

Portfolio

Archaeology | Scientific Illustration | Web Development

Jona Schlegel

archaeolNK





Hello! I'm *Jona*.

Archaeologist, Illustrator, Web Developer
based in Vienna, Austria

I am a landscape archaeologist and scientific illustrator, combining my skills in fieldwork, geophysical prospection, and web development.

My focus is on creating accessible archaeological content through technical illustrations, digital reconstructions, and interactive web platforms. Thereby ensuring good science and scientific communication.

About me

Recent experience and education



website portfolio
available at
jonaschlegel.com



Landscape Archaeology at University of
Applied Science, Berlin

Master of Science · 2016–2018



Field Archaeology/Conservation and
Restoration at University of Applied
Science Berlin

Bachelor of Arts · 2012–2016



Freelancer at archaeolNK

Combining archaeological data with digital tools for public engagement. Projects include illustrations, web platforms, and interactive databases aimed at making complex archaeological data accessible to a broad audience.

Since 2023



Researcher at Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology

Focus: Geophysical surveys (GPR, geomagnetic), database creation (OpenAtlas, CIDOC CRM), and publication of research findings. Notable projects include INDIGO (modern graffiti documentation), Tieschen (Bronze Age settlement), and Müstair (geophysical prospection around the Abbey of Müstair).

2018–2023

About me

Skills

Programming & Web Development – These skills help create and maintain websites, databases, and interactive platforms that enhance archaeological research, communication, and public engagement.

Languages & Frameworks



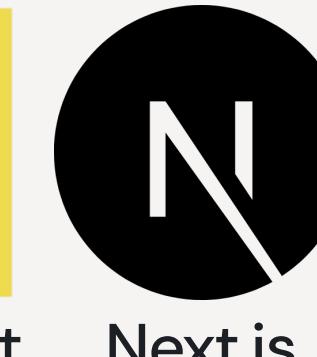
HTML



CSS



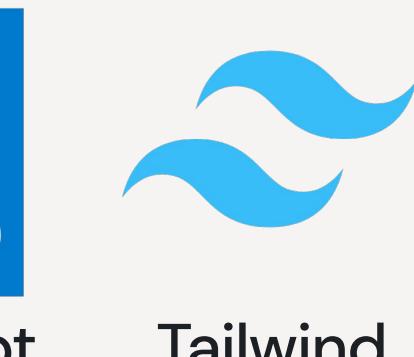
JavaScript



Next.js

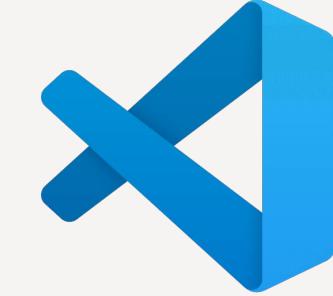


TypeScript

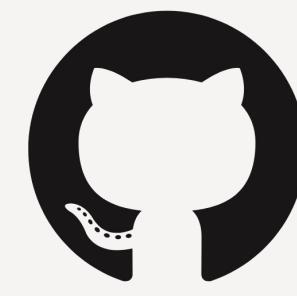


Tailwind

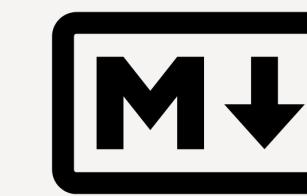
Tools



VS Code



GitHub



markdown

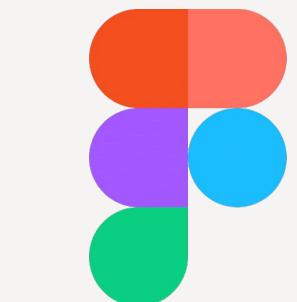
Scientific Communication & Visualisation (Design & Illustration) – These tools are essential for visualising archaeological research, communicating findings effectively, and illustrating both technical and interpretative work.



Inkscape



Procreate



figma



miro

Spatial Analysis & Mapping (Geospatial Skills) – These skills support archaeological research through mapping, spatial analysis, and visualising complex site data.



ArcGIS



QGIS

SERVICE

ARCHAEOLOGY

Reliable data interpretation, structured documentation, and
accessible mapping for archaeological sites and data



The challenge

Accessing and interpreting meaningful archaeological data can be complex. Delivering accurate and comprehensive results requires synthesising multiple data sources and presenting them in an accessible format.

Specific goals

Provide detailed and accurate interpretations of archaeological sites by integrating data from geophysical surveys, historical maps, and excavation reports. These results are then structured in a consistent and reliable manner.

Key services

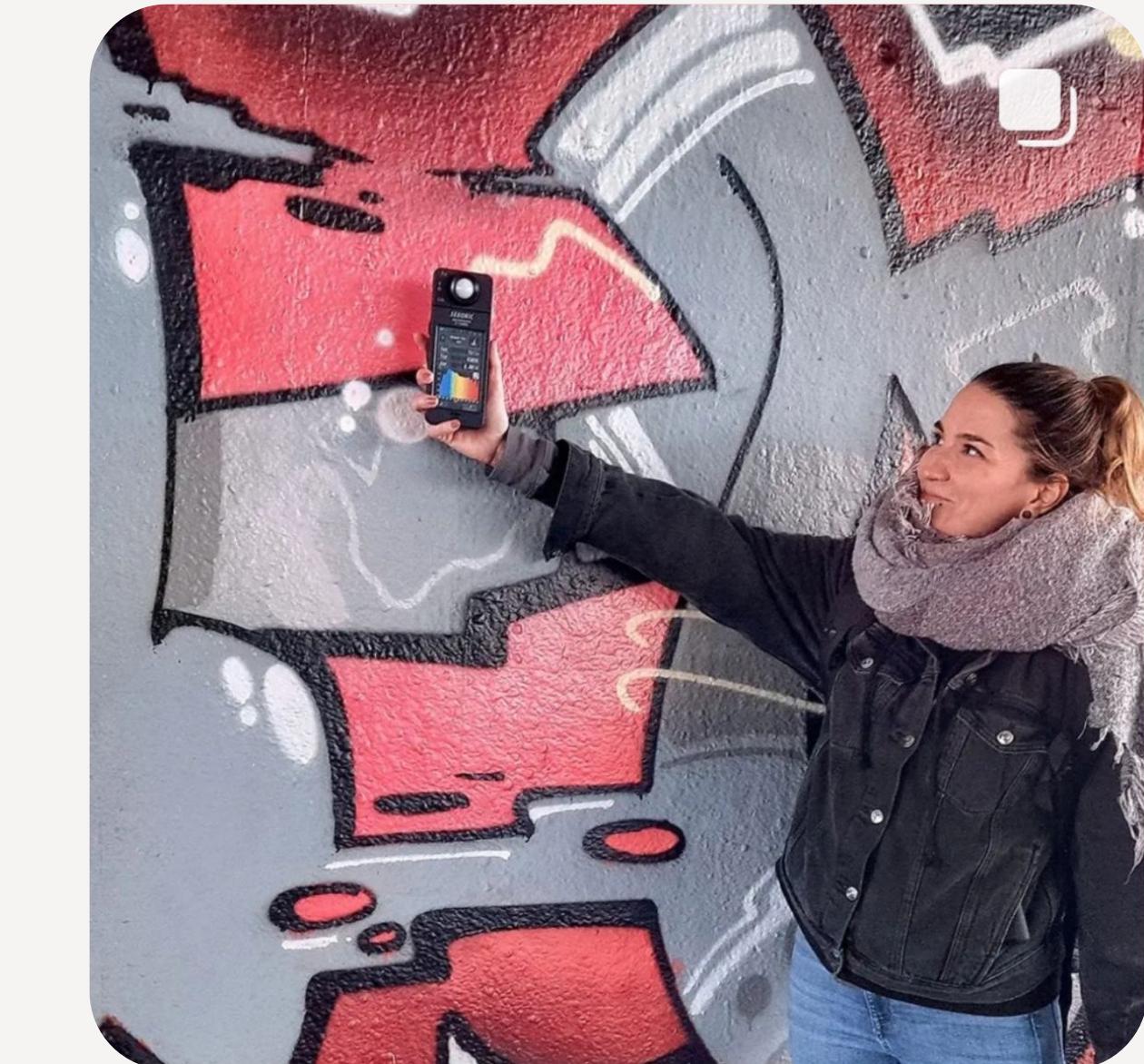
- **Accurate Mapping and Visualisation:** Synthesising data from multiple sources into printer-friendly, accessible maps.
- **Thesaurus Creation:** Developing controlled vocabularies to ensure consistency in categorising and interpreting data.
- **Database Modelling (CIDOC CRM):** Organising all findings into structured, research-ready databases using the CIDOC CRM standard.



INDIGO (Austria)

The INDIGO project aimed to document, analyse, and disseminate graffiti along Vienna's Danube Canal. Spanning 13 km, this project collected detailed imagery and spatial data, creating a systematic record of graffiti as short-lived cultural heritage.

