Gjørme 0.1

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Abstract.

"all our individual efforts to stand out are futile, we all just decay into the same smiling pile of shit!" User_5884499 (insert: emoji of smiling pile of shit)

This paper is a description for the initial stages of the collaborative project Gjørme. GJØRME is a web crawler / multimedia installation / performative piece aiming to render its creators obsolete in its creative process. The project is an exploration of boundaries between automated and manual labour using Instagram as a datasource for colour profiling, analysis and interpretations in RGB, CMYK and audio outputs. The aim of the project is to make an installation with a freestanding automated apparatus that, if prompted by a user, can analyse and output without human intervention.

The title 'Gjørme' is a norwegian word for 'mud' or 'muddy' and was chosen as a worktitle as it describes what happens with subtractive colours (CMYK), when you physically mix them and end up with a dark brownish colour as opposed to additive colours (RGB) in light that mix into white. Destincting between these two systems is a key component in both the method and the motivation for the project.

Keywords: automation, manual labour, colour profiling, Instagram, digital, analogue, performance, CMYK, RGB

Introduction

Summer 2019: The User approached the Future Daughter and wanted to discuss matters of colour and online presence.

Dear Future Daughter - Have you ever mixed beautiful colours in paint and ended up with an unsatisfying brownish colour on the paper? I was looking at Instagram the other day, thinking about how most profiles have a very strict colour profile. If you look at a random profile and squint your eyes, you realise that it is quite easy to pick out three to five colours that dominate the images. Maybe that in all our attempts of creating profiles on social media designed to 'stand out' and promote our individuality and creative efforts we all just end up producing different samples of similarly unsatisfying brownish output. On our last project together in 2016 we worked on social media feedback loops and I was thinking that we could work together again with these thoughts in mind. We could explore what happens if we extract colour profiles from Instagram profiles, creating different outputs and see where we can take it. My theory is that all our individual efforts to stand out are futile, and I predict that we all just decay into a colour scheme and noise. Basically resembling the same smiling pile of shit!

Dear User_5884499 - I have blended sounds until I've reached a thick dense mass of sound, where nothing stands out except the sensation of some sort of massive multitude. I guess that would be analogous to the myriad of voices enabled by the democratization of the internet. Your theory is intriguing. There is absolutely a perceived homogeneity in these efforts you talk about. Do you think your theory would also apply the other way around - to taste? That there is some kind of aesthetic ideal that under the right circumstances all humans can enjoy? We could automate this as an experiment. Set up a kitch-machine to plunder material en masse and use this sampled material to create new material. Its creations can be broadcasted back online, testing its appeal to the people.

Physical setup version 1.0 (ICLI, march 2020)

For ICLI we will do a crossover between performance and installation. We will perform alongside the bot in a way that Diana Lindbjerg (User_5884499) will be sampling from the bots colour pigment output, doing live color mixing, (filmed and projected). Øystein Fjeldbo (Future Daughter) will be sampling from the bots audio output, creating improvised melodic structures within the automated composition. This human layer on top is in a way where the bot meets its limits. As mentioned in the beginning, the end game is to render ourselves useless in this process, but to do so the bot needs development in the direction of artificial intelligence. GJØRME is thus a continuous work in progress until all missing pieces is in place.

1.	Befriend bot
2.	Web crawler analyses your Instagram account
3	Web crawler outputs individual colours on monitor 1
3.b	Web crawler outputs colour profile in RGB + CMYK on monitor 2 and 3.

3.c	Web crawler outputs colour profile in individual RGB lights on wall which mix in additive colour system.	
4.a	Web crawler outputs CMYK profile for physical mixing, subtractive colour system.	
4.b	Manual labour: User_5884499 mix physical CMYK colours for profile.	
5.	Audio: The web crawler outputs the above analysed data to manual processing by Future Daughter.	

Table 1. Performance cycle version Gjørme 0.1 (Ambition: fully automated version. Reality: Bot + humans)

What is "Gjørme"?

The title 'Gjørme' is a norwegian word for 'mud' or 'muddy' and was chosen as a worktitle as it describes what happens with subtractive colours (CMYK), when you physically mix them and end up with a dark brownish colour as opposed to additive colours (RGB) in light that mix into white. Destincting between these two systems is a key component in both the method and the motivation for the project.

