Svenskt HällristningsForskningsArkiv Launches New Website

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Svenskt HällristningsForskningsArkiv [Swedish Rock Art Research Archives] (SHFA) released a new website in 2023 to provide easier access to the database of Swedish and international rock art documentation that is maintained by SHFA (https://shfa.dh.gu.se/). This new resource aims to account for various needs like user-friendly access to an ever-increasing amount of material, higher resolution images and image viewer, and a built-in 3d model viewer (Figure 1).

The new SHFA resource is comprised of a website and database solution, which were developed by Gothenburg Research Infrastructure for Digital Humanities (GRIDH) with the support of SHFA (see also Green et al. 2024). The database of rock art documentation includes photos and visualisations of rock art, photos of sites and the documentation process, and scanned documentation, spanning from the 17th century to recent high-resolution visualisations and 3D meshes. Since its inception, SHFA have digitised over 80,000 documents and curated these into a publicly available database of over 26,000 images. For each image, the metadata and high-resolution image are stored in a database which uses GRIDH's Django-based database solution, Diana (Table 1).

This metadata allows us to provide researchers with several search functions and, in future releases, will also allow for gallery filtering and data summarisation. All metadata is returned in calls to the public API. A pub-

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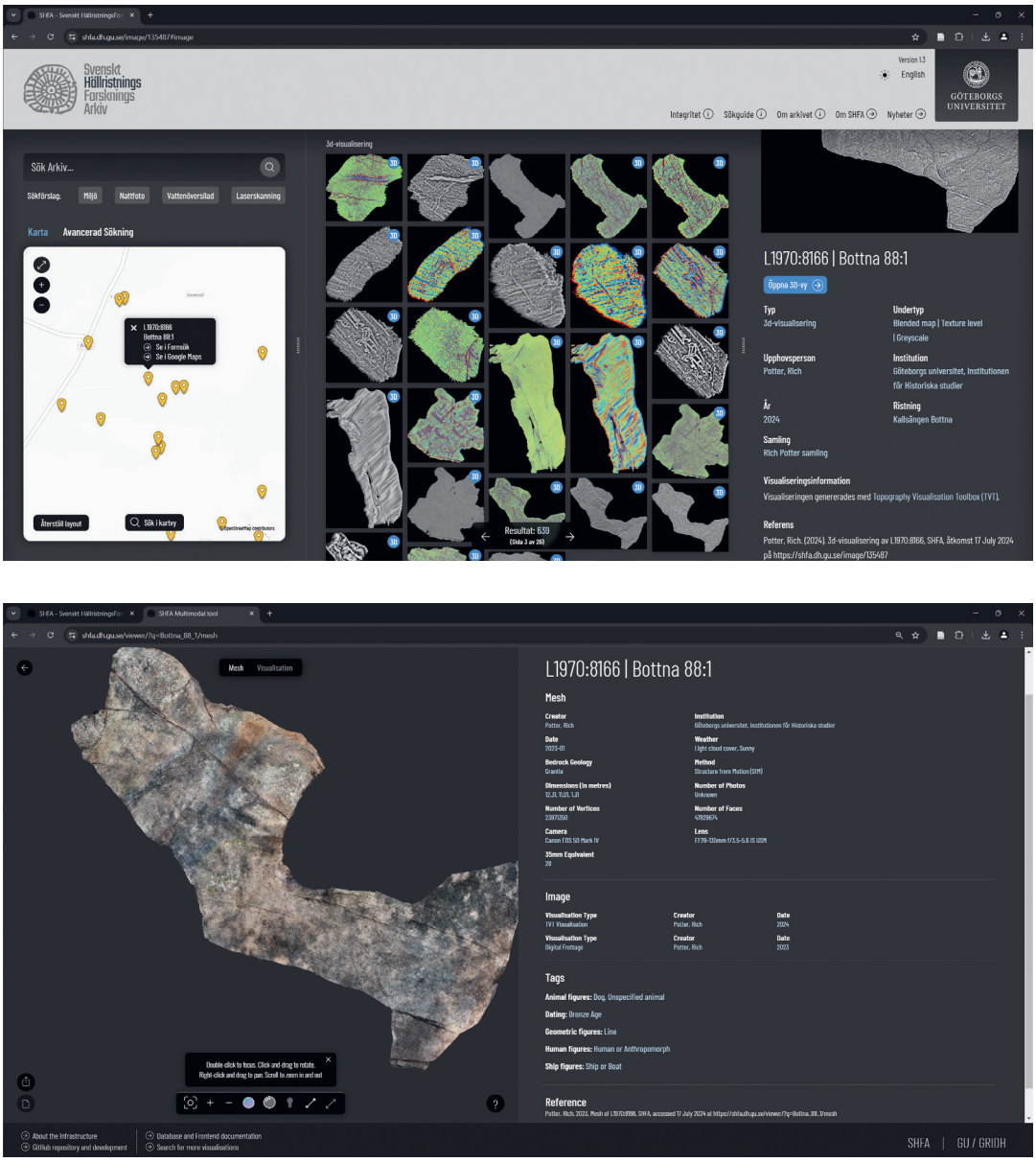

