This digital book has been edited by the association UID - Italian Union of Drawing, on the occasion of the XXXVI International Conference of the Teachers in Representation (Parma, September 18-20, 2014). It collects the most significant survey experiences conducted by the Italian university researchers, both nationally and abroad. It is meant to enhance and disclose the Italian know-how in the world.

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INDEX

Preface, Vito Cardone  pag. 7
Survey: analytical knowledge of the architecture, Paolo Giandebiaggi  pag. 9

National Portfolio  pag. 11
100 National Survey Experiences - Regions  pag. 12
100 National Survey Experiences - Boards  pag. 14

International Portfolio  pag. 117
100 International Survey Experiences - Countries  pag. 118
100 International Survey Experiences - Boards  pag. 120

Thematic Indices  pag. 223
Participating Universities  pag. 224
Participating Departments  pag. 226
Responsibles of Surveys - UID Members  pag. 228
Partners  pag. 232
The general aim is to create a comprehensive digital documentation of the Historical Centre of Florence, recognized as an UNESCO World Heritage Site. The data acquisition is done through direct and digital survey, using 3D laser scanning and photogrammetric techniques, taking care about the representation as a meaningful step after the survey and considering it as an act of knowledge. The ongoing activities are part of the documentation of the digital database, composed by 2D drawings, 3D models and details of the main monuments and their environment.
The Sorana project (2009-2011) provided the integrated survey of the entire settlement in a survey campaign five days lasting. The research has been conducted with the aim of enforcing the integration between the various scientific ambits involved in the project (history, archeology, architecture, geology, iconology) and making available the results of the studies in editable format. The results provide an essential basis to promote actions of preservation and enhancement of existing heritage.
The target of the project (2009), developed inside the “Azioni Integrate Italia-Spagna” activities, is to find constants and variables in the architectonic and urban environment between Carloforte and other settlements built by the people of “Tabarchini”. Starting from a detailed survey and documentation campaign carried out using the contemporary technologies based on laser scan and digital imaging it’s possible to develop a rich archive of information and to start the analysis and the comparison about these Mediterranean settlements.

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GRAPHIC COMPOSITION BY Alessandro Merlo
The project is based on the concept of cultural heritage dissemination. Once obtained geometric and chromatic information with photogrammetric and laser scanner survey of part of the collection of the Museo de Americas in Madrid, they have been rebuild through reality-based 3D modeling techniques. The main aim of the project is to use reality-based models both in analysis of artifacts with innovative techniques and in exploration of new communication methods in order to disseminate the huge heritage kept in museum archives until today.

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GRAPHIC COMPOSITION BY Alessandro Merlo
The Mayan mascarón of Chilonché is a zoomorphic sculpture of 4×3 meters. The data gathering was carried out using a laser-scanner in a narrow environment. A high resolution polygonal B-Rep model has been obtained from the initial point cloud. This detailed model allows to study the topology of the sculpture and to replicate it using 3D printing technology. To allow the general public to visualize the mascarón, a low-poly model has been generated in order to be used into an interactive web-based 3D real-time simulation and a virtual cave.

RESPONSIBLE: Alessandro Merlo, Gaspar Muñoz Cosme
PARTICIPANTS: Alessandro Merlo, Filippo Fantini, Carlos Sanchez Belenguer

GRAPHIC COMPOSITION BY Alessandro Merlo
La Blanca project (led by Muñoz Cosme G. and Vidal Lorenzo C.) has employed terrestrial laser scanning technology with the purpose of obtaining a more meticulous record of Maya structures for archaeological interpretations. The Acropolis of La Blanca is approximately 45 x 50 m in size and contains two distinct architectural systems: a building block and a U-shaped building. The data collected at the Acropolis in March of 2012 amounted to about 1,350 million points obtained from 45 station positions during two days of work.

RESPONSIBLE: Alessandro Merlo

PARTICIPANTS: Alessandro Merlo, Jose Leonel López Hernández, Zacarias Herguido Alamar
The project goals are survey and analyze some significant examples of religious buildings of Antigua Guatemala, characterizing the ancient capital urban landscape, in stylistic and geometric terms. The main aim is to find the archetypes and make assumptions about original appearance of the buildings, deeply damaged (modified) by the repetition of earthquakes in the last five centuries, through anastylosis techniques and virtual reconstructions.