

Practical Study of Open Sharing at Yamaguchi Center for Arts and Media [YCAM]

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Abstract

Yamaguchi Center for Arts and Media [YCAM] (herein after "YCAM") is an art center focused on media technology. It produces artwork incorporating media technology, develops media technology, archives related information, and provides education. YCAM has open shared its works from some of its projects. To "open share" means to publish a work so that a third party can utilize it freely within certain conditions. In this paper, the introduction of open sharing at YCAM and the practice of implementing open sharing will be described and discussed.

Keywords: intellectual property, open sharing, creation process, media technology, art

1 Introduction

1.1 Open Sharing

We define open sharing as the practice of publishing works and allowing a third party to use these works freely within certain conditions. This permission is based on so-called "IP rights" such as copyrights or patent rights. The conditions can be defined by licenses or terms of use (e.g., Creative Commons License). Designing and practicing open sharing are considered to be part of legal design ("legal design" means designing laws, contracts or rights by citizens or users; it works like lubricating oil, driving society [1]).

Open sharing can increase creativity. As a result, it leads to the creation of new expressions and helps to solve various problems. In this paper "Creativity" means: 1) a factor that encourages creation, 2) a factor that increases quality and quantity, and 3) the implementability of creation, leading to new ideas and works.

When we translate this word to English, we considered the word "Open Publication" that is used in MIT Open Course Ware. However it sounds only for contents like Movies, Sounds, Text. By the way, we also Software or Hardware and so on. So we decided to define a new word "Open Sharing" to cover them.

1.2 Current Situation of Creation and Open Sharing

After the growth of the Internet, there was much discussion about how society was going to change. This discussion went beyond the increase in chance contact between people who were strangers and beyond the activation of intercommunication. It was expected that new, valuable, and synergetic effects would be created through the fusion of different fields. On the other hand, there was concern that conflicts would occur [2][3].

Creation activities came to be affected by the same developmental issues that took place in other fields. In this paper, "creation" means to make a new idea or work. The development of an information structure that includes not only a high-speed network or high performance devices, but also an information sharing service, leads to the formation of an online community that works as a hub. As a result of this development, people who had not collaborated together in the past came to collaborate and open share their works. Open shared works provide further creation. Various developments in technology, new expressions, solutions of problems, and new content are produced through this creation cycle [4][5]. There is "a framework of creation with collaboration and open sharing via the Internet."

Additionally, opportunities were increased for people to gather in real-life places and conduct intercommunication and creation. For example, in the 1990s, the "workshop" method was expanded rapidly and has now become common

especially in Japan. Through “workshops,” it is possible to convey technology and ideas effectively and create personal connections. Additionally, events for concentrated creation in a specialized field (e.g., a hackathon) have also come to be held more often [6]. We term this “a framework of creation where people gather physically.”

These two frameworks cannot be divided, but are in a complementary relationship and have an affinity for each other. Zachary Lieberman, who is an advocate for “DIWO (Do it with Others),” says that in an online community, a network of personal connections strongly affects collaborative development with open sharing[7]. This means that it is important to combine the two frameworks into one. In this kind of situation, open sharing of works is significantly effective.

When we examine the current situation of creation from another perspective, we can see that the movement in which general citizens perform creation has spread and has become more socially important. This movement is called the “Democratization of Manufacturing.” For example, the number of exhibitors in and visitors to Maker Faire and Mini Maker Faire increased by 24 times between 2006 and 2013 [8]. Additionally, in 2012, the Obama Administration initiated a four-year program designed to establish workshops with digital fabrication equipment such as 3D printers and laser cutters in 1000 schools. This movement will further progress this trend [9].

In the background of this change, new cultures of or thoughts about creation exist and affect the change. For example, the “culture of personal fabrication” progresses with personal self-motivation and creativity as its engine, and “the spread of machine tools” and “the exchange and sharing of creation-based knowledge” as its wheels [10]. The FabLab structure, which is a framework of creation, actualizes the culture of personal fabrication. Open design, with which creators allow third parties to utilize, distribute, derive their work and provide new derivatives of their work freely, is another example. It is claimed that this changes the structure of design practice [1].

There are other variable practices of creation present in the background (e.g., Linux). It can be said that these practices have a common point in that the open sharing of works is included in the process.

Open sharing can be used not only in public or non-profit operations but also in business operations. It is significantly present in business circles and is known as the “freemium model” [11]. In the manufacturing industry, there were over 300 fare-paying open hardware products by the end of 2011. The value of the performance of these products exceeds 50 million dollars [9].

Therefore, open sharing is an important element in the current situation of collective creativity.

