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POST-DIGITAL APPROACH: RETHINKING DIGITAL LIVENESS IN 'THE LIKES OF BROTHER CREAM CAT'

The animal celebrity – Brother Cream Cat

This essay discusses 'post-digital liveness' via the artwork *The likes of Brother Cream Cat*, made in 2013 in collaboration with Helen Pritchard. The work is about a popular figure and celebrity cat, Brother Cream, who lives in a convenience store everyday with the shop owner in Tsim Shai Tsui, Hong Kong. He became popular in Hong Kong in 2011 after he disappeared and was later found through the help of his Facebook fans who alerted local residents to his disappearance. Brother Cream Cat's attraction permeates in both the physical and digital live network. He has over 1000 first time and recurring fan visits per day at his store and has accumulated with more than 150,000 "likes" on his Facebook fan page 尖東忌廉哥. The number of "likes" becomes an instrument, as well as a starting point, to sustain his well being by attracting more visitors (both online and offline), to sell merchandised products, cat food and sponsorship opportunities for this animal celebrity, Brother Cream.

Figure 1: Brother Cream Cat at the 24-hour convenience store in Hong Kong.

The likes of Brother Cream Cat

The likes of Brother Cream Cat is a custom-made browser add-on, a piece of networked software, which intervenes with the users' browsing experience through the concept of the exaggerated 'likes' phenomena of this 'Facebook famous' cat. The notion of liveness that is explored in the artwork includes both human and nonhuman participants (both animal and computation). After installing the add-on, users can no longer view their usual Facebook pages as most images are replaced with Brother Cream's latest online trace, producing a lively and entertaining experience as the life of Brother Cream permeates the network everywhere. The image data on Facebook is constantly mutating and the live trace is participating actively in human-machine, human-human and machine-machine interaction through real time technology, including the network and software. The peculiar visual and audio effects which come about through 'liking'/'unliking' Brother Cream Cat's posts add another whimsical layer to the piece, allowing a virtual interactivity between human and non-human animal to occur. All these augmented browsing experiences are enabled through the nonhuman, the networked and computational communication between the add-on and the Facebook software. Therefore, the artwork "explores the network as a co-joined experience of humans and [nonhumans] with this popular Facebook cat" (Pritchard and Soon, *The Likes of Brother Cream Cat* par. 1).

Whether Brother Cream Cat can invade the network requires the attention of computational ecologies. Though this essay only addresses the issue of social forces between the add-on and Facebook, his

entanglements also include other possible ecological matters such as fan culture, gift economy, entertainment commerce, social media, copyright, data laws and his affective aspect (Pritchard, "Animal Hackers – The Affective Ecologies of Cream Cat").

The Likes of Brother Cream Cat is produced collaboratively with Helen Pritchard. Our work and research engages with 'more-than-human' computing (Pritchard and Soon, *Performativity of jsut code*) and network happenings. In 2013, Geoff Cox invited us to produce a piece for project. arnolfini, an online experimental production and research platform, commissioned by Arnolfini. In *The Likes of Brother Cream Cat*, we developed our interest of liveness in the context of computational ecologies. While Pritchard is focusing more on the nonhuman animal as a creative force in the production of code, as co-writers in computational ecologies (Pritchard, "Thinking with the Animal Hacker, Articulation in Ecologies of Earth Observation"). I am addressing the issues related to how social forces impact the life span and health conditions of a piece of networked software through the rethinking of the notion of liveness. Digital liveness is about the software's capacity to maintain a networked live connection and is subject to social forces including both socio-technical and socio-political dynamism. With this add-on, digital liveness exists in a 'black box' behind the screen; the success or failure of running the artwork is a co-participation between the software code that makes *The Likes of Brother Cream Cat* and Facebook. It is not simply a technical implementation.

In *The Likes of Brother Cream Cat*, we take the approach of Mark Marino's 'critical code studies' (2006), a method to study code itself rather than focusing on the representation, the usability or interface design of software. Studying how the algorithm is implemented might not be necessary as

"code itself [is already] a cultural text worthy of analysis and rich with possibilities for interpretation" (Marino par. 10). The available Facebook code, including but not limited to source code, web API, the Facebook developers site and its documentation, and the terms and conditions, provide a useful way to understand the architecture of the Facebook infrastructure in both technical and political dimensions.

