



Background information for Media

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WHAT'S WRONG WITH CURRENT SEARCH METHODS?

A recent survey* published in December 2010 showed that the number of worldwide internet users in 2010 reached 1.97 billion with the total number of web sites now exceeding 255 million. The growth rate in web sites is also expected to continue at rate of more than 21 million new sites a year, each site rich in image content. More astounding, is the growth of images in social networks with images being uploaded to Facebook for example at the rate of more than 3 billion images A MONTH.

The problem then, is simply that traditional text-based search systems are not going to provide businesses going forward with a cost effective way to manage high volumes of images and will not provide users with an effective way to find and then use images. Just think of a specific image and see how long it takes you to find it (if you can) via current search or commercial picture library sites. This problem gets even worse when you want to find a picture of a specific individual. (*Report published by pingdom.com DEC 2010)

WHO IS IMPREZZEO?

Imprezzeo is a visual search technology company. Imprezzeo Image Suite provides an enterprise level solution that complements existing search systems, making it easier and faster for users to find the images they need. Our patented technology provides developer tools to enable rapid integration of visual similarity search and facial recognition functionality into existing search and content management systems.

Our clients are commercial picture libraries, digital asset management software vendors, systems integrators and outsourcers who in turn serve the social networking, publishing, creative, government and security market sectors.

Imprezzeo is collaboration between Independent News & Media, the University of Queensland and the University of Wollongong. Imprezzeo was launched in October 2008 and has offices in London and Sydney.

WHAT DOES IMPREZZEO DO?

Imprezzeo Image Suite provides users with quicker, more relevant image search results by using images to search for images, rather than text. The Imprezzeo software is based on proprietary content-based image retrieval

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(CBIR) and facial recognition technologies and generates far better results because it identifies images that closely match a sample set of single or multiple reference images – unlike keyword-based searches that often return many unrelated images.

HOW IS IMPREZZEO IMAGE SUITE DIFFERENT FROM OTHER IMAGE-BASED SEARCH SOLUTIONS ?

- It is the only solution that combines CBIR and facial recognition techniques. This innovative fusion of two different technologies means that Imprezzeo can provide additional face detection and face recognition features that are unique in image search, allowing users to conduct accurate searches for images with people in them, or images with specific persons;
- It allows the user to select one or more pictures as sample images;
- It can scale to work across image collections ranging from the thousands to the many millions – with no adverse impact on processing speeds;
- The user can continually refine their result set by selecting further sample images;
- It features the Imprezzeo Workbench that allows developers and users to tune parameters so enhancing performance with a specific collection;
- It looks not only at colour information in any image but a much broader set of parameters.

HOW DOES IT WORK?

CBIR works by analyzing the actual contents and attributes of the sample set, including the color definitions, spatial layout, shapes, texture and facial information. Once the image has been analyzed, the contents will be used to search for any matching images stored in a given database. The robust Imprezzeo technology is built on Java and C++ and has been designed to integrate quickly and easily with all existing IT systems and image libraries.

Currently, when a user searches a collection of images for a particular image, they are often presented with an unmanageable number of pages to trawl through in order to find the right picture. This is because the collections they are searching are often very large, the key wording imprecise and user search terms 'simple'. Using Imprezzeo, the user can refine an initial results set by

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selecting a sample set that resembles what they are looking for. Alternatively, the user can upload their own sample set using images from their own collection. Either way, Imprezeeo analyzes the actual content of the sample set and retrieves images that look like those within it.

HOW CAN IT BE USED?

Imprezeeo's technology can be used in any number of different applications. The primary application is image search – searching for images held in an online digital photo library, an internally-used digital collection, an online photo-sharing site or an internet search engine.

WHY DO TEXT BASED SEARCH ENGINES NOT HANDLE IMAGES WELL?

- Images are very subjective. Two people might interpret two very different things from an image and could subsequently label the image differently. If an image is mislabelled or the keyword terms are ambiguous, the search engine will often return irrelevant results
- Tagging guidelines change regularly and are different for each company, which leads to inconsistency and potentially a negative experience for the end user
- Keyword-based approaches to search presume users have a clear idea of what they're looking for and are able to articulate that in their search terms
- Keyword-based approaches to search are costly to maintain. So much so that for most image libraries it's not economical to tag all material, which results in missed revenue opportunities.

BENEFITS TO CUSTOMERS

Imprezeeo delivers tangible benefits as an enhancement to a traditional search application. For end users, it conducts a quicker and more accurate image search. From a commercial perspective, the vastly improved search facility afforded by Imprezeeo means that companies can increase sales from existing and future images because they can present the most relevant range of pictures to customers. And because all of the images returned are relevant to the search, the customer is far less likely to be dissatisfied and drop off the site, and instead will be more inclined to make return visits and purchases

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from the site. For digital asset management software vendors they can improve their functionality and help their customers make better use of their image libraries.

There are also potential cost savings in reducing the reliance on keywords. Most large image collections rely on images to be richly tagged so that they might be returned when one or more of those keywords feature in the user's search terms. This is a costly, labor-intensive and inexact process. By letting the user provide examples of what they are looking for, the extent and accuracy of key wording becomes much less of an issue, resulting in a significant reduction in the cost of image processing.

Using Imprezzeo as an image detection application can also help organizations generate additional revenue by ensuring that all copyrighted images used online are duly paid for.

WILL EXISTING SEARCH SOFTWARE NEED TO BE UPGRADED OR REPLACED?

No, Imprezzeo is a complementary solution that integrates seamlessly with existing search technologies, and even allows businesses to continue using their existing user interfaces.

Crucially, end users search in exactly the same way that they're accustomed to – they simply select a sample set that looks like the images they require, rather than having to specify more and more text descriptions.

Imprezzeo easily integrates with most digital asset management (DAM) and content management systems, while maintaining existing search tools and user interfaces. Specifically, Imprezzeo supports SOAP (Simple Object Access Protocol) web interfaces, which allow Imprezzeo core processes to be exposed as web services; thereby reducing the cost and complexity of content or application sharing.

BUSINESS BENEFITS

- Reduces wasted time searching for images;
- Improves user experience, by making it easier to find the desired image;
- Finds 'lost' images that have been poorly key worded so improving utilization;

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- Identifies the same or very similar images in real time that are already 'owned' and suggests these to users thus avoiding unnecessary spend;
- Removes duplicates, therefore improving IT utilisation i.e. storage, processing;
- Reduced risk and reduced cost of non-compliance with image rights.

WEB SITE

WWW.IMPRESZEO.COM