1.3 Related Case

Case examples of open sharing that are related to the media technology on which YCAM focuses include “openFrameworks”

or “Pure Data” in relation to software and “Arduino” or “the EyeWriter” in relation to hardware. “EYEBEAM” and “Public Lab” are open sharing cases that pertain to an organization.

The EyeWriter is an open source eye-tracking system. Third parties have added new functions to the technology and used their own modified versions of it [12][13][14], while other third parties have begun new projects inspired by it [15]. The EyeWriter project was included in TIME magazine’s “The 50 Best Inventions of 2010,” the Design Museum’s “Brit Insurance’s Designs of the Year” in 2010, and received the Prix Ars Electronica (Golden Nica), the 2010 FutureEverything Award, and more. At the presentation of the Prix Ars Electronica, the product was commended as “an ongoing, open-source, collaborative research effort” that provides encouragement to ALS patients [16]. A member of staff from YCAM InterLab joined the development team of the EyeWriter 2.0.

EYEBEAM is a nonprofit art and technology center established in 1997 [17]. It holds four exhibitions and 40 workshops every year. In EYEBEAM Creative Residencies, an artist or an engineer outside EYEBEAM develops creative open source technology as a fellow or a resident. This can be thought of as a research and development project that is prepared for open sharing and run by an organization. Public Lab is an example of a nonprofit organization addressing social issues, which open shares hardware and sells its works [18]. However, their processes of open sharing or tools for open sharing have not been published.

1.4 YCAM InterLab

Yamaguchi Center for Arts and Media [YCAM] is an art center focused on media technology. It operates around a central axis defined by the pursuit of new artistic expression incorporating media technology. For example, it produces artwork incorporating media technology, develops media technology, hosts a variety of events, archives related information, and provides education.

YCAM InterLab is a research and development team that was created in 2003 when YCAM was established. It also functions as a hub of personal connections. InterLab has continuously executed collaborative research and development with various artists and engineers. As a result, InterLab began to function as a hub for intercommunication between people related to media technology and art. In addition to gaining a synergetic effect with InterLab in research and development, collaborators can expand their network of personal connections through this hub. InterLab also expanded its network through building connections with collaborators.

In other words, InterLab already had “a framework of creation where people gather physically.” Therefore, it had an affinity for “a framework of creation with collaboration and open sharing via the Internet” and was ready for open sharing.

2 Implementation and Purpose of Open Sharing in YCAM

2.1 Consideration of Implementation

In order to implement open sharing in YCAM, we first considered and defined criteria for open sharing. The criteria is “if open sharing matches 1) operational policy and 2) the goal and circumstance of each project, then go for open sharing.” This criteria could be utilized by other operational bodies.

We checked the consistency of open sharing with YCAM’s operational policy. Yamaguchi city government made an ordinance to establish YCAM. The ordinance defines YCAM’s mission, that is operational policy, as follows:

1. creation and promotion of culture and art,
 2. support for citizens to conduct autonomous cultural activity,
 3. education utilizing information technology,
 4. research utilizing information technology,
 5. archiving and providing documents and information,
- etc.

The effects of open sharing include spreading work, boosting new creation, helping education, boosting R&D, archiving properly and increasing presence.

If YCAM’s works were open shared so that citizens could utilize them, it is possible that the works would be spread and utilized more (including in the fields of art and education) and thus, new creation would be boosted (this complies with missions 1 and 2). Additionally, this could increase the presence of the art center through publicity and enhance the center’s function as a hub. Increasing the center’s presence can help to execute various missions (this complies with missions 1-5).

Open sharing leads to proper archiving, including the accumulation of technology and activities (this complies with mission 5). Quality enhancement (e.g., versatility, which is a part of increasing creativity) and an increase in motivation can be expected through postulating open sharing at the beginning of the project [19]. Open shared works can help other new projects, which can boost R&D (this complies with mission 4). When participants in a participatory project experience open sharing or open shared works are used beneficially in the project, education related to media technology or open sharing is advanced (this complies with mission 3).

In summary, open sharing was introduced at YCAM because the effects of open sharing match YCAM’s operational policy. The particular use of open sharing depends on the goal and circumstances of each project.

2.2 Goal

As mentioned above, open sharing can increase creativity and lead to the creation of new expressions and solutions for problems. If the effects of open sharing in the operation (mentioned above) function properly, the result of open sharing should contribute to operational policy. This means

that for an operating body, the initial goals of open sharing are that its effects are actualized (and this works in the same manner for other operational bodies). Therefore, the goals of open sharing conducted by YCAM are as follows:

1)	Spread Work and Boost New Creation
2)	Archive Properly
3)	Boost R&D
4)	Help Education
5)	Increase Presence

3 Methods

In some YCAM projects, works were open shared in consideration of the goal and circumstances of each project including the nature of work, cost-effectiveness, etc.

