

Towards a Digital Hermeneutics? Interpreting the User's Response to a Visualisation Platform for Historical Documents

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1. Introduction

Grounding new media analysis on more traditional, text-based interpretation theories represents a common approach within the theoretical framework shaped by the emergent digital culture. Literature-inspired models, as the “implied reader” (Iser 1974: xii) or the “writerly text” (Barthes 1974: 4), have inspired the theorists of the digital medium in their aesthetics-oriented conceptualisation of the electronic text and its “ergodic”, “interactive” or “de-centralized”, “reconfigurable” nature (Aarseth 1997; Ryan 2001; Landow 2006). Other studies, mainly originating from the Human-Computer Interaction area, have drawn attention to philosophical enquiries about meaning and interpretation as regarded through the lens of the digital technologies and their impact on modern society. In this respect, new hypotheses have been formulated as extensions or in response to existing paradigms, such as “designer fallacy”, pointing to the “unintended meanings” in the design of a technology (Ihde 2008: 51), or the “philosophy of technology” taking into account usability aspects while analysing technological artefacts but also the “human, social, cultural, ethical, and political implications of those technologies” (Fallman 2007: 296). Moreover, the “cognitive” and “physical engagement of the user in interactive arts” (Simanovski 2010: 2) or the twofold interpretation of code, in terms of “media processes” and “self-interpretation of human beings” (Capurro 2010: 10) represent articulation points of “digital hermeneutics”, a field of study at the intersection of hermeneutics, the “philosophic theory dealing with issues of interpretation and communication”, and digital technologies (p. 1, 2).

In line with these theoretical assumptions, the paper proposes a novel perspective on the interpretation of user's response as "text", by positioning the study in the context of digital hermeneutics and focusing on questions related to user's experience with the object of study and user's self-reflection. The discussion is derived from the qualitative analysis of usability tests conducted to evaluate a Web visualisation platform for historical documents.

2. Methodology

The project consists in the design and implementation of an XML-TEI-based platform (Transviewer) allowing the exploration of historical documents in the browser. The interface encompasses a set of features for navigation, visualisation, searching and mode switching. Figure 1 shows examples of supported functionalities.

