



Peer Community In Archaeology

The IUENNA project: integrating old data and documentation for future archaeology

Ronald Visser  based on peer reviews by **Nina Richards** and 3 anonymous reviewers

Hagmann, Dominik; Reiner, Franziska (2023) IUENNA – openIng the soUthErn jauNtal as a micro-regioN for future Archaeology: A “para-description”. OSF preprints, ver. 3, peer-reviewed and recommended by Peer Community in Archaeology.

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This recommended paper on the IUENNA project (Hagmann and Reiner 2023) is not a paper in the traditional sense, but it is a reworked version of a project proposal. It is refreshing to read about a project that has just started and see what the aims of the project are. This ties in with several open science ideas and standards (e.g. Brinkman et al. 2023). I am looking forward to see in a few years how the authors managed to reach the aims and goals of the project.

The IUENNA project deals with the legacy data and old excavations on the Hemmaberg and in the Jauntal. Archaeological research in this small, but important region, has taken place for more than a century, revealing material from over 2000 years of human history. The Hemmaberg is well known for its late antique and early medieval structures, such as roads, villas and the various churches. The wider Jauntal reveals archaeological finds and features dating from the Iron Age to the recent past. The authors of the paper show the need to make sure that the documentation and data of these past archaeological studies and projects will be accessible in the future, or in their own words: “Acute action is needed to systematically transition these datasets from physical filing cabinets to a sustainable, networked virtual environment for long-term use” (Hagmann and Reiner 2023: 5).

The papers clearly shows how this initiative fits within larger developments in both Digital Archaeology and the Digital Humanities. In addition, the project is well grounded within Austrian archaeology. While the project ties in with various international standards and initiatives, such as Ariadne (<https://ariadne-infrastructure.eu/>) and FAIR-data standards (Wilkinson et al. 2016, 2019), it would benefit from the long experience institutes as the ADS (<https://archaeologydataservice.ac.uk/>) and DANS (see Data Station Archaeology: <https://dans.knaw.nl/en/data-stations/archaeology/>) have on the

storage of archaeological data. I would also like to suggest to have a look at the Dutch SIKB0102 standard (<https://www.sikb.nl/datastandaarden/richtlijnen/sikb0102>) for the exchange of archaeological data. The documentation is all in Dutch, but we wrote an English paper a few years back that explains the various concepts (Boasson and Visser 2017). However, these are a minor details or improvements compared to what the authors show in their project proposal. The integration of many standards in the project and the use of open software in a well-defined process is recommendable.

The IUENNA project is an ambitious project, which will hopefully lead to better insights, guidelines and workflows on dealing with legacy data or documentation. These lessons will hopefully benefit archaeology as a discipline. This is important, because various (European) countries are dealing with similar problem, since many excavations of the past have never been properly published, digitalized or deposited. In the Netherlands, for example, various projects dealt with publication of legacy excavations in the Odyssee-project (<https://www.nwo.nl/onderzoeksprogrammas/odyssee>). This has led to the publication of various books and datasets (24) (<https://easy.dans.knaw.nl/ui/datasets/id/easy-dataset:34359>), but there are still many datasets (8) missing from the various projects. In addition, each project followed their own standards in creating digital data, while IUENNA will make an effort to standardize this. There are still more than 1000 Dutch legacy excavations still waiting to be published and made into a modern dataset (Kleijne 2010) and this is probably the case in many other countries. I sincerely hope that a successful end of IUENNA will be an inspiration for other regions and countries for future safekeeping of legacy data.

References:

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Reviews

Evaluation round #1

DOI or URL of the preprint: <https://doi.org/10.31219/osf.io/5vwg8>

Version of the preprint: 1

Authors' reply, 18 September 2023

Thank you for your patience, as well as for the constructive feedback and oversight of the review process. We also wish to extend our appreciation to the reviewers for their invaluable input. In accordance with the received critiques, we have rigorously revised the manuscript. This revision encompasses a significant reorganization of the paper, a comprehensive rewrite of the abstract, and the addition of a new "Discussion" section in which we articulate the paper's purpose with greater clarity. Furthermore, we have updated the paper's lifecycle and expanded the bibliography, incorporating both recommended and additional references to include perspectives from other regions and methodological approaches. All modifications and updates for the new Version 2 preprint have been scrupulously detailed in the attached document with tracked changes.