Figure 1. Top: Main interface of SHFA's new website with search bar, map interface, search result viewer, and detailed information of the selected result. Bottom: 3D model viewer of the new SHFA website.

lic or open API (Application Programming Interface) is a set of protocols that allows open access for users or other software to an existing software or database.

Table 1. The metadata are stored in a database which uses GRIDH's Django-based database solution, Diana.

Information recorded in the database
Unique IDs for persistent links
IIIF image
Site info
Image collection
Creator(s) and institution
Year of original documentation
Group of rock art panels or a geographic region
Image type
Keywords assigned by archaeologists to describe the image content, motifs, and possible dating of carvings

Additional nformation recorded for 3D meshes if available
Recording method
Camera specifications
Weather conditions
Number of vertices and faces in the mesh
Mesh dimensions

The SHFA frontend has a 3-column layout which uses the Vue3 framework and Split.js library. The first column provides users with the three search options – a simple free-text search bar, a map search, and an advanced search for combinations of metadata fields. The middle column shows a paginated gallery of search results. The last column becomes visible when a gallery thumbnail is clicked and displays the IIIF image viewer with the associated metadata and, if Swedish rock art, the site description fetched from Riksantikvarieämbetet beneath. Those metadata fields with an associated API can be clicked to start a new search. In the mobile version of the site, these columns are rearranged into a row layout with the same order.

An icon is displayed on the gallery thumbnail to indicate a 3d mesh is available and a button in the metadata section to open the 3d viewer in a new window. The 3d viewer pages use the 3DHOP, Potree, OpenLime, and Openseadragon libraries. The mesh can be manipulated in the viewer and IIIF images of visualisations are available in a carousel, with the mesh metadata shown opposite the viewer frame.

With this updated layout and additional metadata, as well as the increased user-friendliness of the new site including search guides in Swedish and English, the rock art documentation has become more accessible for use in high

impact research. A CC-BY licence and suggested citation for each image allows for easier use of the material, while the newly implemented map feature makes it easier to find local and transregional comparative rock art. The international material from Norway, Denmark, Italy, and Spain makes the new web resources a research resource and a hub for a wider international audience of researchers supporting their work. To accompany the greater prevalence of 3D documentation, we developed a tool for better and easier to publish visualisations of 3D data (Horn et al. 2022) which is also available online (https://tvt.dh.gu.se/). These aspects not only support new publications, but also new research projects that further knowledge about those who created the rock art, and how to protect and communicate it.

References

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Horn, C., Ivarsson, O., […], Green, A. & Ling, J. 2022. Artificial Intelligence, 3D Documentation, and Rock Art: Approaching and Reflecting on the Automation of Identification and Classification of Rock Art Images. *Journal of Archaeological Method and Theory*. Vol. 29(1), pp. 188–213.