Institute	Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology (Geert Verhoeven)
Role	Thesaurus development, data management, image-based modelling, symposium co-organisation, co-editor, web development
Length	24 months
Tools	ArcGIS Pro and Field Map, SKOS/Skosmos, CIDOC CRM, figma, JavaScript, React, Next.js, Leaflet.js, CesiumJS
Year	2021-2023



INDIGO (Austria)

Excerpts of the results I participated in

Screenshot of the INDIGO Graffiti Thesaurus – available on Vocab

The screenshot shows the Vocab website interface. At the top, there is a navigation bar with links to 'Vocabularies', 'About', 'Editor', and 'API'. Below this, a teal header bar displays 'INDIGO Graffiti Thesaurus'. The main content area has tabs for 'Alphabetical' (selected), 'Hierarchy', and 'Groups'. A sidebar lists terms starting with 'A' through 'R', such as 'abstract', 'anarchy sign', and 'anti style'. To the right, there is a form titled 'Vocabulary information' with fields for 'TITLE', 'SUBJECT', and 'DESCRIPTION', all currently empty.

Talk at the goINDIGO 2022 symposium



cover of the goINDIGO 2022 proceedings – co-editor



Convent Saint John in Müstair (Switzerland)

The project aimed to document the surrounding landscape of the UNESCO World Heritage Site at the Benedictine Convent Saint John. This project employed non-invasive techniques, including ground-penetrating radar (GPR) and magnetometry, to map archaeological structures. The project contributed to the ongoing study of Müstair's continuous settlement history.

Institute	Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology (Wolfgang Neubauer)
Role	Fieldwork assistance, geophysical data processing and interpretation (GPR, magnetometry), report writing, scientific paper writing
Length	2019 (2 Days), 2020 (2 month)
Tools	MIRA GPR system, Foerster FEREX magnetometer, ArcGIS, ApSoft
Year	2019–2020



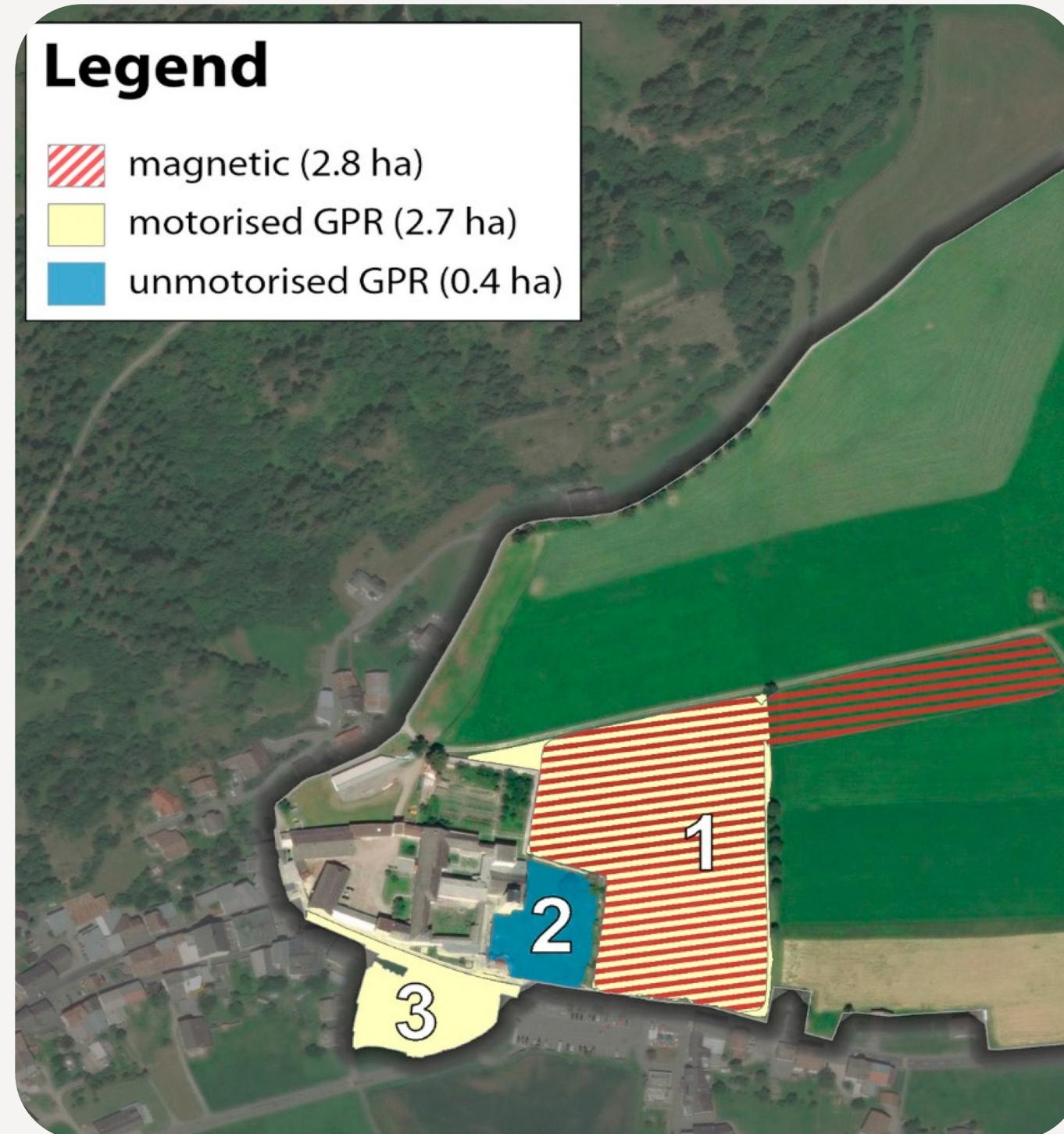
Convent Saint John in Müstair (Switzerland)

Excerpts of the results I participated in

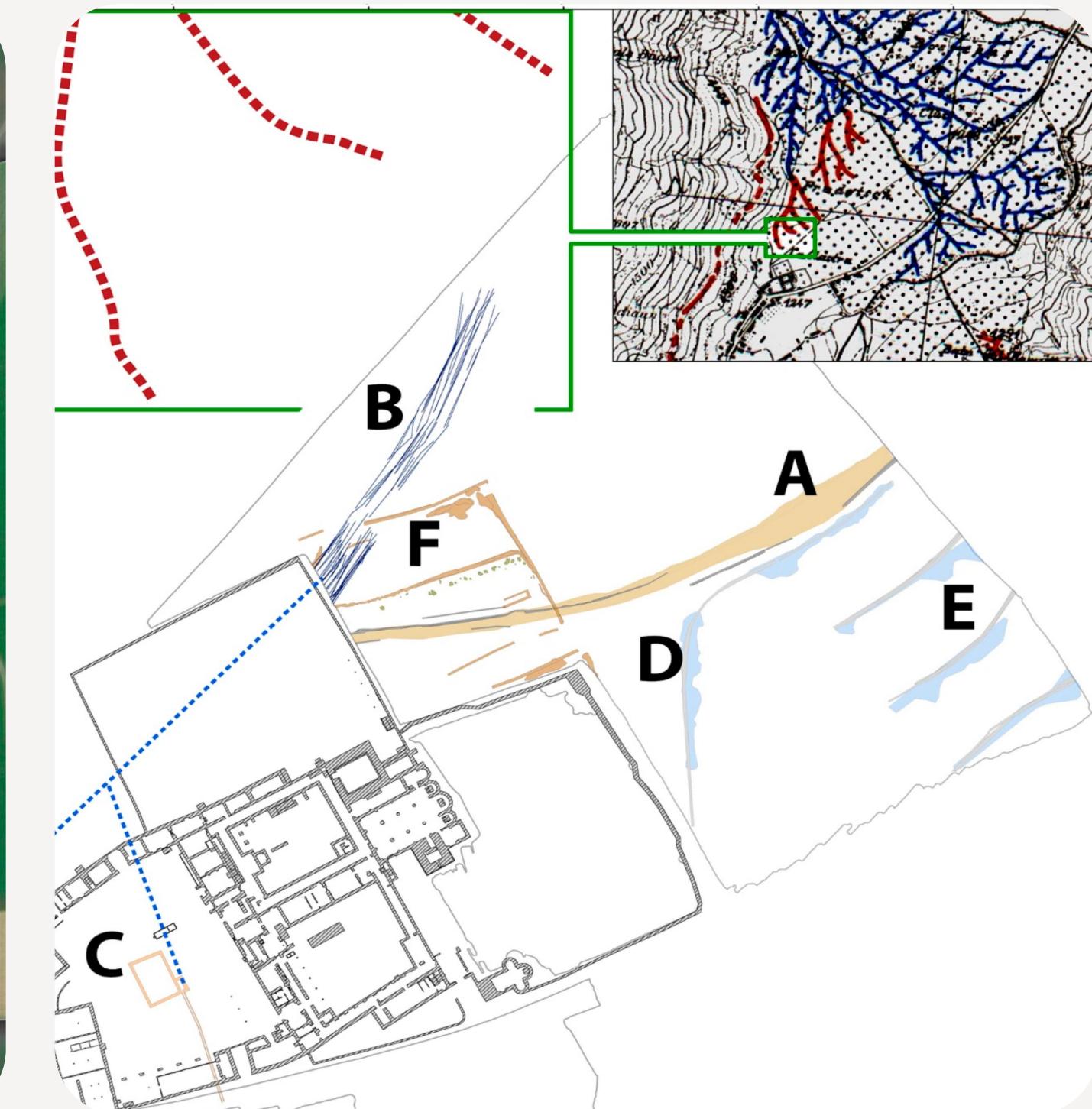
Surveying with the man-powered GPR system



Map showing the geophysical surveyed areas



Map showing old water streams and irrigation systems



Herforst Roman pottery centre (Germany)

The Herforst project focused on the geophysical survey of a Roman pottery production centre near Trier, Germany. By employing magnetic prospection and ground-penetrating radar (GPR), subsurface evidence of multiple kilns and workshops were located. The digital reconstruction of one of the pottery workshops helped enhance the understanding of its structure and operation.