In order to execute open sharing, we developed a procedural model and tools required for open sharing and studied related issues. Each is executed in parallel and interacts with the other; for example, a tool is updated through its use in projects, and projects are executed effectively by using a tool.

These perceptions and knowledge, which are gained through the development of procedures and tools, are also utilized in the conception or implementation of projects.

Additionally, we open shared the tools and results of the study so that third parties could use them to open share works by themselves. This could lead the third party to improve its creativity and enhance its projects.

3.1 Process Model of Creation with Open Sharing

We designed a procedural model of creation that includes open sharing. It is based on a PDCA cycle (figure 1) [20], developed to benefit open sharing and match a creation process. In this model, the creation process has steps such as [Pre-Production: Plan, Production: Do, Post-Production: Do, Reviewing: Check, Updating: Action]. The elements that are needed for open sharing are included in each step. With this model, we developed tools for effective open sharing and considered related issues.

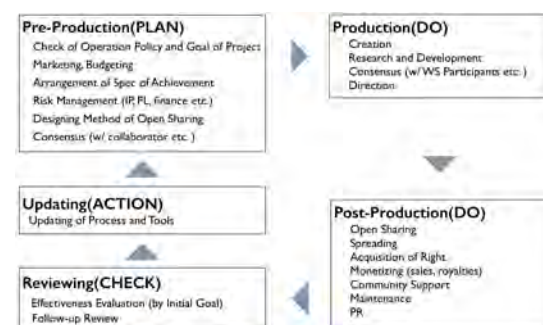


Figure 1 Process Model of Creation with Open Sharing

3.2 Study in IP Risks and Countermeasures

Studying patent risks and countermeasures is related to “Risk Management” in the model. To explore the IP risks that practitioners who engage in open sharing face, we began our study by researching patent risks in open sharing practices, and then explored the proper countermeasures required to avoid these risks [21]. This section of the study is published on the website as a paper so that it can be used by third parties.

3.3 Legal Tools

Legal tools (Contract Form for Joint Research and Development, Consent Forms for Participatory Project) were developed and utilized to properly and efficiently execute open sharing projects.

These works (the contract form and consent forms) are the result of a collaborative project with Tasuku Mizuno, an attorney at law.

1) GRP Contract Form

The Contract Form for Joint Research and Development is related to “Designing Methods of Open Sharing” and “Consensus” in the model. We have developed a GRP Contract Form, which is designed with the aim of implementing Joint Research and Development with the open sharing of the work [22].

The goals of the GRP Contract Form are: 1) to open share work properly, avoiding dangers (i.e., that nobody can use the work after project has been completed), and 2) to increase creativity. These goals are achieved through designing a production framework that includes open sharing, by having a framework in common beforehand, and by coordinating agendas and tasks.

This contract form relates to projects that meet the following conditions: 1) an organization such as an art center or research institute invites a collaborator such as an artist, an engineer or a researcher, 2) joint research and development is performed, and 3) the work is open shared in order to lead to further deriving and development.

It is designed to be used by a host that is similar to the organization mentioned above, and an invited collaborator. It aims to increase creativity in research and development by clarifying elements that should be configured and processes that should be executed, and through strengthening confidential relationships and motivation.

A user evaluation of the GRP Contract Form was conducted in order to increase creativity and the things needed for open sharing [19]. The result of the evaluation suggests that worked well for creativity and executing open sharing.

Additionally, for participatory projects that were executed at YCAM, we developed a consent form with the aim of properly open sharing the works created by participants and of increasing creativity.

2) Consent Form for Open Sharing Works made in "YCAM Summer School"

In 2013, YCAM hosted the “YCAM Summer School” series of workshops, focusing on media technology and personal fabrication, which were open to all citizens. This consent form was created and applied in order to enable the workshop host to open share the works created by participants in the workshops based on the Creative Commons License, according to each participant’s intention. The form itself is again open shared (currently only in Japanese) and may be used by other workshop hosts.

3) Consent Form for Open Sharing “games” made in “Think Things”

In 2015, YCAM hosted “Think Things — An ecosystem of ‘things’ and ‘games,’” a participatory exhibition focusing on the driving force of games that generate new opportunities for learning and creation. Participants create new “games” and record it in “ASOLOG,” which is a paper for recording “games” in the venue. ASOLOG made by participants was open shared with the public at the venue and on the website (<http://asolog.ycam.jp/>) with the participants’ consent. It aims to create new “games” with “games” registered with ASOLOG previously.

This consent form was created and applied in order to open share “ASOLOG” based on the CC0 or Creative Commons License to create further deriving and development of “games.” The form itself is also open shared to the public (currently only in Japanese) and may be used by other hosts.

