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, ques-
tioned, and reformulated through such soft-
ware practices. We propose navigation as a
mode of exploring interactive software that
allows researchers to collectively document
manifold facets of artists' browsers.

Navigation

Navigation

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Content

Fig.1, This conceptual scheme partially renders the relations and traces that arise from an artist browser's runtime. Some of these are recorded (marked in magenta), constituting the relational document that captures fragmentary impressions of what it is like to use the software.
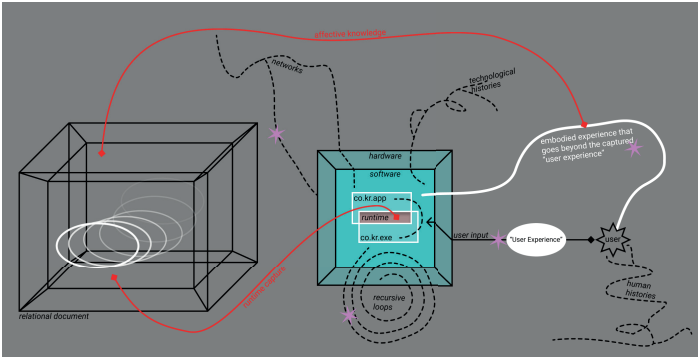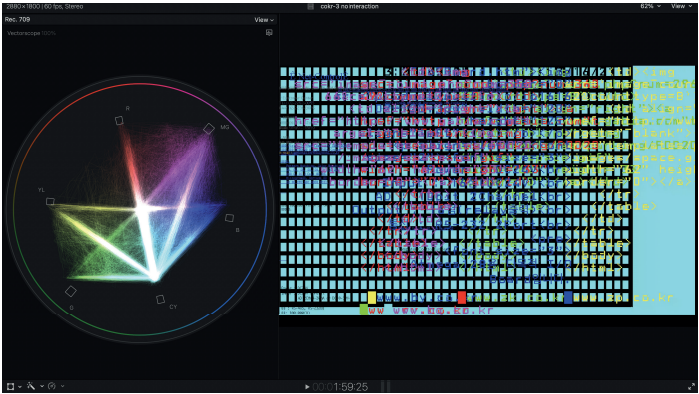

Fig.2, The distribution of color on a circular scale within a frame from the screen recording of JODI's .co.kr that was running without user input, as displayed by the color monitoring Vectorscope tool found in Final Cut Pro X.

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Relational Documents: Capturing Inter-activity of %WRONG Browser

I had a clear goal in mind when I first approached the task of documenting artists' browsers. In response to numerous approaches in new media & software studies, I planned to capture what goes on in front of and behind the computer screen. In computer science, the user is often seen through their interaction with the software. User equals user input. This instrumental, abstract view of the user is supposed to render all users as equal and without bias, but it leaves out the embodied, material, situated nature of each and every interaction. Inspired by Lisa Blackman's notion of haunted data, I think about the studied browsers as code that bears traces of "human and technological histories that are displaced, occluded, erased, disqualified, forgotten".[1] The work – seen as a technical object, that is, an executable binary file – unfolds in time through and by means of the user's interaction with it. In other words, software is performative and its documentation must attend to its affective and material dimensions in order to counteract the instrumental reduction of the user (Fig. 1). For this purpose, I have tended towards an approach based on sensory ethnography: capturing multiple audio and visual perspectives pertaining to the code's execution, studying the materials separately, and bringing them together in a video collage. A precedent to this technique is the Dullaart-Sakrowski method of documenting web-based art that aims to "capture the reception of net art in an environment in which it was originally perceived."[2]

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1   Lisa Blackman: Haunted Data. Affect, Transmedia, Weird Science. London 2019, p. xiii.

