OpenHeritage 3D

Making primary 3D cultural heritage data open and accessible

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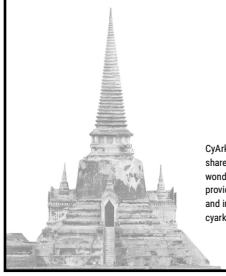
CyArk

Introduction



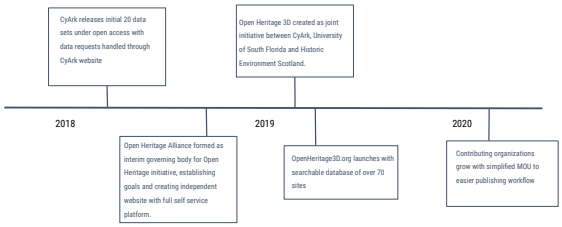
CYARK

CyArk is a non profit organization founded in 2003 to digitally record, archive and share the world's cultural heritage and ensure that these places continue to inspire wonder and curiosity for decades to come. A core part of CyArk's mission is to provide open access to the 3D data collected in support of heritage conservation and interpretation. For more about our mission and focus areas please visit cyark.org.

Mission of **Open**Heritage 3D

- Provide open access to 3D cultural heritage datasets for education, research and other non-commercial uses.
- Minimize the technical, financial and legal barriers for publishers of 3D heritage data.
- Promote discovery and re-use of datasets through standardized metadata and data formats.
- Foster community collaboration and knowledge sharing in the 3D cultural heritage community.

Project History



Reusable

Ensure maximal re-use of datasets through the provision of source/raw data and a customizable set of creative commons license type for end use.

Citable

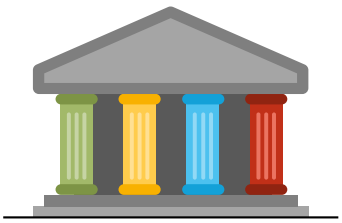
Provide a canonical reference for datasets through the attribution of a Digital Object Identifier to facilitate citation

Discoverable

Allow for the increased discoverability of Open Heritage datasets through indexing of collection metadata on multiple search engines and catalogs.

Preserved

Regular replication of the archive in multiple places including a geographically distributed network of servers and to tape back-up.



Reusable

- OH3D aims to maximize re-use of datasets.
- Contributed datasets must include raw (or close to raw) sensor data (points and pixels) to enable re-processing of datasets by users.
- Derivatives data types are also welcome but only in combination with raw data.
- A menu of license types based on Creative Commons can be selected from and assigned individually to datasets.
- This can range from CC0 (no rights reserved) through to very limited use rights.
- OH3D plans to revise our metadata schema to provide more extensive paradata and provenance metadata to assist users in evaluating and using datasets.

Attribution

No derivatives

Share-alike

Non-commercial

Citable

- Provide a form of persistent identification, in which each DOI name permanently and unambiguously identifies the object to which it is associated.
- The DOI itself is permanent even if the location of the object it identifies changes over time.
- Provides a simple method for the citation of datasets to acknowledge reference and reuse.
- Each dataset on Open Heritage 3D is assigned a DOI upon publication.
- Regular reporting of outbound links to your DOI.

DIGITAL OBJECT IDENTIFIER

Example Citation:

CyArk. (2019). *Church of Sveta Sofia* [Data set]. Open Heritage. https://doi.org/10.26301/P14W-CD36

Discoverable

- OH3D aims to maximize discoverability and accessibility of datasets by ensuring they are indexed where users are searching.
- OH3D conforms to open standards for describing metadata on our web page allowing them to be crawled and indexed on Google Dataset Search.
- We are in the process of becoming a contributor to Calisphere - the University of California digital collections catalog.
- Calisphere shares all metadata with the Digital Public Library of America (DPLA) providing for statewide and national library dissemination at the same time.

