

MEMORISE: An Infrastructure to Preserve Memories on Nazi Persecution

XML

The rise in anti-Semitism has been discussed in a diversity of realms in the past years (Goldhagen 2013; United Nations 2021; Booth 2022; Steinacher 2023). The level of anti-Semitism has risen even more sharply since the start of the Israeli-Hamas war in October 2023 (Keaten / Kellman 2023). As part of this latest conflict, we witness implicit and direct references to the history of Nazi persecution and accusations that Israel allegedly commits genocide in Gaza. Such accusations prove the importance of increased historical education that sheds light on crimes related to the Holocaust in particular, and on Nazi persecution in general. Considering the recent discourse about the potential failures in Holocaust education, the Horizon Europe MEMORISE project's mission is to develop new, digitally supported educational strategies to keep memories of Nazi persecution alive, particularly important for a growing digital native generation.

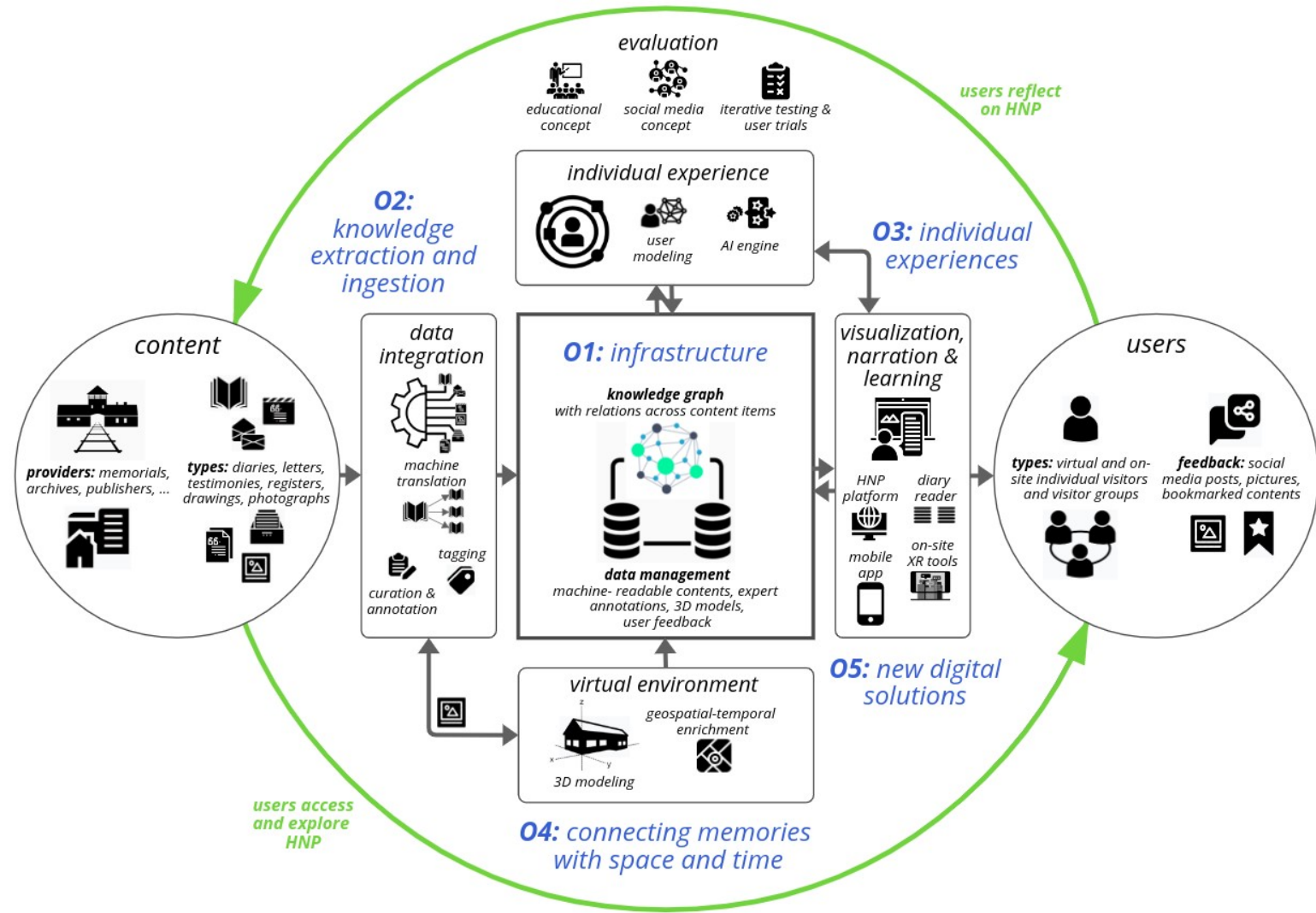


Figure 1. MEMORISE methodology and objectives

The work on MEMORISE started in October 2022 (Jänicke 2023), and the project's methodology is illustrated in Figure 1. Our main objectives and first solutions include:

- Infrastructure:** We are setting up a Kubernetes Cluster (<https://k3s.io/>) that hosts and connects all required backend services and frontend components. Longhorn (<https://longhorn.io/>) is used as a distributed block storage solution. It includes MEMORISE's knowledge graph architecture based on Apache Jena Fuseki (<https://jena.apache.org/documentation/fuseki2/>). Our major aim is to create a scalable, long lasting solution that can be easily extended with additional components.
