

The confluence in digital humanities: the computer scientist, the digital humanist, and the final user

(Abstract of the invited talk at COMHUM2018)

Maristella Agosti

Department of Information Engineering

University of Padua

Italy

maristella.agosti@unipd.it

1 The Confluence of Competences in Digital Humanities

Some of the computational methods and techniques that have been proposed in the diversified area of digital humanities have contributed to the creation and development of different types of information management systems that manage and preserve digital resources of cultural heritage.

Issues related to the conception and implementation of these types of information management systems concern the need to create new models to automate processes for representing and processing specific cultural heritage resources that we want to represent and manage in digital form. Depending on both the type of cultural resources of interest, represented in digital form, and the operations that we may want to perform on them, a new information management solution may need to be envisaged; this new solution can only result from effective collaboration between experts in the specific cultural heritage domain, computer science experts, and the users of the solution. In fact, experts in the specific cultural heritage domain – such as archives, art history, library science, archeology, linguistics or history just to name a few – are able to appreciate the characteristics and peculiarities of the resources of the specific domain, whereas the computer science experts have experience in methods of digital representation and automatic management so they can conceptualize new solutions in order to make available the innovative functions requested by the final users of the digital resources of interest. It is this synergistic cooperation between the computer scientist, the digital humanist and the final user that produces effective new methodological solutions. Once the new resource representation and the management model has been created and formalized, a corresponding new information management system can be devised. Computer science is only one

of the necessary cultures where new systems can be envisaged and designed (Agosti, 2012).

We may wonder why we need to devise new models and systems. Our answer would be because we want to consider aspects of reality that are different and more complex than those that were previously addressed. As the aspects of reality that we want to address and manage become increasingly diversified and complex, we need to devise new methods and systems capable of dealing with and managing them.

The functions, that a new system provides are presented to final and professional users through a user interface – this is the external level of the system that users interact with. The intermediate level implements a method or the methods useful for supporting necessary functions on digital resources of interest. The innermost level serves to represent and manage the data that correspond to the digital resources of interest together with tools to assist in the storage of data (e.g. indexes and tools for efficient and effective data management).

2 Presentation and Critical Analysis of Relevant Case Studies

Some relevant case studies are presented and critically analyzed to show that when cooperation is lacking between the diverse skills required, mistakes can lead to a failure to capitalize on the innovative digital humanities solutions available; when, on the other hand, cooperation is effective, then the solutions that are made contribute to advancing the sector (Agosti and Masotti, 1992; Agosti et al., 2007; Agosti and Ferro, 2007; Agosti et al., 2013, 2018).

References

Agosti, Maristella (2012). Una nuova generazione di sistemi di gestione e conservazione di risorse

digitali del patrimonio culturale grazie al coinvolgimento di diverse comunità di utenti. *Atti e Memorie dell'Accademia Galileiana di Scienze, Lettere ed Arti già dei Ricovrati e Patavina*, CXXIV (2011-2012):11–22.

Agosti, Maristella, Giorgetta Bonfiglio-Dosio, and Nicola Ferro (2007). A historical and contemporary study on annotations to derive key features for systems design. *International Journal on Digital Libraries*, 8: 1–19.

Agosti, Maristella, Owen Conlan, Nicola Ferro, Cormac Hampson, and Gary Munnely (2013). Interacting with Digital Cultural Heritage Collections via Annotations: the CULTURA Approach. In Simone Marinai and Kim Marriott, eds., *ACM Symposium on Document Engineering*, pages 13–22. ACM.

Agosti, Maristella and Nicola Ferro (2007). A formal model of annotations of digital content. *ACM Trans. Inf. Syst.*, 26:3:1–3:57.

Agosti, Maristella and Maurizio Masotti (1992). Design of an opac database to permit different subject searching accesses in a multi-disciplines universities library catalogue database. In Nicholas J. Belkin, Peter Ingwersen, and Annelise Mark Pejtersen, eds., *Proc. of the 15th ACM SIGIR Conf. on Research and Development in Information Retrieval*, pages 245–255. ACM.

Agosti, Maristella, Nicola Orio, and Chiara Ponchia (2018). Promoting user engagement with digital cultural heritage collections. *International Journal on Digital Libraries*, 19(4):353–366. doi:[10.1007/s00799-018-0245-y](https://doi.org/10.1007/s00799-018-0245-y).