Google Dataset Search

Digital Public Library of America

CALISPHERE UNIVERSITY OF CALIFORNIA

DataCite FIND, ACCESS, AND REUSE DATA

Preserved

- The OH3D collection is replicated in multiple places to ensure longevity.
- OS3D is in the process of replicating data on Chronopolis, a geographically distributed preservation network.
- All data within the network is replicated across three geographically dispersed partner sites.
- Geographic distribution ensures that no single catastrophic event will affect the content.
- An additional copy of the collection is written to tape back-up and stored within Iron Mountain's "the Underground" - a secure storage facility located 220 feet below the surface .
- Non-proprietary data formats are required for all raw data types to ensure future accessibility.

Chronopolis Network Partners

CHRONOPOLIS

OH3D Portal

- The OH3D portal at http://www.openheritage3d.org is designed to simple and easy to use.
- A map based interface allows users to explore data geographically as well as search for key terms from a subset of the metadata.
- Project data bounds separated by type are overlaid on a satellite based map to provide additional information to the user.
- LiDAR data can be inspected prior to download using an embedded Potree viewer - this is rolling out to all datasets in the next 2 weeks.
- Data download requests require very little information from the user (name/affiliation/email) and links to download the data are emailed to the user and valid for 48hrs.

Contributors

- Institutions and companies that collect 3D cultural heritage data are invited to become contributors to the project.
- We have expanded to 8 contributing members from the 3 founding members at the beginning of the project.
- A simple Memorandum of Understanding is executed between CyArk and the contributing member.
- Contributors received a quarterly report about the downloads of their datasets including all metadata entered by end users.
- Contributors may remove their data from the platform at any time.
- For more information about becoming a contributor contact admin@openheritage3d.org

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA
UNIVERSITY of SOUTH FLORIDA Libraries
TEXAS TECH UNIVERSITY
OXFORD CENTRE FOR ISLAMIC STUDIES
A Recognized Independent Centre of the University of Oxford
UCL
CYARK
calidos

What kinds of datasets are part of **Open**Heritage 3D?


Terrestrial LiDAR


Terrestrial Photogrammetry

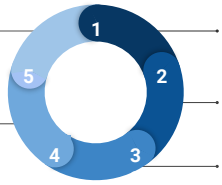

Aerial Photogrammetry


Aerial LiDAR


Short Range Scanning

- Primary 3D cultural heritage data (required)
- Scientific Data Derivatives (Ortho Imagery, DEM, DSM, Meshes, etc...)
- Each dataset is uploaded in the same standard, non-proprietary formats and with a standard file structure to allow for consistency across datasets.
- Standardized metadata fields describe the each dataset, the capture devices, project collection methodology, site description and significance and associated relevant entities.
- Data extents for each data type are displayed over a Google Maps layer.

Data Contribution Process



Assign DOI's
For each unique **heritage site** we assign a DOI to your institution.

Prepare Primary Data
For each **heritage site** we should have one or all of the data types: Terrestrial LiDAR, Terrestrial Photogrammetry and Aerial Photogrammetry. Data to be delivered in **ZIP** format.

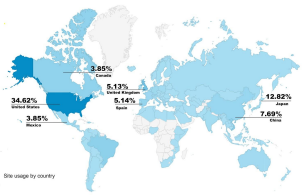
Metadata Sheet
For each site submitted, an accompanying metadata sheet needs to be provided. OHI3D will provide the most current templated sheet.

Review/Publish
Once the data is packaged it can be uploaded via a Dropbox request link unique to your institution.

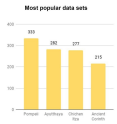
Upload to Dropbox
Once the data is packaged it can be uploaded via a Dropbox request link unique to your institution.

OpenHeritage 3D Stats | Fall 2020

"Open Heritage 3D makes primary 3D cultural heritage data open and accessible"



Site usage by country



184	4300+	100%	40%	25%
Datasets available	Downloads to date	of datasets have been downloaded	of downloads are for Research/R+D	of downloads are for Education

Questions?

OpenHeritage 3D

Thank You

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