Digital Documentation of Archaeological Dye-House

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Introduction

Museums play great roles in documenting the world's cultural heritage. It not only attempts to document tangible or intangible collections but also can document archaeological sites.
Museum & Digital technology

There is an urgent need for museums and digital technology to work together to add new values for tangible and intangible cultural heritage.
Applied case study of using digital technology in documenting archaeological site

Fatimid Dye-House 5 H / 11 AD
### Fatimid archaeological Dye-House

<table>
<thead>
<tr>
<th>Location</th>
<th>Excavated by</th>
<th>Excavation year</th>
<th>Dating</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Museum of Egyptian Civilization site</td>
<td>French Mission and Egyptian archaeologists</td>
<td>1944</td>
<td>Fatimid period 5 H / 11 AD</td>
</tr>
</tbody>
</table>
Digital Documentation Project

Before

During

Data acquisition

Topography

Photography

Processing

Data Processing

Pointcloud

3D-Model

3D-Texture

COMING SOON

El Fustat dye house - digital documentation project
Archaeological Studies

Location – Historical background – excavation archival documents - current issues – maps - shapes - geometric designs – GIS
Archaeological Studies

Mahmoud Elaghiber
Dye-House vs leather Tannery
Anthropological Studies

Fez leather tannery

Fustat Archaeological Dye-House
Leather Tannery techniques

1. Pile of hides ready for dyeing.
2. Soaked in diluted acidic pigeon excrement to soften hide.
4. Soaked in vegetable dye 2.
5. Hides left to dry.
6. Hides cut to a pattern.
7. Hides stitched to produce a final product.
Dye-House techniques
Anthropological studies

Field Study in the oldest leather Tannery in Fustat
Mohamed Grade, 1950
Anthropological studies

Field Study in the oldest modern Dye-House in Cairo
Salama Ahmed, 1901
Reimagine techniques
Photogrammetrical process

Photogrammetry is the conversion of the archaeological site into a three-dimensional model - a comprehensive study of the site - measurements for each wall and basins - method of construction - type of materials have been used. Topographical documentation of the site in minutes such as contour maps - elevations - architectural maps - sectors and virtual reality and accessible for special needs.
Photogrammetry output

Data acquisition

Topography

Photography

Data Processing

Processing

Pointcloud

3D-Mesh

3D-Texture

Coming Soon
Digital Elevation Model - DEM
Overview
Dye house LD
If you are interested in photogrammetry techniques and need any help in your museum or archaeological site, you can contact with:

**Mr. Mohamed Abd El Aziz**  
3D Scanning & photogrammetry specialist  
mo.azizcealex@gmail.com
Thank you

Getty foundation
ICOM-CIDOC
Georgians