InterPARES 2 Project
International Research on Permanent Authentic Records in Electronic Systems

Domain 1 Research Questions

Case Study 09(1):
Digital Moving Images:
Altair4 di Roma. A Multimedia Archaeological Project:
The House of Julius Polybius.

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1.1 What types of documents are traditionally made or received and set aside (that is, created) in the course of artistic, scientific, and governmental activities that are expected to be carried out on-line? For what purposes? What types of electronic documents are currently being created to accomplish those same activities? Have the purposes for which these documents are created changed?

- Traditional documents created in the course of similar moving image activities include historical and iconographic documentation, photographs, architectural drawings, watercolors, and analog film footage.

- The purpose of this work is to preserve the original archaeological heritage by using virtual technology to create a DVD for teaching in the archaeological field. In more general terms, the interest of Altair4 in history and the arts directed the choice of subjects with a view to promoting and celebrating the cultural and artistic heritage, this being the perfect field to highlight the wide range of 3D archaeological reconstructions developed for museums, TV and interactive CD-ROMs.

- Digital documentation created by Altair4 include text; images; e-mail; databases; and vectorial, audio, and sound files.

- The purposes of documentation creation have not changed. There has long been a search for increasingly sophisticated ways in which to represent nature. Thus, digitization is simply one step further in this process; it does not change the original intent of the representation impulse.

1.2 What are the nature and the characteristics of the traditional process of document creation in each activity? Have they been altered by the use of digital technology and, if yes, how?

- Traditionally in such archaeological films paper drawings and watercolors would have been used to recreate a site. Now, the watercolors have simply changed to pixels.

- The basic methodology followed in geometric representation is based in rules established during the Renaissance. What is the main element that has been altered by digital technology is the end result of the final product in which the dynamic and temporal space parameters allow the user to interact with the representation in a new way.

- The process of document creation to model the components of the villa as governed by the archaeological practice of proceeding from the front to the interior is as follows:
    - Use digital camera to take photos of pictorial walls
    - Generate three-dimensional model by the implementation of technological tools starting with a series of primary spatial elements, which are associated with sets of spatial functions
    - Tools managed through hierarchical organization of coordinates and relational properties including physical characteristics, modes of reflection and light absorption

1.3 What are the formal elements and attributes of the documents generated by these processes in both a traditional and a digital environment? What is the function of each element and the significance of each attribute? Specifically, what is the manifestation of authorship in the records of each activity and its implications for the exercise of intellectual property rights and the attribution of responsibilities?

- "The formal elements and attributes of the digital entities are: .MAX and .3DS vectorial files created with 3D Studio Max modelling and rendering software; .PSD, .TGA, .TIF, .BMP and .GIF files created with Adobe Photoshop to obtain pictorial textures. Tree Storm software was used in the reconstruction of the garden."

- "The manifestation of authorship in the records of each activity and its implications for the exercise of intellectual property rights and the attribution of responsibilities are all decided by the three heads of Altair4, although all the staff members of the project have the possibility to access to all the documents created during the process of the production."[1]

- Copyright of the final product (although not of the digital entities) may also be influenced by the contract governing the creation of a specific entity (in this case, the contract established between Tokyo University and Altair4 to produce *The House of Julius Polybius*), depending on the norms and specifications set out in the contract.

- Altair4 maintains ownership over the entities created in the course of a production, although external use of the entities for promotional purposes is permitted.

[1] Case Study 09(1) Final Report, p. 9.

1.4 Does the definition of a record adopted by InterPARES 1 apply to all or part of the documents generated by these processes? If yes, given the different manifestations of the record's nature in such documents, how do we recognize and demonstrate the necessary components that the definition identifies? If not, is it possible to change the definition maintaining theoretical consistency in the identification of documents as records across the spectrum of human activities? In other words, should we be looking at other factors that make of a document a record than those that diplomatics and archival science have considered so far?

- The digital entities designated for preservation, which comprise 90% of those created in the course of producing the House of Julius Polybius, do fit the InterPARES 1 definition of a record.

- The entities possess fixed content and form, as every separate version is identified within the project folder. They are affixed to a stable medium, which is presumably the Altair4 server (the final report does not specifically state which server the entities are affixed to).

- The entities participate in the overall action of creating the virtual reconstruction of the House of Julius Polybius, an archaeological site in Pompeii.

- The entities possess an archival bond with the other entities set aside in the project folder, directories, and sub-directories to which they are affixed (the final report does not specify which entities are stored in which location).

- Three persons (author, writer, addressee) are clearly involved within the creation of the final production.
    - The three members of Altair4 which consist of Pietro Galifi, Alessandro Furlan, and Stefano Moretti (co-authors, creator, originator); Altair4 staff and virtual reality team (writers); general audience of production (addressee)

- The entities also possess an identifiable context:
    - Juridical-administrative: specifications of commissioning body of Tokyo University, and legal obligations such as contracts and copyright
    - Provenancial: Altair4 Multimedia comprises the creating body of this case study
    - Procedural: specific phases carried out in the course of the virtual reconstruction production
    - Documentary: refer to discussion of archival bond
    - Technological: software (3D Studio Max modeling and rendering software, Adobe Photoshop, Tree Storm software), hardware (five dual-processor workstations, four dual-processor Athlon MDs), backups

1.5 As government and businesses deliver services electronically and enter into transactions based on more dynamic web-based presentations and exchanges of information, are they neglecting to capture adequate documentary evidence of the occurrence of these transactions?

- As this case study is not related to e-government activities, this question is not applicable.

1.6 Is the move to more dynamic and open-ended exchanges of information blurring the responsibilities and altering the legal liabilities of the participants in electronic transactions?

- As this case study does not involve electronic transactions, this question is not applicable.

1.7 How do record creators traditionally determine the retention of their records and implement this determination in the context of each activity? How do record retention decisions and practices differ for individual and institutional creators? How has the use of digital technology affected their decisions and practices?

- There is no traditional determination of record retention practices in the context of Altair4.

- Altair4 saves 90% of the digital entities created. Selection is made on the basis of importance and similarity (when two versions are practically identical, only one is saved).