This essay tries to open up the discussion of digital liveness through artistic research and practice, examining the socio-technical and socio-political digital processes of Facebook through its constant negotiation with my software. To run *The likes of Brother Cream Cat* under good conditions, Facebook needs to keep using the same data schematics in their source code.

Figure 2: Screen shot of *The likes of Brother Cream Cat* **on Facebook.**

Image 3: Screen shot of the overlaid text and the 'like'/'unlike' responses on the Brother Cream fan page

Post-digital approach

In 2011, Transmediale Festival held a conference entitled *BODY:RESPONSE – Biomedial Politics in the Age of Digital Liveness*. It suggested that networked environments and technology have been shifting the understanding of the living body from the biological to the "social and political" body, which is extended from online society. Technology governs the social body and social relations through online platforms, communication devices and application gadgets. The ways a body connects to society have dramatically expanded through social practices in online environments. The use of biopolitics is also evident in various scholars' writings (Pasquinelli 153; Liu 57-77; Parikka, *Digital Contagions* 124; Karppi; Munster 72), opening up critical perspectives between politics and the networked body. In the context of digital liveness, biopolitics, with reference to Foucauldian discourse analysis, is about digital life (related to life span and health conditions of a network/artifact/software), regulatory controls, social relations, production, reproduction and population.

Ian Andrew's notion of post-digitality, in his article *Post-digital Aesthetics and the return to Modernism* (2000), places emphasis on the "flaws" of an artifact, and examines how the technologically related and unattended noises are generated during the digital production process. If we consider that "the flaws inherent in digital processes" (Ian par. 2) are part of the artwork examination, then I would push further Ian's notion of "flaws" to argue that they are not a mere interruption, but the possible causes of an artwork's malfunction that go beyond "technological failure" (Cascone par. 6). The post-digital approach involves investigating the digital life process that leads to software flaws. The question then would be: Why does

the artwork, the networked software, end its life? And how can its life be prolonged?

Ian suggests the post-digital approach is not about examining functions and "mundane tasks" (par. 28) of a software application, but thinking about "material processes" (par. 24) that are transmitted through every part of the hardware, software, network and environmental conditions. *The Likes of Brother Cream Cat* is a piece of software that connects to a network platform, in this case, Facebook. To focus on the digital processes of the add-on, I am emphasising the material-communication processes between my software and Facebook through web scraping and the standard web application programming interface (API) communication technique.

The add-on addresses the notion of liveness through continuously scraping Facebook data and intervening in the user experience of browsing Facebook in real time. However, like any other software production, the add-on could potentially malfunction, ending its life when it no longer functions, and this would lead to a newer version release. In this post-digital era, one tends to think beyond the polished screen and well-functioned software, departing from the critical reflection of software disruption. A newer software version is not simply regarded as a new fix or a new update, but it encompasses social forces, which shape the digital liveness of *The likes of Brother Cream Cat*.

Beyond the technical: The governing of web APIs

Using a web API was one of the possible options in developing *The Likes of Brother Cream Cat*. Web API (Application Programming

Interface) is a standard interface offered by Web 2.0 service providers to communicate between software in the application layer. Developers, designers, artists and anyone can register a platform account and are then able to retrieve services and online data via the use of web API in their developed software. Arguably, there is a growing trend for artists (such as JODI, Jonathan Harris & Sep Kamvar, Jer Thorp and Shu Lea Cheang) to employ available web APIs in their works. This public interface, the API, has become an "art-making enabler" (Soon 1).

Facebook is not only a web platform and application for end users to socialize and communicate, it also provides web API services to developers. The release of the web API in Facebook provides much broader opportunities to enhance its popularity on the Internet and sustain its business inasmuch as more third-party applications are being offered in the market. Online and social data could pass through the web API from Facebook databases, reproducing and appearing in other interfaces, and this has become known as 'Facebook apps'. However, the web API should not only be considered as a tool, but has to be understood from a socio-political perspective related to how providers manage or govern their data usage, encompassing a highly complex socio-technical-political relation.

Although most data, ranging from user-generation to system tracking data, is contributed in the public domain freely, Facebook basically has the full control on granting the access and deciding what data should be opened from databases and made available to the public through algorithms. In this regard, it controls the technical execution of data inclusion and exclusion. All the users' data fundamentally "is the sole and exclusive property of Facebook" (Lodi 242). Since all Facebook apps have to go through a registration process and are under constant monitoring, this in effect means Facebook is controlling what should be made available in the market, cultivating a desire and favorable apps through the labour market, and governing the constitution of the developers' community.

