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8

Storage and Access to Information

8.1

Introduction

In previous chapters, namely Chapters 6 and 7, we discussed the process of translating documents and queries into IRL. When dealing with the process of information retrieval, we noted, in particular, that obtained document profiles and query formulations (constructed through indexing) made feasible both the comparison and subsequent selection of the documents the user needs. We will now consider how it could be implemented in practice.

First, it should be noted that at present there are no unresolved theoretical or practical problems that could prevent realization of the given operations, and their implementation does not pose any serious challenge. It is precisely the processes of comparison and selection that were automated as early as the late 1950s. For a long time they remained the only automated processes, both in the functioning and experimental IR systems. Moreover, automation of a search process, that is, of the comparison and selection of the information, is what gave rise to the automated IR system (and the term itself!), or simply IR system. This is why this chapter deals with commonly known and practical technical methods and approaches used in information retrieval rather than with methods of resolving any problems confronting the information retrieval process. We mean those technical methods and approaches that are widely applied (available) within the framework of computer science. Notice that these methods and approaches were not created specially for the IR system (and, as a rule, not by creators of such systems). They were actually devised for solving a series of practical problems having to do with diverse areas of human activity; that is, they were devised for a whole class of different applications. In this sense it could be said that a number of computer science methods proved useful in developing IR systems in general and the information retrieval process (i.e., an IR system structure element such as BSR [block of storage and retrieval], see Figure 4.8) in particular. Because this chapter presents the main approaches to the realization of the system's element BSR, it will also give insight into the BSR design.