

# Using Frame Analysis to Organize Designers' Experience on the Cloud

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## Abstract

This paper demonstrates how Goffman's frame analysis is applied in research on designers' experience with Cloud based digital tools. At the base of his structure is the *primary frame* shaped by designers' experience with computer based digital tools. When the businesses transition their tools to the Cloud, they create *fabrications*. Goffman's *structural issues in fabrication* such as *retransformations* and *nature of recontainment* are also explained through contemporary examples. These fabrications are then applied or *keyed* by designers or *active agents* in various design fields. Questionnaire answers and consequent semi-structured interviews with designers showed different understanding of Cloud technology. Thus, the active agents were clustered into three groups - designers, developers and artists. Their experiences deriving from the use of Cloud based tools form the creative, technology and experimental frame. Design researchers can selectively borrow elements from frame analysis' complex structure to build an effective user experience narrative.

*Keywords: Dramaturgy; Cloud; UX; Frame Analysis; Digital Tools; Erving Goffman.*

How designers experience the transition of digital tools to the Cloud depends on their informational level (Entman, 1993). The inconstant data collected from such a diverse group presents organizational challenge. Symbolic interactionist theory analyzes human computer interaction but it doesn't offer strategies for analyzing data coming from diverse sources. Goffman's frame analysis offers the solution to present each groups' experience as a distinctive frame.

Coined as one of the greatest sociologist of the 20<sup>th</sup> century, Goffman's work is centered around the ways people interact. His first book *The Presentation of Self in Everyday Life* presents the idea that people build their public persona similarly to the way a character is developed for a dramatic piece (Goffman, 1956). His use of the theatre as a metaphor for real life led to the rise of dramaturgical sociology, that examines the context of human behavior rather than the cause. In this book, Goffman uses the term *framing* to describe how people alter their behavior based on the place, time and observers.

In his book *Frame Analysis; An Essay on the Organization of Experience*, Goffman (1974) increases the application of 'framing' in analyzing certain shifts in paradigms. Frame analysis has been applied successfully to analyzing news reporting, political events and environmental agendas by presenting different approaches to the issue as different framing (Knight, 2010). While dramaturgy was applied to human experience studies in other fields, Goffman's frame analysis has only been scarcely referenced in design research as far as the author of this paper is informed. This paper demonstrates how Goffman's framing concepts can help to organize designers' in Cloud experiences.

## Literature Review

Symbolic interactionism is the theoretical framework of choice in many studies on human experiences with computers. At its core are Blumer's (1969) three principles: people act towards things according to the meaning they have for them; the meanings arise from interaction with other people; and during the interpretative process these meanings are altered.

Lee (2009) uses these principles to address role playing in the mediation between culture and co-experience. Co-experience was coined in an earlier research by Battarbee (2003) when mobile SMS technology offered a new format for social interaction. She references Dewey (2005) and Goffman (1956) to support the idea that the way people interact is closer to drama than sociology or psychology.

Jordan (2002) states that when people interact with computers they have expectations and ideas of how the interaction is supposed to play out. This resonates in Wilson's (1980) statement that theatre goes generate expectations while observing a performance. In the early 90's, Laurel (1991) perceived the theatrical structure consisting of situations, characters, actions and reactions as appropriate for mapping people's experience with computers. Blumer's three principles echo the dramaturgical analysis of character and action as established by Stanislavsky's technique (Naskova, 2016).

From 1929-1932, Blumer conducted research on how young Americans are affected by movies, concluding that their lives' focus was redirected from working class or ethnic communities towards consumer culture (Digital History, 2017). In Chapter 10 named "Schemes of Life", Blumer (1933) states, "motion pictures fashion the minds of grade school children in an appreciable way by providing both specific ideas and a general framework of thought". Clough's (1988) review of this research concluded that Blumer's Symbolic Interactionism is a scientific observational methodology, objectively distanced from cinema's gendered imagery. Herbert Blumer was Chair of the Department of Sociology at the University of California, Berkley, when Erving Goffman became an Assistant Professor in the early 1958 (Smith, 2006). While Goffman was exposed to Blumer's work, he hasn't referenced it in his seminal book on frame analysis. This might be explained by Gonos (1977), who states that in opposition to the interactionist framework, Goffman's is a structuralist one. Cahill concludes that while Goffman (2007) was influenced by symbolic interactionism his contribution to this field is much more significant (p. 174).

