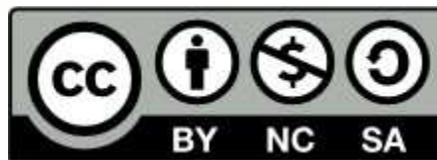


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**REVOLUTION OF OPEN SOURCE AND FILM MAKING
TOWARDS OPEN FILM MAKING**

A THESIS

SUBMITTED TO THE DEPARTMENT OF
COMMUNICATION AND DESIGN
AND THE INSTITUTE OF ECONOMICS
AND SOCIAL SCIENCES
OF BILKENT UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF ARTS

By
Koray Löker
May 2008

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

REVOLUTION OF OPEN SOURCE AND FILM MAKING TOWARDS OPEN FILM MAKING

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May 2008

This thesis is a critical analysis of self-proclaimed open source movie projects, *Elephants Dream* and *The Digital Tipping Point*. The theoretical framework derived from the new media discourse on film making, mainly based on Lev Manovich's database narrative and spatial montage theories among a detailed reading on database narrative with theoretical works and publications by Marsha Kinder, Allan Cameron, and Ed Folsom.

Keywords: free software, open source, copyleft, database narrative, spatial montage, elephants dream,

ÖZET

AÇIK KAYNAK FİLM YAPIMINA DOĞRU: AÇIK KAYNAK DEVRİMİ VE FİLM YAPIMI

Koray Löker

Medya ve Görsel Çalışmalar Yüksek Lisans Programı

Tez Yöneticisi: Doç. Andreas Treske

Yardımcı Tez Yöneticisi: Yard. Doç. Dr. H. Murat Karamüftüoğlu

May 2008

Bu tez, açık kaynak film olarak adlandırılan *Elephants Dream* ve *The Digital Tipping Point* projelerini eleştirel bir çerçeveye incelemektedir. Kuramsal çerçeve, Marsha Kinder, Allan Cameron ve Ed Folsom'un veritabanı anlatımı kavramına ilişkin teorik çalışmaları ve tezlerinin yanında temel olarak Lev Manovich'in veritabanı anlatımı ve uzamsal montaj teorileri üzerinden, yeni medya alanı ve bu alanın film yapımına etkilerine dayanmaktadır.

Anahtar Sözcükler: özgür yazılım, açık kaynak, copyleft, veritabanı anlatımı, uzamsal montaj, elephants dream

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1 INTRODUCTION

1.1 The Aim of the Study

In October 2001, D. N. Rodowick published an article, *Dr. Strange Media; or, How I Learned to Stop Worrying and Love Film Theory*, which focuses on his interest on how new media will change film studies. Rodowick, referring to the famous work of Stanley Kubrick, argues how the new media discussions transform the base of the film studies in an unstoppable way just as the doomsday machine of Dr. Strangelove. According to Rodowick, the space of the medium itself in film studies is shrinking, just as after the video emerged and film studies became more video and television centered, new studies are becoming more and more new media central. “Not only do many feel that film theory is much less central to the identity of the field, the disappearance in cinema studies of ‘film’ as a clearly defined aesthetic object anchoring our young discipline also causes anxiety. So what becomes of cinema studies if film should disappear? Perhaps this is a question that only film theory can answer” (Rodowick, 2001, p. 1397). At this point, Rodowick underlines that computer-generated images broaden their space in feature films from special effects to establish feature films fully composed of computer-generated imagery since *Toy Story* (John Lasseter,

1995). Thus, a critical change in the sources is needed as he ascribes to digital opportunities: "As digital processes displace analogical ones more and more, what is the potential import for a photographic ontology of film? Unlike analogical representations, whose basis is a transformation of substance isomorphic with an originating image, virtual representations derive all their powers from their basis in numerical manipulation" (Ibid, p. 1399).

Rodowick, suggests to rethink the film theory with what new media brought into discourse. "An example is the nonlinear (though not necessarily nonteleological) narrative structure of multiuser and simulation gaming, whose interactive and collective nature also mobilizes the spectator's vision and desire in novel ways. Not only does online gaming require reconceptualization of the spectator's placement, but multiuser domains, where users collectively create and modify the space of the game or narrative, also ask us to rethink notions of authorship" (Ibid. p. 1402). Citing from Anne Friedberg, Rodowick asserts "spectators become 'users', manipulating interfaces as simple as a remote control or as complex as data gloves and head-mounted displays" (Ibid. 1403).

User interaction based upon the existence of remote controls was seen as the death of the cinema by filmmaker, Peter Greenaway: "Cinema died on the 31st September 1983 when the zapper, or the remote control, was introduced into the livingrooms of the world" (Greenaway,

2003). Greenaway suggests to re-invent cinema with the new opportunities of multimedia tools, new experiences of perception, interaction and collaboration.

The remote control is actually a sign of the ultimate level of interaction between the audience and the broadcasted moving image, which presents the ability of choosing the content in the frame of television. This interaction and the experience of it have been developed to further levels lately with the presence of personal computers and the widespread usage of the Internet.

The arrival of the new concepts for audience brought a wide opportunity of interaction and authoring of the content which made the critical transformation of the audience to users possible, in parallel with the change of the experience of spectating. Inferentially, the re-invention of cinema should comprehend the farthest possibilities, innovations, influences and experiences of the new media era.

Hypertext was the first innovation of interface in digital space where it both highly inspired and as well as developed on the computer technologies. Today hypertext is accepted to be the predecessor of the World Wide Web technology. The term was coined by Theodor Nelson in 1965 during the studies of the *Hypertext Editing System*, which was functioning for two different purposes; “to produce printed documents nicely and efficiently by batch card using and to explore this hypertext concept.” (Van Dam, 1988) The concept was inspired by the *Memex*

project of Vannevar Bush. Bush, suggested a machine which is “a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory” (Bush, 1945).

Memex was supposed to work with microfilms so all kind of media could be processed by it, where following cross-references would be possible. Merging all kinds of content into the medium of microfilm was a technic already used by libraries and archives where Bush was relied on it. This merging of different media into one medium also inspired the concept of hypermedia as well.

Andries van Dam and Theodor Nelson was inspired by this idea when working on the *Hypertext Editing System*. The *Hypertext Editing System* was simply working by pointing out branches from text, labels and put links between them. “It had arbitrary-length strings rather than fixed-length lines or statements, and edits with arbitrary-length scope, for example for insert, delete, move and copy. It had unidirectional branches automatically arranged in menus. It had splices that were branches invisible to on-line users that allowed the printer to go through a branching text. It had text instances. Instances are references, so that if you changed, for example, a piece of legal boilerplate that was referenced in multiple places, the change would show up in all the places that referenced it” (Van Dam, 1988).

Theodor Nelson later developed the *Project Xanadu* in 1960 which has been known to be the first hypertext application. In the project website, the mission is told to be: "Since 1960, we have fought for a world of deep electronic documents - with side-by-side intercomparison and frictionless re-use of copyrighted material. We have an exact and simple structure. The Xanadu model handles automatic version management and rights management through deep connection. Today's popular software simulates paper. The World Wide Web (another imitation of paper) trivializes our original hypertext model with one-way ever-breaking links and no management of version or contents" (Project Xanadu, 2008). As in the Xanadu manifestation it can be read that Nelson criticizes the World Wide Web concept and form. On the other hand, after the web emerged, many experimental artworks and researches on new narrative forms have been done, including a pioneer, Mark Amerika's online hypertext works.

Mark Amerika, known to be one of the "100 Innovators of Time Magazine", explores the boundaries of hypertext and web related technologies to participate in the worldwide studies of establishing a new intelligence of 21st century narration techniques and opportunities. He summarizes the notion of his works as "I link therefore I am" (Amerika, 2004) where he brings the debate on hypertext in the context of interaction and the transformation of the user.

According to Amerika, "Hypertext, as a concept, suggests an alter-

native to the more rigid, authoritarian linearity of conventional book-contained text.” (Ibid.) Bringing hypertext concept into the web form, Amerika, defines aura as interface in *Filmtext*. This recalling of aura, leaps with increasing technological opportunities of interaction as the spectator has a chance to personalize the work. The design of the *filmtext*, brings game design principles together with media theory, where users can choose the narrative tools to operate and become *metatourists* by this interaction. All users can experience switching between eight levels and narrative tools. (Amerika, 2002) *Filmtext* was presented in the retrospective exhibition of Amerika in London, 1993 by Institute for Contemporary Arts. Later, *Filmtext* version 2.0 is published online (Amerika, 2008).

Amerika, connects the user experience of interaction to the TV remote control just as Greenaway did in *Cinema Militans Lecture*, as “...our channel-surfing consciousness (the ‘cyberspace’ we enter when scanning cable TV) is informing our present-day reality to such a degree that it is no longer possible to distinguish one from the other” (Amerika, 2004).

Greenaway, after announcing the death of the cinema, suggested to re-invent cinema with the new opportunities of multi-media tools, new experiences of perception, interaction and collaboration. Thus, he adopted the hypertext concept, and made an experimental project called *The Tulse Luper Suitcases*. Greenaway celebrates the project as he calls

it “the first toe in the water of an ocean of possibilities in the multi-media” (Greenaway, 2003).

The plot of the project is based upon 92 suitcases of a character named Tulse Luper, told to be born in 1911 in South Wales, and supposed to be disappeared in prisons in Russia and the Far East in the 1970s. Upon the 92 suitcases, key historical moments of 20th century is narrated such as the first nuclear tests in New Mexico, the 1968 Paris student protests and the fall of the Berlin Wall in 1989 (Greenaway, 2008a).

The narrative flows through in a variety of representation forms, including feature films, exhibitions, books, live visual performances and an online game called *The Tulse Luper Journey* (Greenaway, 2008b).

The first feature film of the project is released in the Cambridge Film Festival in 2005. Greenaway published the synopsis in his official website where he states:

“This film condenses the seven hour film of THE TULSE LUPER SUITCASES into a two-hour feature film, and in doing so, accentuates the project as a filmic essay in multiple narratives, listings, side-bars, footnotes, commentaries and anecdotes, a mixture of fact, fiction, history and documentary, full of reprises and alternatives, a project for an Information Age, learning to treat narrative as an adjunct to experience relative to browsing rather than to reading, and ready to understand that there never is a phenomenon called History, there can only be Historians, who are always gatekeepers to vested interests.” (Greenaway, 2008c)

After releasing five feature films based upon the project and making a multi-media exhibition featuring all 92 suitcases, as a complete encyclopedia (Greenaway, 2008a) Greenaway performed a visual jockeying¹ show with *The Tulse Luper Suitcases* in June 17, 2005. As a guest of NoTV project, “Greenaway projected the 92 Tulse Luper stories on the 12 screens of Club 11 in a multi-screen way and mixed the images ‘live’” (Greenaway, 2008d).

Beside the multi media forms of narrative, space of the new media does not simply consist of the interaction possibilities or transformation of roles; but the remediation possibilities of the content, the transformation of the tools and alternative means and models of production also take part.