GJØRME is a web crawler and could be described as a multimedia installation and performative piece. The goal is to render its creators obsolete in the creative process. An autonomous web crawler is collecting material, using this sampled material to create new audiovisual content both digitally and translated into physical space. Its creations will be broadcasted back online. In this version of the piece, the bot will be working on the social network Instagram. Instagram is an ideal platform for automated collecting and publishing. The idea is to insert the bot in a network of users, where the bot might inspire its peers and at the same the bot is fed by its peers. In a long-form feedback loop the bot will go through the content of its list of followers (the audience may follow the bot and thus feed it with input). The bot will here extract content from these profiles, determining a mean color profile of each one. Firstly the color profile will form the basis of an automated digital processing, projected in the room. Secondly the analysis will be translated to color pigments through a motorized squirting of paint into a glass container. By allowing the color profiles to mix, each of these processes will present a changing color over time. The digital, additive system will most likely create a light tone almost white light and the physical subtractive colors will most likely mix to a brownish color. Similar to the visual part, any audio from videos the bot might encounter will be sampled. The bot will use an automated cut-up technique to create a continuous audio collage from the sampled material, which in turn will be time stretched and averaged in frequency and amplitude, thus building an ambient composition in realtime based on the profile's sonic content. The output of the bot will be recorded both in image and audio, and snippets will be uploaded to its Instagram profile, hopefully making contact with others out there. For ICLI we would like to show the work as transparent as possible, using multiple screens to let the audience follow the bots collection, analysis and output

Technical specs

The web crawler is written in Python, and utilizes a combination of keyboard emulation through pyautogui library and computer vision through the OpenCV library. Thus the process is transparent, as one can observe Python interacting with the browser, stopping for each new element it discovers while it analyses and records the content. When encountering a video, the video will play through and the audio will be patched into Csound for sampling. In Csound the PVS opcodes are utilized for averaging amplitude and frequency spectrum. Jitter is used for the digital representation of RGB color. For the robotized color mixing, an Arduino will be controlling fluid pumps, pumping CMYK pigments into a

Ambition

At this point we are really just at the starting point of the project, using very crude techniques for extracting a relatively low amount of data. For the final part of GJØRME, and as the goal of the project as a whole, it would be optimal to utilize a machine learning component for analyzing encountered content in a lot higher detail than what is achieved by us today. Implementing an understanding or at least an estimate perception of what is present in a picture, a video or an audio stream would open up a new world of possibilities where the bot can build up an archive of what sort of information is posted to the web and also connecting this information to what content has gotten the most interaction in the form of likes. Thus the computer is building statistics on what kind of content is most heavily consumed and enjoyed by the end user, and it's possible to imagine the bot to be able to react to end user interaction (likes), and tweak its output to try to please the end user base. The next step would then be to experiment with different ways of building content containing new iterations of this information. It is easy to imagine image and audio synthesis to be the first base here, but also robotized drawing or playing should be tested for its possible X factor of purely existing in the «raw» outside world before it is documented and again uploaded to the web. The complexity of the analysis and creation is of course infinite, and thus the project may grow for the entire foreseeable future. The same idea of finding an average still applies to this infinite complexity level, where the bot is averaging content. GJØRME is of course an experiment. It is meant as an examination of human taste as it applies to web content. And if it really is so that our preferences are homogenous, then we might just as well automate the creation.

Who are we?

GJØRME is a collaboration between Øystein Fjeldbos digital entity / electronica group Future Daughter and Diana Lindbjergs digital entity / social media super user User_5884499. Using audiovisual collage techniques as a startingpoint for exploring the perceived "synthetic" and "organic", Future Daughter is aiming for an android "neo-organic" expression both in their live performances and recordings. Future Daughter consists of sound artist Øystein Fjeldbo (NO, 1991), producer Ivar Djurhuus (NO, 1989) and video artist Martin Aspen (NO, 1992). All three has a background from NTNU dept. of music. User_5884499: (Diana Lindbjerg) (DK, 1982) Visual Artist, based in Trondheim. MFA, Trondheim Academy of Fine Art, BFA hons. Glasgow School of Art. Her practice stems from photography exploring questions about process, outcome, permanence and representation. She has worked and exhibited with a parallel practice under the alias User_5884499 since 2013 exploring popular culture, interfaces, SoMe platforms, artistic entrepreneurship, online vs. physical presence in a circulation economy where self-publishing is a normative action. The User is convinced that most things can be understood through advanced knowledge of optical- and colour theory.