My initial desire was to capture the relationality of the encounter between the user (me, under current conditions), the technical object(s) of the artwork, the host hardware/software, and the networks of which *.co.kr* is a part. Whenever it was possible, I recorded the work's screen output, audio, and logs of the work's runtime; the external perspective that approximated what I was seeing; and the ambient sound of me interacting with the piece. This, together with my embodied user experience, constituted the core document that I would be expanding on in the iterative process of diffractive (re-)reading, cycling between optics that would help me delve into the work's specificity. It is important to acknowledge, however, that such a process brings the artwork in touch with an embodied and enacted ethico-onto-epistem-ology, thus always co-constituting the work's documentation and the artwork itself. The "raw", unprepared, uncut video documentation of my (non-)interaction with the software is an episteme that I can build upon iteratively while acknowledging that process is transforming my understanding of what the work does and how.

In my conceptual framework, the account of the code's performance is relational, situated, necessarily incomplete and self-reflexive. There is no end to this process. I distinguish between five diffractive lenses – or, alluding to Blackman again, movements – that circumscribe research subjects and would aid my embodied exploration and diffractive reading. Affective (user experience); historical (exhibition, reception, long life of the work); socio-political (funding and institutional contexts); ethical (labour and software/hardware dependencies); technical (critical reading of the source code).

My iterative process was initially based on a number of premises that, as I quickly found out, do not evenly apply to all the works that fall within the scope of our research. The

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2   Cf. Kimberley Spreeuwenberg: Documenting Internet-based Art. The Dullaart-Sakrowski Method. In: Culture Vortex, 2012, http://aaaan. net/documenting-internet-based-art-the-dullaart-sakrowski-method/ [accessed 15.6.2022].

premises themselves are rooted in the contemporary software environment that I am familiar with from the last decade of networked software and accelerated cycles of development and dissemination. A perfect candidate for documentation would be free/libre open-source software that is either web-based or runs on one of the browser platforms such as Chrome or Firefox; written in an interpreted language such as JavaScript and therefore by design providing access to the source code; performing consistently across supported platforms; either altering or augmenting the navigation instead of disrupting it. Due to their architecture, these works' interactivity and networked performance could be captured (at least on the user client's side) in minute detail by widely available instruments such as Chrome DevTools.

JODI's *.co.kr* breaks with nearly all of the above criteria. The work is distributed as a 32-bit executable binary file that does not run on my work computer with macOS 11.4. The file worked on the old personal laptop, to which I no longer have access as of July 2021. The standalone software does not reveal its inner structure even when analyzed with specialized software (as attempted by my colleague Martina Richter). There is no artist statement disseminated via the work's website or with the executable file itself. There is no access to the source code.[3] The experience of using the software felt almost hostile as *.co.kr* does not allow for the sustained interaction I was expecting from the software, often disrupting whatever I was trying to do and thus discarding the familiar user experience. Video documentation revealed my impatience and disorientation when interacting with the browser. JODI's browser disrupts the user's expectation of a smooth, continuous experience while not providing access to the technical and ethical aspects of the work that are legible in, e.g. free/libre open-

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3   Eventually the artists granted us access but the outcome is not reflected in this text.

source software. It is a metaphorical grey box, neither transparent in its workings nor fully obscuring its networks.

After spending two hours with the work I decided to pause for a week. The work frequently crashed and its vivid, rapidly flashing colors made it difficult for me to engage with it for more than a few minutes at a time. It was not clear if it was my interaction causing the crashes or the work was generally unstable on my computer. At that moment, I acknowledged to myself that I had not participated in prior interviews conducted by our team with JODI, had not read the interview transcripts, nor had any prior encounters with their work outside the scope of this research project. My expectations towards the work were primed by a single video referenced by my colleague Daniela Hönigsberg.[4] It was only due to that video (of which I do not know the precise origin) that I knew that *.co.kr* behaved differently on my hardware/software as it remained silent during the runtime. I confirmed my observation with the team based on their own accounts and video documentation of *%WRONG Browser* runtime on contemporary and legacy versions of Windows.

