

their search and who desire to obtain an output with no more than  $k$  documents (with rather small  $k$  values). The steps for this strategy follow:

- Step 1.* Obtain the user's search request in natural language.
- Step 2.* Construct a query formulation using the algorithm among those available that is most "concerned" with the attainment of high precision (maybe by reducing recall level).
- Step 3.* Conduct the search in the collection of documents.
- Step 4.* If more than  $k$  documents are found, rank them using the ranking algorithm; otherwise display these documents as an output.
- Step 5.* Display the first  $k$  documents from the ranked document list.

The second search strategy is oriented toward users who prefer an "optimal" search. Its steps are as follows:

- Step 1.* Obtain the user's search request in natural language.
- Step 2.* Construct a query formulation using the algorithm, as in the first strategy.
- Step 3.* Conduct search in the collection of documents.
- Step 4.* If fewer than five documents are found, display them (as a part of the output); otherwise rank these documents.
- Step 5.* Display the first five documents from the ranked document list (as a part of the output).
- Step 6.* Obtain from the user evaluations of the documents offered by the system.
- Step 7.* Construct query formulations using all available algorithms on the basis of the search request, documents viewed by the user, and their evaluations.
- Step 8.* Conduct the search in a representative subcollection of the collection of documents using all constructed query formulations.
- Step 9.* Display all documents found during Step 8 (as the next portion of output) without repeating any of the documents and without including the documents previously evaluated by the user.
- Step 10.* Obtain from the user the evaluations of the documents offered.
- Step 11.* On the basis of the obtained evaluations, select the "best" document search variant (query formulation) using a corresponding mechanism.
- Step 12.* Conduct the search in the remaining part of the collection of documents (without representative subcollections) using the selected query formulation.
- Step 13.* Display newly found documents (those not previously viewed by the user) as a final portion of output.

Note that the algorithms available in the information retrieval system are used as components of search strategies.

Which search strategy will be used is determined by the retrieval service interacting with the user. Perhaps this is the only "content" task of document search being solved by the retrieval service in our example. Its other tasks have a technological nature (e.g., retrospective database support).

From the preceding example it follows that in realization of a specific search strategy (for the purpose of executing a document search), one or several document search variants are used. These variants are governed by corresponding creation schemes, and practically only a limited number of such schemes may be used. Therefore, in realizing search strategies it is often necessary to choose one over the other. The main mechanism for solving this problem is the evaluation of the schemes, that is, the need for evaluating creation schemes of a document search variant actually arises in connection with the realization of search strategies.

Realizations of procedures involved in the creation scheme of a document search variant may be either algorithmic or nonalgorithmic. When a creation scheme of a document search variant is realized algorithmically, it constitutes an analogue of the retrieval system (as believed by Lakhuti) from the standpoint of approaches used to evaluate the given objects. It should be noted that many propositions underlying the algorithmic realizations of procedures are formulated with the help of various parameters, which clearly become the parameters of such realizations. Therefore, prior to applying given realizations in practice it is necessary to specify values for the parameters involved. It is important to stress that each new set of parameter values should be considered as the one defining a new creation scheme of a document search variant.

We next come to a case where a creation scheme of a document search variant is realized nonalgorithmically. In this situation, the approach used for the evaluation of the object under discussion differs from the approach used for the evaluation of the retrieval system and is rather similar to the approach used for the evaluation of the retrieval service. The evaluation for the case considered may be simplified by accepting the following assumption: If the techniques available in a particular creation scheme of a document search variant are realized for a certain set of search requests by the same person, then it may be considered that the same creation scheme was used for any of these search requests. In our opinion, such an assumption is not too strong.

Finally, completing the discussion of the "evaluation expediency" problem of macroevaluated objects, we turn our attention to another type of these objects, pointing out that their evaluation may be even more important than the evaluation of other objects. The objects we have in mind are realizations of the procedures used for creating document profiles, for example, procedures for normalizing words of natural language. The importance of evaluating these realizations is based on the following. It is well known that in performing a search through a set of documents, only one set of document profiles is constructed due to the difficulty of creating and supporting several similar sets simultane-