In an interview with Verhoeven (1980), Goffman answers some of these questions, "I guess I'm as much what you call a symbolic interactionist as anyone else. But I'm also a structural functionalist in the traditional sense" (p. 318). The term symbolic interactionist results from social circumstances rather than the nature of the field, explains Goffman. It was resurrected from a Blumer's footnote eight years prior and applied to his graduate student group of late 40's (Verhoeven, 1980, p. 319). While he finds Blumer's work very sympathetic, Goffman distances himself from his colleagues. Despite the influence, Goffman concludes that his sociology is more traditional and if labels are necessary, he prefers Hughesian sociology.

The frame analysis' dramaturgical structure might have been influenced by Goffman's older sister who was a character actress (Cavan, 2011). Or maybe it was his position at the Canadian National Film Board (Battistella, 2014). His assistance on the 1948 *Big Sister* research project

by Warner and Henry (1948) could have been an influence as well (Low & Bowden, 2013). According to Gonos (1977), it is an effort to abstract the frames within which life takes place in contrast to the symbolic interactionists close study of participants' unique situations. In Verhoeven's interview (1980), Goffman maintains his reservation towards labeling, "The term dramaturgy I can't take all that seriously... If you come to it as somebody who has lived through it, you get quite a different view". He further likens how outsiders depict experiences not lived to "pictures which are generated by pictures makers", thus contradicting his impartiality towards dramaturgy.

## Applying Frame Analysis

Use of technology is scarcely referenced in Goffman's frame analysis. He speaks about the use of wiretapping devices for monitoring and once mentions a newspaper articles about the use of computer strategy to beat the game of twenty-one at a casino (Goffman, 1974, p. 180). With research subjects observed at vaudeville-like nightclubs and casino games, he builds his dramaturgical structure with references to cases from the United States criminal justice system. His structural elements are named in the language of the era and sometimes challenging to translate into contemporary terminology. Therefore, adapting his theoretical framework to the analysis of designers' experience with Cloud based tools presented many challenges.

This research started with a case study of Dreamweaver CC, how Adobe promotes the Cloud based version and introduces new functions of the tool. Originating from the findings, an eleven questions questionnaire was devised. It was then distributed to 1050 designers featured on Bēhance, employing the netnographic research. The later according to Kozinets (2010) is a participant-observational research targeting online communities. It resulted in a low response rate, and after separating twenty responses from China, only thirty-five responses from other parts of the world were considered. The same questionnaire was then used as a guideline for thirty-one in-person semi-structured interviews. Additional participant-observational research was conducted by attending meetings organized by user experience and other target groups. These were paired with archival studies of various digital tools as well as online articles. In the ten interviews featured in Table 1, the active agents responded according to Entman's logic (1993), "Receivers' responses are clearly affected if they perceive and process information about one interpretation and possess little or incommensurable data about alternatives". Jane, Toro and Bijan covered themes concerning functionality and accessibility, Brian, Dave, Markus and Jovan spoke about security and technology, while Lorenzo and Anita promoted scrutiny and experimentation. Goffman's frame analysis is applied to this information for building the structure behind frame creation, without a detailed user experience evaluation. The latter inductive part of this paper's research strategy was preceded by the data collection processes which represent the deductive part (Matthes & Kohring, 2008).

Table 1: List of interviewees

No.	Name	Origin	Title	Tools Used	Referral
1	Anita	Slovenia	GD/Artist	Adobe CS	Network
2	Bijan	Iran	Graphic Designer	Illustrator, Photoshop	Bēhance

3	Brian	USA	Web Developer	WP, PHP	Meetup
4	Christina	Netherlands	PD/Artist	Rhino	Network
5	Dave	Hong Kong	Cloud Engineer	C++	Network
6	Jane	USA	Web Designer	WP	Meetup
7	Jovan	USA	UX Designer, IT	Axure, FCP, Sketch, Google Docs	Meetup
8	Lorenzo	Italy	GD/Artist	Adobe CS5, Google Docs	Network
9	Markus	Switzerland	Suite Developer	C++	Meetup
10	Toro	Japan	Illustrator	Adobe CC	Bēhance