Beyond interaction of the user as Rodowick expects or Greenaway looks for, more collaborative tools emerged such as the *Echo Chamber Project* of Kent Bye, who is a researcher on collaborative film making. The project is based on the integration of a number of softwares, so the editing information of the film can be shared through a website. Bye, defines his project as "iterative media" with the influence of contemporary technological developments as he plans the model to be iterative similar to the software developing process which he influenced when building his model of production (Bye, 2001).

Bye’s project uses Apple Inc.’s Final Cut Pro and its XML support, and

¹Also known as VJ’ing, or Vee-Jay’ing where a VJ mixes, superimposes and manipulates visuals and render the output on big screens and/or beams.

Drupal, an open source content manager, to share files. XML, or in long form, Extensible Markup Language is defining a format which consists of a class of data objects and presents a ruleset for the softwares which will process the files. It is developed as a “restricted form of SGML, the Standard Generalized Markup Language [ISO 8879]” (W3C, 2006).

Video editing softwares, work with EDL (Edit-Decision-List) files, which keep the information of selected footage. Final Cut Pro, a professional video editing software produced by Apple Inc., offers an XML based EDL support, which is used by Kent Bye to publish footage selection information online. With the help of this integration, users can contribute to the movie from a simple website by uploading files or they can make decisions on editing of uploaded images. The selected images can be processed by Final Cut Pro, upon online manipulated EDL files (Bye, 2001).

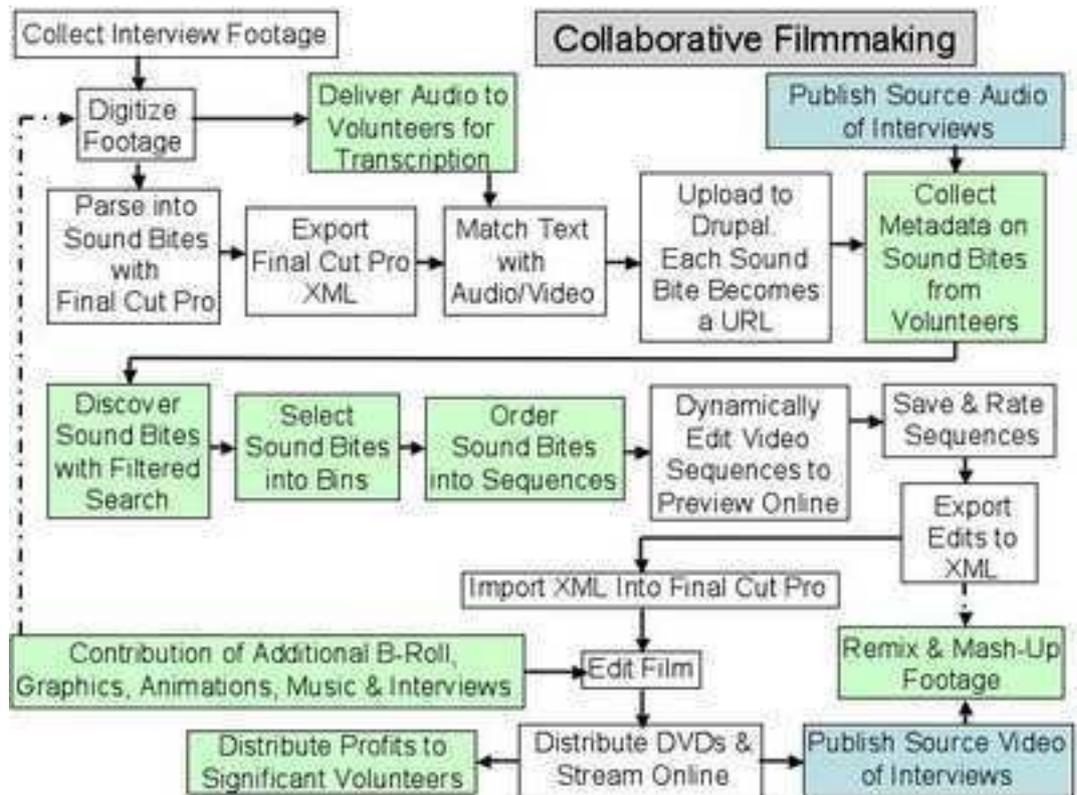


Figure 1.1. Collaborative Filmmaking Flowchart (Bye, 2001)

A new way of creating visuals or sounds, emerged after the new way of synthesizing became possible with multimedia tools and computing technologies. Sound composing by using some visual elements instead of the sound itself or creating a set of moving images by using sounds as input data is nothing new today in the age of digital reproduction. Derek Holzer, a sound artist with radio background, together with video and new media artist Sara Kolster created a project, titled *VisibleSound/AudibleImage* which is focusing on the interrelation of sound and image.



Figure 1.2. Derek Holzer, performing *Tonewheels* (umatic, 2008)

Holzer and Kolster, converted the sound to the image and the image to the sound. A visual representation without constructing a classical narrative infrastructure becomes possible with designing the space of sound. According to Holzer and Kolster, “the equal relationship or balance in the use of image and sound, which is an important aspect in the works of both artists” is implied. The project presents workshops, screenings and live performances using opensource software, based on the experimental audiovisual culture (Holzer-Kolster, 2004). One of the examples, *Tonewheels* was presented in Netmage08, International Live-Media Festival in Bologna (umatic, 2008).

In the scope of the thesis, more recent and particular examples will be discussed in terms of how the database narrative can be used while

reading so-called open source cinematography.

1.2 Organization of the Thesis

The second chapter will present detailed backgrounds and argumentations of the open source and copyleft concepts, upon free software history, open source model, and the history of intellectual property both in a theoretical framework, and the computer science terminology together in order to have an opportunity to analyze the assertions of both the main case, *Elephants Dream* (Bassam Kurdali, 2006) and other examples.

In the third chapter, relation between the new media and cinema will be discussed based upon the concepts such as the database narrative, spatial montage and how they can be used while reading the open source films.

The fourth chapter will try to focus on the case studies, which assert the open source filmmaking concept in aspects of production model by having a chronological analysis of the projects as well as pointing out how the projects function on the basis of key concepts of the discourse.

Elephants Dream, the main case for the thesis, is a 3D animation which is the first so-called open source movie. The project was planned to demonstrate the technical capabilities of Blender, a 3D animation software, to prove that it can be an adequate tool for industry standard film making. Later it turned into a conceptual project, aiming to create a bridge between software developers and artists for creating much more useful softwares, correctly designed in need of professional users.

The open source model, which used to be the development base of the Blender itself, inspired to create an open source movie. Thus, the connection between the software developers and artists caused a topical production model suggestion for film making, which is in both manners very recent and experienced in different forms of art creation for last decades.

The Internet Archive, which is aiming to create a virtual library of digital culture, and a sponsor of open source media concept; and many projects including *The Digital Tipping Point* will be discussed as well. The Internet Archive is highly inspired by the copyleft discourse and the lack of archival functions for the digital era including television broadcasts, movies and the Internet. *The Digital Tipping Point*, is a feature length open source documentary, about the open source movement. The Internet Archive is the online storage, which offers the participators of the project to work online for editing and organizing the raw material.

In conclusion, as the statement of the thesis, open source films will be compared to the cinema experiments in the new media discourse, in order to discuss navigating through the database as a cinematic experience, using the spatial montage theory of Manovich. It will be suggested on a number of research questions and topics that which new opportunities may rise through the new model of production and distribution models, beside the contemporary problems of both the new

media theory and so-called open source movies.

2 OPEN SOURCE AND COPYLEFT

2.1 Open Source Model

2.1.1 Disambiguation: Free Software or Open Source

A simple definition is made as "Free/open source software (F/OSS) is software for which the human-readable source code is made available to the user of the software, who can then modify the code in order to fit the software to the user's needs" by the Free Software Research Group of Massachusetts Institute of Technology. The F/OSS term (FLOSS is also in use commonly) is being accepted as an umbrella term for both free software and open source approaches excluding any distinctions and putting the common production model to front.

The term "free software" was proposed by Richard M. Stallman, the leading founder of the Free Software Foundation and the movement in GNU Manifest. GNU was the name of the first free software project, where Stallman titled it upon the industry standart operating system Unix: "What's GNU? Gnu's Not Unix! GNU, which stands for Gnu's Not Unix, is the name for the complete Unix-compatible software system which I am writing so that I can give it away free to everyone who

can use it. Several other volunteers are helping me” (Stallman, 2002, p.31). The free software approach relies on the access to the source code with the permissions to use, to develop and to share without any limitation but giving the credits to the original contributors and publish the contributions in the same conditions. The free software approach gives the moral reasons and the freedom of the users and developers priority.

The open source concept was proposed by Eric Raymond in *The Cathedral and Bazaar* (1997). The article provoked a new point of view interested in enterprise level of commerce. Advocates of this less strict approach than Stallman’s, met in a strategy session held in California proposing the new term: “Open Source”. Todd Anderson, Chris Peterson, John Hall, Larry Augustin, Sam Ockman, Michael Tiemann, and Eric Raymond proposed the new term with a distinct approach than the Free Software Foundation’s “Free Software”. The Open Source Initiative (OSI) was found after Netscape shared the source code of the same named well-known browser with the public under the name and the license, Mozilla. One of the main goals of the initiative was to adopt the production model of free software to the enterprise level of business with new tactics and labels (Tiemann, 2007).

Today “open source” became a generic term which is more widely used for a model of production that promotes access to different levels of design and production of a good; where the term “free software” signifies

the specific model of the Free Software Foundation and/or The GNU Project which is a set of software products promoted and supported by the foundation. The difference depends on the copyleft concept as the “free software” model offers a copylefted version of open source products. In Richard Stallman’s terms, copyleft corresponds to the distribution terms and rules of derivation to the original work as he adapts the copyleft concept to the manifestation of free software with the re-definition he makes as “Copyleft is a general method for making a program or other work free, and requiring all modified and extended versions of the program to be free as well” (Stallman, 2002, p.89).

2.1.2 Free Software of The Free Software Foundation

The Free Software Foundation was established in 1985 to protect the rights of the free software developers and promote the GNU project. The GNU project is the first FLOSS project aiming to provide a free development environment for programmers started with the well known unix editor Emacs and continued with a number of utilities and key softwares/libraries including GLIBC (GNU’s C Library), GDB (GNU’s Software Debugger) and GCC (GNU’s C Compiler) which were already being used in many computing platforms.

Stallman starts the story from the days in the Artificial Intelligence Lab of Massachusetts Institute of Technology where he describes the environment as a place where the programmers live as a software-sharing

community, and underlines that all the software development culture transformed into a private, proprietary software model with the contemporary computers and their embedded operating systems in the 1980's (Stallman, 2002).

The symbol of the FLOSS movement became a printer driver which leads the way of manifesting why the software should be free according to Stallman when a printer with proprietary drivers was donated to the lab and Stallman was unable to make some improving contributions to the driver unlike the former hardwares and drivers. Stallman announced that he started a unix compatible free operating system project in 27th September, 1983 and resigned from MIT in 1984 to have more free time and independency (Williams, 2002).