- Knowledge extraction and ingestion:** We develop services for annotating and extracting structured data from textual sources like testimonies, letters or diaries. Whereas these written personal documents are important for storytelling purposes, we further experiment with visual memories in the form of prisoner paintings and historical photographs to convey visual impressions about life in concentration camps and to connect textual with visual memories.
- Individual experiences:** In order to create engaging and memorable experiences, we tailor our infrastructure to serve a diversity of user needs. The main target groups were identified as laypersons interested in the subject (teenagers and adults), people with family history connected to the Holocaust, and school classes. Users will be able to receive individualized content,

either based on user data, respecting their consent to include private information and tracking data, or through visual interfaces that invite users with diverse interests to explore a large collection of personal documents; an example is shown in Figure 2.

- **Connecting memories with space and time:** Connecting multimodal data is important for modern dissemination and engagement (Khulusi et al. 2020). We develop a workflow to enrich 3D models showing the historical structure of concentration camp sites (Oliva et al. 2015; Waagen et al. 2023) with contextual information such as text, images, or audio, aiming to tell stories on Nazi persecution in an immersive three dimensional space. In addition, we overlay the structural models with 3D artworks as visual testimonies on life in concentration camps (see Figure 3).
- **New digital solutions:** Modern dissemination approaches require full support of user tasks, including the ability to explore HNP freely and thoroughly, as well as guiding users through expert-curated stories. We are developing different tools, including a comparative document reader (see Figure 4) embedded in an HNP portal (see Figure 2) that allows for unguided exploration of the project's knowledge graph. In addition, we develop three storytelling solutions for guided exploration, making use of the individual experience framework.

