Analysis of Digital Art Content Created through Collaboration

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Abstract

Background This research is part of my doctoral study that analyses digital art content created through collaboration on the web and mobiles. My research aims to understand how the concept of 'sharing' or 'collaboration' has successfully created a new paradigm of production and culture, Wikipedia being one such example. This study identified different meanings of 'sharing' and 'collaboration': an effective type of communication-making art collaboration in digital media, and social interactions through the study of digital art content, created from sharing and collaboration.

Methods A case study of collaborative artistic content was conducted to explore the motives of participation and the differences between synchronous and asynchronous art collaboration. The data sources such as news clippings and other articles appearing in mass media or social media were collected. The criteria for data selection were as follows: art content created using digital devices, art content expressed visually instead of textually, and art content created through user collaboration. The selected data were grouped by synchronous communication and asynchronous communication for analysis. Descriptive analysis was used to present the nature of the art content. An exploratory analysis was conducted based on three factors: time, communication, and engagement to investigate the findings regarding the research questions.

Results The participants became potential spectators and contributors in collaborative digital art that motivated people to participate. Assuming both the spectator and contributor roles enabled users to be more active participants in collaborative art creation. Asynchronous art collaboration was a useful type of communication for high engagement that provided a time gap between sending and receiving artworks. Lastly, the process of making recreations after collecting artworks from the participants of the asynchronous art collaboration was an effective action for creating an impactful art piece.

Conclusions 'Sharing' and 'collaboration' were interpreted differently in the context of user-generated content and social media based on three points. Sharing was performed alone, and then the acts of sending and receiving followed. Collaboration implied that do something together based on sharing the same goal. Collaboration was a useful way to support users to create art more actively. Because participants assumed both the potential spectator and creator roles in the collaboration. Gaining someone's attention became a motive of performing art collaboration and other. Motives were sharing sympathy, intention, and goals. Lastly, asynchronous collaboration was a type of communication that led to an active art collaboration.

Keywords Digital Art Content, Digital Art Collaboration, Asynchronous Collaboration, Synchronous Collaboration

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1. Introduction

This research aims to understand what user-generated content is and how it works as the new collective movement in web 2.0. A socio-culture of sharing and collaboration has arisen through the increasing use of smart mobile devices and social networking sites. The rationale for this data analysis is to identify a different meaning of the works ‘sharing' and ‘collaboration', and to focus the understanding of contemporary digital art content, which is generated by sharing and collaboration. I have identified research questions as follows:

- How are ‘sharing' and ‘collaboration' different on web 2.0?
- What is the motivation for participating in digital art creation through collaboration?
- A comparison between synchronous and asynchronous art collaboration

2. Method

First and foremost, the theoretical framework was done to review three keypoints. These are: how ‘sharing’ and ‘collaboration’ have different meanings in web 2.0, what digital art collaborations are, and what the motivations are for participating in collaborative art projects. I then, documented the existing digital art content on the web, mobile, and social media, in order to understand social interactions in digital art content created through collaboration.

The case study of collaborative artistic content was conducted to explore the motives of participation and the useful points of synchronous and asynchronous art collaboration. The criteria for data selection are as follows: art content created through digital devices, art content expressed visually instead of through text, and art content made through user collaboration. The selected data is framed with two types of the communication system: synchronous communication and asynchronous communication.

Descriptive analysis (Yin, 2013) was used to present what art content is about. An exploratory analysis(Yin, 2013) was conducted on based three factors as follows: time, communication, and engagement. The findings of the investigation were discussed to understand some points of a comparison between synchronous and asynchronous art collaboration.

3. Theoretical Framework: ‘Sharing’ and ‘Collaboration’

Since the early 2000s, an increase in individual access online via many types of digital devices has generated a collective online movement. Many terms like "sharing," "openness," "user-generated content," and "participation" have become so ubiquitous that too often they tend to be conflated and misused (Mandiberg, 2012). The term ‘sharing' and ‘collaboration' are often misinterpreted in the context of user-generated content and social media. Sharing

content alone does not constitute collaboration. For example, texting on a message board, writing audience-driven review sites, blogging and commenting, photo and video sharing (Taprial& Kanwar, 2012), bookmark sharing, micro blogging, and social networking – these tell us what a user is doing at a particular moment, or who a user is. For collaboration, an intention is essential; people aggregate to create a new entity (Mandiberg, 2012). Collaboration also requires goals; the intentional practice is different from the intentional goal (Mandiberg, 2012).

