Web browsers prescribe the ways we access and navigate knowledge and communities online. Since the 1990s browser software has been an arena for artistic interventions ranging from quirky standalone browsers to performative pieces to minimalist browser add-ons. The (im)possibility of navigation is not taken for granted and is probed, questioned, and reformulated through such software practices. We propose navigation as a mode of exploring interactive software that allows researchers to collectively document manifold facets of artists' browsers.

Navigation

Reihe
Begriffe des
digitalen Bildes

Navigation

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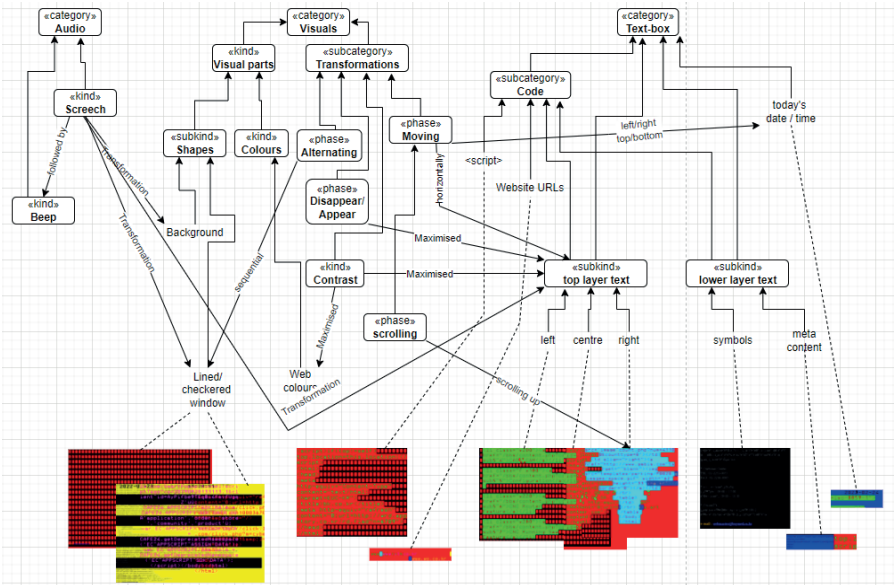
Content

Fig.1, Diagrammatic subset of an ontological decomposition of .co.kr's most obvious components, divided into sensory-modalities. Note: the diagram is not exhaustive nor completely ontologically accurate neither in its components nor their transformations.



Maria M. Hedblom

Methodological reflection of the documentalysis of .co.kr from the %WR0NG Browser series

1. Introduction, system description and research questions

Invited to participate in the documentation project of *.co.kr* in the *%WRONG Browser* series, I was asked to – to the best of my professional ability – enable the experiencing of a digital art piece in a future when technological advancements and paradigm shifts made it impossible access. Drawing on my scientific background, my usual research method is to formally structure, identify and analyze semantic micro-patterns of concepts[1] and events[2] with the goal of integrating them into formal systems for artificial intelligence. Approaching the task in this way, I performed what for lack of a better word could be called a "documentalysis" (the amalgamation of documentation and analysis) on the art piece. This was a form of interactive, experience-based documentation in which I was trying to separate syntactical parts of the art piece and analyze their semantic content.

During all interactions with the browser, I used an HP laptop running Windows 10 OS and used two additional monitors to write comments about the system and view screenshots of specific components. I ran the program repeatedly during each session to see changes to the initial state and spread my interactions with the systems over several days, which were in turn spread several weeks apart. To structure my findings

1 Maria M. Hedblom, Dagmar Gromann & Oliver Kutz: IN, OUT and through: Formalizing Some Dynamic Aspects of the Image Schema Containment. In: Proceedings of the 33rd Annual ACM Symposium on Applied Computing, New York 2018, pp. 918-925.

2 Maria M. Hedblom et al: Image Schema Combinations and Complex Events. In: KI-Künstliche Intelligenz, no. 33, 2019: pp. 279-291; Maria M. Hedblom et al.: Dynamic Action Selection Using Image Schema-Based Reasoning for Robots. In: Proceedings of the Joint Ontology Workshops, 2021.

and thoughts during the experience, I used Microsoft Word as a text editor on the computer and Google Drive's editor online. For a system overview, I used the open-source software Diagram.net, saved screenshots were cropped and edited in Microsoft Paint and, more often than not, I used the old-school technique of pen and paper to structure my impressions before fitting everything together.