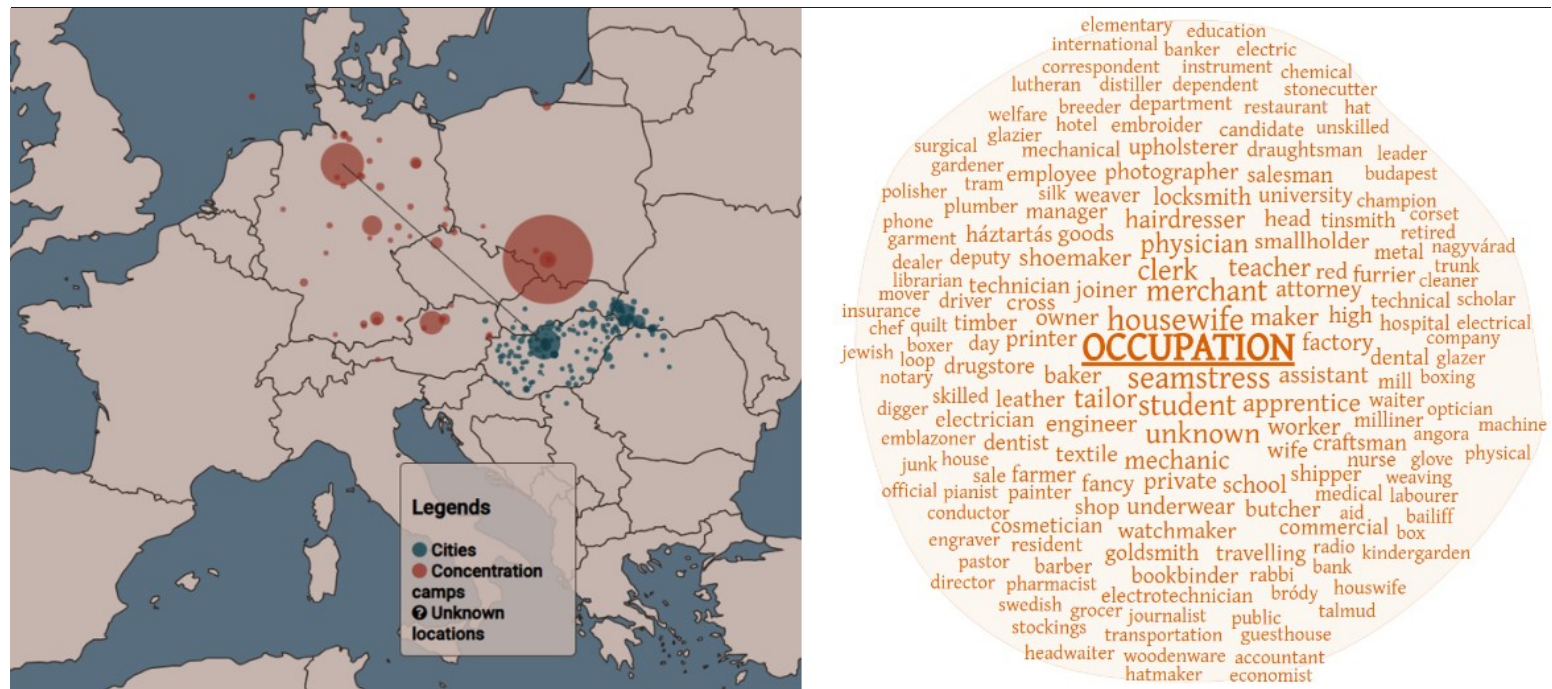


Figure 2. HNP portal prototype allows users to browse a testimony data set through a map (diversity of locations) and a word cloud (diversity of occupations) to provide users with entry points they can identify with