[Download tracked changes file](#)

Decision by [Ronald Visser](#) , posted 20 July 2023, validated 20 July 2023

The IUENNA project: an interesting project with some revisions needed in the paper

The paper on the *IUENNA* project was reviewed by several reviewers. The paper proved interesting to various reviewers, but some issues were also raised. The paper is well received as a well-structured document and is considered convincing and comprehensible. The various comments in the reviews agree with my personal views on this excellent project and the paper, although sometimes the reviewers also presented some interesting points of view that will improve the paper.

The paper is different from regular research papers, since it entails a research proposal reworked as a paper. Some reviewers really enjoyed this, others did not agree. The paper has very clear aims and ambitions, but no results. The methodology is explained in vague terms, but without specific technical solutions. On the other hand, it was noted that the use of Open Source Software (OSS) and of open standards is commendable. The research strategy is seen as sound and the broad cooperation with different partners is clearly defined.

There are no results yet, but the reviewers agree that the results of the project are very important for the history of the Jauntal and beyond. The project is seen as a pilot project in Austrian archaeology because of the connection to the digital humanities. The project can be an example other regions, although I would recommend to have a look at other regions and countries to see which projects succeeded and failed in this perspective. I would really like to stress that the various reviewer have made some excellent points to improve the paper. Therefore, I would like to recommend revisions for improvement.

Reviewed by anonymous reviewer 3, 09 July 2023

This paper presents a new interdisciplinary research project on the handling and use of archaeological research data in a digital environment in a defined micro-region. This region, located in the south of Austria around the Jauntal, is of particular interest for archaeological research on Late Antiquity with its pilgrimage centre and the surrounding area, covering more than 2000 years of cultural history.

The research question and the project to use all archaeological data from a defined region with the help of digital humanities is in a way a pilot project in Austrian archaeology. Especially the approach to implement all archaeological data including excavation results, plans and finds in a digital environment and to make this openly accessible represents an important step towards the digitisation and usability of archaeological data.

By presenting the workflows and data used, this case study can serve as practical guidelines for future work of this kind. Particularly convincing in the approach to the project is the cooperation of different institutions and authorities, as well as the considerations on risks and the basic thoughts on uniform naming and the use of freely available software.

The work is clear, well-structured and convincing. All underlying thoughts as well as the research question and the approach are well comprehensible. Everything is described and explained in detail by the authors.

I strongly support the PCI's recommendation of this paper based on the research questions, approach and clarity of the text.

Reviewed by anonymous reviewer 1, 06 July 2023

The paper "IUENNA – opening the soUthErn jauNtal as a micro-regioN for future Archaeology" describes the successful application and the motivation for an infrastructure project to make information about the site Hemmaberg available for research. The paper is a reworked version of the proposal, as stated in the "paper life-cycle" section, and thus does not present any research questions, analysis or results, but only the aims and ambitions of the project. The methodology is also only described in such vague terms, without mentioning specific technical solutions, that there is little to learn from the text for anyone who wishes to apply for a similar project. While it is very good news that the project got funding, and it will provide a valuable asset to anyone interested in the archaeology of the region, this is neither a research paper presenting new results nor a complete description of how the infrastructure will work and what research it will enable. Rather than explaining what will be done in the future, it will be more relevant to present this when it is actually done, and proven to work efficiently, so that the authors can present the solutions, how all problems to achieve this were met, and how the information in IUENNA can be used.

Reviewed by anonymous reviewer 2, 07 July 2023

The paper presents a project to collect the diverse, widespread data on excavations at the Hemmaberg site in Austria, to retrodigitize analog data, and to present the data as whole in an online repository in a sustainable, longterm way.

The expected results of the project, which itself is still in the very early stages, will undoubtedly further the digitization and open access publication of archaeological excavation data, especially in Austria. The workflows and pipelines to be tested can serve as examples for other projects as well, the development of standards for metadata enrichment, structuring and storage of data can be of great interest to other projects with similar challenges. Therefore, the subject of the paper in general promises fruitful insights into the important task of bringing the research history of well-known sites into the digital sphere, and into the challenges to be expected on the way.