Facebook has made their web API available since 2006 and developers have to comply with their rules, including both concrete and ambiguous instructions. An example of this is the limit of query requests per day via the developers' programs. One of the conditions presents in a Facebook developer page called "Facebook Platform Policies" states: "Quality of content: you are responsible for providing users with a quality experience and must not confused, defraud, mislead, spam or surprise users." Clearly, the rules are set to be mostly beneficial to Facebook. In this regard, I am wondering if *The likes of Brother Cream Cat* surprises users, through its messy interface and bizarre interaction? Undoubtedly, Facebook has the right to withdraw and block the application's access for data retrieval, and even reserves the right to pursue any legal actions that they might consider necessary. This has been seen previously in other artistic websites such as *Seppukoo* (2009), developed by Les Liens Invisibles, which promotes 'Facebook suicide'. Facebook blocked *Seppukoo*'s web API access in 2010 through the Facebook account deactivation service. In contrast, to be a well-behaved developer, in both technical and political terms, a stable delivery of data is expected (Bucher par. 40).

The politics of the Facebook web API

Though Facebook tries to maintain their platform stability by giving advanced notice of

API code changes and offering more comprehensive documentation and guidelines, still many developers suffer from their frequent code updates. According to an online web service company called "API Changelog", the related documentation and services of the Facebook API accumulated a total of 64 changes in just 30 days. Chunk, an engineer who works at Facebook, announces that they update their code (not only for API but Facebook as an entire platform) at least on a daily basis for different enhancement purposes in order to sustain its entire economic activities in the page called "Ship early and ship twice as often" (2012).

Nevertheless, third party applications have to keep up to date in order to cope with Facebook changes and to keep up with the latest technology. In 2010, Facebook announced significant changes towards the web API with the introduction of Open Graph, a way to structure web data that allows data to be easily distributed. But this also implies the deprecating of the former format of REST API on Facebook (REST format was originally defined by a scientist, Roy Fielding, in 2010). In fact, backwards compatibility or legacy support has been seen as highly time-consuming and expensive for maintenance (Bisbal et al. 103), and therefore, companies tend not to take the approach of supporting both new and old systems. Facebook, as one of the listed companies, also has to be cost effective in growing its revenue and business. Despite new features no longer being supported in the old API format, according to a Facebook developer announcement page called "Platform Updates: Operation Developer Love" (2013) which is posted by Lei Lei, REST API is completely removed and is no longer available for apps created after April 10, 2013. One of the developers responded and criticized Facebook on the same page as follows:

"The argument that 'existing apps will continue to work' doesn't work because our software is not a single application — it is a platform for Facebook applications. Software like ours is therefore instantly broken for anyone who uses it with a new application – no grace period for us to make sure that we have removed all traces of the old REST API." (Fowler)

As such, it is very difficult to ensure the life expectancy of a third-party application as developers are forced to change their software to avoid potential and instant malfunction, and it would be the same if *The likes of Brother Cream Cat* used the web APIs. How could one "escape" (Berardi ix) from all these conformities? I have employed an alternative and conventional method, yet not properly verified and approved, called web scraping.

What about web scraping?

Before the wide availability of web APIs in the late 90s released by Web 2.0 providers, developers or artists could only use web scraping to harvest web data. Web scraping is an automatic process of web data extraction, written by a computer scripting language, in which "specific fields or data elements [are extracted directly] from pages on the Web and other Internet sources" (Marres and Weltevrede 316). Authorization is not required, one can easily program a script and start fetching the web data, however, Marres and Weltevrede call our attention to possible issues related to the legality of web scraping as it may go against a website's "terms of use" (320).

