Project Xanadu is a complex hypertext system, a predecessor of the World Wide Web, which has not been implemented in its full potential. The goal of the thesis is to describe features of Xanadu and to critically evaluate implementation options of these features in the current Web with benefits and limitations of this approach. The thesis introduces a historical context of hypertext systems and analyzes Project Xanadu from two viewpoints: as a set of abstract designs and as a series of software prototypes. The thesis defines main features and goals of Xanadu and recontextualizes them for the current Web using new web standards and technologies. Based on the proposed solutions a new design is conceived which implements features of Xanadu in the context of the Web.