Diploma thesis "Serious games and their possible use in teaching and learning" describes the so-called "serious games" and evaluates the potential of teaching and learning with regards to the current educational and information needs. This thesis originated in 2010 and especially the research case studies, Simon E. Nielsen, Vit Šisler, Cyril Brom, and user testing of educational games such as Europe in 2045 and his active participation in the workshop devoted Enter3 serious games, where the author participated in the creation of several "serious" modules the game Unreal Tournament.

At the beginning author describes the methodological apparatus of the thesis with the focus on the theoretical aspects and the research of computer games as a scientific field called game studies. The second part deals with the development and current form of computer games. Furthermore, the author attempts a breakdown and categorization of "serious games" in compliance with the genre or centred on their influence on the key groups (students, employees). He also wants to find an answer to the question "why we play the games" or what makes the games serious.

The penultimate chapter of this work author defines the various platforms on which to play SG and describes the both situation in the Czech republic and abroad. It also comprehensively describes examples of the study "Europe 2045" to show interesting projects emerging in the Czech conditions and its potential for the future. In conclusion, the author describes the pros and cons of using SG and its evidenced by the results of case studies and real experiments.