






Peer Community In Archaeology

A comparative teaching and learning tool for 3D data: Dynamic Collections

Sebastian Hageneuer  based on peer reviews by **Alex Brandsen**  and **Louise Tharandt** 

Marco Callieri, Åsa Berggren, Nicolò Dell'Unto, Paola Derudas, Domenica Dininno, Fredrik Ekengren, Giuseppe Naponiello (2023) The Dynamic Collections – a 3D Web Platform of Archaeological Artefacts designed for Data Reuse and Deep Interaction. Zenodo, ver. 3, peer-reviewed and recommended by Peer Community in Archaeology.

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The paper (Callieri, M. et al. 2023) describes the “Dynamic Collections” project, an online platform initially created to showcase digital archaeological collections of Lund University. During a phase of testing by department members, new functionalities and artefacts were added resulting in an interactive platform adapted to university-level teaching and learning. The paper introduces into the topic and related works after which it starts to explain the project itself. The idea is to resemble the possibilities of interaction of non-digital collections in an online platform. Besides the objects themselves, the online platform offers annotations, measurement and other interactive tools based on the already known 3DHOP framework. With the possibility to create custom online collections a collaborative working/teaching environment can be created.

The already wide-spread use of the 3DHOP framework enabled the authors to develop some functionalities that could be used in the “Dynamic Collections” project. Also, current and future plans of the project are discussed and will include multiple 3D models for one object or permanent identifiers, which are both important additions to the system. The paper then continues to explain some of its further planned improvements, like comparisons and support for teaching, which will make the tool an important asset for future university-level education.

The paper in general is well-written and informative and introduces into the interactive tool, that is already available and working. It is very positive, that the authors rely on up-to-date methodologies in creating 3D online repositories and are in fact improving them by testing the tool in a teaching environment. They mention several times the alignment with upcoming EU efforts related to the European Collaborative Cloud for Cultural Heritage (ECCCH), which is anticipatory and far-sighted and adds to the longevity of the project. Comments of

the reviewers were reasonably implemented and led to a clearer and more concise paper. I am very confident that this tool will find good use in heritage research and presentation as well as in university-level teaching and learning.

Although the authors never answer the introductory question explicitly (What characteristics should a virtual environment have in order to trigger dynamic interaction?), the paper gives the implicit answer by showing what the "Dynamic Collections" project has achieved and is able to achieve in the future. Bibliography

Callieri, M., Berggren, Å., Dell'Unto, N., Derudas, P., Dinunno, D., Ekengren, F., and Naponiello, G. (2023). The Dynamic Collections – a 3D Web Platform of Archaeological Artefacts designed for Data Reuse and Deep Interaction, Zenodo, 10067103, ver. 3 peer-reviewed and recommended by Peer Community in Archaeology. <https://doi.org/10.5281/zenodo.10067103>

Reviews

Evaluation round #1

DOI or URL of the preprint: <https://doi.org/10.5281/zenodo.8305190>

Version of the preprint: 1

Authors' reply, 24 October 2023

We have revised the submission according to the reviews, and upload to Zenodo as version 2.

Here is a summary of the changes. The pdf attached shows the main editing, while small changes in the text are not shown, for simplicity.

Changed format

Reviewer 1 suggested to answer a rhetorical question from the introduction. I will NOT do it. The point of a rhetorical question is that... it has no explicit answer, but the whole text is the (implicit) answer.

updated images to the latest version of the interface, and made them bigger

Few US spelling found and corrected.

3DHOP reference added in the text

small typos corrected.

added sentences on the (subsection "Support to teaching"). Explained how to connect the test with existing university course-management systems.

I have NOT explained how we plan to make the test secure, because it is beyond the topic of this paper, and it is an ongoing work.

Added sentences on the sustainability of data storage.

added references on the semantic mapping of metadata

added comment on the possibility of having a DOI for each object

kind regards

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Decision by **Sebastian Hageneuer** , posted 19 October 2023, validated 19 October 2023

Minor revisions based on the comments of the reviewers

The paper "The Dynamic Collections – a 3D Web Platform of Archaeological Artefacts designed for Data Reuse and Deep Interaction" is a well-written and highly interesting paper. Nevertheless there are some minor revisions proposed by the two reviewers. I like to ask the authors to go through these comments and implement them accordingly. Especially the readability of the images/graphics should be addressed. I also ask the authors to provide a documentation of changes made to the original article and upload it here through the PCI Archaeology platform as a response.

The paper is nearly ready and only needs some finishing touches. We are looking forward reading the final version!

Reviewed by [Alex Brandsen](#) , 26 September 2023

This paper describes the Dynamic Collections project, which focuses on enabling deep, structured interactions with digital replicas of archaeological artifacts through a web-based platform and specialised tools. This initiative has garnered positive feedback from the academic community and has introduced innovative concepts like annotated customised collections for enhancing teaching and research in archaeology. Ongoing efforts aim to further refine the platform and expand its capabilities for a more integrated user experience.

Overall, this paper was very enjoyable to read, and presents interesting research with a clear use for the archaeological community. Besides some minor notes and suggestions (see attached file), I would recommend this paper to be accepted.

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Reviewed by [Louise Tharandt](#) , 15 October 2023

The title, abstract, and description of the "Dynamics Collection Project" are both clear and comprehensive. It's evident that the authors have taken inspiration from traditional libraries and archives and have creatively adapted these concepts for an online environment. This adaptation is not just innovative, but it's also highly relevant for today's digital age.

I'm genuinely enthusiastic about the educational implications of this project. The prospect of bringing virtual museums or university collections directly to students is exciting. This can revolutionize the way we teach and learn, making vast resources readily available without geographical constraints.

One of the standout features of this platform is the split screen option. This allows users to compare different 3D objects side by side, enhancing their analytical capabilities. Such a feature is particularly invaluable for academic research and for students working on comparative studies.

Moreover, it's heartening to see that the authors are giving due consideration to data persistence while also emphasizing user autonomy. The idea of balancing long-term data storage with individual control is both forward-thinking and user-centric.

However, I am left with a question regarding the 3D models. Will they be assigned a unique identifier, and is there a provision for them to be associated with a DOI? Such identifiers are crucial for citation and referencing in academic works.

Lastly, while the paper is well written, there's room for improvement in the visual presentation. The images showcasing the platform could benefit from a better image resolution or perhaps a more detailed section of the platform, which would aid readers understanding the features and benefits of the platform more effectively.