## Primary Framework

“The *primary frameworks* of a particular social group constitute a central element of its culture” states Goffman (1974), from which emerge “principal classes of schemata” (p. 27). While there are multitude of frameworks, an operating fiction must be accepted even temporarily to make sense of a certain activity, thus necessitating the establishment of a primary framework (Goffman, 1974, p. 26). This research starts with an accepted narrative on designers’ use of computer based digital tools. It forms the primary framework depicted as the bottom layer in Figure 1. This is the experience that created ‘sense of reality’, or how things should be when designing with digital tools.

This sense of reality is different depending on the age of research participant. Seasoned designers counterpointed it with their pre-digital era experiences with physical tools. They were working in the design field using tracing tools, paper and pencil when digital tools drastically changed their workflow. Young designers have difficulty differentiating between computer and Cloud based digital tools. The seamless intertwining of the two combined with uninterrupted internet service and simplified mobile versions blur the boundaries. Nevertheless, the experience with digital tools that resided on personal computers will constitute the primary framework.

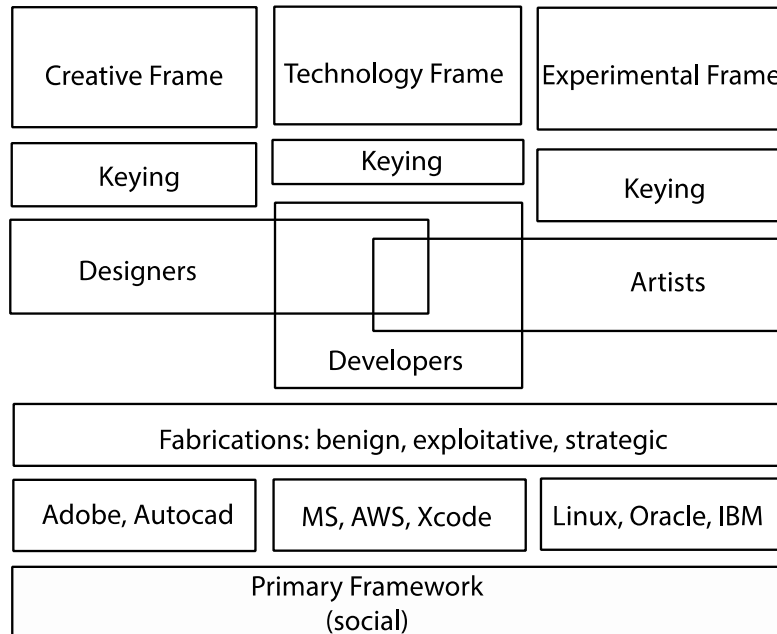


Figure 1: The structure behind frame creation

## Active Agents and Frames

In this research, the interviewees or *active agents* are segregated into three groups based on their design activity and understanding of Cloud technology: designers, developers and artists. Upon engaging in a strip of activity, the active agents try to make sense of it. This leads them to answer the question “What is it that’s going on?”, thus establishing the group’s ‘framework of frameworks’ - its cosmology or belief system (Goffman, 1974, pp. 26-27).

In the early days of desktop publishing, Jane’s artistic sensibility provided advantage over the technologist:

In the first several years (late 80’s) that I was doing ‘desktop publishing’ (in air quotes), I was very concerned because I had a fine arts training. I didn’t have graphic design or the commercial artist training and everybody that had a computer was doing desktop publishing and they didn’t know jack shit! They were using twenty different fonts just because they can, things looked awful and they didn’t have any sense of design. So, I was very hesitant to call myself graphic designer for quite a while.

Jane is an early adopter of digital tools with a private web design business and an independent lifestyle. Sometime in 2005 she chose WordPress as her website creation tool and stuck with it because she knew “it won’t disappoint her like the other tools”. Jane likes WordPress because it helps her to create professionally looking websites with a limited knowledge of PHP. She knows how to add basic commands to the code, but for more complicated changes she calls the ‘code ninjas’ for help. She represents the designer group of active agents interviewed for this research. On Figure 1, their experience with Cloud based tools is contained within the creative frame. An interview with Brian, a WordPress developer reveals that this tool is robust enough for someone who likes to code websites from scratch:

When I first started coding (late 90's), I had no idea how to fix cross browser inconsistencies, but slowly I figured it out. Till this day, you can give me any design and I can code it in HTML, CSS and JavaScript. It is more a matter of practicality. Especially in programming, everything is possible... it's only a matter of how much time you can put into it.