The project began with rewriting a free version of Emacs, which was written and developed since 1976 by Stallman. The first release of the General Public License (GPL) was one year later than the release of GNU's Software Debugger (GDB) in 1989. Stallman followed the same model of software developing for the license publishing where the license has a release number beginning with 1.0 and being open to contribution/correction publicly for further reviews.

General Public License was the main contract, gathering all the free software community to work together. It guaranteed basic freedoms for developers and users which are listed by Stallman as:

The freedom to run the program, for any purpose (freedom 0).

The freedom to study how the program works, and adapt it to your needs (freedom 1). Access to the source code is a precondition for this.

The freedom to redistribute copies so you can help your neighbor (freedom 2).

The freedom to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3). Access to the source code is a precondition for this. (Free Software Foundation [FSF], 1984)

General Public License was actually an improved copy of the Emacs license, which was also used for the GDB project. One year after the release of GDB, a generic copyright for any project of the GNU project was needed, thus the first version of GPL was written. After conceptualizing a generic copyright for GNU, Stallman decided to end the model of leadership based development and promote a decentralized development model (Williams, 2002). The first free software license, carried the discussions on copyright issues to the first ranks in the software industry beside creating a competitive development environment for operating systems as Keith Bostic remembers: "I think it's highly unlikely that we ever would have gone as strongly as we did without the GNU influence, looking back. It was clearly something where they were pushing hard and we liked the idea" (Bostic in Williams, 2002).

2.1.3 Open Source of Open Source Initiative

The Open Source Initiative (OSI) declared a set of rules consists of ten basic principles of open source concept in initiative's terms, and organized a notary for community by approving the so-called open licenses whether they are compatible with the principles.

OSI principles are listed as:

1. Free Redistribution
2. Source Code
3. Derived Works
4. Integrity of The Author's Source Code
5. No Discrimination Against Persons or Groups
6. No Discrimination Against Fields of Endeavor
7. Distribution of License
8. License Must Not Be Specific to a Product
9. License Must Not Restrict Other Software
10. License Must Be Technology-Neutral (*Open Source Initiative, 2006*)

Lerner and Tirole are explaining the emergence of an alternative model of licensing with the open source term by the need of a more flexible model of production. "These new guidelines did not require open source projects to be 'viral' they need not 'infect' all code that was compiled with the software with the requirement that it be covered under the license agreement as well. At the same time, they also accommodated more restrictive licenses, such as the General Public License" (Lerner & Tirole, 2002, p. 203).

Luiz Gustavo quotes from a talk, given by Eric Raymond where he argues the benefits of open source system in terms of corporate goals:

We should identify their goals and needs. Not our goals and needs. Then, they will come, because our model is much better. (...) Don't let the community split just because of philosophic struggle. Evangelism is something trivial. We should decide if we want ideological wins or to succeed. I prefer to succeed. Markets seek efficiency. That is the reason we will prevail. We do not lock our clients. We do not tell lies. (Raymond in Gustavo, 2005)

2.2 The Copyleft Concept

2.2.1 The History of Intellectual Property

World Intellectual Property Organization (WIPO)² frames the copyright concept as a “legal term describing rights given to creators for their literary and artistic works”, where the basic definition of the copyright concept was made as:

Copyright and related rights are legal concepts and instruments which, while respecting and protecting the rights of creators in their works, also contribute to the cultural and economic development of nations. Copyright law fulfills a decisive role in articulating the contributions and rights of the different stakeholders taking part in the cultural industries and the relation between them and the public. (WIPO, 2007)

²WIPO is an agency of the United Nations which focus on the development of the intellectual property system internationally.

Looking into the historical development of the copyright concept, early regulations were simply about the publishers's right to copy.

In a broad historical and cultural view, copyright is a recent and by no means universal concept. Copyright laws originated in Western society in the Eighteenth century. During the Renaissance, printers throughout Europe would reprint popular books without obtaining permissions or paying royalties and copyright was created as a way to regulate the printing industry. With the emergence of the concept of artistic genius, copyright became enmeshed with the general cultural understanding of authorship. (Liang, 2005, p.13)

The early legal regulations in a national level was started by Act Anne in Great Britain in 1710. France and the United States of America followed Great Britain on national level legal arrangements. The first international attempt to construct a framework on intellectual property was the Paris Convention held in 1883 which right of artistic creations couldn't find a place in. In parallel, a French law international association, Association Littéraire et Artistique Internationale was found by La Société Des Gens De Lettres with Victor Hugo as honorary chairman, which focused on establishing an international agreement aimed at protecting literary and artistic copyright. Although the efforts of ALAI couldn't succeed in the Paris Convention, three years after, the Berne Convention was held for the very same reason (ALAI, 2008).

WIPO was actually founded after the Berne Convention in 1886, which was the first international act on the copyright area of the intellectual property. The aim of the Berne Convention was to establish a

transnational protection of the creators' rights and have a co-operation between the member states on the concept of intellectual property.

In 1961, the Rome Convention was held by the member states of WIPO to reform the copyright frame in order to fulfill the needs raised by the technological improvements. Thus, the international frame of intellectual property has been extended from printed materials to many forms including sound recordings or film prints.

2.2.2 Recent Paradigms of Intellectual Property

In the 21st century, after computers and high-speed networks became widespread, production, artistic creation and amateur attempts started to dissolve in a common plane of distribution.

On the issue of redefining intellectual property rights, Henry Jenkins discusses the example of Harry Potter. According to the example Jenkins gave, in the USA, a civil alliance of publishers, librarians and citizens opposed the attack of religious conservatives demanding Harry Potter books to be excluded from libraries and reading lists for children, by protecting the children's right to read. At the same time, copyright holder Warner Brothers were demanding the fan websites to be shut down.

Concluding the case, Jenkins asks a vital question: "One case centered around the right of children to read the Harry Potter books; the other,

their right to write about them. Can these two rights be so easily separated in an era of read-write culture?” (Jenkins, 2004, p. 40). The lack of a flexible regulation driven by the copyright laws caused an alternative approach called “copyleft”, which is technically based on the rights granted by the legal intellectual property framework.

2.2.3 An Extension to the Copyright Model: Copyleft

According to Lawrence Liang the term copyleft was originally derived by Ray Johnson for describing his mail-art works which were made by using mixed media sources during the 1960s (2004); however the popularity of the concept emerged after it has been adapted into the free software movement.

Liang, makes a simple definition of the copyright concept in order to compare with the copyleft perspective as “Copyright has traditionally been an exclusive right that is granted to the owner of copyright to exploit his/ her work. Copyright is usually thought of as a bundle of rights that are available to the owner...” and lists the rights of the owner as:

1. Reproduction rights: the right to reproduce copies of the work (for example making copies of a book from a manuscript)
2. Adaptation rights: the right to produce derivative works based on the copyrighted work (for example creating a film based on a book)
3. Distribution rights: the right to distribute copies of the work (for example circulating the book in bookshops)

4. Performance rights: the right to perform the copyrighted work publicly (for example having a reading of the book or a dramatic performance of a play)
5. Display rights: the right to display the copyrighted work publicly (for example showing a film or work of art) (Liang, 2004 p.25)

Following studies on copyleft, the concept has reached to a new license model particularly targeting artworks, called “Creative Commons” in 2001. The model of Public Domain was developed with inspirations of the free software model by experts of areas such as cyberlaw, intellectual property, and documentary. The legal framework of the license was researched in the studies of Berkman Center for Internet & Society at Harvard Law School, and Stanford Law School Center for Internet and Society (Creative Commons, 2007).

Lawrence Lessig, the founder of Creative Commons, summarizes the motivation as: “Its aim is to build a layer of reasonable copyright on top of the extremes that now reign. It does this by making it easy for people to build upon other people’s work, by making it simple for creators to express the freedom for others to take and build upon their work” (Lessig, 2004, p.282).

Creative Commons, as a framework offers six different licenses upon how the creator wants to share the product:

Attribution, is a license which permits to copy, distribute and transmit the work; or to adapt the work as far as a proper attribution is made.

Attribution-NoDerivs, is a license which permits to copy, distribute and transmit the work as far as a proper attribution is made. Transforming the work or any derivative works build upon the work is not permitted.

Attribution-NonCommercial-NoDerivs, is a license which permits to copy, distribute and transmit the work for noncommercial purposes as far as a proper attribution is made. Transforming the work or any derivative works build upon the work is not permitted.

Attribution-NonCommercial, is a license which permits to copy, distribute and transmit the work; or to adapt the work for noncommercial purposes as far as a proper attribution is made.

Attribution-NonCommercial-ShareAlike, is a license which permits to copy, distribute and transmit the work for noncommercial purposes as far as a proper attribution is made. Derivative works is permitted as long as the new work is distributed with the same license.

Attribution-ShareAlike, is a license which permits to copy, distribute and transmit the work as far as a proper attribution is made. Derivative works is permitted as long as the new work is distributed with the same license. (Creative Commons, 2008)

These licenses are shortly referred by Creative Commons icons, which may be listed in a matrix:

			Attribution
			Attribution-NoDerivs
			Attribution-NoDerivs-NonCommercial
			Attribution-NonCommercial
			Attribution-NonCommercial-ShareAlike
			Attribution-ShareAlike

Table 2.1. Creative Commons Visual Matrix (Creative Commons, 2008)

Lessig discusses the copyright model in different aspects including how the industry can control creativity, different audience motivations accessing to the new media, and collaborative production with recent examples comparatively thus it can be clear how the various options of Creative Commons function.

In order to discuss how the copyright owner companies control creativity, Lessig argues an example from 2003, when Mike Myers was announced to have the right to make derivative works on all the movies that are protected by the DreamWorks company, with the title “film sampling” (Lessig, 2004, p.107). According to Lessig, Steven Spielberg stressed that Mike Myers is the only name who can do a work like that, where Lessig reads that declaration in a different aspect by criticizing that due to copyright regulations it is clear that only the name who

is permitted to use the films owned by the company can do derivative works: “Spielberg is right. Film sampling by Myers will be brilliant. But if you don’t think about it, you might miss the truly astonishing point about this announcement. As the vast majority of our film heritage remains under copyright, the real meaning of the DreamWorks announcement is just this: It is Mike Myers and only Mike Myers who is free to sample. Any general freedom to build upon the film archive of our culture, a freedom in other contexts presumed for us all, is now a privilege reserved for the funny and famous - and presumably rich” (Ibid.).

Lessig, citing from David Lange’s *Recognizing the Public Domain*, tells a story about the Marx Brothers and Warner Brothers. According to the story, Warner Brothers sends a letter to Marx Brothers when they heard that Marx Brothers are willing to make a parody of *Casablanca*, warning them about possible copyright infringements and got a response, where Marx Brothers were warning Warner Brothers that they were Brothers before them and may claim a copyright infringement as well (Lessig, 2004, p.147-148).

A recent and concrete case was subjected in Lessig’s discussion of copyleft similar to the argumentation above, and which ended in a different way. In 1990, documentary filmmaker Jon Else, has been working on a documentary about Wagner’s Ring Cycle, where a part of the documentary was focusing on how the backstage works. In one

of the scenes, the backstage workers were seen when playing checkers and watching *The Simpsons* on TV. Else was asked to pay \$10,000 for using the few seconds clip of *The Simpsons* which is playing on a TV in his original footage (Lessig, 2004, p. 96-97). Lessig, tells that Else had to remove the images from *The Simpsons* digitally and replace them with a clip from one of his earlier works in order to save that amount of money, which would have increased the budget of the documentary very dramatically (Ibid.).

