3D MODELS FOR TEACHING ANATOMY

Tokarčík Ján, Dorko František

Faculty of Medicine, University of Ostrava

D1.5 E-LEARNING

Anatomy is one of the most important and crucial courses at the Faculty of Medicine. Recently, we had the opportunity to implement new procedures into the education of medical students, and in this way contribute to the improvement of teaching at the Faculty of Medicine. The Department of Anatomy of the Faculty of Medicine focuses on 3D modeling and visualization techniques production. Students have the opportunity to understand the topographical relationships of the anatomical structures of the individual parts of the human body, with the help of selected interactive and animated anatomical models.

During the work, the programme EON Experience Player was used. For the construction of the various parts of the human body, the resources of the Institute of Anatomy, Medical Faculty were used. Subsequently, the sections were converted from 2D video sources into 3D object structures. The resulting objects were subsequently modified in Maya and EON Studio, resp. EON Creator. The output images were supported by the software solution EON Experience Player, which performs highly interactive visualization. Animations are presented with the aid of a projector, controlled by a computer.

During the studies, the student has the opportunity to gain knowledge of anatomy from lectures and practical exercises in the autopsy room. The acquired knowledge can be improved and then checked in the "Quiz". The test consists of open and closed questions. For open questions, the correct answer must be entered for closed questions, the system offers four options, from which the student may choose one correct answer. The system automatically evaluates the accuracy of the answers after each question. In the case of incorrect answers, the student continues the test. In conclusion, the system evaluates the overall test, including the nember of correct and incorrect responses, and the overall evaluation of the test.

The future of teaching anatomy can be seen in conjunction with conventional methods of interconnection of imaging in clinical practice. Our goal was that the students had the opportunity of using fixing 3D topographical anatomy to better understand the relationships of anatomical structures of the individual parts of the human body. Interest in creating 3D models was expressed mainly by students of medicine and bachelor's candidates for the continuing validation of knowledge in the study, and in the repetition of the test anatomy.