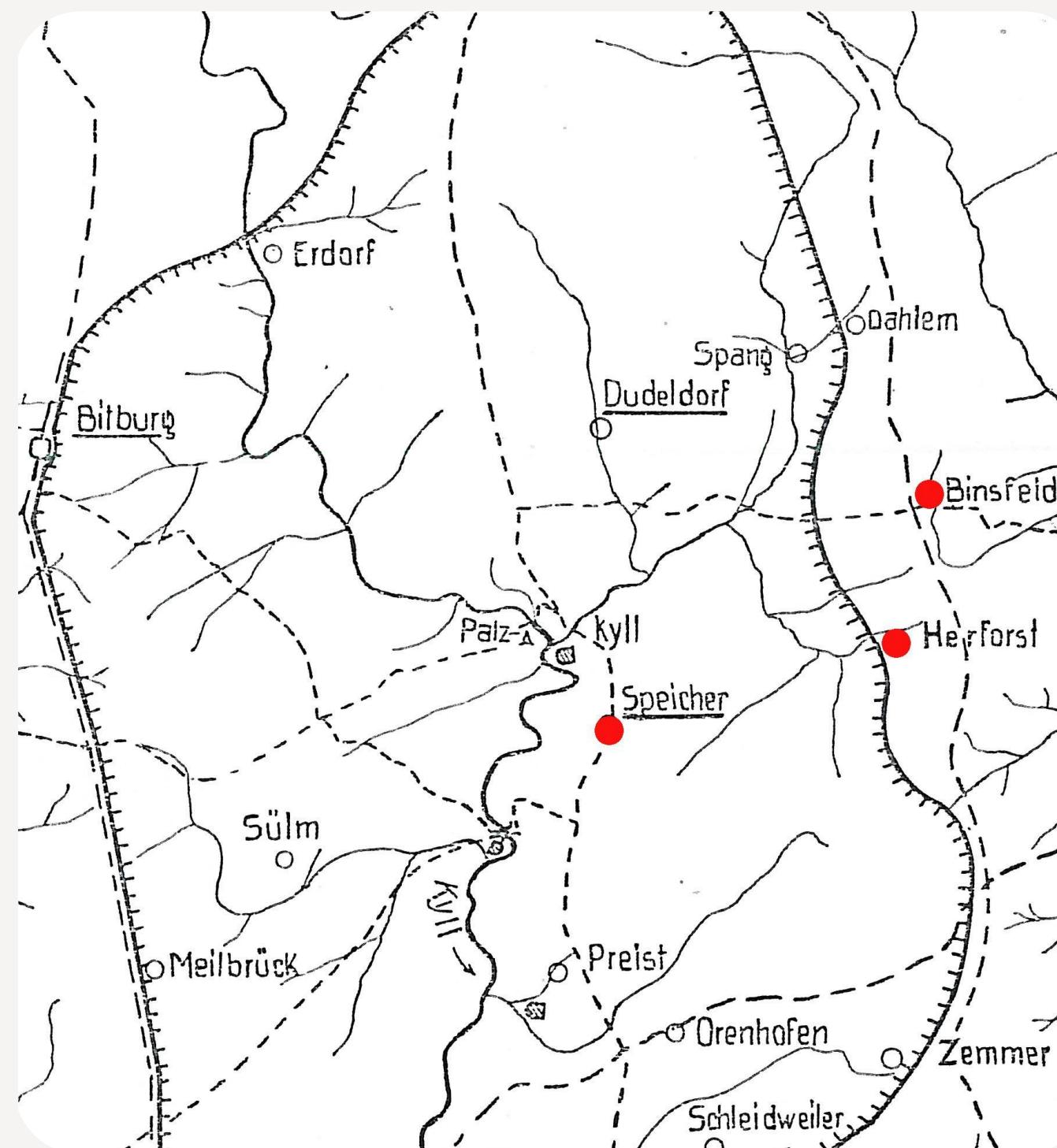
Institute	Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology (Wolfgang Neubauer)
Role	Geophysical interpretation (magnetometry, GPR), 3D reconstruction of a Roman pottery workshop
Length	2017 (6 weeks)
Tools	ApSoft, ArcMap, QGIS, Maya 3D
Year	2017



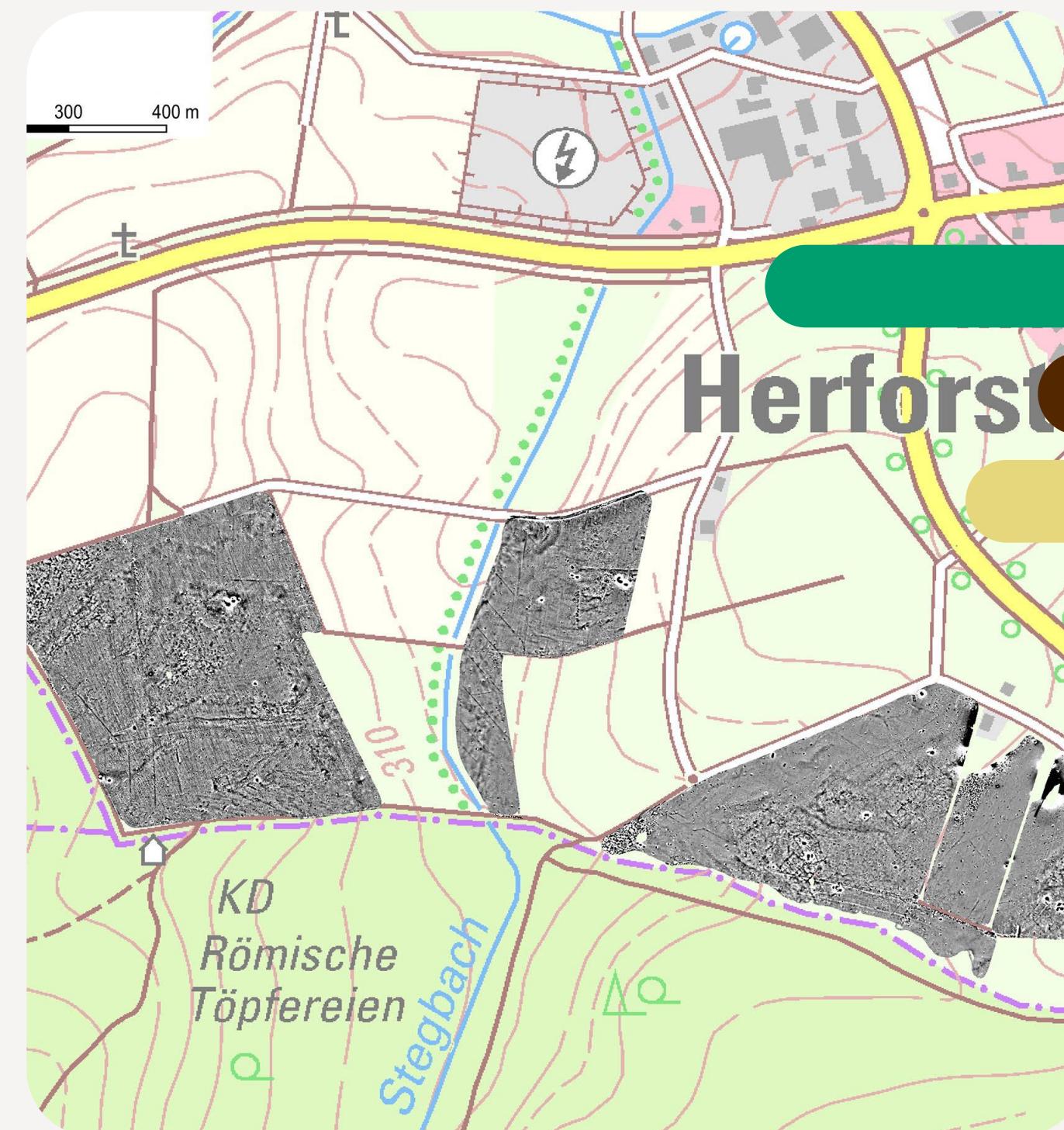
Herforst Roman pottery centre (Germany)