Once it became clear that there is an element of functional contingency to the work, I had to rethink my method. I had perceived the crashes and digressions of the user experience due to varying hardware and software as failures of the work's generativity. The work's instability had already disrupted my attempts to use it as a browser to such an extent that I had given up hope of capturing any interaction. I realized that I would have to alter my core approach significantly: my intended documentation setup had not yielded much material, while the lack of access to the source code had eradicated any possibility of a close and critical reading. In response, I decided neither to interact with the artwork nor capture the

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4   Cf. Anonymous: Wrong Browser. Video, colour, sound, 10 min,
    3.1.2020, https://www.youtube.com/watch?v=WaP6-xA77rY [accessed
    15.6.2022].

embodied material perspective and instead focus on the contingencies, thus adding the lens of (non-)functionality failure to my diffractive toolkit.

Intuitively, I found new documentation strategies that de-emphasize the (partially denied) phenomenological experience of the browser: looking for interaction opportunities; searching for the browser's functional limits; deducing the source of runtime crashes; comparative engagement with my own and others' documentation in order to find out which aspects of the work are hardware-dependent; not engaging with the work at all, not even observing, and leaving it to run as long as possible. These micro-strategies minimize and instrumentalize interaction with the software, focusing instead on finding out new facts by comparison and disjunction. In other words, the relationality of the embodied encounter with the software gave way to the relationality of the situated software runtime in my documentation process.

Another set of newly emerged strategies counteracted the intensity and speed of the runtime. These relied on high fidelity video capture of the work's runtime and particular watching strategies that disengaged me from the generative temporality of the work in lieu of a pace I could choose myself. These ways of watching proved useful: starting with the originally captured footage; skimming back and forth; watching the footage frame-by-frame while focusing on specific graphic elements and motion patterns; using image analysis tools in video editing software; watching at 4x/8x/16x speed in order to re-cognize the patterns that may not be perceivable during the runtime. These strategies allowed me to break away from the disorienting cinematic continuity of the browser and resist the sensory overload.

It is worth elaborating on my use of Vectorscope tool (Fig. 2) found in Final Cut Pro non-linear editing software (FCP further in the text). I use FCP for independent work outside the scope of this research project, which currently involves production, editing, and post-production of short films. Vectorscope is one of the instruments built into FCP, designed and typically used for color correction of digital video footage. The tool visually represents the distribution of color in one frame, thus allowing to match the palettes of different scenes, ensure the skin tone is neutral, the hues of highlights and shadows are consistent, and so forth. I repurposed Vectorscope for a frame-by-frame reading of *%WRONG Browser*'s video documentation that is often fast-paced and overstimulating when played back. For the purpose of this experiment, I skipped over the editing part of the workflow, instead importing original videos and focussing on their visual analysis. Editing is essential to making a documentary film, yet I was not concerned with having a cut that engages the viewer's attention. Moreover, that would go against the purpose of our documentation experiment. This way of working with FCP is the opposite of making a film, as keeping the attention of the audience is not a concern when documenting an artwork for posterity.

After identifying strategies for dealing with the browser's instability, I read through the team's interview with the artist duo in the hope of finding new optics for reading the user experience of *.co.kr*. One of the references that came up was teletext. A quick query on the web revealed that some of JODI's browsers share many graphic elements with the teletext systems of the 1980s. Saturated colors, a high contrast palette, a pixelated typeface often set very large, no images. I have no first-hand experience of teletext as it was not in use where I grew up in the 1990s. Despite that, when I looked at

the works alongside my very limited knowledge of teletext, it significantly altered the way I perceived them. My experience with the internet since the early 2000s and the phenomenological transparency of contemporary browsers were so deeply ingrained in my thinking that I did not consider a different frame of reference for the work.

Neither my documentation of *.co.kr* nor my structured description of the documentation methodology are complete. During my negotiation of the methodology I abandoned some parts of it – if only for this particular series – but it nevertheless proved to be productive. The desire that broadly guides my documentation process is to find out what the work does based on my own experience and then to situate the work in a larger socio-cultural context. *%WRONG Browser* enacted a certain degree of hostility towards me as a user and that is (part of) what the work is (presumably) programmed to do, but my documentary intentions shifted throughout the process, too. My toolkit for diffractive reading still stands, albeit in an expanded form. However, I could reformulate the task of documentation as follows: capture and understand why the work does what it does while moving between the work's registers of doing something on the internet to doing something on my computer to doing something to me, the user.

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