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Study and Conservation of Cultural and Natural Heritages with the Use of Laser Scanner and Processing System for 3D Modeling Spatial Data

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Abstract : It is fundamental to conserve sites of natural and cultural heritage with any available technique or existing methodology of preservation in order to sustain them for the following generations. We propose a further skill to protect the actual view of such sites, in which with high technology instrumentation we are able to digitally preserve natural and cultural heritages applied in Ecuador. In this project the use of laser technology is presented for three-dimensional models, with high accuracy in a relatively short period of time. In Ecuador so far, there are not any records on the use and processing of data obtained by this new technological trend. The importance of the project is the description of the methodology of the laser scanner system using the Faro Laser Scanner Focus 3D 120, the method for 3D modeling of geospatial data and the development of virtual environments in the areas of Cultural and Natural Heritage. In order to inform users this trend in technology in which three-dimensional models are generated, the use of such tools has been developed to be able to be displayed in all kinds of digitally formats. The results of the obtained 3D models allows to demonstrate that this technology is extremely useful in these areas, but also indicating that each data campaign needs an individual slightly different proceeding starting with the data capture and processing to obtain finally the chosen virtual environments.

Keywords : laser scanner system, 3D model, cultural heritage, natural heritage
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