Excerpts of the results I participated in

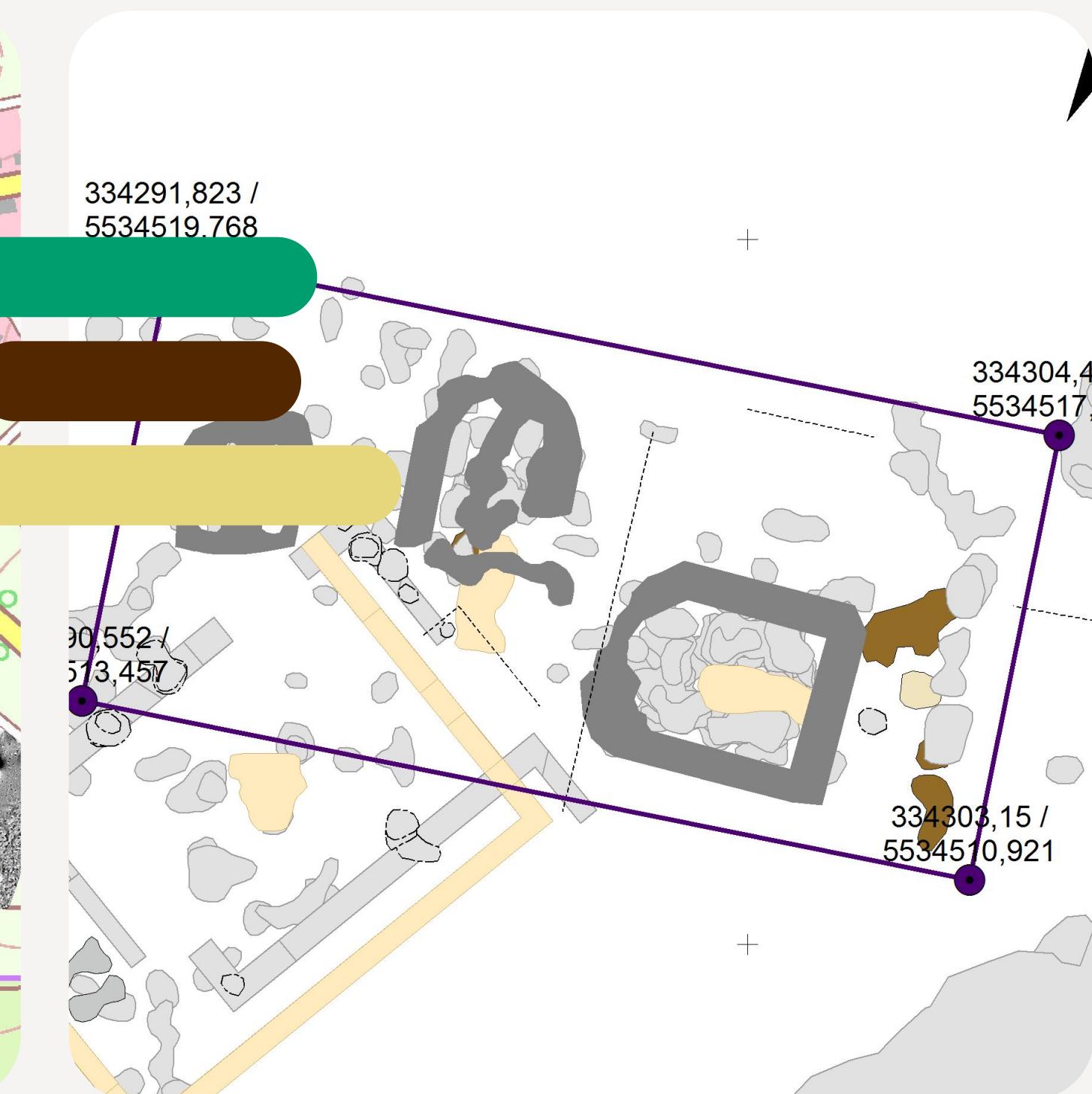
Map showing the villages Herforst and Speicher in Germany



Map showing the magnetic surveyed data



Map showing three ovens interpreted based on GPR



Seleukia Sidera (Turkey)

The Seleukia Sidera project aimed to map and analyse the ancient city's urban layout using non-invasive geophysical methods, including magnetic prospection and ground-penetrating radar (GPR). The project uncovered several urban structures, such as streets, fortifications, and public buildings, allowing for a deeper understanding of the city's development from the Hellenistic through to the Byzantine periods.

Institute University of Isparta (Bilge Hörmüzlü), HTW Berlin (Thomas Schenk)

Role Geophysical data collection and interpretation (magnetic survey, GPR),
3D scanning, geophysical prospection lead (2017)

Length 2016 (4 weeks), 2017 (4 weeks)

Tools Leica SmartScanstation 2 (3D scanning), magnetometer, GPR,
MAGNETO, QGIS

Year 2016–2017



Seleukia Sidera (Turkey)

Excerpts of the results I participated in

Magnetic hand-held survey



Map showing position of the archaeological site



Interpretation of the magnetic and GPR data



SERVICE

ILLUSTRATION

Creating accurate and engaging visual representations of
archaeological data, communication and concepts



The challenge

Data and findings often need to be communicated across diverse audiences—ranging from academic researchers to the public. Archaeological sites and research can be complex, and without accurate or artistic illustrations, the context and significance of artefacts or structures may not be fully appreciated.

Specific goals

Provide precise and informative or artistic and playful visual content that aids in the understanding and dissemination of archaeological findings.

Key services

- **Technical Illustration:** Detailed site plans, maps, and section drawings.
- **Artefact and Reconstruction Drawings:** Visual reconstructions of artefacts and historical scenes.
- **Infographics:** Simplified data visualisations for educational and public engagement.

Cover design

Podcast Episode Cover

This project involved creating the cover design for a three-part mini-series on That Anthro Podcast titled Bioarchaeology: The Past, Present, and Future. The cover artwork features bioarchaeological elements such as a microphone, skull, calliper, trowel, and a DNA string to reflect the podcast's focus on bioarchaeology's role across time.





Length	2023 (completed)
Published	That Anthro Podcast (Gabriella Campbell)
Objective	To create a visually engaging and thematically accurate cover that symbolises the topics discussed in the bioarchaeology podcast episodes.
Challenge	Representing complex bioarchaeological concepts while ensuring the design is clear and resonates with both an academic audience and general podcast listeners.
Target Group & Pain Points	Bioarchaeologists, archaeology students, and podcast listeners, often looking for accessible yet academically grounded content in bioarchaeology, requiring a cover that reflects the depth and scope of the discussions without being overwhelming or too niche.

“

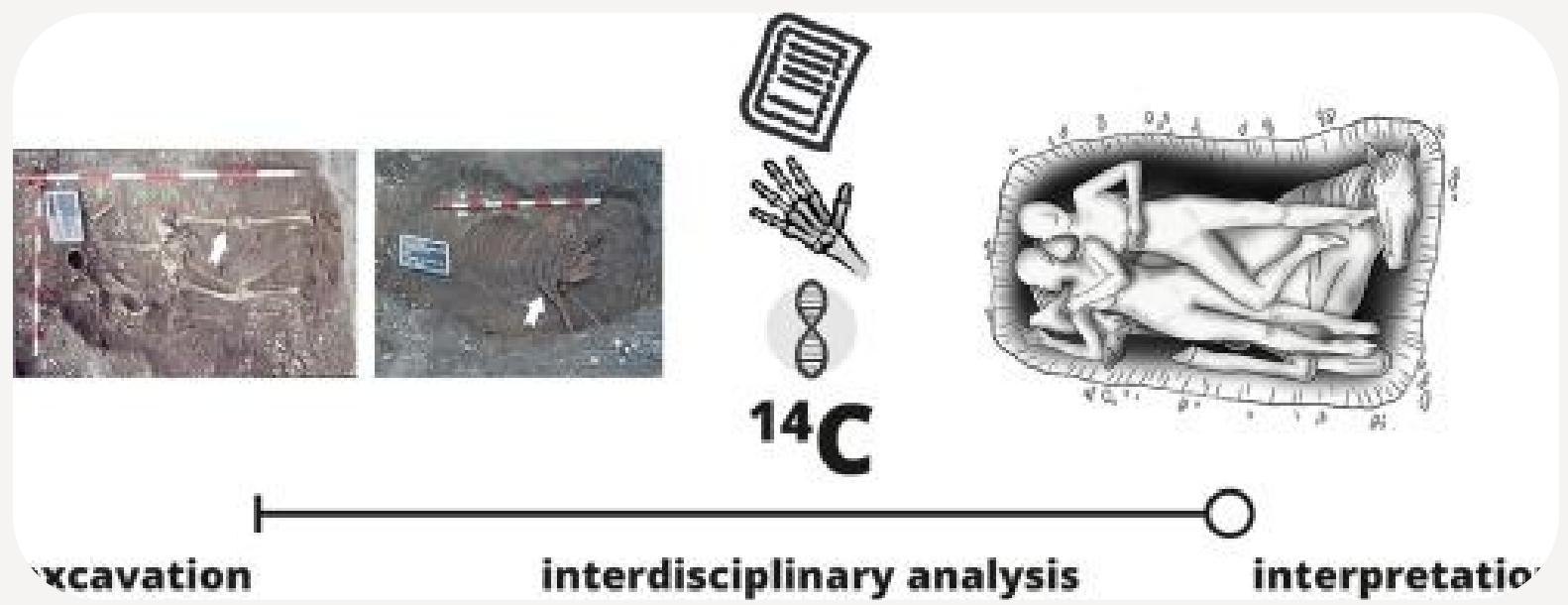
I am so glad that I was able to work with Jona. Her art is incredible and I know this is only the beginning of big things for her. And thanks so for the extras! I know how much work and creativity Jona has put into this, so thanks.