WordPress' easy to use interface is perfect for customers who like to update their website's content on their own, without paying Brian. Instead of using WordPress themes, he has developed his own frameworks suitable for different types of websites. Brian is an example of the developer group of active agents in this research, whose new experience is signified by the technology frame in Figure 1.

The third group of active agents is the most eclectic one, a mix of professional technologists and designers who are also active as artists. They prefer to use open source tools or code from scratch, applying Internet technologies in unusual ways while defying businesses' expectations. An Italian artist called Lorenzo stated in an interview:

You know, I have this phone, but there is also an iPhone, which is more functional. But I don't like to follow the companies, because it is a kind of a vicious circle and you can go crazy. But I know that eventually I'll need to update everything.

Lorenzo can work off-the-grid because most of the time he isn't collaborating with other designers. His projects capture instances when technology fails to disguise its true nature. He likes to take screenshots of pixelated mishaps, as a proof of computers' artificiality. Novelty and constant explorations drive this group's activities. Their unique experiences fall under the experimental frame on Figure 1.

## Keyings and Fabrications

Goffman (1974) defines *keying* as, "The set of conventions by which a given activity, one already meaningful in terms of some primary framework, is transformed into something patterned on this activity but seen by the participants to be something quite else" (p. 43). Keying is the transformation of a designing activity initiated by Cloud technologies. Besides re-learning how to use their transformed toolbox, designers now need to navigate through new computing models such as SAAS (software as a service) while dependent on reliable Wi-Fi connection. Unreliable Internet service can delay the adoption of Cloud technology (Avram, 2014). In certain parts of the World due to poor connectivity designers can only use bootleg copies offline, "Our Internet connection is very low so we don't use Adobe as Cloud because it doesn't work with our Iranian connection. I use a regular or non-connection version of Photoshop, also we don't have copyright (software licensing)!" – disclosed Bijan, an Iranian graphic designer. While keying is the basic way an activity is vulnerable to transformation, Goffman (1974) offers an alternative in a transformational vulnerability called *fabrication* (p. 83). He further clarifies, "I refer to the intentional effort of one or more individuals to manage activity so that a party of one or more others will be induced to have a false belief about what it is that is going on" (Goffman, 1974, p. 83).

Goffman (1974) classifies the deception engineers as operatives, and the contained, or taken in the fabrication – dupes, suckers and pigeons, "This is collusive communication, those in on it constitute a collusive net and those the net operates against, the excluded" (p. 84). Further, he

specifies that, “for those in on the deception what is going on is fabrication; for those contained, what is going is what is being fabricated” (Goffman, 1974, p. 84).

Fabrications are categorized as *benign*, ones that don’t harm the contained party and *exploitative*, ones that are clearly damaging to the interests of the contained. The way to distinguish them according to Goffman (1974) is that the exploitative ones can be subject of legal proceedings, for example in the case of false advertising (p. 102). Under benign fabrications, Goffman presents cases where benign fabrications are *strategic*. He further specifies that two elements are involved, “a moral one pertaining to the reputability of the deceiver and a strategic one pertaining to the misdirectings of the dupe’s perception and (consequently) his response” (Goffman, 1974, p. 102).

According to Dave, a senior Cloud technologist from Hong Kong, “The Cloud, more importantly, the ability to delivery services via the Internet has been around for a very long time and one of the first services you could get was email”. At the beginning, there was the benign Internet, limited to providing email services for one flat utility fee (Borgman, 2003). It took some years for it to become the Cloud, a complex business model that delivers various services over the WWW, each for a cost additional to the price paid for the Internet as a public utility (Kang, 2016).

