Digital Archaeology in the Decapolis Region in Northern Jordan

Dominik Hagmann

University of Vienna
Department of Classical Archaeology
20.01.2017
Digital Archaeology?
#digitalarchaeology

“Evidence of the reality of digital archeology is all around us (…)”

Costopoulos 2016

- data collection and curation
- analysis
- visualization
- distribution with public outreach and participation
Data types

- structured tables

- raster images and vector graphics

- points and polygons as spatial data

<table>
<thead>
<tr>
<th>ID</th>
<th>ITEM</th>
<th>COUNT</th>
<th>PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>pot</td>
<td>20</td>
<td>roman</td>
</tr>
<tr>
<td>5</td>
<td>bowl</td>
<td>7</td>
<td>modern</td>
</tr>
<tr>
<td>6</td>
<td>tile</td>
<td>4</td>
<td>islamic</td>
</tr>
</tbody>
</table>
WebGIS

- distribution with public outreach and participation
  - Google MyMaps 🧐
    - based on Google Maps 🧐
  - proprietary 😞
  - common 😊
  - free to use 😊
commonly-used system: newspaper Die Presse

Berlin truck attacker Anis Amri’s escape route through Europe
WebGIS

- distribution with public outreach and participation
  - no need for own hosting 🤗
  - original datasets securely stored at PHAIDRA 🤗
  - data easy to share and embed 🤗

→ all necessary elements of a modern, interactive web map application
Northern Jordan | WebGIS

**Final version**

**!UNDER CONSTRUCTION!**
responsive design: mobile and desktop full screen version
Overview Sites

- projected sites
- cities of the Decapolis

! under construction!
Built-in description

! under construction!

- detailed project abstract
- link to project website
- mail references
- …
Table of contents

! under construction!

- all layers
- show/hide
Attribute data: Decapolis city

! under construction!

- ancient name
- alternative name
- recent name
- link to Pleiades
- copyright information
- …
Overview surveyed site: Umm Qays

- under construction!

- distribution of sherd densities (5 classes)
- ancient city
Overview surveyed site: Umm Qays

! under construction!

- different basemaps
Surveyed field: detail

! under construction !

- field-ID
- picture of environment
- sherd density
- PEAIDRA link
- copyright
- …
This project reconstructs historical land use and landscape change in the Decapolis region in northern Jordan, combining archaeological, historical and scientific methods, and asking fundamental questions regarding natural resources, human activities, and historical concepts of landscape. The overall aim of the project is studying land use and environmental change from the Bronze Age to modern times, choosing a comparative approach which takes advantage of the climatic gradients and resource diversity in the investigation region. The research focuses on the interplay of factors like climate, soil type, vegetation, and agriculture. A highly transdisciplinary research agenda and well integrated data collection strategies are adopted. Environmental, pedological, historical, and archaeological studies are conducted in the vicinity of Umm Qes (Gadara), Ablah, and Umm el-Jimal, allowing for comparison of land use and landscape change at three key sites. An intensive survey will be conducted to detect landuse patterns within the environs of these important sites, which are located in different climatic and pedological zones.
PUBLIC BETA VERSION SHORT URI

https://goo.gl/abWBU7

http://homepage.univie.ac.at/dominik.hagmann/jordan-webgis-beta
Permanent Archiving

Permanent Hosting, Archiving and Indexing of Digital Resources and Assets

by

universität wien
Permanent Archiving | PHAIDRA

— since 2008
— powered by the University of Vienna
— data stored at the University of Vienna
— all-university Digital Asset Management System
— for permanent archiving functions
— enables to store data for longer periods
Permanent Archiving | PHAIDRA

— supports

- Electronic publishing
- Archiving of images
- Displaying of collections
- Creation of eBooks
- Saving and streaming of videos and
- much more
Permanent Archiving | PHAIDRA

— every object gets a permanent digital signature
  - Handle-Link
  - Permanent Identifier
  - DOI available soon