Gabriella Campbell, That Anthro Podcast



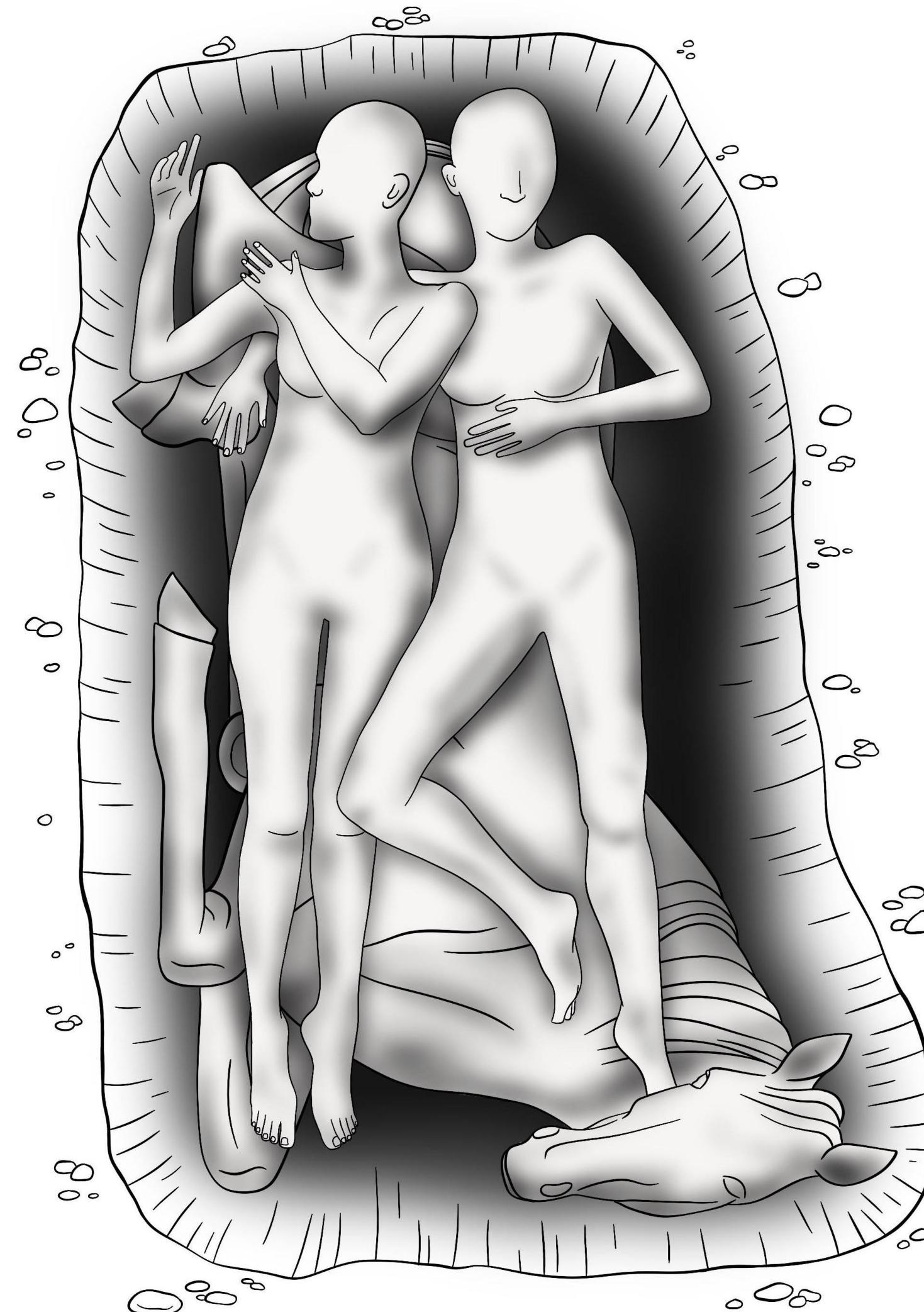
Reconstruction



Reconstruction Burial

A detailed reconstruction of a Roman-era burial, showing two female skeletons in an embrace atop a horse. This illustration was published alongside scientific research and featured in media reports.

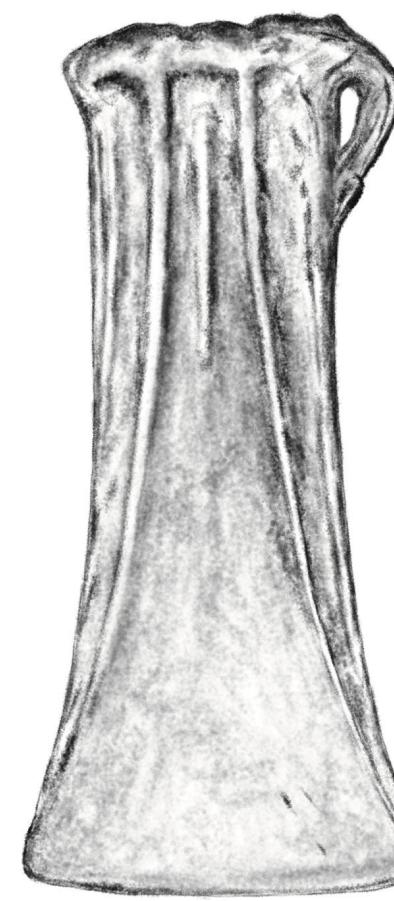




Length	2023 (completed)
Published	Journal of Archaeological Science: Report
Objective	Visually reconstruct the burial based on archaeological findings and convey the context accurately for academic and public consumption.
Challenge	Creating a scientifically accurate depiction while balancing the need for clear, compelling visuals and showcasing the interpretative aspect of the reconstruction.
Target Group & Pain Points	Archaeologists, researchers, and the general public, who often require clear visual representations to understand complex archaeological contexts, but may struggle to find well-documented illustrations that are both accurate and accessible.

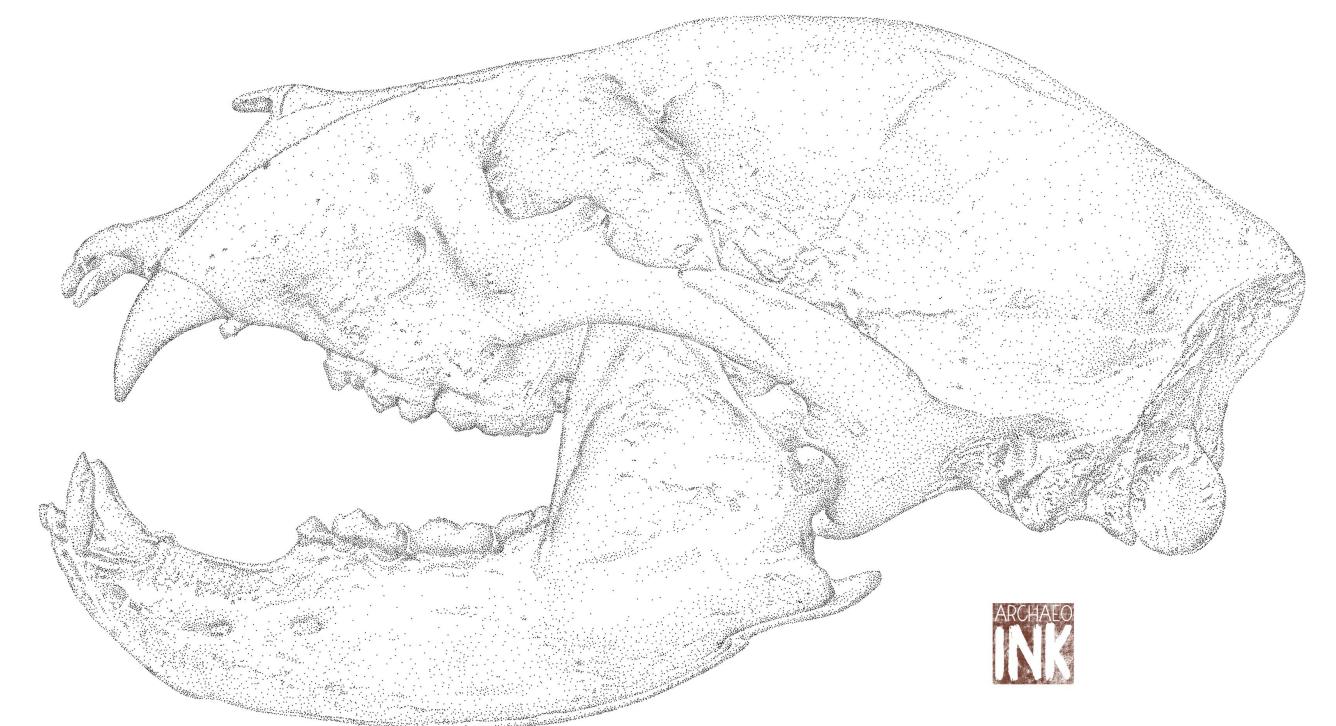
Artifact Illustration

A personal project exploring various scientific illustration techniques used to create accurate archaeological artefact drawings, focusing on methods like blending, stippling, and watercolour.