Today Cloud services providers can challenge net neutrality, whereas the non-regulated nature of the Internet offers many possibilities for abuse (CMS IT Services, 2015). In this case, big Cloud providers are the deceiver, but their reputation is hard to challenge mainly because of the non-existent legal base (Net Competition, 2014). Legal proceedings are carried daily by private entities against serious damages done by Internet businesses and malicious users, but the technology changes faster that judicial protection against misdirectings can be put in place (Spinello, 2014).

Corporations keeping secrets from their competition in-order-to protect their interests are given as an example of strategic fabrication (Goffman, 1974, p. 103). Goffman doesn’t deny that those kept in the dark might have their interests threatened by this behavior. The Cloud is presented as a safe place to store your data while hard drives can get damaged by floods, earthquakes and other failures (Taylor, 2014). Occasionally, data breach cases remind us that someone else is not invested in protecting our data as much as we were made to believe (Wakabayashi & Yadron, 2014).

Designers get overwhelmed when trying to comprehend all the new issues arising from their use of Cloud technology because most designers are not technologists. The Cloud is advertised aggressively while essential information such as security issues, protection of intellectual rights and availability of legacy versions is neglected. All these issues can affect designers negatively where they have little to no say in these matters that affect their livelihood.

## Structural Issues in Fabrication

### *Retransformations*

The primary frame as an accepted design activity narrative, is fabricated by businesses transitioning their digital tools to the Cloud. This transformation comes with information on ‘what is new’ posted on the software company’s website together with videos of evangelists’

demonstrations and options for online support (Adobe Ps, 2017). Designers then transform the transformation by streamlining the way they use the tools to best suit their needs. According to Goffman (1974), “whatever it is that makes untransformed activity vulnerable to transformation makes transformations even more vulnerable to retransformations” and this unavoidable layering of the primary frame creates a structure (p. 159). *Retransformations* can also be fabrication of the keying, or fabrication of the fabrication, with different correlations between benign and exploitative culminating into Goffman’s ‘big con’.

### *The Nature of Recontainment*

In the case of a ‘big con’, Goffman talks about the duped being *recontained* in forms standard for our society. The first one is *secret monitoring* where “basic assumption about social life is violated by these various forms of monitoring” (Goffman, 1974, p. 168). He further argues that places that people like to think of as private are usually those that are bugged, because here individuals abandon their public persona and behave in a way that discredits them. Goffman (1974) concludes that, “Any monitoring of any individual’s behavior that he does not know about will then have a discrediting power; all forms of secret surveillance function to undermine later activity, transforming it into a discreditable performance” (p. 169).

The Cloud offers possibilities for monitoring, and businesses are taking advantage of their access to users’ data (Hill K. , 2012). Anita was apprehensive of this issue, “No, you have no control about privacy. It is an illusion, you know? Google it’s for free because it has a reason to be free; and all the free applications they have a reason why they are free”. Data mining, artificial intelligence, machine learning are all computational processes enabled by big data collected from Cloud users (Neves, Schmerl, Bernardino, & Camara, 2016).

Most interviewed designers are not aware of the possibilities for surveillance that come with the use of Cloud based tools thus rendered unable to give informed consent. Especially, they are not aware when they are giving permission to businesses to collect their data, since most privacy policies contain an opt-out clause (Adobe Privacy, 2017). The latter can be used to apply control and undermine designer’s privacy (Nagenborg, 2011). Even with informed consent, Nagenborg argues that online surveillance can create ethical issues not limited only to privacy.

Designers are conditioned to present their work on social media because as Toro, a Japanese illustrator puts it, “As a creative person today, not using at least one of these platforms is a huge waste, a career suicide”. Most designers didn’t express concerns about their intellectual property being misused by other social media users. But some designers do track copyright infringements with Google reverse image search (Stone, 2014).

Christina, a product designer from Netherlands stated that a large company she worked for in the past kept its sensitive data on internal storage systems and not on the Cloud. But in a major study information technology professionals expressed concerns that Cloud technology could easily be engaged without their or their organization’s knowledge, jeopardizing security (Jansen & Grance, 2011). In most cases, intellectual property rights on the Cloud are only apprehensive about misuse of corporate data (Cidon, 2015).