Individual digital devices support cooperative working among users who are geographically separated. There are two systemic views in cooperation, which are synchronous collaboration and asynchronous collaboration. Synchronous collaboration assists the remote sharing of workspace between participating individuals involved in common tasks; this sharing tool provides a joint viewing of the workspace in the sense of "what you see is what I see (Li & Hopper, 1998)". Asynchronous collaboration successfully works by sharing with an awareness of a greater context with intentions. For example, "the strongly collaborative Wikipedia deemphasizes the tight content-author link; while the attribution of each contribution made by each author is logged on the history tab of each page, attribution is primarily used as moderation and accountability tool (Mandiberg, 2012)".

The data analysis presented here aims to explore the meaning of collaboration in art mobile applications, to discover social interactions in collaborative art applications, and to understand the motivation behind participation. The data has been extracted from the web, mobile applications, and social media.

3. 1. Synchronous Collaboration and Asynchronous Collaboration

There are two systemic views in cooperation, synchronous collaboration and asynchronous collaboration (see figure 1), identify different forms of communication. In synchronous communication, multiple parties are participating at the same time and wait for replies from each other (Shore, 2016), which is a direct communication in real time (Akhil, 2014). The significant aspect of asynchronous communication in contrary to synchronous communication is time intervals (Shore, 2016). Users cannot predict the time for a reply.
When two communication systems employ collaborative artistic creation, a joint viewing of the workspace ("what you see is what I see" Li & Hopper, 1998), becomes important for pointing a notion of working in real time. Synchronous collaboration assists the remote sharing of workspace between participants; they share the same view of the workspace. Asynchronous collaboration successfully works by sharing, with users aware that their contribution will become part of a larger context.

Figure 1 shows that there is a time lapse between sending and receiving information in asynchronous systems, whereas data is delivered immediately to synchronous systems. Thus, a shared view of the workspace in which participants can cooperate is categorised as synchronous in the digital environment. The following table groups these projects by synchronous and asynchronous collaboration.

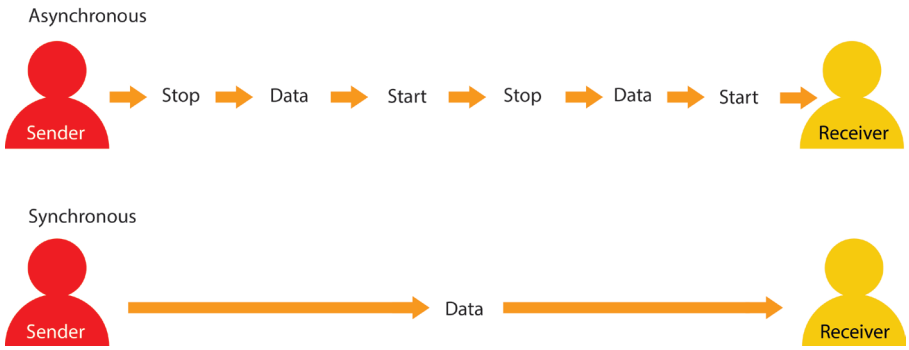

Figure 1 The Systemic Difference between Asynchronous and Synchronous Content

3. 2. Case Study of Art Collaborations based on Two Systemic Views

I've researched different types of collaborative artistic content including social drawing, social movie making, social architecture, social singing, social opera, and social music videos. The reason for focusing social media as a tool for art collaborations is that new social media, such as micro-blogs and social networking sites, has changed the role of users from receiver to the creator. Users of social media become an active audience. A user nowadays is both a media producer and media consumer. The invention of new social platforms such as photo-and video-sharing sites and micro-blogs enables self-creation through 'amateur media (Mandiberg, 2012)'. This section explores what are similarities and differences between synchronous and asynchronous art collaborations.

3. 2. 1. Methods of Selecting Collaborative Artistic Content

Examples of collaborative artistic content were selected with the following criteria: an action of art collaborations happened through digital devices or digital medias, the projects covered the participants in worldwide, and a product or content that is commercially released by an individual or enterprise. Art collaborations, a collaborative art project, art cooperation, etc. were used for searching the examples of my case study.

3. 2. 2. Methods of Analysis

Information about each artwork was written in the tables to recognise a name of artwork, a project leader, production year, and a type of media. Three factors, time, communication, engagement were used for analysis. The content of artworks was written in a summary of the analysis. At last, findings of similarities and differences were discussed to investigate some points of a comparison between synchronous and asynchronous art collaboration.

3. 2. 3. Analysis of Collaborative Artistic Content

Descriptive analysis is written in Table 1. The exploratory analysis is summarised in the discussion.