ARCHAEO
INK

Bronze age axe head – blending



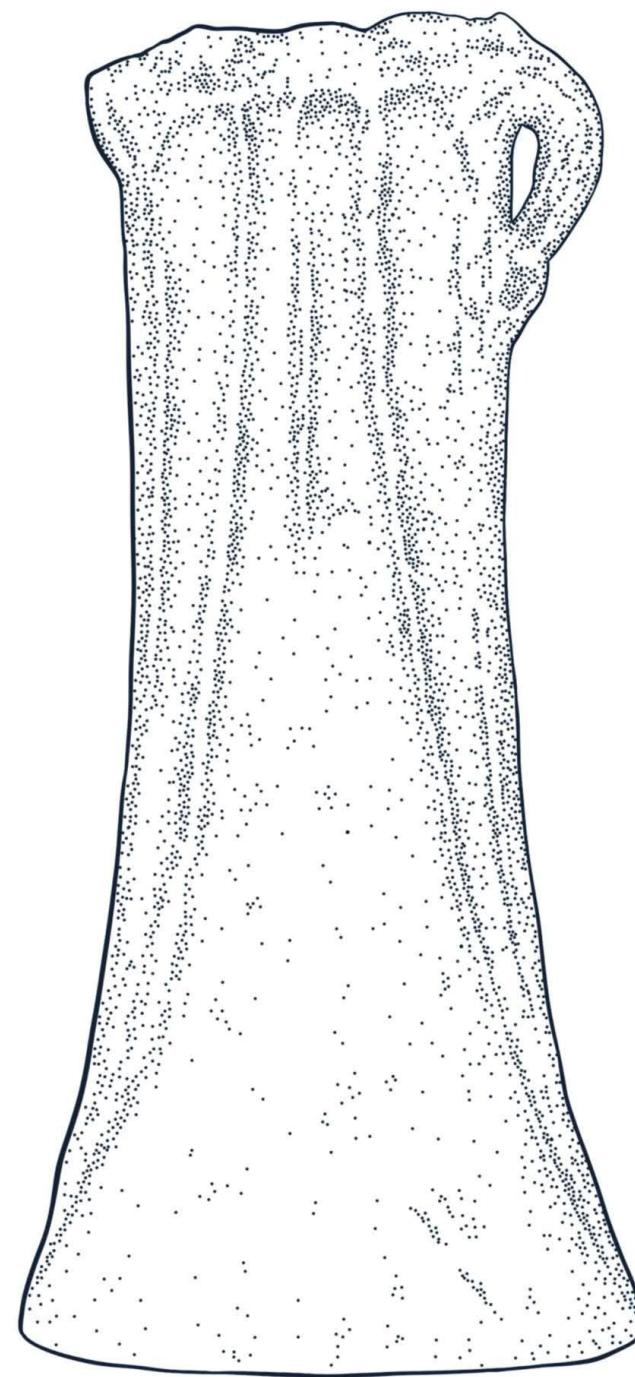
ARCHAEO
INK

Animal skull – stippling



ARCHAEO
INK

Bronze age vessel – watercolour



ARCHAEO
INK

Length	ongoing
Published	Instagram, self-study
Objective	Refine and master traditional scientific illustration techniques for artefacts.
Challenge	Achieve precision while experimenting with multiple techniques and ensuring consistency in style.
Target Group & Pain Points	Archaeologists and illustrators seeking accurate and scientifically grounded visual representations of artefacts, often lacking accessible tutorials and studies on different techniques and materials. Furthermore, ensuring ensuring the printability of the drawings.

Conceptual Illustration

A comic art-style series that explores various archaeological disciplines, aimed at showcasing the diversity within archaeology and breaking the stereotype that archaeology is solely a humanities or social studies field, and consisting of only field work.

A

RCHAEOBOTANY is the study of plant remains from archaeological sites.

Archaeobotanists can identify ancient crop varieties by examining pollen and seeds.



K

URGAN ARCHAEOLOGY

focus on the burial mounds (kurgans) found across the Eurasian steppes.



These are associated with early Indo-European cultures.



F

ORENSIC ARCHAEOLOGY

applies archaeological methods to modern and historical crime scene investigations.



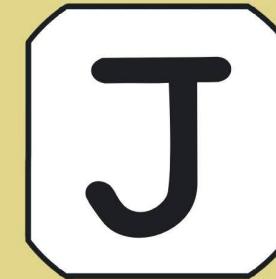
Forensic archaeologists often work with law enforcement to locate and excavate human remains.



A for Archaeobotany

F for Forensic Archaeology

K for Kurgan Archaeology



ŌMON ARCHAEOLOGY

focuses on the Jōmon period in Japan, known for its distinctive pottery and early sedentary communities.



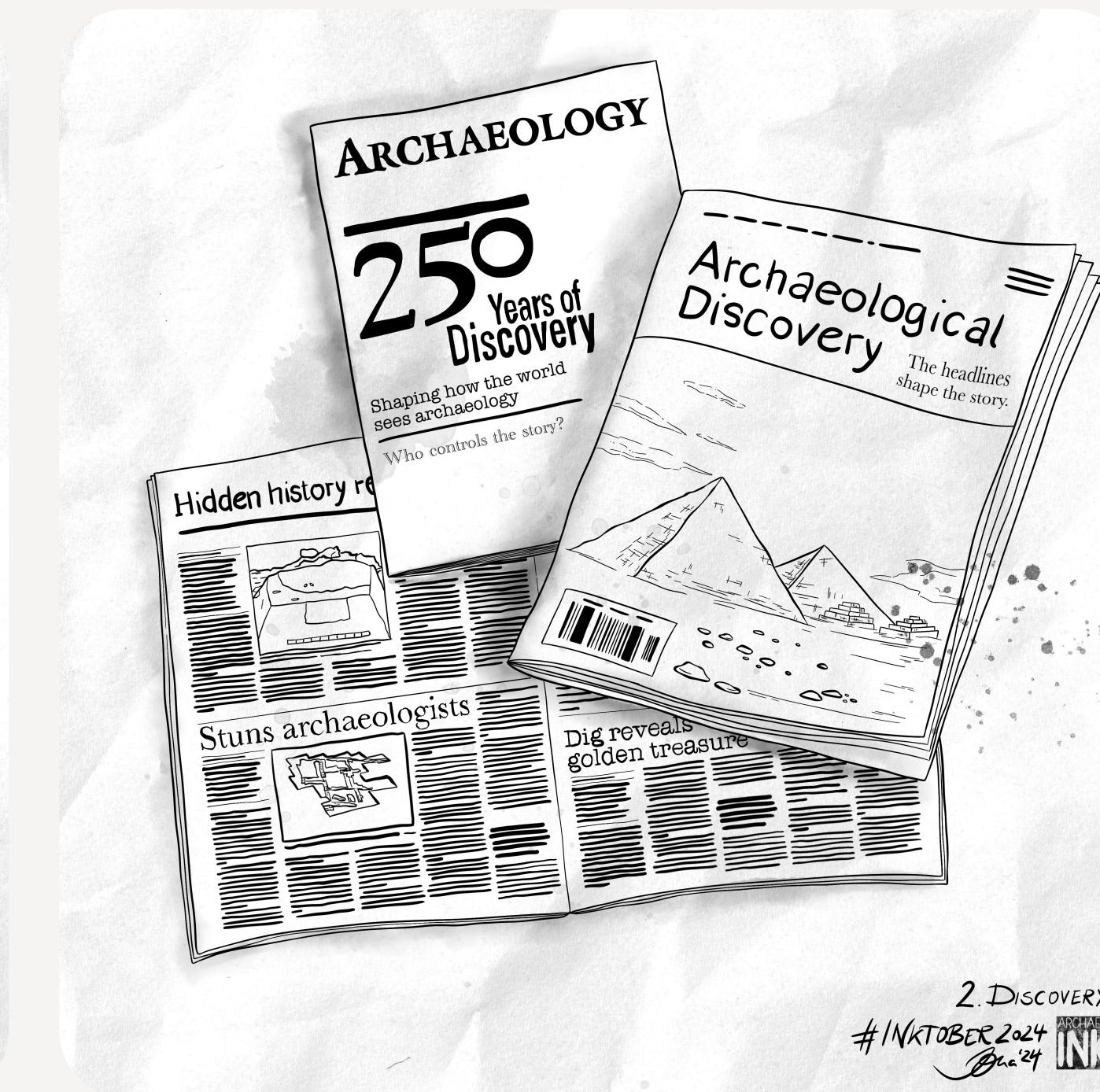
Length	ongoing
Published	Instagram, self-initiated
Objective	Inform and educate the public about the broad range of archaeological disciplines in a fun, accessible manner.
Challenge	Simplifying complex academic disciplines into visually appealing and digestible comic-style illustrations.
Target Group & Pain Points	General public and students interested in archaeology but unfamiliar with its interdisciplinary nature, often unaware of the field's scientific, diverse and technical components.

Conceptual Illustration

A series of conceptual illustrations for Inktober 2024, aimed at asking questions and challenging archaeologists to reflect on their own biases and misconceptions in the field.