The Creative Commons is mostly based on the culture of free software and mobilizing in the space of digital culture. However some critics were given to the concept from the culture production point of view in a more philosophical discourse. David Berry and Giles Moss, who suggested “broadening and extending libre culture is the radical democratic project of the libre commons” compared how the Creative Commons and the inspiring source, the Free Software movement are taking the concept of copyleft. (Berry, Moss, 2006)

According to Berry and Moss, Lessig successfully brings up the matter of global media corporations extending the copyright law to increase the profit of their ownership as well as showing how the digital right management is converted into a control system of artistic and intellectually creativity where he frames the conceptual design of Creative Commons. On the other hand, Lessig fails to fulfill a political economic critic on intellectual property and stands in a naive position (Ibid.).

3 NEW MEDIA AND CINEMA

3.1 Database Narrative

Narrative is, “i) something that is narrated; ii) the art or practice of narration; iii) the representation in art of an event or story; also: an example of such a representation” (Merriam-Webster, 2008).

Mark Stephen Meadows, discussed the notion of interactivity in narrative forms in *Pause & Effect*, where he extracted the history of narrative forms with Aristotle, Freytag, and Poe (Meadows, 2002). The earliest recipe of a narrative form was done by Aristotle in *Poetica*, with the linear form of an action, containing a beginning, a middle, and an ending. Freytag, in the 19th century, “broke the structure of narrative into three primary movements” (Ibid. p. 22). Freytag’s narrative movements are desis (rising of action and complication), peripeteia (climax and crisis), denouement (falling action and unwinding). According to Meadows, this formulation was suggesting a time-driven structure to the story, where narrative becomes enabled to represent complicated narratives such as novels. Later, Edgar Allan Poe, extracted the presentation of the problem, as he has more interested in solution and presenting the cause by the solution (Ibid. p. 23).

After a historical analysis, Meadows discusses the function of symbols in narrative, using the example of *Romeo and Juliet* by Shakespeare: “Writing and reading is a very detailed relationship of symbology, even a layering of symbols. (...) The symbols are a layering process. The author relies on this foundation of the simplest symbols -letters- to then build more symbols through words, phrases, paragraphs, and chapters, introduces a layer of context to that symbology, and, finally provides a particular perspective on a particular pilot. And so a narrative is built, symbol by symbol, brick by brick” (Ibid. p. 24).

This formulation, building a narrative brick by brick, made by Meadows is showing the relation of narrative with recent analogical experiments such as database narrative, which operates by choosing narrative units which will function together. Since 1960's, databases have been used in the scientific, business and library worlds as Judy Malloy, a pioneer of the database narrative form, states (Malloy, 1991). On the other hand, creating narratives using electronic databases and the database form in narrative were also been experimented, almost since the databases are arised. The database narrative concept may be referred as modular narrative (Cameron, 2006).

According to Merriam-Webster, database is “a usually large collection of data organized especially for rapid search and retrieval (as by a computer)” (Merriam-Webster, 2008).

*Uncle Roger*³ is a derivative example that Judy Malloy started in 1986 and released many later versions parallel to the new narration spaces such as web technologies. In *Uncle Roger*, Malloy constructed three layers of story, where the user operates a database of memories on different media which can be accessed through a computer terminal as text in early representations or with visual iconography as in web pages in late versions (Malloy, 1991).

Malloy argues the arising narrative opportunities of new media which are offering familiar experience of human mind comparative to the classical forms: “*Uncle Roger*, my short narrabase *Molasses* and my narrabase *Its name was Penelope* are examples of how the computer (with its ability to store and retrieve information in ways that mimic the human mind more closely than sequential book-based narratives) can invigorate, expand, and enrich traditional narrative forms” (Malloy, 1991 p.195).

Borrowing from computer -specifically database- terminology, Malloy calls “the units of narrative information as ‘the records’” and defines the functioning of the records in a narrative as “each record represents a complete, fully expressed and often visual memory-picture, analogous the the individual cards in my card catalogs or to scenes in a movie” (Malloy, 1991 p.197).

A decade later, Lev Manovich expands the discussion on relation of

³A version of the work can be seen at <http://www.well.com/user/jmalloy/partyone.html>

database and narrative concepts to a new level where he tries to determine the new space of representation when he manifests “the perception of aesthetics should evolve after postmodernism” in his *Info-Aesthetics: Information and Form*⁴. According to Manovich, “information aesthetics depends on the conceptualization of representational character of computers” (Manovich, 2001a).

In the *Computer as a New Representational Engine* chapter, Manovich claims that the database has its own cultural form just as literature, cinema or architecture, where “each present a model of what a world is like” and defines the database concept as “a symbolic form of computer age”; where symbolic form is a reference to Ervin Panofsky’s modern age analysis as the linear perspective as a symbolic form (Ibid).

Manovich argues that the database is a cultural form, which rejects the sequential structure contrary to the classical narrative form. Thus, narrative and database concepts are referred to as “natural enemies”. This contradictory situation is later resolved with questioning the relation of the concept in the context of cultural sphere.

According to Manovich, the opposition is redistributed in computer culture and it can be defined upon the terms of semiology, syntagm and paradigm, formulated by Ferdinand de Saussure and expanded by Roland Barthes. The syntagm, in Barthes’s terms, “is a combination of

⁴The book is an online work which Manovich refers to as a semi-open source book. “Database As A Symbolic Form” section can also be found as the very same text in the “Language of New Media” published by MIT Press in 2001. Citation to the “Info-Aesthetics: Information and Form” was preferred to stress the manifestation of the work.

signs, which has space as a support.” Where the paradigm, is formulated as “the units which have something in common are associated in theory and thus form groups within which various relationships can be found” by Saussure (Ibid.).

Manovich brings these terms into the database narrative discourse as:

“the database of choices from which narrative is constructed (the paradigm) is implicit; while the actual narrative (the syntagm) is explicit. New media reverses this relationship. Database (the paradigm) is given material existence, while narrative (the syntagm) is de-materialised. (...) The narrative is constructed by linking elements of this database in a particular order, i.e. designing a trajectory leading from one element to another.” (Ibid.)

Ed Folsom rethinks the concept of genre where he borrows Manovich’s definition “the database as a cultural form” and extends it as: “We are coming to recognize, then gradually but inevitably, that database is a new genre, the genre of the twenty-first century. Its development may turn out to be the most significant effect computer culture will have on the literary world...” (Folsom, 2007, p.1576).

Discussing the database as a genre, Folsom claims that the whole works of Walt Whitman can be brought in a database form: “We who build The Walt Whitman Archive are more and more as Whitman put it, ‘the winders of the circuit of circuits’ (Leaves [1965] 79), and Whitman’s work -itself resisting categories- sits comfortably in a database”

(Ibid, p. 1573). Reading the archive of Whitman's works as a database is creating an opportunity to set new relations for reading Whitman, as Folsom suggests: "Just as Whitman shuffled the order of his poems up to the last minute before publication -and he would continue shuffling and conflating and combining and separating them for the rest of his career as he moved from one edition of *Leaves* to the next- so also he seems to have shuffled the lines of his poems, sometimes dramatically, right up to their being set in type" (Ibid. p. 1575). Also the iterations made by Whitman puts him as a database genre practitioner, as Folsom continues: "Anyone who has read one of Whitman's cascading catalogs knows this: they always indicate an endless database, suggest a process that could continue for a lifetime, hint at the massiveness of the database that comprises our sights and hearings and touches, each of which could be entered as a separate line of the poem" (Ibid.).

3.1.1 Database Cinema

Narrowing the scope to how film making is influenced by the database narrative concept both historically and after the new media discourse, will help to point out where the open source film making concept can stand.

Marsha Kinder, in *Hot Spots, Avatars, and Narrative Fields Forever - Bunuel's Legacy for New Digital Media and Interactive Database Narrative*, defines database narrative as: "database narratives refers to

narratives whose structure exposes or thematizes the dual processes of selection and combination that lie at the heart of all stories and that are crucial to language: the selection of particular data (characters, images, sounds, events) from a series of databases or paradigms, which are then combined to generate specific tales” (Kinder, 2002, p.6). In this sense, Kinder analyzes interactive-nonlinear narration concepts in film history with the names Chris Marker, Alain Resnais, Agnes Varda, Peter Greenaway and Raul Ruiz and continues with contemporary mainstream examples which can be read as database narratives, such as *Groundhog Day*, *Pulp Fiction*, *Lost Highway*, *The Matrix*, *Run, Lola, Run* and *Time Code*.

Allan Cameron, makes a very similar list of database films in *Contingency, Order, and the Modular Narrative: 21 Grams and Irreversible*, where he focuses on the time concept and the concept of contingency in the discourse of how new media affected cinematic narrative (2006). Cameron suggests that “‘modular narrative’ and ‘database narrative’ are terms applicable to narratives that foreground the relationship between the temporality of the story and the order of its telling” (Ibid, p.65). According to Cameron, database narrative offers “a series of disarticulated narrative pieces, often arranged in radically achronological ways via flashforwards, overt repetition, or a destabilization of the relationship between present and past” (Ibid.).

Referring to the examples similar to Kinder, Cameron makes a cate-

gorization based upon how the concept of time -specially in terms of temporal time- is being used in the order of narrative structure.

Certain modular narratives connect database structures to a crisis of the past, in which both memory and history are refigured as archival materials, subject to easy access but also to erasure: examples include *Memento*, *Eternal Sunshine of the Spotless Mind* (Michel Gondry, 2004), *Ararat* (Atom Egoyan, 2002), and *Russian Ark* (Aleksandr Sokurov, 2002). Others query narrative's ability to represent the simultaneous present: in films such as *Code Unknown* (Micheal Haneke, 2000) and *Time Code* (Mike Figgis, 2000) disjunctive temporal structure and the spatial segmentation of the screen, respectively, throw into question narrative's attempt to synthesize technologized and/or globalized urban spaces. (Cameron, 2006, p.66)

Manovich on the other hand, continues his discussion on database cinema, where he focuses on cinema more conceptually, with a claim that the classical film editing has already a logic of database narrative: "During editing the editor constructs a film narrative out of this database, creating a unique trajectory through the conceptual space of all possible films which could have been constructed. From this perspective, every filmmaker engages with the database-narrative problem in every film, although only a few have done this self-consciously" (Manovich, 2001a).

Whereas Kinder or Cameron mention among a number of names, Manovich specially refers to Peter Greenaway in this discourse when adding Dziga Vertov as a "database filmmaker": "His *Man with a Movie Camera* is

perhaps the most important example of database imagination in modern media art. In one of the key shots repeated few times in the film we see an editing room with a number of shelves used to keep and organize the shot material. The shelves are marked 'machines,' 'club,' 'the movement of a city,' 'physical exercise,' 'an illusionist,' and so on. This is the database of the recorded material" (Ibid.).

