

MEDEA: The Multidisciplinary Process of Setting Up A Crowd-Sourcing Platform for the Recording and Enriching of Archaeological Metal Detecting Data

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The popular hobby of archaeological metal detecting remains controversial in many countries. However, in Flanders the practice is allowed since April 2016, following a decade-long policy of tolerance. Nonetheless, access to the large number of dispersed collections of metal-detected finds and – more importantly – the information enclosed in these finds remains problematic. As a result, archaeological professionals are limited in their capacity to exploit this potentially rich dataset for purposes of research and heritage management.

The project MEDEA (2014-2017), set up at Brussels Free University with funding by the Hercules Foundation, aims to provide an answer to this problem by developing an online platform that fulfils the double aim of attracting detector users to report their finds on a structural basis, and to ensure the scientific reliability and usefulness of that data. Previous research (Deckers forthc.) has identified a lingering mistrust of professional archaeologists and the lack of feedback on finds reported through official channels as important barriers for detectorists to spontaneously report. Conversely, successful examples abroad – notably the Portable Antiquities Scheme in England and Wales, and the Danefæ system in Denmark – show that restrictive or enforcing policies are likely less successful in encouraging detector users to report than positive outreach and interaction. That being said, the Flemish context for leisure detecting differs strongly from the conditions in Denmark and England/Wales. There is no long-standing history of public engagement with heritage, no government funding for acquiring scientifically or otherwise valuable finds, and no regionally based network of heritage professionals that can routinely reach out to detector users and follow up on finds reports.

In response to these challenges and constraints, the MEDEA platform enables individual detector users

to share information freely with others via the web. In addition MEDEA fosters detectorists' motivation to report their finds by providing a feedback loop by 'finds experts' (academic researchers, amateur specialists) classifying and dating finds records. In this way, MEDEA will build a reference database for researchers, detectorists and the wider public. To ensure the quality and reliability of the data entered by detector users, a structured and user-friendly interface will guide data entry. Project collaborators will routinely validate all records before publication.

The development follows a Human-Centred Design approach (HCD) (Kujala 2003; Steen 2012). This has so far entailed extensive user research to identify the different priorities and sensibilities of the different stakeholder groups, notably detector users, researchers and heritage managers (Ruelens et al. 2015). While conflicts of interest do occur, on many issues these different stakeholders concur. Examples range from implementation details, such as the explicit rejection of gamification and competition as features motivating user engagement, to strategic goals of the platform, such as the desire that the platform facilitate collaboration between detectorists and archaeologists, both on- and offline. The latter observation more generally highlights the potential role of the platform as a broker between stakeholders in public heritage engagements, for instance by promoting best practices.

The HCD approach also involves implementing an iterative development process, which regularly collects user feedback from the very early stages of development onwards, thus helping to refine and adapt implemented features. Besides ensuring that the end product is geared towards the needs of stakeholders, HCD helps to foster a sense of involvement and trust with the product as it develops. MEDEA develops a dedicated web platform to facilitate the exchange of finds information between the different stakeholders. This web platform essentially consists of a graph database (Neo4j) that stores information about detection finds and a web interface (PHP, Laravel) that allows stakeholders to use the database. The design and development have been guided by four main principles:

- MEDEA data should be interoperable with archaeological data from other sources, by using standards for modelling and creating finds data.
- MEDEA data should be extensible with new classes of information about archaeological finds, by using a flexible and resilient database management system.
- MEDEA data should be accessible via the web, by using developer friendly web API's.
- MEDEA data and tools should be reusable by other metal detecting, heritage management and research communities, by using open technology.

MEDEA uses a dedicated data model that ensures interoperability with other research datasets in the humanities and incorporates the results of the user research. The data model has been designed re-using concepts and relationships from the CIDOC Conceptual Reference Model, a standard formal ontology that defines a domain of discourse about cultural heritage in general. The specification of the MEDEA data model made extensive use of existing implementation the CIDOC-CRM in other archaeological research project to ensure interoperability with other datasets in this domain.

The project fits in broader developments in the attitudes towards amateur metal detecting and public engagements with archaeological heritage and research (e.g. Beck & Neylon 2012, Scherzler & Siegmund 2015). It is one of a number of similar existing (PAS) and planned initiatives to collect and disseminate metal detecting data. This offers unexplored potential in terms of public outreach and research on archaeological small finds, transcending the regional or national scope of these individual initiatives.

References

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