Another form of recontainment is *penetration* or, “The process whereby an agent who is disloyal to a team exploits legitimate (as opposed to clandestine) access to social settings in which the team’s strategic or dark secrets are unguarded or their discrediting conduct is observable” (Goffman, 1974, p. 170). Goffman further explains that participant observation, one of the research techniques applied in this paper as well, is one type of penetration. Firsthand gossip, arguably what most ethnographic research happens to be, is according to Goffman (1974) a betrayal of the penetrated circle (p. 171).

For this research participant observation was conducted by attending networking meetups, presentations, workshops, conferences, hacking camps, design swarms targeting active agents such as designers, developers and artists. Informal interviews were conducted with some of the participants and some of them were recruited for a formal semi-structured interview. The common understanding is that this sharing of information is conducted for the benefit of the group, if not society at large.

Ultimately, how the information is going to be distributed is at the discretion of the university sponsoring this research, what leads to the third category of recontainment. “The activity through which a discrediting act is called forth by a provocateur on the grounds that he is a proper person with whom to share the secret world”, is considered an *entrapment* by Goffman (1974) or an active form of penetration that induces the vulnerable activity (p. 172). Besides universities sponsoring the penetration of a group, businesses that sponsor gatherings of a specific group can also be seen as provocateurs. Cloud providers employ evangelists to present new services at user groups meetings, answer questions, mingle and recruit collaborators. Developer suites are offered by major Cloud operators such as Amazon Developer Publishing (<https://developer.amazon.com/developer-publishing/>), Microsoft Azure IoT (<https://azure.microsoft.com/en-us/develop/iot/>), Apple Developer Program (<https://developer.apple.com/programs/>), Autodesk Developer Network (<https://goo.gl/C6pWiB>) and others. Developing tools, training and technical support are free in exchange for developers making their work accessible to other consumers and most importantly to the Cloud provider itself.

The Cloud has expanded the scope of work for technicians who coordinate these suites as well. An interview with Markus, a software developer for a network developer suite revealed:

In the past when we were only focusing on desktop products, the situation was a bit easier. Every person could be an expert just in that product and focusing on functions inside that product. It was a closer eco system than now. Now with the Cloud, we need to make any solution integrable and it takes more time experimenting, writing demos and samples. Showing something that might be interesting, write a blog... Sometimes we keep using it, sometimes it doesn’t go anywhere.

All three forms of recontainment are subject to legal and moral scrutiny, and discussions of how far can these activities go before they become unethical are endless. The Cloud enables activities that challenge established values for information sharing, creation and use such as intellectual property, privacy, access and right of use (Rogers & Duranti, 2017). On the other hand, the rapid development of internet technologies would have never happened if it wasn’t for this open

sharing of information between different active agents. It is undisputable however that the Cloud introduced a set of ethical precedents that are hard to address due to its rapidly changing nature. Concern over Cloud security was expressed by Jovan, an American designer and technologist:

Security is a huge con for a lot of Cloud related services. It's amazing to me that we haven't seen companies being sued into oblivion over some of the very massive security issues that the companies have allowed to occur. They've somehow kept the focus on the hackers, when this is almost completely the fault of bad software and a lack of focus on making security be a major product goal.

Goffman would have been amused by this version of a big con. A company is selling a product that when proven defective it blames it on those exposing the defect. On the other hand, when considering that behind every technological system are the people who maintain it, the possibility of human error will never go away. Besides human, organizational factors also create vulnerability pathways in computer and information systems (Kraemer, Carayon, & Clam, 2009).

### *The Theatrical Frame*

“In considering legitimate stage performances it is all too common to speak of interaction between performer and audience” stresses Goffman (1974), adding that this impedes the analysis that should be made of this interaction (p. 127). He further explains that it, “conceals the fact that participants in a conversation can be said to interact too, conceals, indeed, the fact that the term ‘interaction’ equally applies to everything one might want to distinguish”, concluding that, “the first issue is not interaction but frame”.

As illustrated in Figure 1, there is overlapping between the three active agents. The interviewed artists make a living as designers or industrial engineers, there are web developers who started as designers, and architects who practice digital photography. The cross-hybridization between art and sciences, as well as the many new roles created by Cloud technology, makes it even more difficult to generalize about the designers’ experience.

