Expressing Visual Queries –
What are the Major Challenges?

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Abstract

Research within the field of Content Based Image Retrieval have shown that it is possible to perform image retrieval tasks based on visual queries and feature based similarity searches. However, the techniques for indexing and retrieving images are still not capable of retrieving higher levels of semantic content. Nevertheless, the expressive power of visual queries in terms of describing visual content might provide end users with a powerful tool for multimedia retrieval. This becomes increasingly interesting considering with the recent advances in community based indexing techniques, such as the *ESP game* (von Ahn and Dabbish 2004) and the *Peekabom* system (von Ahn, Ruoran and Blum 2006).

A user-centred approach has been used to evaluate the major challenges facing users expressing visual queries. 21 participants were given a set of image retrieval tasks and asked to perform them in an image retrieval system based on visual queries. Three major challenges were identified: lack of drawing skills, the time required to express a visual query, and difficulties expressing complex content. Each of these have been evaluated through interviews, questionnaires, video analysis and analysis of images based on image modality (Kress and van Leeuwen 2006).

The intention is to use these results to improve user support in the task of formulating visual queries, as well as improving the retrieval system's ability to interpret and process visual queries.

References

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