

## UNIVERSITY OF LIBRARY STUDIES AND INFORMATION TECHNOLOGIES.

Policies for Cultural Heritage Management – Communication and Socialization through Education.

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### ***The development of virtual reality digital models with use of 3d Terrestrial Laser Scanner as a contemporary approach for the research and socialization of cultural heritage.***

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#### ABSTRACT

The establishment of a virtual reality academic system for cultural heritage education and for establishing an online virtual campus targeting students, archeologists, art historians, architects as well as other interested individuals, can offer a unique educational tool not only for the research and preservation, but also for the socialization of the cultural heritage of every country. Accurate documentation-registration of monuments and archaeological sites can be considered as a prerequisite for any kind of intervention aimed towards their conservation and their virtual reality representation.

The advent of the 3D Terrestrial Laser Scanner (TLS) changes the gap between direct and indirect surveying methods for the representation of an object. Although it is a sophisticated piece of equipment, it is very easy to use even by unspecialized operators. It provides an objective documentation of high accuracy and an immediate 3D digital model of the actual state of the scanned monument.

The use of such documentation as raw data easily provides the prerequisites for further development of the following tasks:

1. Stereoscopic 3D virtual reality models for cultural heritage sites that cover all prehistoric and historic periods,
2. Virtual reality lecture halls targeting large number of audiences to transfer these remote sites to them, not vice versa.
3. Internet-based 3D virtual campuses for the target groups to access remotely academics and research.
4. modernize/develop new courses in the field accommodating the new methodologies thereby maximizing the courses' outcomes and enhancing the quality and relevance of higher education,

5. Socialization and dissemination of cultural heritage of each country to a wider target of people.

Such interactive stereoscopic virtual reality educational system is currently not widely available, but the use of 3D Laser Scanning technology has proven to be a powerful tool not only to record historical sites and objects, but also for preservation purposes, for scientific research, for environmental applications and also for dissemination purposes.

Owing to its accurate and fast characteristics, the application of 3D laser scanning to reconstruct and conserve heritage buildings, monuments, and/or archaeological sites, is actually accepted as a method to document cultural heritage.

The aim of this paper is to focus to the capabilities of this instrument and present some examples not only for the documentation of the Cultural Heritage but also its Socialization and the dissemination.