— objects can be described in multiple languages
Permanent Archiving | PHAIDRA

- Open Access publishing
- sophisticated access system
- tailored metadata structures (Dublin Core/LOM)
Permanent Archiving | PHAIDRA | Metadata

- general data on the digital object
- the object life cycle
- technical information about the object
- didactic information about the object
- rights and licenses
- classification systems
- mapping systems
- contextual information
- information on provenance
- information on a digital work (book)
This dataset is meant for demonstration usage. -- Version 1: first upload: http://phaidra.univie.ac.at/o:502410 Version 2: corrected values -- Archaeological attribute data: find distribution data (find densities per sqm; CSV file) derived during the survey campaign in Umm Qays (ancient Gadara) in northern Jordan in 2015. The data is categorized in pottery finds per sqm within each survey unit (field). Therefore the data contains the values of all surveyed pottery finds (i.e. prehistoric, classical, islamic, modern, and unknown pottery finds) per sqm within each survey unit (field). -- The survey was conducted by an international team of archaeologists within the framework of the international project "Historical Landuse and Landscape Reconstruction in the Dekapolis Region (Jordan)", funded by the Austrian Science Fund (FWF-Project I 1415 International Projects | project lead: Univ.-Prof. Dr. Günther Schörner, M.A | research place: Department of Classical Archaeology at the University of Vienna) and the University of Vienna.

This dataset is meant for demonstration usage. -- Version 1: first upload: http://phaidra.univie.ac.at/o:502410 Version 2: corrected values -- Archaeological attribute data: find distribution data (find densities per sqm; CSV file) derived during the survey campaign in Umm Qays (ancient Gadara) in northern Jordan in 2015. The data is categorized in pottery finds per sqm within each survey unit (field). Therefore the data contains the values of all surveyed pottery finds (i.e. prehistoric, classical, islamic, modern, and unknown pottery finds) per sqm within each survey unit (field). -- The survey was conducted by an international team of archaeologists within the framework of the international project "Historical Landuse and Landscape Reconstruction in the Dekapolis Region (Jordan)", funded by the Austrian Science Fund (FWF-Project I 1415 International Projects | project lead: Univ.-Prof. Dr. Günther Schörner, M.A | research place: Department of Classical Archaeology at the University of Vienna) and the University of Vienna.
This dataset is meant for demonstration usage. -- Version 1: first upload: http://phaidra.univie.ac.at/o:502410 Version 2: corrected values -- Archaeological attribute data: find distribution data (find densities per sqm; CSV file) derived during the survey campaign in Umm Qays (ancient Gadara) in northern Jordan in 2015. The data is categorized in pottery finds per sqm within each survey unit (field). Therefore the data contains the values of all surveyed pottery finds (i.e. prehistoric, classical, islamic, modern, and unknown pottery finds) per sqm within each survey unit (field). -- The survey was conducted by an international team of archaeologists within the framework of the international project "Historical Landuse and Landscape Reconstruction in the Dekapolis Region (Jordan)", funded by the Austrian Science Fund (FWF-Project I 1415 International Projects | project lead: Univ.-Prof. Dr. Günther Schörner, M.A. | research place: Department of Classical Archaeology at the University of Vienna) and the University of Vienna.
Table structure: 1st column: Field (+ID) - 2nd column: den_pot -- Column abbreviations: - den_pot: pottery find density per sqm -- 1st column ("Field") data entry abbreviations: - NW: North-West-Transect - SW: South-West-Transect - MW: Mid-West-Transect - N: North-Transect - S: South-Transect - ASI1: Area of Special Interest 1 - ASI2: Area of Special Interest 2 - ASI3: Area of Special Interest 3 -- 84 data rows; 1st row = header 2 data columns.
Thank you for your attention!

dominik.hagmann@univie.ac.at

Find this presentation soon at Academia and ResearchGate.