The Master's thesis is focused on the Polythematic Structured Subject Heading System, an indexing language created at the State Technical Library and used for document indexing and retrieval both in this library and in other institutions. The objective of the thesis is to evaluate the history of the subject heading system and suggest ways how it can be further developed. First of all the history of the subject heading system is described, both in the context of indexing and classification of documents in the State Technical Library and trends in knowledge organization in general. Then the current situation of the system is analyzed both from the formal and factual point of view. Tools used for the maintenance and presentation of the system are highlighted. The thesis also includes the description of relevant processes and suggests ways how to optimize the processes. Updating, maintenance and marketing are especially emphasized. The possibilities to use modern information and communication technologies for the further development of the subject heading system are described in detail. Authority files, markup languages and on-line library catalogues are included in the analysis. A draft of a new development policy for the system and new maintenance and indexing rules are also part of the thesis.