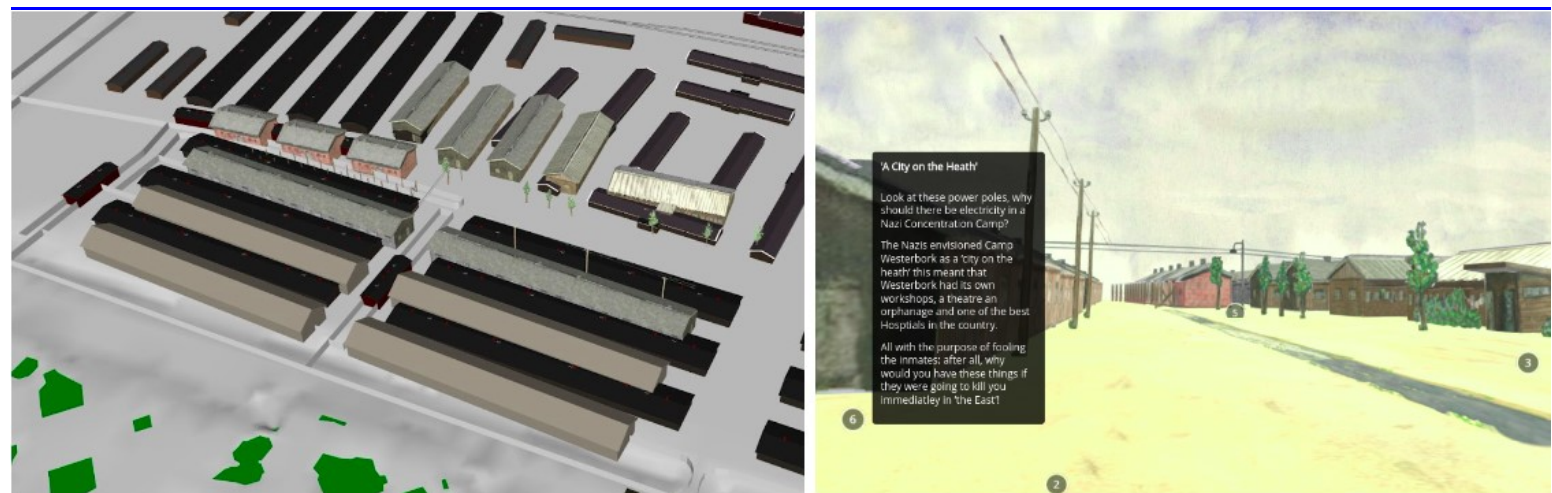


Figure 3. 3D structural model overlaid with 3D artwork for storytelling

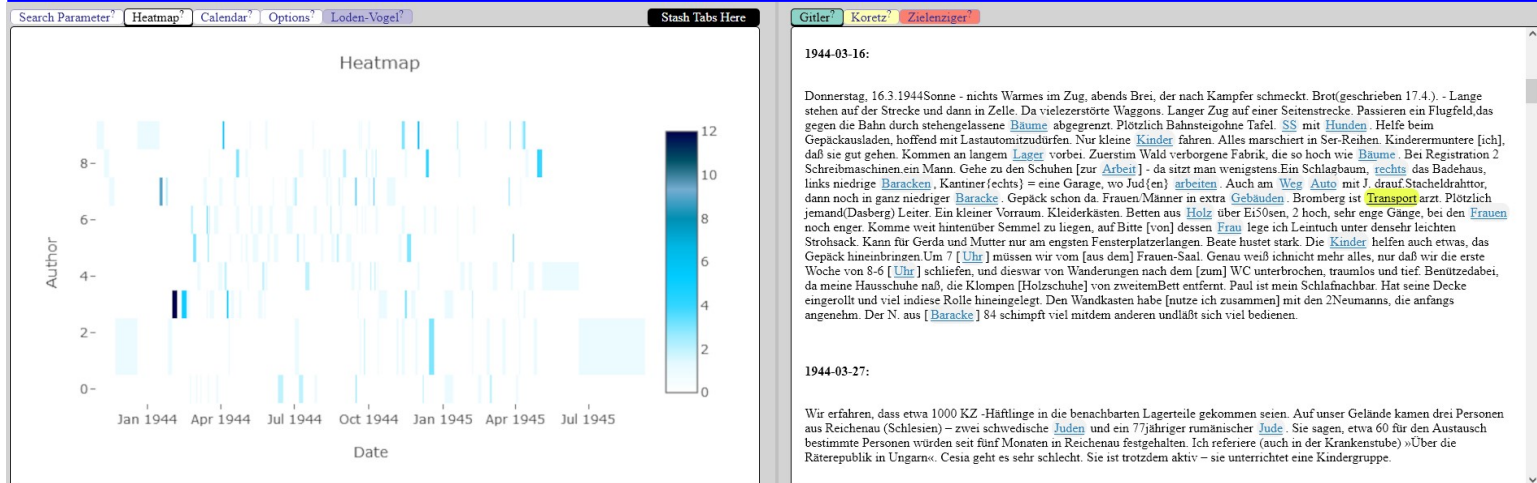


Figure 4. Comparative document reader prototype

MEMORISE is a project that was funded in times of the COVID-19 pandemic, which showed the need to develop novel digital solutions to preserve and make cultural heritage accessible. Our poster will respond to the conference theme by discussing the suitability, added value, and effectiveness of digital solutions to educate on Nazi crimes and to make the associated memories accessible for everyone in a virtual space. Respecting the integrity of sources and personal boundaries of users, MEMORISE applications aim towards a responsible, ethically grounded experience that has empowering effects and fosters digital literacy and critical thinking.

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Appendix A

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