Indeed, both the use of API and web scraping techniques could achieve the same results as an add-on, allowing Brother Cream

cat to invade the network and permeate the Facebook browsing experience massively. However, the use of different code crafting methods and languages goes beyond the mere issue of technical implementation. Indeed, code has a 'voice' (Cox and McLean 3) in this artistic context to maintain the digital liveness of the software and escape from Facebook's regulatory control. Geoff Cox argues that machine code should not only be regarded as an instrument for executing creative instructions, but also "subjectivity and sociality" that "connects with political expression and allows for a wider understanding of power relations" (3). A 'voice' is therefore embodied in the add-on's source code by using the web scraping technique, somewhat 'escaping' the way that the web API is governed by Facebook. This voice is subtle and hidden as a black box from audiences. We have tried to make this explicit by including a warning notice in our landing page of *The likes of Brother Cream Cat*, as well as disclosing the source code entirely on userscripts.org. Indeed, using web scraping might violate Facebook's existing policies, such as copyright and ownership.

Marres and Weltevrede further discuss the extracted dirty web data (322) in using the Web scraping technique. The source is hardly understood without proper revealing of data schematics, and the web data collection process is "unstructured" (316) and "messy" (322). In addition, web scraping is considered an unstable method because there are substantial changes of web interfaces and data elements from the source (Tseng 2), which impact the app's development.

In fact, none of these approaches, web scraping or standard web API, are stable in a technical sense. In general, *The likes of Brother Cream Cat*'s add-on is expected to cope with all the changes in the Facebook platform by continuously updating the add-on software with different versions — just

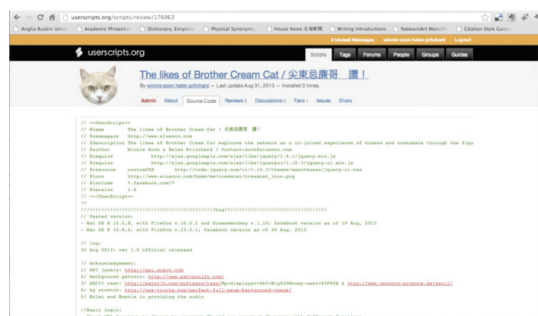**Figure 4: Screen shot of *The likes of Brother Cream Cat*'s landing page <http://thelikesofbrothercreamcat. net>**

Figure 5: Screen shot of the source code of *The likes of Brother Cream Cat* <userscripts.org/scripts/ show/176963>

like any other software practice — in order to maintain the liveness and functioning of the artwork.

Fostering life: The production of new updated releases

A new version of a piece of software means there is a new update. There are different reasons for this and so what makes a provider introduce a newer software release? Chunk, the Facebook engineer mentioned earlier, responds that the Facebook software updates provide "great things" in their "Ship early and ship twice as often" policy (2012). Perhaps, it can be understood as "greater" interfaces, "greater" functions and "greater"

stability to drive Facebook's business model, keeping users and expanding possible online connections. Mark Zuckerberg, the CEO of Facebook, mentions in his announcement "Facebook Reports Third Quarter 2013 Results" (2013): "we work to bring the next five billion people online and into the knowledge economy". Therefore, Facebook's number of users is predicted to expand continuously with the 'great things' that are offered to them. Given that advertising revenue had a 66% increment from 2012 to 2013, it is understood the direct and inter-related forces that exist between end users, business relations and monitoring systems in the Facebook empire. Every new update of the software can be seen as an event in the world of capitalism. It is an economic process and yet it exists through the technical practice of code release, controlling the network population in relation to the machinery of production. In other words, the software signifies "a power to foster life" (Foucault 138) and is entangled with the optimization of efficiency and effectiveness that directs the engaging forces from macro interactions among advertisers, technology and users to micro individual behaviors.

In fact, these software changes are commonly seen in "media software" (Manovich 24) nowadays including things as hotfixes or security updates from operating systems, and software updates from other kinds of applications. The reasons behind these range from protecting security and privacy of users, to offering better experiences, features and functions. Arguably, one of the hidden agendas for software companies is to implement a range of mechanisms to reinforce their controlling, monitoring and optimizing via data tracking. Facebook is one of the companies that actively analyzes user behaviors, such as tracking users' cursors on screen as was reported in the *The Wall Street Journal* by Steve Rosenbush

in 2013. Perhaps, software should also be considered as a control apparatus, with power that is exercised on individual live connections – as a form of life – through the black box of algorithms in order to track and analyze users' online behavior. These micro tracking techniques are implemented down to the individual level in order to trace potential consumption patterns. All these controls are hidden but integrated in the normal release of software, which is offered to users as an uncompleted and distorted picture since it is presented as 'great things'. According to Foucault, the notion of life is biopolitical and consists of disciplinary power that is "centered on the body as a machine". It can be argued that this notion is integrated into existing systems to optimize software efficiency. Foucault explains power as:

> *its disciplining, the optimization of its capabilities, the extortion of its forces, the parallel increase of its usefulness and its docility, its integration into systems of efficient and economic controls, all this was ensured by the procedures of power that characterized the disciplines (139).*

Extension of life: Social reproduction via APIs

As a production platform, Facebook's population includes not only end users who frequently and actively engage with Facebook for socialization and communication, but also those external parties who participate in developing Facebook apps. The Web API is one of the ways through which Facebook extends its user population through third-party applications. Facebook offers comprehensive guidelines and interfaces for their web

APIs, facilitating the reproduction of user data and the production of 'Facebook apps' in a creative way.

Other than data reproduction, the social life of Facebook is being extended and enriched through third-party apps as there are an increasing number of apps that post requests/scores/notifications on users' Facebook walls through the web API. For example, a mobile app called *Candy Crush Saga* has implemented a system that allows users to request further 'lives'. When players have used up all the lives available to them in the game, they are able to obtain more lives by asking Facebook friends for help. This enables them to keep playing the game. This social interaction that allows them to obtain extra lives has been implemented via the Facebook API by posting a request message on a friends' wall from within the app, as well as accepting the help message from them. Facebook will then inform the app that the player has been given extra lives and this will allow them to continue playing. As a result, social reproduction is made possible via web APIs.

Being able to access Facebook's databases with the API is highly motivating for developers, since it immediately creates a network of relations through individual be-havior. For instance, a users' 'likes', 'posts' or 'shares' are exposed to a massive network where a ripple effect is created. Gerlitz and Helmond would describe this as an "interconnected" (7) network relation, whereby Facebook data keeps circulating among a network of networks exponentially. They point out that Facebook is intention-ally implementing their business as part of Zuckerberg's agenda, which is "to build a more comprehensive map of connections and create better, more social experiences for everyone", as stated in his Facebook post "Building the Social Web Together" (2010). Thus, this social connection, extension and

reproduction are, in conjunction with wealth and desire, producing "subjectivities" like "needs, social relations, bodies, and minds" (Hardt and Hegri 32). This demonstrates 'biopower', that Hardt and Negri describe as "the production and reproduction of life itself" (24).

When it comes to creating a socio-technical and socio-political context, the Facebook web API is contributing to the liveness of both *The likes of Brother Cream Cat* and the Facebook platform. As far as Facebook is concerned, these new relations are enriching their entire business. New apps will recruit and attract new users as well as intensify the social activities through third-party software, and hence affect the dynamics of the Facebook population and extend the life of the software in biopolitical terms.

Conclusion

In summary, a newer version of software does not only mean advancing the soft-ware's functions and features, but also refers to the disappearance of old interfaces, old functions, old regulations and policies in both the case of Facebook and *The likes of Brother Cream Cat*. It essentially documents and embodies the changes, history and a particular moment of technological media development, including but not limited to the capitalist, mainstream and commercial demands, conformity, political decisions, regulatory controls and ideological practices.

In *The likes of Brother Cream Cat*, a possible malfunction in the add-on would mean the death of live connections to Facebook in a quite literal sense. The social forces around the add-on, on the one hand, have the capacity to prolong its life as a piece of well-functioning software, connecting healthily with Facebook as a live connection.

On the other hand, the social forces can also lead to malfunction and to failure, ending the life of a piece of software. Using web scraping might lengthen the add-on's life and help it escape from the disciplinary practices of Facebook, but still it will hardly escape the frequent code changes and releases of the Facebook Empire. The fragility of the add-on, *The likes of Brother Cream Cat*, thus expresses the notion of post-digital liveness through rethinking the matter of digital life, its material-communication inter-relation with Facebook and the possible software failure on an artistic, conceptual and practical level of production.

Post-digital liveness in *The likes of Brother Cream Cat* exists in the material-communication software process. The capacity to maintain a live connection is not only subject to pure technological consideration, but is also related to socio-technical and socio-political relations within the digital process that allows Brother Cream Cat to invade the network. These aspects, though, are hidden to users behind the screen. Post-digital liveness implies both being technologically connected live to the network, as well as the digital life of software bodies.

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