Yet, unfortunately I have doubts if the paper in its current form is fit for publication as a scientific paper. This impression stems mainly from the admission of the authors itself, that the text represents, with minor changes, the proposal submitted for gaining funding for the project. This is evident in chapters such as Dissemination strategy, Description of risks and proposed risk mitigation measures and contingency plan, Ethics aspects, or Declaration of interest which in this form have little to no value to readers of a scientific paper. This leads also to an overly positive positioning of the projects (words such as "excellent", "outstanding", or "innovative" are used excessively throughout the paper) which seems at odds with an objective description of technologies and workflows expected from a scientific paper.

Apart from this aspect, the language of the paper could benefit from revision, if possible by a native speaker; on a formal level, the authors remain vague through much of the paper, giving concrete details on standards observed or technologies used only very late, which leaves the reader with commonplace statements such that "IUENNA will result in a sustainable and comprehensive long-term archive", or that metadata will be structured

(how?) for much of the text. Also, the abstract should be rewritten, as it merely represents a copy of the beginning of the paper instead of a concise summarization of its main arguments.

In summary, in theory the paper presents an interesting case study of research data management for information from a site with a long, intensive research history; however, its form requires extensive revisions and a clear focus on the description of the aims and methods of the project. I would suggest a re-structuring and re-writing of the paper to emphasize the aspects which are of interest to the archaeological research community, not the funding agencies.

Reviewed by Nina Richards, 11 July 2023

Thank you for the opportunity to review this manuscript. The presented article discusses the project IUENNA (Opening the soUthErn JauNtal as a micro-regioN for future Archaeology).

The basis of the project is the manifold documents (digital and analog) of the archaeological excavation activities in the southern Jauntal (Carinthia, Austria). These include the many years of excavations on the plateau of Hemmaberg with its late antique pilgrimage center of supra-regional importance as well as the partly interdisciplinary processed sites Globasnitz, Jaunstein, and Sankt Stefan. The project aims to digitize the documentation of the various sites and to make it available online in a structured form as open access as well as provide long-term archiving. This case study lays an important foundation for structuring the extensive documentation of other excavations in a similar way and making it available online in the future. In this way, the loss of important data, which is currently often stored in paper form and unstructured in filing cabinets and therefore hardly accessible, can be prevented.

The research questions of the project are clearly formulated and the tasks are delineated. The text is also well structured. The methods are well laid out for the most part. However, a more detailed description of important infrastructure such as ARCHE would be desirable - especially since the repository occupies such an important position within the project.

In addition, a more detailed chapter on the research history of the region would be desirable, also to further emphasize the importance of the Jauntal. This would also give the opportunity to supplement the literature references in a meaningful way.

In my opinion, this is a well-written article, which could gain in quality by a few additions.

A few additional notes:

- As already mentioned, due to the great importance of ARCHE, I would recommend going into more detail about the repository. In any case, at least the project page should be linked in the text. Also linking Ariadne's presentation site when mentioned in the text would be desirable

- The literature references seem a bit scarce, also due to the long history of research in the region. In any case, at least the latest publication by Eitler should be mentioned here (see here with links to the open-access publication: <https://landesmuseum.ktn.gv.at/aktuelles?nid=241>). Also, a short mention of other archaeological projects related to DH would be useful, see for example the publications of Eichert 2020 (<https://dl.acm.org/doi/10.1145/3406535>), Filzwieser and Eichert 2020 (<https://www.mdpi.com/2571-9408/3/4/77>) or Vargha (<https://www.archaeopress.com/Archaeopress/Contributor/M%C3%A1ria-Vargha>) to name only a few projects, which are also strongly related to GIS applications

- Unfortunately, the article does not mention the cemeteries that are important for the Jauntal. These were uncovered and excessively researched on the Hemmaberg (Late Antiquity and Early Middle Ages), in Globasnitz and Jaunstein. The associated anthropological processing, which is also part of the project and will be transferred to long-term archiving, is only mentioned in the section on Ethics aspects. This should also be mentioned at least briefly in the text

- Since the work steps are already outlined on page 5 of the article, listing the work packages at the end of the

article can, in my opinion, be omitted; also the section on the role of team members could, in my opinion, be deleted from the article (these are essential points in the submission of the project but not necessarily relevant to this article)

- Unfortunately, there is no information on the authors of the illustrations either in the captions or in a separate section. Were all of them created by the authors?