Jim Bizzocchi takes Manovich's definition and extends the examples with recent feature films parallel to Kinder in a speech he gave in *4th Media In Transition Conference* of MIT. Bizzocchi analyzes the movie *Run, Lola, Run* (1998) as a narrative database in details, where he also refers to "...other works with even stronger claims as narrative databases. *Run, Lola, Run* is arguably the purest form of this specialized genre, which includes such diverse works as *Rashomon* (1950), *Time Code* (2000), *Memento* (2000) and the BBC adaptation of *The Norman Conquests* (1978)" (Bizzocchi, 2005).

Run, Lola, Run consists of three short movies which start in the very same way, but end in three different finals. Manni, boyfriend of the protagonist Lola, finalizes an underground job; but lost the money. He has to find 100,000 Deutsche Marks before noon. Manni, calls Lola, tells the situation and wants her to help somehow, with a warning that if she couldn't make it in twenty minutes, he will rob a bank. In the first run, Lola, goes to ask her father for help, but he rejects to lend that money. Lola runs to the bank and helps Manni in the robbery,

which ends by Lola being shot by a policeman and dies. Second run starts by Lola's death, and the plot continues from the first phone call in a different way. This time, Lola bumps into a man with his dog and loses a few minutes which causes her to hear her father talking to his mistress. Reacting to his father, Lola robs his fathers bank and goes to Manni. She goes to the bank which Manni is planning to rob a little bit late this time, and Manni dies. For the third time, the story begins with the phone call. In this last repeatation, Lola moves faster and misses her father as he leaves. She enters into a casino and plays roulette where she wins two times consecutively and is able to save Manni this time.

Bizzocchi structures his analysis on three different readings of the film where he first borrows the concept of remediation from Bolter and Grusin (1998) and claims that *Run, Lola, Run* is a remediation of a rock video. This reading leans on the similarities between a rock video and the film in terms of video short-form as *Run, Lola, Run* presents a short story with a number of different finals in the end. In Bizzocchi's words; "...it [*Run, Lola, Run*] meets the two-fold requirements that rock videos share with the other members of the video short-form: combining immediate engagement with sustainability. In the process of achieving those goals, it actively explores the dynamic boundary between immediacy and hypermediation" (Ibid.).

In the second reading, Bizzocchi mentions Henry Jenkins, presenting

“Lola as the remediation of the video game within the logic of cinematic form.” This reading relies on the similarities between the game concept and the movie as it presents: “...the rules of the ‘game’, the assets, the goal (100.000 marks), and the time limit (20 minutes)” (Jenkins in Bizzocchi, 2005).

To conclude the remediation concept, Bizzocchi points out the *branch* concept: “Finally, there are the collateral story branches of the polaroid people (...). This multi-variant and multi-level plot structure extends traditional concepts of cinematic continuity, causality, and narrative” (Bizzocchi, 2005).

The third and the last reading is Bizzocchi’s own argumentation, which is that “*Run, Lola, Run* is a database, or to be more precise, a narrative database.”(Ibid.) Bizzocchi refers to Manovich’s *database narrative* concept and the Vertov example and claims that *Run, Lola, Run* is a stronger example for database narrative.

“If, as Manovich asserts, a database is a ‘structured set of data’ there is no question - Lola is a database. It is a highly structured set of parallel plot events. (...) The ‘records’ of this database are the three iterations of Lola’s run. The ‘fields’ are the events which are repeated (with variations) within the three iterated runs: the cartoon stairs, the polaroid tales, the dream sequences, Lola hitting Mayer’s car, etc.” (Ibid.)

Bizzocchi concludes the first two readings he took earlier, comparative to his own reading as database, pointing out that the database form

strengthens the characteristics of the first two representations: “This third reading accentuates key advantages of the rock video remediation, and at the same time closes the gap in the reading of the film as video game. More significantly, seeing this film as a database makes it clear how the film compels the viewer to actively engage with the story and confront its key themes” (Ibid.).

3.2 Spatial Montage

Manovich suggests a concept called spatial montage, inspired by the presentation of cd/dvd-rom based interactive narrations as they propose multiple screens at once. In Manovich’s words: “Spatial montage would involve a number of images, potentially of different sizes and proportions, appearing on the screen at the same time. This by itself of course does not result in montage; it up to the filmmaker to construct a logic which drives which images appear together, when they appear and what kind of relationships they enter with each other” (Manovich, 2001b, p. 269-270).

Beside the multiple screens of multimedia, spatial montage is also based on an earlier critic of Manovich, where he claims that the cinema followed the Fordist way of production: “Ford’s assembly line relied on the separation of the production process into a set of repetitive, a sequential, and simple activities. (...) cinema followed this logic of industrial production as well. It replaced all other modes of narration

with a sequential narrative, an assembly line of shots which appear on the screen one at a time” (Manovich, 2001b, p. 270).

Manovich, argues that, the European visual culture, since Giotto, “presented a multitude of separate events within a single space, be it the fictional space of a painting or the physical space which can be taken by the viewer all in once.” (Ibid.) Thus, spatial montage should be able to present different narrative elements at the same time according to Manovich. In other words, “in contrast to cinema’s sequential narrative, in spatial narrative all the ‘shots’ were accessible to a viewer at once.” (Ibid.)

This suggestion is, in classical cinematic terms, quite contradictory with the designs of classic film or video technology to the spatial montage idea comparative. On the other hand, according to Manovich, new experiences brought by computers, are promising to create a new space for multi-functioning screens. “the screen became a bit-mapped computer display, with individual pixels corresponding to memory locations which can be dynamically updated by a computer program, one image/one screen logic was broken. (...) It would be logical to expect that cultural forms based on moving images will eventually adopt similar conventions.” (Ibid.)

Reading how Manovich defines digital or new media based cinema together with his predictions and expectations, creates a cyclic relationship between cinema and computer screens. Manovich in *Cinema and*

Digital Media, a provoking essay about contemporary and future cinema, argues that the computer was not basically developed in need of numerical calculations and war technologies; but rather born from cinema (Manovich, 1996).

In the Simulation section of the Cinema and Digital Media essay, Manovich asserts that the digital media offers an experience of non-existent spaces with simulation in such examples of military simulators, virtual reality installations, computer games, and in Hollywood movies. However, the concept of reality here, is just limited to the abilities of the camera. In other words, “what digital simulation has (almost) achieved is not realism, but only photorealism – the ability to fake not our perceptual and bodily experience of reality but only its film image” (Ibid.).

This limitation Manovich stresses, is quite related to Greenaway’s criticisms on traditional cinema, as he claims that there are four tyrannies on cinema, which are; the tyrannies of the text, the frame, the actor and the camera (Greenaway, 2003).

The tyranny of the text, ruled cinema to be limited to an illustrated text; the frame is a “man-made device” and it is possible to “un-create the frame” and continue with “parallelogram”; comparing to the plastic arts, like painting, the essence of actor should return to its own place just “sharing the space with other evidences of the world or reduced the concept of a figure in a landscape”; and finally Greenaway makes two quotations in order to convince, which are:

“Two quotations. One from Picasso: "I do not paint what I see, but what I think." The second from Eisenstein, certainly the greatest maker of cinema, a figure you can compare with Beethoven or Michelangelo, and not be embarrassed by the comparison, and there are few cinema-makers you can elevate to such heights. On his way to Mexico, Eisenstein, traveling through California, met Walt Disney, and suggested that Walt Disney was the only filmmaker because he started at ground zero, a blank screen.” (Ibid.)

Greenaway, follows the discussion of the four tyrannies parallel to his two consecutive installations of *Stairs*, which consisted of a hundred stairs distributed in Geneva, Switzerland in 1994, questioning how the cinema can be deconstructed. This experimental installation, was trying to determine how the framing is related to the cinema, where a later follow-up has been made in Munich, 1995 and the history of cinema was represented in the streets (Ibid.).



Figure 3.1. *Stairs*. (Gevrey, 1994)

Manovich, calls this installations as examples of spatial database form of narrative, where the spectator is able to follow a narrative by walking from one screen to another (Manovich, 2001b, p. 209). This three-dimensional representation of the cinematic narration of Greenaway,

is coherent with Manovich's *cinema as interface* statement. "If HCI⁵ is an interface to computer data, and a book is interface to text, cinema can be thought of an interface to events taking place in 3D space" (Ibid. p. 273). Beyond these physical installations and their relation to visual narration, Manovich exercises database concept in the new media discourse, where he states multimedia representations as database forms, such as CD-ROM presentations or websites:

The 'virtual museums' genre - CD-ROMs which take the user on a 'tour' through a museum collection. A museum becomes a database of images representing its holdings, which can be accessed in different ways: chronologically, by country, or by artist. (Manovich, 2001a)

or

A site of a Web-based TV or radio station offers a collection of video or audio programs along with the option to listen to the current broadcast; but this current program is just one choice among many other programs stored on the site. Thus the traditional broadcasting experience, which consisted solely of a real-time transmission, becomes just one element in a collection of options. (Ibid.)

With the multimedia and new media examples, Manovich argues that the new media works are functioning as interfaces, as he states: "In general, creating a work in new media can be understood as the construction of an interface to a database" (Ibid). Thus, combining the

⁵HCI stands for *Human-Computer-Interaction*.

spatial montage to the software driven virtual interface, Manovich created the concept of Soft Cinema: “Soft Cinema is a dynamic media installation constructed from a large media database and custom software. The software edits movies in real time by choosing the elements from the database using the systems of rules,” and implies four concepts, as; “Algorithmic Cinema, Macro-cinema, Multimedia Cinema, and Database Cinema” (Manovich, 2002).

Algorithmic Cinema, describes the editing process, as editing is made by a software upon a set of rules given by the author. Macro-cinema, ascribes a moving image representation on a high-speed network, where the multi-layered, multi-angle images will become the norm of visual representation. Database cinema tells us that the narrative is not based on a script; but rather is generated from a media database. Multimedia cinema concept, comes from the multiplicity of the source media, besides video, such as “2D animation, motion graphics (i.e. animated text), stills, 3D scenes (as in computer games), diagrams, etc.” (Ibid.).

Linear forms of the story, narrated in installations, are also featured by Manovich in DVD form, where a user selects the materials to be included and create a sequence which is recorded by a video camera (Ibid.). However, the original installation form of Soft Cinema, is more coherent to the integration of new media tools in film making, as user interaction more clearly functions. According to Rodowick, im-

plication of new media tools and techniques is forcing film studies to be revised: "The new media challenge film studies and film theory to reinvent themselves, to reassess and construct anew their concepts. Reasserting and renewing the province of cinema studies also means defining and redefining what *film* signifies" (Rodowick, 2001, p. 1403).

3.3 Open Source Databases

William Uricchio, analyzes P2P networks and open source communities together, in terms of citizenship and consumership: "The term 'creative industries' has different patterns of deployment. The main fault lines have traditionally appeared between the US, where the marketplace and consumer rule, and much of the rest of the world, where notions of the cultural public sphere and citizenship remain relevant (if under siege). But peer-to-peer (P2P) networks and open source software communities may offer an unexpected challenge to these two constructions" (Uricchio, 2004, p. 79).

