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Users' Image Seeking Behaviour in Multilingual Environments: a FlickLing Case Study

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The increasing amount of information accessible on the Web in various languages and the rapid growth of non-English native speaking users demonstrate a need for developing systems in Organizations, Libraries, Archives for supporting Cross Language Information Retrieval (CLIR) and Access (CLIA). A variety of different techniques in implementing and organizing different linguistic resources and succeeding better retrieved results have been tested and cross-evaluated. All these efforts aimed to provide the best possible system for the average web user to search and retrieve the desired information regardless of the language written. In this process, little attention has been given to user interaction and behaviour with these systems which are considered to be essential if we are to develop CLIR systems that support effective search behaviour and performance.

This study aims to explore the image seeking strategies that users employed to search for known, non-annotated images across-languages in FlickLing, a multilingual search interface designed by Cross Language Evaluation Forum (CLEF) organizers. The task assigned to users was to search for the first three given images without knowing in which of the six languages (English, German, Dutch, Spanish, French, Italian) the images were described. The main focus of our study was to identify the characteristics of our users' search strategies when searching and retrieving images across languages.

In this context, this study employed four different methods, both quantitative and qualitative. In particular, a questionnaire was adopted to identify users' previous experience in searching on the Web for images across languages. In addition, observation was used to note users' specific actions and form questions focusing on why users were adopting the specific strategies. Furthermore, retrospective thinking aloud was used to derive findings entirely on users' thoughts, comments and search behaviours rather than depending on data gathered through only quantitative methods and facilitator's observations, interpretations and questions asked. Finally, semi-structured interviews were adopted to clarify specific actions of the user's image seeking behaviour during the search session and user's expressions describing what he/she was doing.

Results show that six out of ten users employed typical IR search strategies aiming to retrieve known, non annotated images across languages. These users were aiming to retrieve the image by identifying the setting of the image and the objects seen in there and extract the right keywords without thinking about languages. The rest four users recognized the importance of language when searching in a multilingual environment. The remaining four users recognized the importance of language when searching in a multilingual environment. As a consequence, they identified the language by paying attention to small details, such as a piece of writing, the colour usage, and the pictured landmark.

The value of this study in employing a combination of qualitative and quantitative methods lies in the insights that can be obtained into the users' search behaviours. Drawing on the experience and the findings of this preliminary study, further research based on qualitative and quantitative methods is intended to help inform the design of a CLIR system which will support the user in searching large multilingual collections.

Keywords: Multilingual Information Retrieval, User Image Seeking Behaviour, Multilingual Interfaces, Qualitative/ Quantitative Methods