Table 1 Descriptive Analysis of Collaborative Artistic Contents

Name of Art Work	Project Leader	Production Year	Type of Media
The Johnny Cash Project	Aaron Koblin	2010	Web Mobile Web
The Johnny Cash Project (http://www.thejohnnycashproject.com/) is a collaborative art project. People can create a unique portrait of Johnny through the interactive website. The interactive website combines uploaded drawing images of Johnny Cash. A collective drawing is made into a music video of "Ain't No Grave" which is Johnny's final record. This music is inspired by the themes of mortality, resurrection, and everlasting life. To reflect that theme, the music video transforms and evolves, incorporating new drawings and contributors. This project of a living portrait plays endlessly, and yet never plays the same music video twice. It changes every second. Asynchronous communication type was used for collaboration. This project has been engaging in constant involvement as it has been exposed to users for a long time. This web is a media venue to remember Johnny Cash, and the number of participants is increasing as long as it lasts.			
A Virtual Choir	Eric Whitacre	2009	Social Media Email Broadcast
A composer, Eric Whitacre, created the concept of a Virtual Choir (https://ericwhitacre.com/the-virtual-choir/about) in 2009. A fan of Eric's music, Britlin Losee, shared a self-recorded video of himself singing 'Sleep' on YouTube. Eric responded by calling for other fans to do the same; he then recorded 'Lux Aurumque' himself and advertised it to his fans. After receiving the recordings, his helper, Scott Haines, edited the audio and video to create a virtual choir. This project gradually grew into a global phenomenon. Eric Whitacre made a series of virtual choirs. Thousands of participants were involved in the recent version. Continuity of art collaborations resulted in more people's involvement, and it led the project to be announced in mass media.			
Twitter Opera	Royal Shakespeare Company	2009	Social Media
The Royal Shakespeare Company (RSC) produced twitter opera (https://www.wired.com/2010/07/live-tweeting-the-opera/), whose plot was created using "tweets" from the micro-blog Twitter. Everyone can become a storyteller in the writing of this opera. The stories in 140-characters result in a low quality of plot structure. The story begins: "One morning, very early, a man and a woman were standing, arm-in-arm, in London's Covent Garden. The man turned to the woman, and he sang…" "Hans has promised to rescue him. The Woman With No Name is off to her biochemistry laboratory to make a potion to let people speak to the birds. (Otto, 2009)". This event was experimental, encouraging people to participate in creating high literary genres.			
Life in A Day	Kevin Macdonald	2010	Social Media
Life in a Day (https://www.youtube.com/user/lifeinaday) is a collective film about the planet on a single day. Kevin Macdonald compiled 80,000 movie clips from the film. Life in a Day begins with three themes. What do you love? What do you fear? What's in your pocket? All 80,000 movie clips were recorded on the same day, 24 July 2010. Contributors uploaded their films to YouTube, where the movie 'Life in a Day' was also released.			
Differential Life Integral City	Hah Tesoc	2010	Smart Mobile App
This project is for an exhibition. Participants download an application named 'integrated city (http://vimeo.com/39768343)' from the App store and create a personalised residential unit by inputting information about their lifestyle, such as some family members, place of work, preferred entertainment, a degree of education, whether they enjoy parties at home or not. This project aims to use collective intelligence to create a city through participation. During the project's exhibition, it continuously changes from a homogenous to an integral city.			
Low-key Karaoke	Devon Sproule	2012	Social Media
Low-Key Karaoke (https://www.youtube.com/playlist?list=PLCD7F1E02C8844D77) is the YouTube project in which Devon Sproule splices videos of herself and others singing duets together. People send her their self-recorded song by email or upload it to http://youtu.be/c2CNbxhZ6f8 to become her duet partner. This duet project began with songwriter Mike O'Neill. After this partnership was successful, she expanded the experimental project to all.			
Draw Something	OMGPOP	2012	Smart Mobile App
The mobile application 'Draw Something (https://www.zynga.com/games/draw-something)' is a way of communicating via shared drawings. A user writes a certain word, and sends it to someone to guess. This application aims to be "a place to hang out, play free online multiplayer games, and make friends". Draw Something 2 launched in 2012. A new updated feature is a social networking system in which users can follow each other and click 'like'.			
Flockdraw	Flockdraw	2009	Web Smart Mobile App
Flockdraw (http://flockdraw.com/) is a collaborative drawing tool mobile application. Unlimited people can join in through the mobile application or the website. For the mobile version, some functions do not work properly. Flockdraw aims to be the king of digital whiteboards for multiple users. The concept of FlockDraw is to "draw in real time with others". One user commented that you can "collaboratively sketch your next big idea and share it with the world".			

