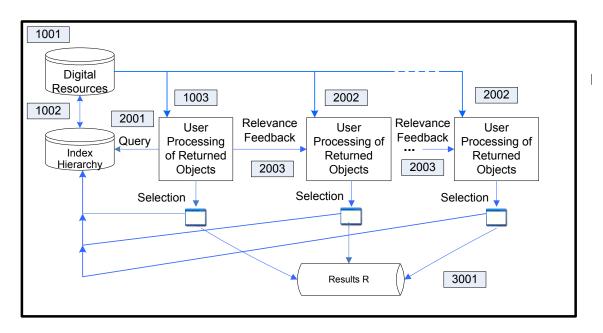
US Patent entitled "Digital Resources Searching and Mining Through Collaborative Judgment and Dynamic Index Evolution" (US Patent No. 8,489,571) by Professors Clement Leung and Jiming Liu

Search engines have become an integral part of our lives. However, while these engines are highly competent in the search of text-based information, their performance quickly deteriorates when dealing with multimedia objects such as images, music, and videos. The basic problem is because the contents of these objects are not directly extractable through automatic computer algorithms, so that the computer would not "know" what are actually in those objects. What is invented in this patent is a method of a search engine which utilizes collective intelligence, evaluation, and judgment, including web intelligence, to create and adapt the content of a generalized index hierarchy for such digital resources to be searched and discovered. The method focuses on the indexing of semantic contents and/or pragmatic characteristics of diverse types of digital resources, and by tracking and analyzing the searching pattern of users, the search index can be created, tuned, improved and optimized.



One example of the outworking of the method is illustrated in the above Figure. Here, the system includes a repository (1001) of digital resources, which may consist of one or many types of multimedia objects. The objects are indexed by an index hierarchy (1002). For community search (2001), search queries are issued by the users (2002). These queries are processed by a module (3003), which makes use of the index hierarchy to locate the objects of interest. The results of queries (3001) will be returned and displayed or appropriately played through a user interface. Depending on the users' perception and judgment, objects among the returned result which users consider of interest will be selected and browsed or processed for obtaining further results as appropriate. Such iterative activities of relevance feedback will be tracked, which will be used to update the index hierarchy through a robust scoring mechanism. Over time, through such a dynamic index evolution, information relevant to the interest of the community will be incorporated into the index. The invention can be applied to databases, web searching, personal search, community search, broad-based or vertical search engines for internet, intranet, extranet or other usages.