This diploma thesis deals with the topic of multimedia learning objects and authoring systems for its design. In the form of a qualitative survey the paper discovers the most frequent practice teachers' requirements for these objects and systems. Subsequently, the paper carries out theoretical analysis of commonly available authoring systems for multimedia learning object creation and performs their evaluation from the point of view of the identified requirements. After that, the thesis notes that there is no authoring system available on the market that would adequately meet the requirements identified. Therefore, the paper works on the design and realization of such a system. Finally, the designed and implemented system is deployed in a real educational environment and its contribution to the teacher's work is validated by accomplished action research.