Systems	Facial Recognition in a Crowd
<ul style="list-style-type: none"> Used for Access Control. Usually involves One to One or One to Many Recognitions. 	<ul style="list-style-type: none"> Used for Surveillance. The person to be identified may not be aware that his face is being recognised. Many people may be walking in the scene and all of them can be recognized as they approach.
<ul style="list-style-type: none"> The person to be identified must be co-operative and his picture must be taken close-up with hi-res (eg megapixel) camera. The resolution must provide at least 90 pixels between the eyes to achieve reasonable accuracy and up to 300 pixels for very high accuracy. The accuracy degrades very quickly with lower resolutions. 	<ul style="list-style-type: none"> The image may be taken from a distance using standard security cameras that provide an image with an average of 22 pixels between the eyes. The accuracy will not deteriorate calamitously as the resolution falls even to 12 pixels between the eyes.
<ul style="list-style-type: none"> The images in the database used for comparison must be in high resolution and taken in a controlled environment. 	<ul style="list-style-type: none"> The images in the database may also have a resolution that only provides an average of 22 pixels between the eyes.
<ul style="list-style-type: none"> While accuracies in the high nineties are possible alternative technologies such as finger print or iris recognition can usually provide higher accuracies where the person is required to be co-operative. If Face Recognition in this environment can provide 99% accuracy and the alternatives provide 99.9% which would you choose? 	<ul style="list-style-type: none"> There are no alternative technologies for recognising people in a crowd. To be useful the system has to out-perform a human attempting to do the recognition.

Choosing the Right Solution at the Edge



There has been an ongoing discussion on whether an Edge Solution is better than a Centralised one. iOmniscient continues to provide its solutions both on Edge devices (in a distributed/decentralised environment) and on servers in a Centralised environment. Both architectures are useful depending on the application and the environment.

In the past the various Edge devices (which are cameras or encoders usually with a TI chip in them) have only been powerful enough to run the very low end, simple algorithms. These iOmniscient Edge solutions were still superior to those available from the various hardware suppliers who provide Edge devices (because video analytics is not their core business – they have attempted to include, with minimal effort, some basic capabilities to show the market that they can also have some limited intelligence).

All iOmniscient software is now available on a new Super Edge device. These devices have the power to run all of iOmniscient's detection software (and the more powerful devices can run up to 4 cameras). iOmniscient's comprehensive offerings are also always armed with NAMS (Nuisance Alarm Minimisation System) which helps to reduce false alarms. These superior capabilities cannot be accommodated on the less powerful TI chips that are associated with Edge devices.

The much more powerful Super Edge devices which use an Intel chip also provide a significant amount of local storage.

EDGE DEVICE	SUPER EDGE DEVICES
Based on TI chip	Based on Intel's latest chip-set
Can run low end video analytics eg intrusion detection and simple behaviours	Can run all iOmniscient products including patented technologies like Object Detection in a crowd and IQ Hawk which enables Detection and Identification (eg Facial Recognition) on a single camera
Can only cope with simple scene and stable lighting environment	Can Incorporate Advanced NAMS (Nuisance Alarm Minimization System) and operate with variable lighting
Works for indoors only. It cannot work reliably outdoors	Very reliable indoors and outdoors.
Higher cost per channel	Lower cost per channel
Can run one or at most two cameras	Can handle up to 4 cameras
No storage (or very limited storage)	Sufficient storage for effective redundancy
Limited to ONE camera type/Model/supplier at a time	Each Super Edge can support multiple camera types/models/suppliers simultaneously

Over the past year our sales of Super Edge devices have significantly surpassed sales of Edge devices.

See Through the Crowd