When the make-believe world of a play is contrasted by the real world, we find that the outcomes are a bit more problematic, states Goffman (1974, p. 133). The role of fabricators in this case, is to ‘play the world backwards’, or arrange for a certain outcome that others will otherwise perceive as chance. How individuals respond to this depends on their ‘information state’, concludes Goffman. Bruin and Floridi (2016) emphasize that ‘clouders’ have a responsibility to do epistemic work, citing prior works in virtue epistemology.

The actors in a play are pretending to have different information states thus performing keying of a fabrication. Designers’ information state influences their string of activities and dictates how they frame in Cloud experiences. Most research treat designers as a cohesive group while offering a one-sided view on their experiences, equating them to those of passive users. This paper calls for designers gaining a sense of agency in their proliferation of Cloud based tools.

## **Discussion**

Rooted in symbolic interactionism, frame analysis presents itself as an applicable user experience research method. Based on Goffman’s frame analysis, the field of media and

communication studies developed its own theory and methods called news framing analysis (D'Angelo & Kuypers, 2010). Frame analysis is also used in learning for environmental policymaking in Europe (Nilsson, 2005).

The general meaning of the term frame as a structure supporting a specific system of beliefs has been used by certain researchers to indicate theories independent of Goffman's frame analysis. In design, Dorst (2015) introduces frame innovation, providing an outline for designers on how to approach and solve design issues. Ylirisku (2013) draws on Goffman's and other theories to create a new method called Framing Analysis of Design Articulation (FADA) applicable "for the investigation of project specific learning".

Sociologists such as Hill (2014) believe that "frame analysis has extraordinary wide applicability" once it is carefully read and an "operational grasp of Goffman's rudimentary concepts" is achieved (p. 6). He further calls it a "systematic epistemological treatise" and states that to apply frame analysis one must "work through Goffman's meticulous prose, paragraph by paragraph, definition by definition" (Hill M. R., 2014).

Some sociologists dispute frame analysis as a valuable research method that is reproducible and teachable (Smith, 2006, p. 55). For some, its complexity presents a research challenge. As stated by Prof. Ilpo Koskinen, using frame analysis is like going to the supermarket and picking up elements that apply to one's research (personal communication, March 10, 2017). To make it a successful trip, the researcher should take along a detailed shopping list and collect enough data that represents reliably the empirical world they are researching.

## **Conclusion**

Extensive data collection that covers various aspects of the research subject is necessary for frame analysis to be complete. For this research, there was so much data collected from various sources that a case of data drowning appeared to be imminent. Goffman's frame analysis, with its expansive scope of ideas and categories offered a way out of the chaos, proving to be an applicable knowledge-producing system.

What is practical about frame analysis is that it can be applied selectively, and elements that cannot be identified can be left out as-long-as the narrative is complete. When the structure shown in Figure 1 is applied to an established social system, it provides much needed guidance through the relationships maze. It is like freezing the frames within which the social system operates for the purpose of making sense out of its existence.

In general, it is impossible to have a 100% error proof method, or one that is fully applicable. The meaning always comes with application, and considering how fast changing Cloud technology is, the analysis will always lag-behind the current state of affairs. Nevertheless, this theoretical framework offers a possibility to narrow the gap by analyzing the structures that influence human computer interaction, and this has been missing from most user experience research.

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## Author Biography

Julija Naskova

I hold a BA in Cinema from SFSU and an MFA in Film Directing and Production from UCLA School of Film, Theatre and TV, where my short student films were distributed and gained festival recognition. After graduation, I pursued photography and installation projects while working in film and commercial production and post-production. In 2008, I joined the field of digital media entertainment as the production, delivery and archiving tools were being developed. Inadvertently, I ended up doing user experience research and design of the tools. Since then, I have been attending relevant meetup.com events, reading articles and taking computer and web design classes. In 2014, I commenced PhD studies at The Hong Kong Polytechnic University School of Design and my thesis is *How Designers Frame in Cloud Experiences*. I am researching how designers' experience with digital tools has changed once the tools migrated to the Cloud. I am interested in the role that businesses play and the ways that designers can have agency in the relationship. During my research, I discovered Erving Goffman's work and the possibility for application of dramaturgy to qualitative research. I am adapting his book *Frame Analysis: An Essay on the Organization of Experience* as the theoretical framework for my thesis.