Uricchio, points out the similar structures of P2P networks and open source communities as, "They are all forms of digital culture that are networked in technology, are P2P in organization and are collaborative in principle." (Ibid, p. 86) With this structure, according to Uricchio, open source communities, as in the Linux operating system example, achieved an advantage of rapid responsiveness comparative to the proprietary and centralized alternative development of Microsoft (Ibid.).

The structural advantages of open source communities, were tried to be adopted by other forms of production, where a well known case is the collaborative written, online, free encyclopedia: the Wikipedia.

Clay Shirky, in the epilogue to the *Perspectives on Free and Open Source Software*, a compilation conducted by MIT Press, states that the Wikipedia is one of the rare successful examples of open source model adaptations (Shirky, 2005). Shirky, lists a number of features of the Wikipedia project such as, contextual integrity, history of editions, and the necessity of consensus where Shirky found the single space per entry policy interesting. "Finally, both the individual entries and the project as a whole is tipped toward utility rather than literary value - since opposing sides of any ideological divide will delete or alter one another's work, only material that both sides can agree on survives" (Shirky, 2005, p.486). Other than the politic consequences of collaborative authorship, a more significant and successfully adopted feature of the open source model is presenting the history of editions, and this presentation is directly influenced by the version control systems used for source codes (Ibid.).

Beyond the cultural formation of open source communities and the impact to the adopted production models, Shirky creates a critical link for any potential open source adaptations and software production models:

Open Source methods can't be trivially applied to all areas of creative production, but as the Wikipedia shows, when a

creative endeavor takes on some of the structural elements of software production, Open Source methods can create tremendous value. This example suggests a possible reversal of the initial question. Instead of asking 'How can we apply Open Source methods to the rest of the world?' we can ask 'How much of the rest of the world be made to work like a software project? (Ibid. p. 486-487).

This question fits into the discourse of digital cinema and how open source model can be used in film making. According to Manovich, digital cinema, can be defined by combining: “live action material + painting + image processing + compositing + 2-D computer animation + 3-D computer animation” where even the images shot with a camera, transforms into digital data or in other words, pixels (Manovich, 2001b, p. 254-255). Manovich continues to discuss what this transformation may bring, with the concept: Cinema As Code. Connecting the methods of Zuse and “found footage movies” as an early practice and George Lucas’s *Star Wars: Episode 1, The Phantom Menace* as a late example to the works of Vuk Cosic, Manovich explores the relation between the computer characteristics and the cinema (Ibid. p. 276).



Figure 3.2. Shower scene from *Psycho* (Cosic, 2008)

Vuk Cosic’s films and representations of famous scenes from film history in ASCII form, reveals the fact that digital movies are “frames made up from matrix of numbers” (Ibid.). According to Manovich, Cosic’s works are “translating media content from one obsolete format into another. These projects remind us since at least 1960’s the operation of media translation has been at the core of our culture” (Ibid. p. 277). Concluding his discussion on digital cinema and new media, Manovich states that “in computer age, cinema, along with other established cultural forms, indeed becomes precisely a code. It is now used to communicate all types of data and experiences; and its language is encoded in interfaces and defaults of software programs and hardware itself” (Ibid. p. 278). This transformation, offers new techniques to be exercised among many other transformations and remediations by computerization.

To use a metaphor from computer culture, new media turns all culture and cultural theory into 'open source.' This 'opening up' of all cultural techniques, conventions, forms and concepts is ultimately the most positive cultural effect of computerization — the opportunity to see the world and the human being anew, in ways which were not available to *A Man with a Movie Camera*. (Ibid.)

From Manovich's perspective, as the cinema is code itself, Shirkey's assumption can be taken as achieved, and the question remains as: "How can we apply Open Source methods to the rest of the world?" (Shirky, 2005, p.487) at least, if not to the rest of the world; but to the cinema.

Saul Albert, on the issue of how open source model can be adopted in art production, claims that artists have a motivation to share their works in order to gain reputation and feedback; however, sources for presenting their work is not guaranteed to have feedback in any aspect. Commercial gallery concept is an alternative for organizing an artist - audience meeting as soon as the cost is paid by sharing any profits and more importantly the copyright of the artwork. In the open source model of distribution, promotion and evaluation, a different aspect may function: "If, as in the OS model, each user of a product (reader of a text, viewer of an artwork) is involved in its creation and formation on a satisfyingly deep level, they have a stake in the project's reputation." (Albert, 1999) This reputation, according to Albert, is a measure which

will function on the base of gift economy⁶.

Henry Jenkins in *The cultural logic of convergence* (2004), frames nine debates on media convergence. On the issue of redesigning the digital economy, Jenkins makes an assumption that, due to the commercializing of cyberspace, the gift economy is losing power where the commercializing implies a cultural diverse: “The choice of how we pay for web content can have enormous cultural implications” (Jenkins, 2004, p. 37).

Projects like *Elephants Dream* or *The Digital Tipping Point* are using methods and the model of organization as well as the technologies arised in open source culture, beyond all the common opportunities of computer culture.

⁶Gift economy is “a system of redundant transactions in a moral economy, which makes possible the extended reproduction of social relations.” (Cheal, in Caplow 1990, p.1111)

4 CASE STUDIES

4.1 Elephants Dream

4.1.1 Background of the project: motivation and history

Elephants Dream is the first open source movie which was released in May 2006 after a year of production which was sponsored by the Netherlands Media Arts Institute Montevideo/Time Based Arts and organized by the Blender Foundation, which was established in 2002 by Ton Roosendaal, with the name: Project Orange. The project was announced to create a 3-D animated movie short, using open source softwares and a movie was to be released -with production files under an open license.

The main tool used to create Elephants Dream is the open source 3D animation software, Blender, which is currently sponsored by Blender Foundation. The software itself was being developed since 1995 as an in-house tool for Not A Number company following NeoGeo animation studio. Both institutions continuously canceled the in-house software development operations, which caused Roosendaal to establish Blender Foundation to save and to continue developing the software. As an open source community story, users and developers of the

Blender software donated to a Free Blender Campaign and succeeded to own the intellectual property and the source code of the software which later published free and open under the terms of General Public License (GPL) (Blender History, 2008).

In 15 June 2005, Ton Roosendaal announced the Project Orange, that The Blender Foundation will produce a 3D animation with the cooperation of the Netherlands Media Art Institute Montevideo/Time Based Arts; declaring that “Not only will the project be realized with Open Source/Free Software, but also the resulting movie - including all the production files and software - will be published under an open public license” (Orange, 2005a).

In the announcement, collaboration between the software developers and artists was foreseen both for studio work, which was established in the Netherlands Media Art Institute and for online contributions. In the project announcement, it was declared that Bassam Kurdali was going to be the director and Andreas Goralczyk was going to be the art director for the six month of production planned to be in between September 2005 and March 2006. In July 12, the core team of lead artists and developers who are going to work in residence was chosen and announced the day after Jan Morgenstern was announced as the sponsor for music and sound design (Ibid.).

In July 27, Ted Roosendaal declared that the open license was chosen as Creative Commons:

After a careful study of the possibilities, we've decided to adopt the Creative Commons for both the end-product (movie) and for the all the files that were used in the creation process (.blend files, models, textures). We'll adopt a license allowing freedom to commercially re-use it, make derivative works and distribute it at choice. The final text of the license will be published in September.

The software as being developed, for Blender, will of course be published under GNU GPL." (Ibid.)

In October 15, first teaser of Elephants Dream was shown at the Blender Conference animation festival. From October to December, according to the production log, character designs, modelling process and software improvements was going on, where in December 5, the project published the images of protagonist characters Emo and Proog (Orange, 2005b).

4.1.2 Production Model in technical aspect

Not only the license of the movie and access to the source files are adopted from F/OSS concept, but the Orange Project tools and division of labor in the production process are also implemented. In September 29, Toni Alatalo, the technical director of the project announced that the version control system SVN will be used during the production for two reasons very similar to the software developers's motivations.

A major reason is ensuring that no-one ever destroys work by others, which can happen easily with filesystems by simply

saving an older version over a newer one made by someone else in the meantime. But our tech-savvy animation director Bassam figured that even advanced features like branching, i.e. making an alternative version of the movie-in-the-making, might be useful later for e.g. testing changes in the main characters. (Orange, 2005c)

Subversion (SVN) is a free/open-source version control system which “manages files and directories, and the changes made to them, over time” (Collins-Sussman, Fitzpatrick, Pilato, 2004). Using a version control system, it is possible to archive the files organized by date and see what change was done on every single file with the comments of contributor who changed the file. As the version control systems, particularly SVN, can work on a network, it provides a space for collaborative works as Collins-Sussman mentions “At some level, the ability for various people to modify and manage the same set of data from their respective locations fosters collaboration. Progress can occur more quickly without a single conduit through which all modifications must occur” (Ibid.).

This cooperation between software developers and artists was visible through the production log of the project. The announcement of the Blender version 2.40 was made by the lead artist of the project, Matt Ebb in the Orange Project log: “...the latest version of our favourite 3D software has just been released to the world. (...) Many of the great new features we’ve been requesting and talking about here over the last months are included, amongst the character animation rewrite,

fluid dynamics system, particle system upgrades and hair rendering, the modifier stack, mesh and UV editing, rigid body dynamics via the game engine, and heaps more” (Orange, 2005d).

In the end of January 31, 2006 the team called for contributions, similar to an open source project, for DVD subtitles (Orange, 2006a) and later, in February, for textures which are going to be used in the final movie (Orange, 2006b).

The premiere of the movie was announced to be on March 24, in Cinema Ketelhuis, Amsterdam. Cinema Ketelhuis is a digital cinema where the movies are presented on a high-definiton projection system (Orange, 2006c).

In May 4, the DVD edition of *Elephants Dream* was released (Orange, 2006d). Although the movie was free to download and copy, selling DVD copies is a merchandising method in order to have, in open source terminology, a financial contribution. In May 11, a week after the DVD release, 2000th copy of DVD was sold out. Heiner Holtapples the chair of the sponsor institute, Netherlands Media Arts Institute Montevideo Time Based Arts, states that this support to the project is a mark of community:

This was really great for me. I have sold the next movie for 2000-2500 dvd copies of the film, which anybody could download, and anybody should not have to pay for it. So this was the community, we had the money once we realized before the film. (H. Holtapples, personal communication, June 24, 2007)

4.2 The Internet Archive

The Internet Archive was founded in 1996 to establish a library of the Internet, “with the purpose of offering permanent access for researchers, historians, and scholars to historical collections that exist in digital format” (IA, 2008a). The purpose of creating a library of the Internet, is described by referring to The Library of Alexandria and its non-existence and recycling of the earlier cinema films to extract the silver in them where, the Internet Archive suggests that “without cultural artifacts, civilization has no memory and no mechanism to learn from its successes and failures. And paradoxically, with the explosion of the Internet, we live in what Danny Hillis has referred to as our ‘digital dark age’ ” (Ibid.).

