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CQE: A Collaborative Querying Environment

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1. The Collaborative Querying Environment

Collaborative querying seeks to help users formulate queries by sharing expert knowledge or other users' search experiences. In our previous work, a Query Graph Visualizer (QGV) was developed for collaborative querying [2, 3]. In this paper, we report a collaborative querying environment (CQE) developed by incorporating the QGV into the existing OPAC system at Nanyang Technological University (NTU), Singapore. Figure 1 shows the CQE. The system shows recommended queries next to the search results list. Users can click on the recommended queries to carry out further rounds of searches. Further, users can trigger the QGV to explore the relationship between the recommended queries. More information on the QGV can be found in [2].

A pilot user study was conducted on our CQE to assess its usefulness and usability. Sixteen students from NTU participated in this evaluation. We created two categories of tasks: clearly specified tasks and unclearly specified tasks [1]. Each category contained two tasks. The 16 participants were randomly divided into four groups of four participants each. Groups A and B used the CQE to complete the clearly specified and the unclearly specified tasks respectively. Participants in Groups C and D used NTU's existing OPAC system to complete the clearly specified and the unclearly specified tasks respectively. The time taken to accomplish the tasks

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successfully was recorded and used to measure the usefulness of the CQE. At the end of the evaluation, all participants were asked to complete a preference questionnaire on the CQE. We adopted Nielsen's heuristic evaluation approach to assess the usability of the system.

Figure 1. The Collaborative Querying Environment

Table 1 shows the average time needed for each group to finish the tasks. Compared with Group D, participants in Group B exhibited a major reduction in terms of average time to complete the unclearly specified tasks. On the other hand, there is no noticeable difference between Groups A and C in the time required to complete the clearly specified tasks accurately. As for usability, the CQE satisfies most of Nielsen's 10 heuristics according to our participants.

	Group A	Group B	Group C	Group D
Average Time	3 min	12.5 min	3 min	22 min

Table 1. Average Task Completion Time for Each Group

2. References:

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