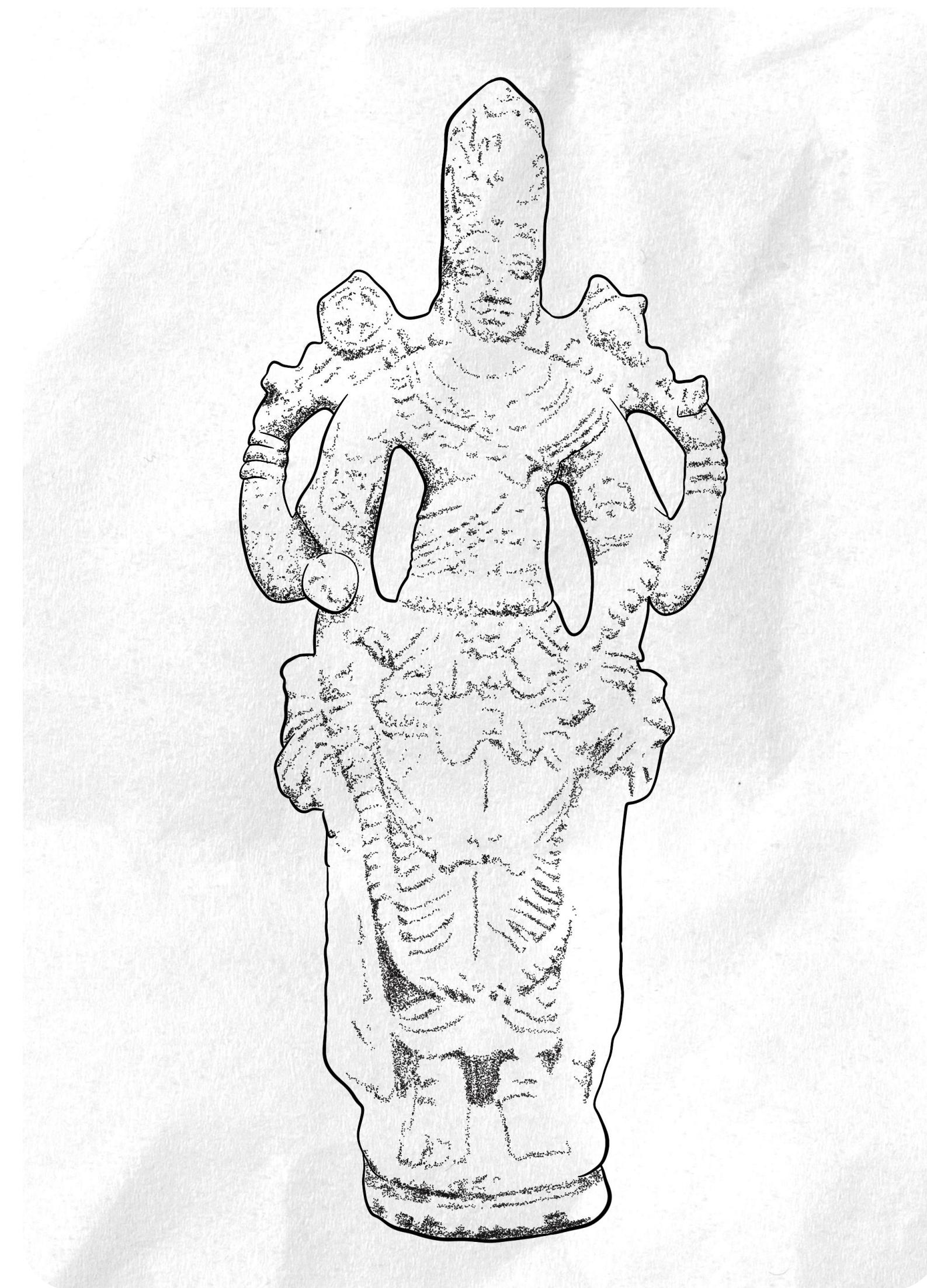
cultural baggage



sensational news titles



walking in other peoples shoes



Length	Inktober 2024 (ongoing)
Published	Instagram, self-initiated
Objective	Provoke critical thinking within the archaeological community and encourage reflection on biases and misconceptions.
Challenge	Addressing complex and sensitive topics while ensuring the illustrations spark constructive dialogue.
Target Group & Pain Points	Archaeologists and the general public interested in exploring the philosophical and theoretical underpinnings of archaeology.

SERVICE

WEB DEVELOPMENT

Developing interactive websites to present and visualise
archaeological data and projects online



The challenge

Managing and presenting large datasets requires a system that is intuitive and easy to navigate, ensuring that information is accessible to a wide audience. The challenge is creating websites and platforms that provide in-depth, interactive experiences.

Specific goals

Build interactive, user-friendly platforms that support in-depth exploration of archaeological data, which also can incorporate a storytelling approach.

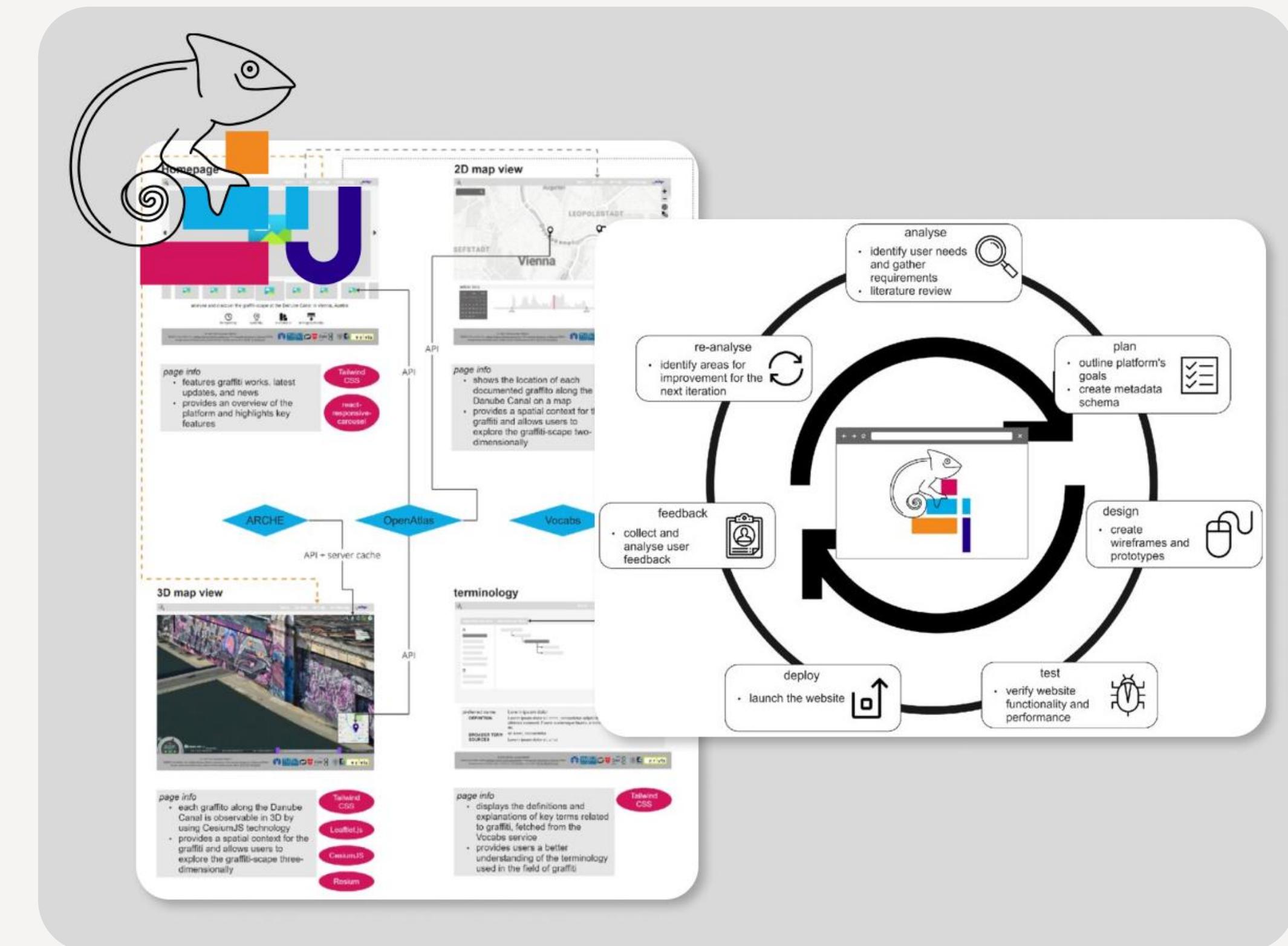
Key services

- **Web Design:** Crafting responsive and visually appealing websites tailored to user experience.
- **Web Development:** Building robust platforms with a focus on functionality, accessibility, and performance.
- **Storytelling:** Integrating narrative-driven content to create engaging, context-rich user experiences.
- **3D Data Visualisation:** Integrating 3D models and interactive maps for dynamic exploration.



Urban Chameleon

The primary objective of Urban Chameleon was to create an intuitive, interactive platform that enables users to explore and analyse graffiti in their spatial and temporal context. This project aimed to preserve graffiti as cultural heritage, making it accessible to researchers, graffitists, and the general public.