The Internet Archive, uses an open source software, which was developed particularly to serve the project, called Heritrix. The name Heritrix is coming from the archaic word for heiress - woman who inherits (IA, 2008b). By using Heritrix, the Internet Archive became able to access the information distributed all over the Internet. The open source model was selected to develop Heritrix, as the project's capacity highly depends on the programming skills of participants (IA, 2008a).

The archive consists of three different types of data:

- Files in ARC format, which each contain complete data from a number of files in the collection;

- Files in DAT or MDT format, which contain data such as URLs and image references from the ARC files (researchers

can use these files to study link structure)

Files in IDX (index) format, which each contain a list of URLs and their associated place in the ARC and DAT files. (IA, 2008c)

By creating a library of the Internet, the Internet Archive manifests a “library of future” upon their vision with key statements: “From ephemera to artifact, Protecting our right to know, Exercising our ‘right to remember’, Establishing Internet centers internationally, Tracing the way our language changes, Tracking the Web’s evolution, Reviving dead links, Understanding the economy, Finding out what the Web tells us about ourselves, Looking back: With the *way-back machine*”⁷(IA, 2008a).

Today, the Internet Archive features archived digital texts, audio, moving images, and software as well as web pages, and to achieve the goals listed in the vision of library of future, beside the softwares used to create the archive, the project manifests an Open Source Media which is based upon an analysis that free expression of thoughts need a medium to be presented as well as an ability to refer, quote and comment on other texts (IA, 2008d).

The concept of hypertext, which functions on the very base of the Internet technically provides these opportunities for texts, however, according to the Internet Archive project, audio and video media are not

⁷Way-back Machine is a sub-project of Internet Archive which displays an archived website as it looked on a given date.

easily accessed for a use in this sense. In original terms: “‘Deep linking’ into video is possible in theory but not in practice” (Ibid.). Thus, the Internet Archive suggests a tool-set, inspired by the open source concept for audio/visual media. The project proposed studying US Presidential Election of 2004 as an example case with focus on “Free expression, tools for commentary, and public commentary” (Ibid.). Beside the in-house projects, sponsorships are suggested for projects inspired by the open source model as well, such as The Digital Tipping Point.

4.3 The Digital Tipping Point

The Digital Tipping Point, is a feature length documentary project about open source software, consisting of interviews with and statements from open source contributors, companies and researchers worldwide. In the project summary, it is defined as: “The Digital Tipping Point is a documentary film that will explore how the culture of sharing is spilling from the world of Free Open Source Software into the broader global culture. Our film is being put together the same way the Free Open Source Software is built, right now, right here, in real time in front of your eyes. The segments rolling in the box to your left are raw video segments that are streaming from the Internet Archive’s Digital Tipping Point Video Collection” (Digital Tipping Point, 2008a). This also can be read as, the Internet Archive in technical terms, keeps the narrative database of the project.

The Internet Archive's Digital Tipping Point Video Collection, quotes the project definition as: "a Point-of-View (POV) documentary film about the rapidly growing global shift to open source software, and the effects that massive wave of technological change will have on literacy, art, and culture around the world." There is over 350 hours of raw footage of interviews done with decision makers and software engineers worldwide, which are released under terms of Creative Commons Attribute-ShareAlike license (IA, 2008e). This footage is controlled, organized and maintained by a crew of twenty people, including website editors, designers, film makers, technical assistants beside hundreds of volunteers all over the world, who have specific tasks in the project online (DTP, 2008b).

Christian Einfeldt, the producer of the project, describes this effort as, open source movie for open source community, where he connects the inspiration of open source and the "transformation of audience into authors" concept, ascribed by Dan Gillmor in *We the Media*, published by O'Reilly press in 2004. In Einfeldt's words: "the former audience has become the reporters, the editors, and even the stars of the media, as in the case of YouTubers. Gone are the days of passive consumption of media. The former audience is now helping to shape the dialog. So thanks to the hundreds and hundreds of members of the greater open source and free software communities who have made this film possible" (Ibid.).

The Digital Tipping Point, was manifesting a clear advocacy of the open source aspect in their first website by determining the aspects of two different software development or in other words business models:

The competition between open source software and heavy handed proponents of proprietary software ultimately comes to the question, 'What kind of society do we want.' Technology is legislation, meaning that if you accept a type of technology, you accept certain types of social relationships which come packaged with that legislation. (...) We have the choice between a future society in which business and government are transparent to their customers and citizens, or a future in which businesses and government have both the power and the right to reach into what is now our privacy. (DTP, 2008c)

4.4 Theoretical Reflections on Open Source Movies

The terms “fork” and “branch” are synonymously used in both the narrative database discourse and software development. Branching was seen as an advantage to create alternative products from the same source, and it was adopted from the open source production model for *Elephants Dream* (Orange, 2005b). In software development, creating branches gives the software developers an opportunity to use the very same source code in different structures of products or in different designs of production. Lerner and Tirole prefer to use the term “forking” to define this process: “One issue that has emerged in a number of open source projects is the potential for programs splintering into var-

ious variants. In some cases, passionate disputes over product design have led to the splintering of open source projects into different variants. Examples of such splintering are the Berkeley Unix program and Sendmail during the late 1980s” (Lerner & Tirole, 2002, p. 203).

In the database narrative context, Jim Bizzocchi, prefers the term “branch” when extracting the common points of two different readings of *Run, Lola, Run* as remediation : “Finally, there are the collateral story branches of the polaroid people (...). This multi-variant and multi-level plot structure extends traditional concepts of cinematic continuity, causality, and narrative” (Bizzocchi, 2005). Marsha Kinder also prefers to use the term, branch, where she refers to Resnais’s *Smoking/NoSmoking* (1993) as a “multi-branching film” pointing the multi level functioning of the plot adapted from Alan Ayckbourn’s play, *Intimate Exchanges*, which features sixteen possible variations of the narration upon the decisions of the characters (Kinder, 2002. p.3).

Allan Cameron, on the other hand, prefers the term, fork: “The other principal types of modular narrative are ‘forking-path’ and episodic narratives. Forking-path narratives juxtapose alternative versions of a story, showing the possible outcomes that might result from small changes in a single event or group of events. Examples include *Run, Lola, Run* (Tom Tykwer, 1998) and *Groundhog Day*. (Harold Ramis, 1993)” (Cameron, 2006, p.77).

The fork term is also used by Anna Notaro, in the context of post struc-

turalism and hypertext relation, where Notaro connects nonlinear narrative to *The Death of the Author*:

George Landow and Michael Joyce have transferred the core thesis of post structuralist thinking to the literary application of hypertext. Hyperfiction, seen as a 'garden of forking paths,' seems to semantically represent the looseness of the signifier-signified relation as the multiple narrative lines subvert any control by the reader and undermine the author's power to fix all contexts and therefore all meanings of the text sequences. (Notaro, 2006, p. 86)

Notaro's work questions how the authorship concept changed with the existence of networks and interaction, with the examples which are distributed mostly online under terms of copyleft and which encourage the modifications or iterations. Quoting Noray Barry from *Druid Media*, Notaro uses the term "pass-along narrative" for movies produced collaboratively. Summarizing the contemporary position of audience, Notaro states "what is new is that digital technology allows for a more (inter)active role of the audience in the creative process" (Barry in Notaro, 2006, p. 91).

The opportunities of digital technologies that Barry reconciles with the interaction of audience, function in *The Digital Tipping Point* which entirely consists of user contributions, and *Elephants Dream* which is produced with the open licensed artistic contributions such as the textures used in animation.

Furthermore, any derivative work based on *Elephants Dream* is highly encouraged: Its production files and softwares used to create the animation are published freely. Hence, in June 28, 2006 it has been announced that new versions of *Elephants Dream* are being created and sent to Orange Studio (Orange, 2006e), where the online comments address four different versions of the movie.

People organized around projects similar to the studied cases, are structuring communities which are, according to Henry Jenkins, “defined through voluntary, temporary and tactical affiliations, are reaffirmed through common intellectual enterprises and emotional investments and are held together through the mutual production and reciprocal exchange of knowledge” (Jenkins, 2004, p. 35). Beyond this definition, which may also function in other types of social organizations, volunteer contributors and active users of the projects are also connected to the fan culture.

Jenkins discusses the need of renegotiating relations between producers and consumers of the fan culture where he compares the reaction of the music industry to the emergence of P2P networks with the game industry and fan sites: “Game companies have seen the value of constructing, rather than shutting down, fan communities around their products and building long-term relationships with their consumers. Which model will prevail?” (Ibid. p. 40).

Following the question of which model will prevail in the digital era,

one may find similar fan communities emerging for cinema films, and mostly for television series. Parallel to the game industries reaction to fan communities, producers of the television series *The X-Files* took the same way. According to Sturken and Cartwright, the fan culture behind *The X-Files* series may be defined as: "...an active fan culture that writes magazines, speculates about the show's various plots, discusses the show online, and reworks various episodes" (Sturken and Cartwright, 2001, p. 67) where the producers of the series "regularly monitor fan activity and often put clues in episodes that are intended only for the fan viewer who is paying close attention" (Ibid. p. 68). The relation between the fan community and the producers is held in the context of appropriation by Sturken and Cartwright, where they refer to the "textual poaching" concept, which is derived by Michel de Certeau:

Some of this work of textual poaching is at the level of interpretation, and some of it is about cultural production, actually producing new texts out of old, say, by re-editing films or writing stories that feature well-known television characters. Some contemporary theorists have looked at the cultural labor of fan cultures as an example of poaching. (Ibid. p.67)

The textual poaching concept, functions in the "inhabiting cultural products" either by altering, or like in the case of *The X-Files*, by fitting in the original message delivered by the product. Sturken and

Cartwright discuss different modes of the redefinition process of the delivered message as a continuous process of appropriation by audience and re-appropriation by the dominant culture: “Culture industries are constantly establishing what is new style, and that subcultures on the margins are always reinventing themselves” (Ibid. p. 69).

5 CONCLUSION

In the era of the Internet and digital technologies, which are offering many opportunities to alter any cultural product easily, there is a search for open source films due to copyright regulations as Valentina Culatti (2007) states. According to Culatti interpretation and re-edition of the artworks is in the nature of culture, so open source adaptation occurs as collaborative productions of film scripts similar to Wikipedia, or even mashing up films to tell their story in a different way (Ibid.).