Partially edited in retrospect, and given that research questions are permitted when performing a documentation, the questions that guided my approach to the task were: *How should one interact with the system to find its purpose? And, following the struggle to answer the first question, the more philosophical question: How does one extract meaningful semantics from seemingly randomized syntax?*

2. Designing a "documentalysis" as a journey through scientific theories and methodologies

In my professional experience, almost everything can be decomposed into several more meaningful, or at least more semantically focused, compositions that together construct the whole conceptualization of something. Therefore, in the initial stages of the documentation, I aimed to reverse-engineer the system by decomposing the system's syntax into an ontological hierarchy of its components.

My goal was to find the individual purpose for each of the components based on the interactivity they offered and then separate this interactivity into functionality and/or metaphoric representation. For system functionality, I initially decided on doing a semantic analysis based on affordances[3]; and for metaphor dominant components, I intended to map their semantic

3 James J. Gibson: The Theory of Affordances. In: Robert Shaw & John Bransford (eds.): Perceiving, Acting, and Knowing: Toward an Ecological Psychology. Hillsdale 1977, pp.67-82, here p.67.

content to conventional conceptual metaphors.[4] To connect functionality with the (potential) metaphoric representation I planned to do an image-schematic analysis, and thus connect the embodied experiencing of the system to a semantic representation.[5]

For the purposes of reflection, I wrote most of the methodology in this section with the word initially. This is because, while interacting with the *%WRONG Browser,* I realized that I would not be able to perform a very deep analysis of the system following this methodology due to its rather chaotic character. While I was able to immediately identify several different programming components that acted as individuals based on their positioning and their different sensory modalities, I decided to shift my focus from interacting with the system as a whole to identify the interconnectivity between the different components. In doing so, I altered my search for semantics somewhat, by instead looking for the purpose (functional and/or metaphorical relationship) between the system's different components.

3. A U-turn in understanding and three stages of interaction that lead to the documentation

Due to the scientific theory I had selected as a basis, my initial interactions with the browser were not only random in execution but also left me confused in reception. I searched for functionality and interactivity by clicking on different components and attempted to change the interface by writing other URLs into the various text boxes that allowed editing.

Exploring the browser in this way led me to realize that my understanding of the task had been somewhat misguided.

4 Zoltán Kövecses: Conceptual metaphor theory. In: Elena Semino & Zsófia Demjén (eds.): The Routledge Handbook of Metaphor and Language. Abingdon 2017, pp. 13–27.

5 Mark Johnson: The Body in the Mind. The Bodily Basis of Meaning, Imagination, and Reason. Chicago 1987; George Lakoff: Women, Fire, and Dangerous Things. What Categories Reveal about the Mind. Chicago 1987.

I had been under the impression that I was to document an artistic version of an early type of Internet browser, not an art piece within a browser. Not used to these types of tasks, I found it hard to let go of the search for functionality and purpose, and throughout the entire process I found myself searching for interactive functionality regardless.

The second stage of my interactions was more analytical. I reasoned that if I could not find functionality in the system as a whole, I would try to figure out the purposes of particular components.

Consequently, I refocused my original ontological analysis into a preliminary system overview. Instead of looking at the purpose of the collective browser, I tried to identify the ontological character of the individual components and the transformational relationships between them. By combining screenshots with an exceptionally liberal interpretation of how an OntoUML diagram[6] can be constructed, I started drawing an overview of the art piece's sensory modalities and transformational qualities (Fig. 1). Naturally, the static format of a diagrammatic system overview prohibits the complete documentation of a system that is as dynamic in transformation and audio-visuals as this one. As a result, the overview captures only a subset of the system, with emphasis on some of its dominant components and characteristics.

The third stage of my documentalysis was an attempt to reconnect the ongoing documentation to the initially planned research methodology. This stage was based on the findings from performing the system overview and combined with real-time interaction with the system to ensure that the dynamic aspects were followed.