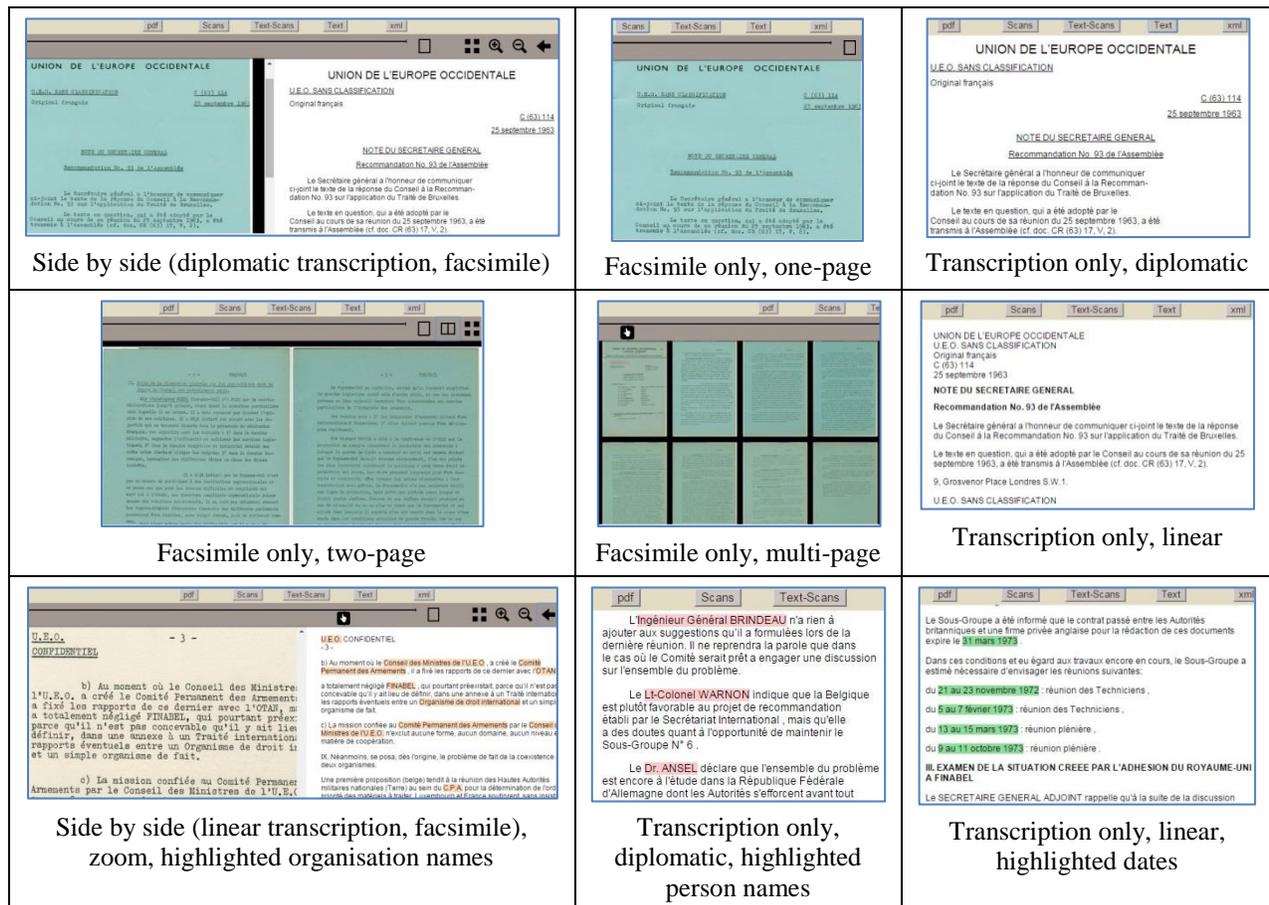


Figure 1: Transviewer (prototype 1) functionalities

The first round of usability tests was inspired by previous studies (Nielsen 2000; Spool 2005; Jones and Weber 2012; Brown and Hocutt 2014-2015; Jardina and Chaparro 2014-2015) and involved a small user-

group (8 participants) of CVCE researchers in historical, political and linguistic studies. The users undertook a 17 tasks experiment of about 30-45 minutes. Each experiment was monitored by an observer who took notes, hinting at the features or orienting the user when disorientation was observed. The participants were encouraged to think aloud while playing with the interface and the corresponding audio and screen interactions were recorded¹. At the end of each session, the participants filled-in a USE-based questionnaire (Lund 2001). The following groups of questions² were covered: *Ease of use, Ease of learning, Usefulness, User satisfaction*. Three open questions³ were also proposed at the end of the questionnaire, as well as a closed-list of most useful features⁴.

Relevant snippets from the think aloud videos were transcribed (when users expressed satisfaction/frustration or reflected on their experience).

3. Discussion

The analysis helped in identifying design problems (features not quickly accessible or requiring extra-effort, unclear terminology or features hierarchy) and in implementing an improved version of the prototype. An analysis of the think aloud transcripts guided by the questionnaire responses provided insight into users' perceptions. All 8 participants stated that the Transviewer helped them to explore the documents effectively. In particular, the responses to the question "What were the elements you found most useful?" revealed a preference (7/8 participants) for the side-by-side view (transcription, digital facsimile) and the ability to highlight entities in the transcription (4/8 participants). This was supported by the think-aloud analysis where they articulated their preferences. Side by side visualisation is preferred since it allows "comparing" the transcription against the original: *"I would prefer to read the Text-Scan version to see the original scan and the transcription. I think that's the best because you see the scanned document from the archive and you can compare to the transcription."* [Participant R1-INT06: 23.38-24.02]. Or, since it supplies a way of ensuring that the transcription can be really "trusted": *"So, I would probably read it in the Text-Scan mode. Because I've that uneasy feeling to just read the text without the original scan by the side. At this stage, I don't really trust the transcriptions [...]. Rationally, I can fully trust it but irrationally, I want to see the scan."* [Participant R1-PIL02: 20.00-21.21]. In addition,

¹ Users' agreement to use the audio records was required. The results were anonymised by assignation of user codes.

² Allowing answers on a Likert-type scale.

³ Enquiring on the main difficulties encountered while using the interface, the added value of the tool and improvement suggestions.

⁴ Allowing the user to select a maximum of 3 choices from a total of 8.

the interface feature enabling users to highlight entities appears to be connected to historical documents contextualisation⁵.