In 2003, a fan of the movie series *The Matrix*, published his personal *The Matrix Reloaded Recut* (Philtre, 2003) where he used images and sounds from the original movie, the original soundtrack, and some video excerpts from the video game, *Enter the Matrix*, which was released by the producers of *The Matrix*. According to Philtre:

This project was not done for any financial gain and I don't intend to claim ownership or authorsip over the final product or any material used in it. I consider it a proof-of-concept experiment as well as an art intervention into the media space. Rather than expressing my criticism verbally, I choose to present it visually. (Philtre, 2003)

This kind of derivative work is prohibited by the copyright framework. On the other hand, the producers who seem to benefit the fan cul-

ture, as discussed in the *Theoretical Reflections of Open Source Movies* section above, create domains to publish derivative works under their control. For instance, Lucasfilm company launched a website in May 2007 for mashup works of *Star Wars* series (Lucas Online, 2008). This application of Lucasfilm, is granting the rights they reserve for fans mashing up, which are originally reserved by Lucasfilm, was criticized by Lawrence Lessig as an exploitation of creativity upon the terms of use declared by the company:

A careful reading of Lucasfilm's terms of use show that in exchange for the right to remix Lucasfilm's creativity, the remixer has to give up all rights to what he produces. In particular, the remixer grants to Lucasfilm the "exclusive right" to the remix – including any commercial rights – for free. To any content the remixer uploads to the site, he grants to Lucasfilm a perpetual non-exclusive right, again including commercial rights and again for free. (...) The remixer is allowed to work, but the product of his work is not his. Put in terms appropriately (for Hollywood) over the top: The remixer becomes the sharecropper⁸ of the digital age. (Lessig, 2007)

I, as a free software developer, take the arguments manifested in the free software movement and copyleft concept very seriously. The copyleft concept becomes more important, due to the rise of digital patents and other restrictions, which are being imposed in digital technologies every day. In the earlier works on free software, the scope was limited

⁸Sharecropper is a term, used for a tenant farmer especially in the southern United States who is provided with credit for seed, tools, living quarters, and food, who works the land, and who receives an agreed share of the value of the crop minus charges. (Merriam-Webster, 2008)

to the innovations of the model, such as economic advantages, optimization of productivity, or distributed division of labor. However, the essence of freedom, in terms of cultural production, got attention as various adaptations were made, where the most known example could be the case of *Wikipedia*.

When I heard about *Elephants Dream*, I was excited about the possibilities that may occur. However within the limits of this thesis, I was not able to discuss all aspects of it. The evolution of the project has not been as swift as it was hoped for initially, the derivative works on *Elephants Dream* were very similar to the original and they did not fully make use of the potential of this project. Thus, the scope of the thesis is limited to the criticism and potential of the adapted production model.

The same criticisms applies to *The Digital Tipping Point* and some of the works of Lev Manovich in terms of their inability to fully exploit the potential of collaborative film making. In this connection the following future research questions can be formulated:

Do the copyleft concept and free software model in the terms of film making have the potential of creating a new language of cinema?

How the copyleft concept, free software model, and the digital technologies will change the models of authorship/readership?

Or even, one can revisit the Frankfurt School and ask whether the copyleft concept has anything to contribute to the discussion in the commodification of culture, and/or “consciousness of the revolution” in Theodor Adorno’s terms.

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APPENDIX

Glossary

GLIBC (GNU's C Library): It is a free software alternative of C library, a machine readable programming reference, defining system calls and basic functions for programmes to operate.

GDB (GNU's Software Debugger): A debugger helps the software developer to observe the functioning of a software and is specially useful when a software stops unexpectedly to traceback the function caused error. GDB is a free software alternative for debuggers.

GCC (GNU's C Compiler): A compiler is a software, transforms the human readable source code, into machine language - binary format. GCC is a free software alternative for compilers.

P2P (peer-to-peer): The term is used for networks, where users may connect in a de-centralized fashion and transfer data to each other without a central regulation.

**Interview with Heiner Holtapples,
Director of the sponsor institute of Elephants Dream**

Koray Löker > I would like to ask you about the Montevideo as an introduction to start, what is Netherlands Media Arts Intitute, Montevideo doing?

Heiner Holtapples > I describe as to realize all the different functions of this media, once again I will present it to people than we have to accept that we have the heritage how will be preserved the new media and everything is how can we influence and participate the research and development of new media. And the other saying which aside targets we have to educate people to explain different levels and coming back to presentation we think important to make exhibitions in our building to show to the audience in Amsterdam and rest of Holland coming to Amsterdam and see the works.

In media art and of course our tradition is video so we have a lot of collection of video and we show what is in our collection and what connection and which artist doing what was also has a kind of continuity and so in the exhibition these artists which are working now so we take works on the connection with different way during the exhibition the history of that who is doing what now. And say which artist making what 20 years ago.

The other thing that we say that this medium is easy to distribute and it is automatically for us international medium so the exhibition is much more artists which we show from the abroad and artists shows their works and we are collecting also half international and half dutch, and this vision is something... one of the big distributors we have more than 700 works for the 6 country worldwide and it is a growing market and it also becomes more more easy because we can easily make dvds. If you want you have the betacam sp, and quite expensive machines to show them in high quality.

And the other thing we are making distribution and the center of institute is a collection that is oldest work is from 1972. And it is about 1800 works, which we call original art works, not documentation. And what we see also the interest to history becomes more demand than year before that the work was done in the 1970s and 80s. I think the new generations that not experienced performs those lives gets interest to look back into this. So, when I come back to the collection it is more than 30 years, it means probably we have some problems to preserve them so we do research that how we can preserve it, and we have big luck in Holland, because in the

end of the 80s there was a program which was called delta plan that became an accepted program by museums for restoration and preservation of artifacts in the museums for also paintings, sculptures, books and everything, so because of that we don't have a problem and former directors say OK that we have also problem with video and for it we understood it it was project let say 150 and 200 million euro's, and we said if we have 1 million we can make a lot. Until then we get the money not for us, but also museums have agreed that their collection also, that at the end we make research and we had some equipment to do it practically, still it is going on we have all the collections of the museums that have video in our building, and then run it once forward and recorded. Now we have also access that people can their work in the building and not distribution. But you know it is going on shifting, so the next question is how can we build this within the video tapes agenda so what is the next generation to preserve them.

KL> So that is a research topic?

HH> Yes that is an area of research, which we do with different organizations in Europe and in some parts of in America, to find out what is the standard... It doesn't make sense the next generation have this, we have the only one, because it has technical standards and it is one of the problems. we also there is a lot background standards, because we don't have libraries, and titles how to describe these video works, images, so that is very important if you have databases, research agreements. So it takes time, we have European money its called Culture 2007 we have to work 3-5 organizations together to this program, we have also to work on knowledge and resources that we coming together to publish these and organize budget. One of these projects finished this year it is called OASIS, it is a project we have 5 media centers in Europe tried to connect our images. So we don't result one database for one, nobody wants it, if you have a superdatabase that has all databases so it will change to only one thing. It is to say simple what we develop that is a search machine those have information about other databases, looking for this artists have a lot of tapes some assets. But in the reading on newspapers the publication and they are searching for all these things, so you can have a list that what is accessible, so that is all the organization to put it in the database. Because there is a lot of information not in the database they are quite usable. So the other part of the research it is in the media ... artists asking if you can help me, if you have some advises, or there can be a program artists come and work with programmers, and all these programs are open source, so they are accessible for artists and it is also only if you have the idea there is until now this problem is not solved, but still we have some information can be useful for you, so it means to get more knowledge, we

have profit with it, so your question can be in this research. So we are looking for programmers and the artists which have at the end something we can present more than result paper, but because we have this money, this found, so somebody can demand which put that I will have the right to say you failed, so because it is accepted. Because in science you can do research, and have conclusions about problems, but in arts you can make a lot of things spend money and in the end it results nothing. So we have to accept that we can have this money, but if we don't have results can be complained because that cannot solve the problem. So that is most important issues try to work.

KL> In the funding sense, the most important project of you to create an open video in last three years, which was presented last year, Elephant's Dream. What was the intention of you in that project, what was accepted from creating an open source movie.

HH> First, it was blender came to us, to say another thing important, we do not put in the agenda, what is going in the field come to us and tell us and which is the developer of 3D program so we get the idea. We wanted to show that our program is able to do the same thing with all those expensive programmes. And so, we wanted show it with a completely animated 3D film, and ok what did we need, a group of artists, technicians, stay together for this film and work together. In the meantime we developed our program by coming the edge... the program is not complete, what we have missing, and it is ok, and how can we get the money, because we have a lot of people, one year 7-8 people, and a coordinator, and we were talking about 150.000 euros. We said OK. This was really great for me, I had solved the next movie for 2000-2500 dvd copies of the film, which anybody could download, and anybody should have to pay for it. So this was the community, then we had the money once we realized before the film. Then it was so easy we could put the money it was not so much, it was something one thousand we could put it, we had the possibilities to go to the film funds, because we mostly this kind of films completely are paid by the funds, give me one third of the production money, it is really for them that is to say why should you give the money, because these people are already interested, that was to make experience a different business model which was very important for us, and the idea that you can really push the software developers and artists.

KL> I guess you also have a good impact with the project, I mean you were satisfied with the production, what happened after the movie was realized.

HH> We had side line, because we have the producers, directors more

contend, technicians they were together and involved, that we observed what was following. So we gave feedback on more storyline, and on how the characters are developed. And I was really satisfied with the technical result. I think there are something changed in traditional thinking, and in general, I think it is really important that people has different skills come together, but what we were missing was a director. For me the story of the film is the weakest part. Looks like a silly, and we missed the first part. But this was, seven people who didn't work together before came together, there was no script, because the idea was OK, work all together, it is very complicated, why this is this story that 7 people are not writers, nobody write for themselves, but it bring for influence from personel, technical based research and ideas, and passion, and I think I can see that some scenes are different by each other and anybody can see the difference, but I see that animator had something in his mind what he wanted to do and he was succesful, and I see the elevator which carries the camera, and I can see the type of because I wanted to do this. So it is done with different kind of establishments. So that is important. So this is what makes the film interesting and special that way that you have missing a one director and it is possible if those people have some shared expactations. It is interesting that how far is a working together is possible in the every level of production.

KL> And for the aesthetic part, it was one of the first experiences that for production like this to improve story telling, to make better scripts production model exactly do you see any sustainable production model. What can be done to improve this film making model.

HH> I said the final responsibility is had by director, and you have same model how organize information part and script part. Somebody has script and your part is to make this script, and you can have the animator says ok. If you want to make a great movie it doesn't make sense these. You have to develop the scene but you should see what is happening in this. If you are looking for the aesthetics what is the next scene. It is the process infact already working with timeline, and then you should not have much more time for improvisation. Someway we have a good way that there is producer to pushing it for a commercial way, so also everybody has a place for their own creativity. It is a model which you use all of the positive elements of the engagement surrounded, you can have 300 people were involved in that way. Communicated to these people somebody in US, somebody in Turkey, somebody in Japan. Your problem is worked and tomorrow you got it. There was such a lot of input from outside. It can be never happen if you are in a studio to all these knowledge. It is great.

KL> Open source, can be summarized of getting experience together

collecting a knowledge, in that sense an open source movie can do it as same. That is one of the part of the open source. But I wonder that if you see an artistic experience, the film can give new ideas to artists doing an open source movie. Is that powerful enough to influence people language or will it be create a new language in the future.

HH> It has and should have the trans. I mean it is very difficult to predict which development will have re-changing the qualities and expactations of the working together. The story that nobody put a text in telephone. That become more important than the voice. I am very enthusiastic to see that a model growing and working together without profit... Interest of people is not only material, it is not for making money to short, people exchange knowledge, and it is something else. This is the basic of different model how we can organize and it is in still in the markets and I think always we can change the system which is always effects ethics, human behaviour. So I am still thinking open source has very hopeful future.