

A three-dimensional virtual library model of the ancient Library of Alexandria

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Abstract

In our presentation we would like to introduce a virtual library model based on the 3D capabilities of the Virtual Collaboration Arena (VIRCA) system developed at the Automation Research Institute of the Hungarian Academy of Sciences. The model has been developed in order to reap the benefits – the extraordinary navigation and accessibility features, “holistic” characteristics, strong affective power etc. – of the 3D virtual environment presenting selected ancient works (as well as biographies) of some illustrious authors in the light of the modern information technology.

In the model the library content is presented in a virtual room where a maximum of 18 cabinets are arranged in two parallel rows. The cabinets contain the relevant information to be presented, so their position and arrangement – together with other distinctive features – are crucial to finding the appropriate content in the virtual space. The arrangement of cabinets is based on the classification system of the ancient Library of Alexandria developed by Callimachus in the 3rd century BC. Based on that, we attached certain categories (epic poets, elegists, lyrical poets etc.) to the English translation of the selected ancient Greek texts. In addition, two parallel sequences of some characteristic images are displayed as image corridors next to each cabinet which greatly facilitate finding the relevant information in the virtual room at a single glance. On the basis of those features (cabinets, categories, image corridors etc.) we can group the related information together and compose various “spatial composites” in order to form a well-searchable spatial hypertext system.

There are many possible applications and improvements of our three-dimensional virtual library model. We have created a database of the selected library materials and developed a PHP-based interface to provide and demonstrate interactive search capabilities. The search results can be obtained in XML form which describes the corresponding virtual room in the VirCA system. In addition, we have created a hypertext (or two-dimensional) representation of the model which simulates the arrangement and atmosphere

of the virtual 3D environment and enables us to compare the 2D and 3D representations of the virtual library model.

Keywords: Library of Alexandria, three dimensional virtual library model, VirCA system, spatial hypertext, 3D representation of library content