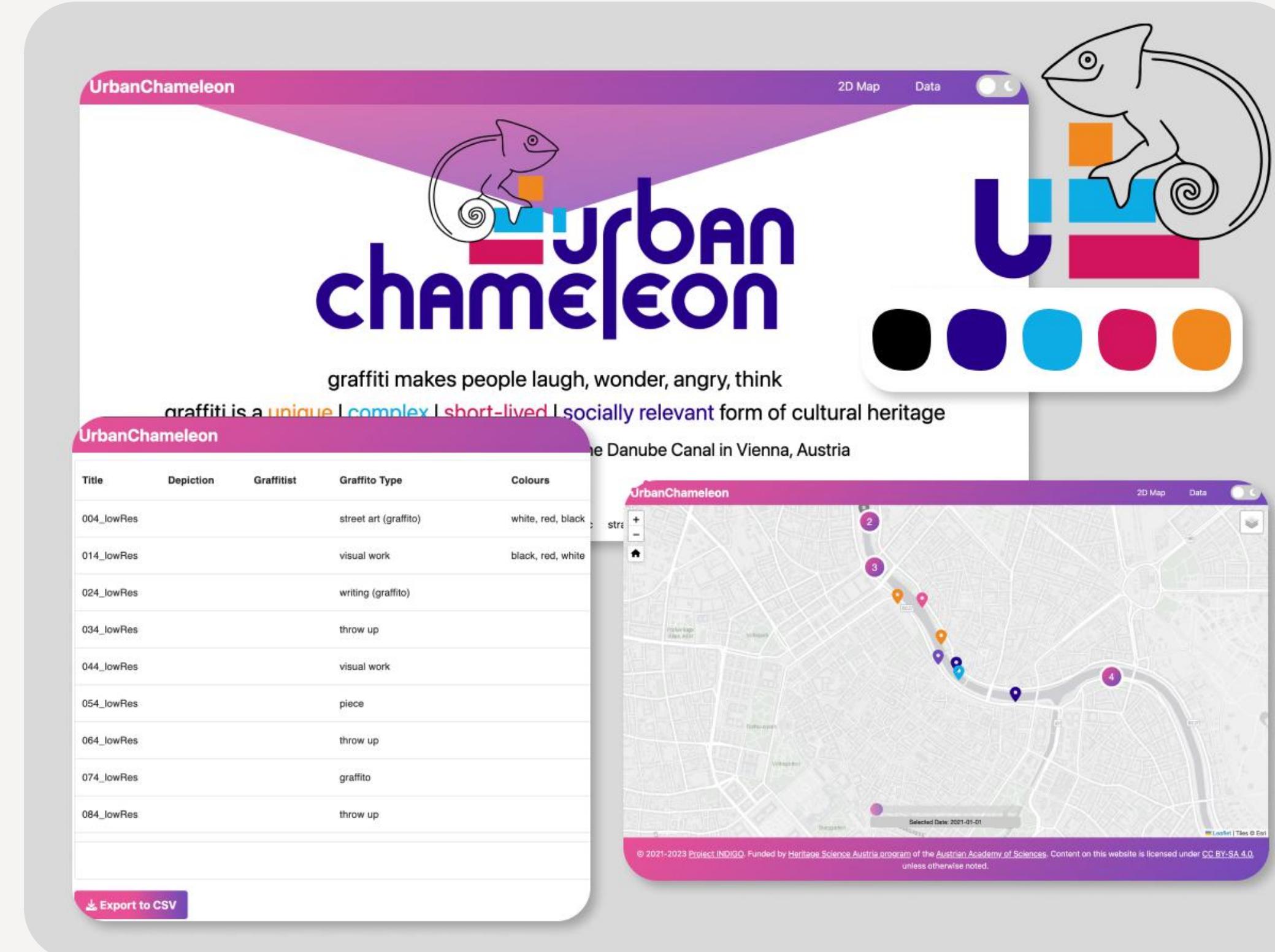
Challenges

The project faced significant challenges, including:

- **Ephemerality of Graffiti:** Graffiti are inherently transient, often removed or altered shortly after creation. Capturing and preserving this short-lived cultural heritage requires a platform which could dynamically display the ever-changing graffiti-scape over time.
- **Performance:** Managing and visualising large datasets in real-time while ensuring smooth interaction on various devices presented a technical challenge, especially with the high-resolution 3D surface models and data layers.

Target Group & Pain Points

- **Researchers:** Need a tool to efficiently query graffiti metadata, including details on location, temporal changes, and creator information, without overwhelming the system.
- **Graffitists:** Require a platform that represented their work and intentions, preserving the ephemeral nature of their art while allowing for virtual engagement.
- **General Public:** Required a visually engaging and intuitive platform that allows them to explore graffiti along the Danube Canal without technical complexities.



Institute

Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology (Geert Verhoeven)

Role

Wireframing, Mockup, Prototyping, Web Development

Length

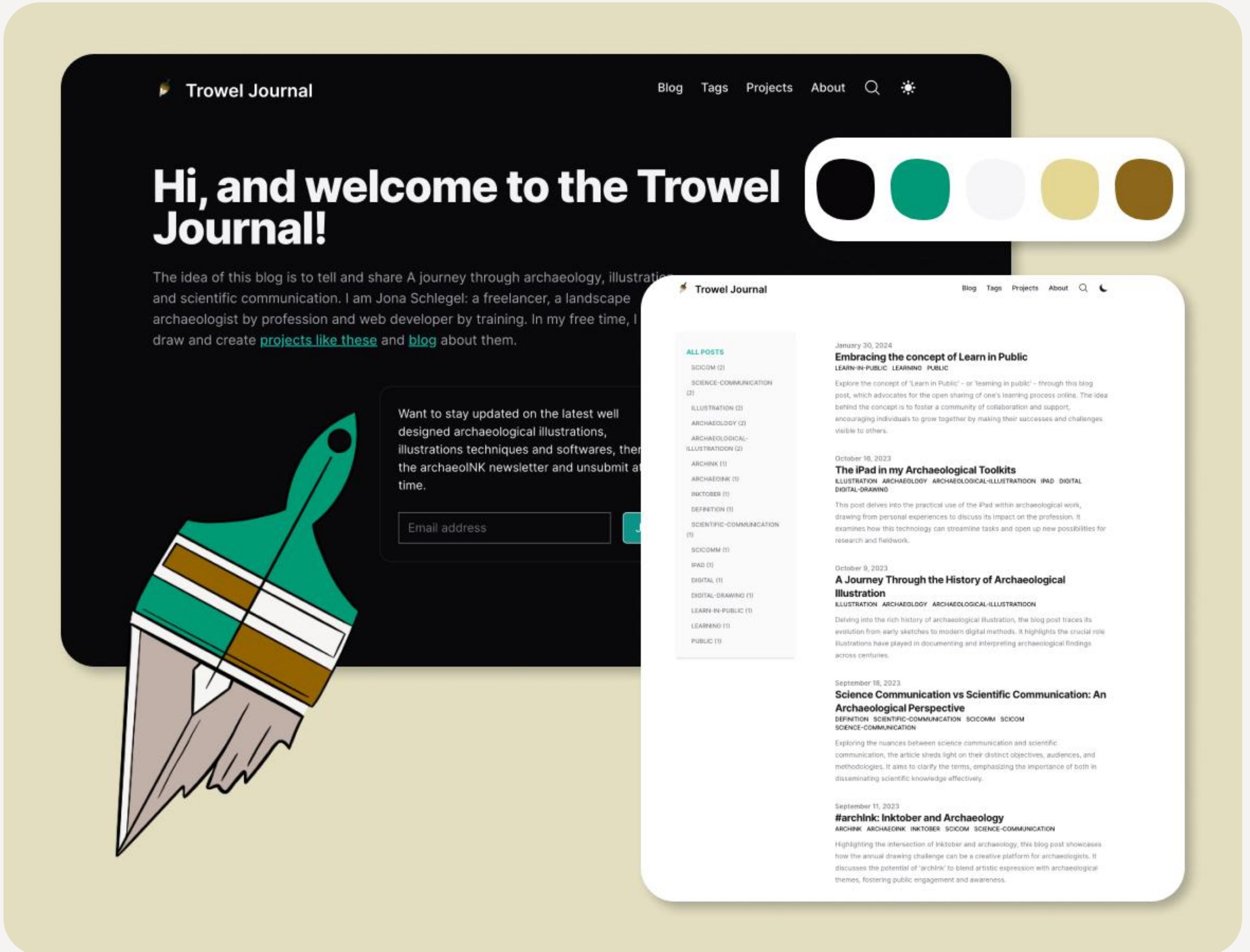
2 month intensive work

Tools

Next.js 13+, React, SCSS, TypeScript, Figma, Miro, OpenAtlas, Resium/CesiumJS

Year

2023



Trowel Journal – Blog

Trowel Journal is a **personal blog** aimed at sharing ideas and **thoughts on archaeology, illustration, and scientific communication**. The blog is structured using Markdown files for each post, allowing for seamless content creation and organisation. The platform enables to discuss ongoing projects, explore new ideas, and share personal insights related to the field of archaeology. Trowel Journal started in October 2023 and is an **ongoing project**.

Challenges

- **Balancing Professionalism with Personal Expression:** Maintaining a tone that resonates with both professional archaeologists and general readers, while sharing personal reflections on scientific topics.
- **Content Management:** Ensuring that the Markdown-based structure remains scalable and easy to manage as the volume of content grew. Markdown was chosen for its simplicity.
- **Consistency in Updates:** The blog aims to regularly publish new content, but maintaining a consistent posting schedule while balancing other professional projects poses an ongoing challenge, which might not be often met.

Target Group & Pain Points

- **Archaeologists:** Seeking accessible content on excavation techniques, digital tools, and workflows, without overly technical language and even incorporating glossaries
- **Illustrators:** Looking for practical tips and insights on scientific, archaeological illustration, particularly how these techniques apply to archaeological projects, while addressing the lack of specialised content.
- **Science Communicators:** Needing approachable methods for communicating complex topics in science and archaeology.

My focus is on enabling archaeologists to communicate their research more effectively, using visual tools to support better science and broader public engagement.

I enjoy exploring the diverse methods and technologies we use in archaeology and sharing that knowledge in a clear and accessible way.

I am always looking to collaborate on scientific projects, either as an illustrator or a web designer/developer, with a particular interest in research related to science communication. I'm also keen to explore 3D web development, integrating maps and 3D artefacts to make archaeology more interactive and explorable. Adding a storytelling aspect to these tools is important to me, ensuring that they serve both the public and other researchers.

— Jona Schlegel —



Thank you
Get in touch:

archaeoINK@jonaschlegel.com