The only interactive functionality I could identify was that some of the text boxes allowed for the input of text and that

6 Giancarlo Guizzardi: Ontological Foundations for Structural Conceptual Models. Enschede 2005.

clicking with the mouse allowed the user to switch between the different text boxes. In terms of affordances, neither of these functionalities allowed for any responsiveness of the system nor displayed any reactivity. Adding text did not, as far as I could detect, change anything in the system. Switching the text box that was currently being edited also did not provide any obvious transformational differences to the system.

Moving from functionality into metaphorical extensions did not make my documentalysis any more successful. While conceptual metaphors might be part of the system's underlying thought and motivation, nothing presented in the system stood out to me as directly conventional. The design choice of always using contrasting colors for text and background, the flickering and transformational consequences of the screeching sound and the scrolling of the text could perhaps be mapped to a metaphorical meaning. However, since the system does not provide any explanations upon which to base such interpretations, any such attempt is likely to be misdirected and would be subject to overfitting.

As I was trying to identify image schemas in the system, I encountered problems similar to those experienced with the previous scientific theories I had used. Image schemas are spatiotemporal patterns that function as conceptual skeletons for higher level concepts and event conceptualizations.[7] This means that many affordances manifest due to the presence of several image-schematic components[8] and conceptual metaphors are often based on an image-schematic skeleton.[9] As neither of these presented themselves in an obvious way in the art piece, extracting the image schemas based on semantic relevance proved difficult.

Instead, I tried to identify some image schemas purely based on their spatiotemporal manifestations. The most prom-

7 Maria M Hedblom: Image Schemas and Concept Invention. Cognitive, Logical, and Linguistic Investigations. Cham 2020.

8 Cf. Antony Galton: The Formalities of Affordance. In: Proceedings of ECAI2010 Workshop on Spatio-Temporal Dynamics, 2010.

9 Cf. George Lakoff: Conceptual Metaphor. In: Cognitive Linguistics. Basic Readings. Dirk Geeraerts (ed.), Berlin 2006, pp.185-239.

inent spatiotemporal patterns in the system are the transformations between the different components. For example, the movement of components on the screen could be described using the image schema PATH (image schemas are written in uppercase to follow convention), the text boxes could be interpreted as CONTAINERS for text and the scrolling of text could be described as an image schema merge[10] of PATH and VERTICALITY (Fig. 2).

However, returning to my research questions and the instructions of the task, it is not clear what mapping such semantic micro-patterns to the system's syntax would offer in terms of identifying the system's purpose. Ultimately, my documentalysis of the system did not answer my initial research questions.

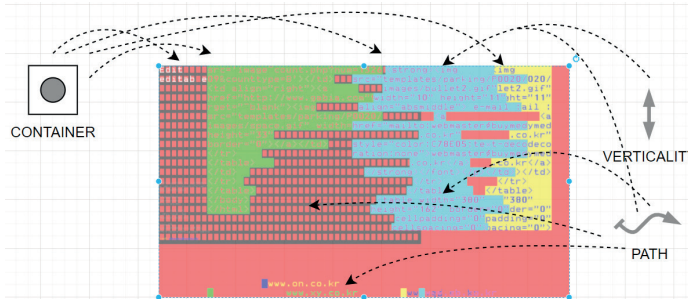
4. Final reflections on the documentalysis

The complexity of the art piece makes it much more difficult to produce any type of documentation that could successfully communicate the full experience to a future user. In this contribution, the compositional components were analyzed in terms of their functionality and their metaphoric extesions in relation to expected semantic content. The dynamic and chaotic nature of the system made it hard to provide a full representation and the scientific theories underlying the methodology used fell somewhat short of the target, and in consequence, failed to answer the research questions.

While not all documentation has answers that can be found, the search for them in this project led me to repeat my interactions with the system several times and I performed my documentalysis in fragments over an extended period. Based

10 Hedblom et al. 2019.

Fig. 2, Example mappings of the image schemas CONTAINER, VERTICALITY AND PATH into components of the art piece (screenshot is set at 50% opacity). The illustration is not exhaustive in terms of either the image schemas or their manifestations.



on this, it is not unlikely that I was inconsistent in parts of the methodology, forgot important considerations and re-emphasized past conclusions regardless of whether new findings presented themselves. Perhaps a more honest documentation would have been done in one sitting, with one interactive analysis and one recording of the system.

Hopefully, the collective documentations in this volume offer the art piece a more comprehensive representation for future preservation than what one contribution alone can accomplish.

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