NetSketch App	Ben Gotow	2008	Web
NetSketch (http://netsketchapp.com/) was developed for the iPhone and iPad. This mobile application runs with only Wi-Fi service. The developer calls it “drawing for artists on the go, draw with friends, and share with the world.” This mobile application provides two types of sharing service: you can save drawings to your phone, or send them via email. NetSketch enables two users to scribble and doodle together in real time.			
Whiteboard: Collaborative Drawing	GreenGar Studio	2015	Smart Mobile App
This mobile application allows collaborative drawing using iPhones and iPads. The developer, GreenGar Studio, envisions a whiteboard as “the next revolution of visual communication on mobile devices (https://awwapp.com/)”. The drawing interface uses markers instead of brushes. This mobile application is only available with a Wi-Fi connection. Users can share via Facebook, Twitter, iCloud, Photo Album, and Email.			
LG Optimus Vu2	LG	2012	Smart Mobile
LG Optimus Vu2 (https://www.youtube.com/watch?v=-sTj7l8uThM) dares you to live spontaneously. Vu: Talk and Action Memo are the main features of this smartphone. Vu: Talk allows users to share their mobile screen and to communicate with drawings, but this feature only works between LG Optimus Vu2 users. They can share maps and notes in real time while phoning each other. Action memos generate from the Air Command popup, allowing you to take notes quickly. Action Memo reads users’ handwriting, and then converts it into digital data. For example, it can convert a handwritten-name and phone number into contact details in the device.			

3. 2. 4. Discussion

A user has an active role in collaborative artistic creation. Being able to contribute motivates users to participate. In the context of an art application, collaboration constitutes "self-presentation, observer or observed, and taking roles (Argyle, 2007)". Collaborative creation enables users to do something more actively. Participants become potential watchers and contributors in collaborative art via digital media. Shared intentions and goals become strong motivations to join in a collaborative project. These motivations are related to social structures because people have certain expectations of how a person should behave; the perceptions of these role-expectations is one of the determinants of a person's behavior (Argyle, 2007). This expectation shapes the act of creation.

One motive for participating in an art application is to gain someone's attention. People present "who I am" and display "what I'm doing" on social networking sites because they desire others' attention. Other motives behind content led by a computer-programme will depend on how the content is designed. The Johnny Cash project is designed as a memorial of his final record. Differential Life Integral City exhibits content. A smartphone, LG Optimus Vu2, was launched as a form of hand drawing communication. The mobile application Draw Something functions as a drawing quiz.

The content of collaborative art is important for making a successful project; however, time is found as a factor that impacts on engagement. For example, Johnny Cash project is an ongoing project which began since 2010. Therefore, the participants increased as long as the project is continued. A virtual choir has become more popular through making its series. Macdonald announced the period to global people for collecting the participants' films. This implies that asynchronous collaboration provides sufficient time to the participant.

My inference was that sharing a synced screen between the participants might support high engagement behind guarantees of someone's attention. However, ironically synchronous collaboration impacts only marginally on people worldwide. A smartphone, LG Optimus Vu2, was launched with the fascinating aim of daring its users to live spontaneously. One of

its features, Vu: Talk, provides a joint viewing service between two LG Optimus Vu2 owners that enables them to draw each other pictures while on the phone. However, this smartphone failed to secure many customers; not many people know of this fascinating feature. This is because drawing talks only worked between two LG Optimus Vu2 users, and the technical conditions like a full signal of telecommunication services had to support working drawing talks lively.

Lastly, asynchronous art projects were recreated by a project leader after collecting contributors' works. Or, a computer programme recreated the outcome after collecting resources from participants; this results in an impressive output.

4. Conclusion

'Sharing' and 'collaboration' were interpreted differently in the context of user-generated content and social media with three points. First, sharing was performed alone, and then an act of sending and receiving was followed. Sharing did not constitute an act of collaboration. Second, having an intention was a key of collaboration. Lastly, the participants shared the same goal to collaborate.

Users participated more actively when they collaborated. This is because they took both roles of potential watchers and contributors. 'Gaining someone's attention' was a motive for participation in a collaborative art project. The motives for participating in a collaborative art project are gaining someone's attention and designing content.

Electronic media enabled cooperative working across geographical distances by online access on an individual device. This computer communication system had two different communicative systems, synchronous and asynchronous. In collaborative artistic creation, the joint workspace was a facet of both asynchronous and synchronous communication. Asynchronous art projects explored as an effective type of collaboration. Time is a facet of high involvement in collaboration. Asynchronous communication enabled recreation of collaborative art which investigated as a useful point of resulting an impressive outcome.

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