Beyond their usability-oriented signification the think-aloud transcripts and the questionnaire responses seem to hint at a more subtle nuance. This is related to the self-reflection of the user and the approach of the object of study (historical documents). In order to get a higher level perspective on these reflections, we analysed the think aloud transcription snippets via *Texttexture*, a tool for identifying influential words/contexts in a text represented as a network (Paranyushkin 2011). Figure 2 shows a visualisation of these elements for a selection of users' responses on the preferred mode of reading and entities highlighting.

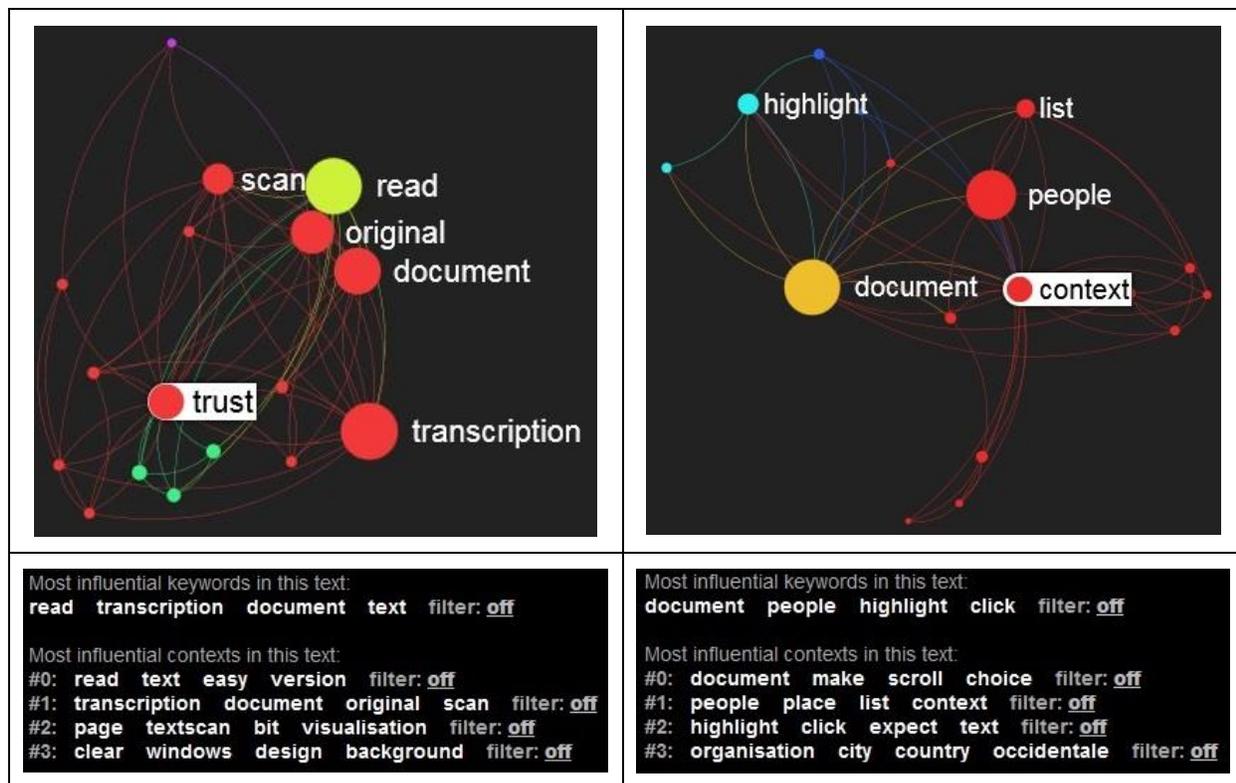


Figure 2: *Texttexture* analysis: users' responses to tasks 5.12 (preferred mode of reading) (left) and 5.14-5.17 (entities highlighting) (right)

⁵ Participant R1-PILO2 think aloud quote: "Dates. For the dates highlighted, yes, I think it's useful. And in the same way, I would expect, not for all but for the most important, if it is, for example, the date of an agreement or something, I would expect to click on the date and to have the description of the event at this time. Because it could enable to understand the context of the document." [15.53-17.55].

4. Conclusion and future work

The paper proposes applying text analysis and interpretation methods to user's response from usability experiments intended to evaluate a visualisation interface for historical documents. Although further testing is planned (including a larger number of internal/external users for a new version of the prototype), the pilot phase of the study shows that interpretative techniques, related to digital hermeneutics, may bring to light, beyond the usability aspects, more general reflections on the user's self-positioning and expectations while dealing with digital technologies.

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