4) Consent Form for "2015 YCAM Sports Hackathon"

YCAM has conducted the “YCAM Sports Research Project” since 2015. The 2015 YCAM Sports Hackathon was held as a part of this project. New sports created by participants in the event were played in “Yamaguchi Future Sports Day.” Documents that describe the new sports created in the event were open shared on the website.

The “Consent Form for 2015 YCAM Sports Hackathon” was developed for participants of 2015 YCAM Sports Hackathon.

This consent form is based on the “IAMAS/makeathon agreement” that is open shared by IAMAS. The goal of this consent form includes 1) to explain the concept of the event, 2) to improve creation 3) to place the consent form as a part of facilitation 4) to experience open sharing. It is characterized by explaining the concept of the event, showing that the idea is public domain, sharing rights of work with the participants and host, enabling the open sharing of the work, and setting up credit for publication.

3.4 Guidelines for Open Sharing



Figure 2 Framework of Guidelines for Open Sharing

The guidelines for open sharing is related to “Designing Methods of Open Sharing” and is designed to cover all parts of the model. Using case studies, we discussed efficient methods for and the important points of open sharing. Then, we developed guidelines for its practice and established the principles of open sharing works [23]. This “Guidelines for Open Sharing” consists of “Criteria for Implementation of Open Sharing” (this is described in 2.1), “Basic Guidelines for Open Sharing,” and “Guidelines for Website Component” (Figure 2).

The guidelines for open sharing is practical, but it is not versatile enough. To solve this problem, we are preparing an update that will arrange the composition into two parts, “Principles” and “Practical Manual.”



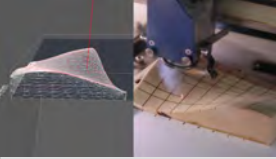


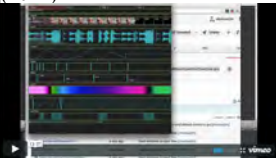

4 Result

YCAM has open shared its works of projects such as media technology, content, workshop, and document (Table 1) [24]. In each project, consideration was given to ensure matching of open sharing and the goal and circumstances (described in 2.1). The circumstances include characteristic features of the works, so that when a project involved more than one work, each work was considered for adoption of open sharing.


The outline of each case is shown on the website from the point of view of the work, license, and case of use.

Table 1 Practice of Open Sharing in YCAM (-2016.3)
(Projects and Open Shared Works)

A. Projects Focused on Developer-Generated Work	
1 Open Yeast Protocols (2016)	Document of experimental protocol w/ Creative Commons License BY-SA

2 Guest Research Project vol.3 (2015)		(in preparation)
3 Jack In Workshop (2015)		(in preparation)
4 ofxEpilog (2014)		Software to control laser cutter w/ GPL v3.0
5 Reactor for Awareness in Motion (RAM) (2013-2015)		Software of coding toolkit to create environments for dancers w/ Apache License 2.0, GPL Hardware of motion capture system w/ Creative Commons License BY-SA
6 Forest Symphony (2013)		Drawing of Dubstrate(pdf) w/ Creative Commons License BY-SA Drawing of Dubstrate(Gerber Format File) w/ Creative Commons License BY-SA Parts List w/ Creative Commons License BY-SA Software to control Hardware(Arduino Sketch) w/ Apache License 2.0 Software to handle Biometric Data(Sample code for ofF and Processing) w/ Apache License 2.0 Biometric Data from trees w/ CC0
7 Guest Research Project vol.2 (2012)		Software of time line tool w/ Apache License 2.0
8 How to Make the EyeWriter 2.0 (2012)		Document of assembling instructions w/ Creative Commons License BY-SA

9	Guest Research Project vol.1 (2011)		Software for projection mapping w/ MIT License
10	Choreography filmed: 5days of movement (2011)		Movie of dance performance w/ Creative Commons License BY-NC-SA
B. Projects Focused on Participant-Generated Work			
1	2015 YCAM Sports Hackathon (2015)		Document of new sports w/ Creative Commons License BY-SA
2	Think Things (2015)		Document of new games (ASOLOG) w/ CC0
3	YCAM Summer School (2013)		Movie, Graphic, Drawing, 3D Modeling Data, Modulobe Data w/ Creative Commons License (depends)
C. Legal Tools			
1	Consent Form for "2015 YCAM Sports Hackathon" (2015)		Consent Form for participatory project w/ Creative Commons License BY-SA
2	Consent Form for Open Sharing "games" made in "Think Things" (2015)		Consent Form for participatory project w/ Creative Commons License BY-SA
3	Consent Form for Open Sharing Works made in "YCAM Summer School" (2013)		Consent Form for participatory project w/ Creative Commons License BY-SA

4	GRP Contract Form (2013)		Contract Form for collaborative project w/ Creative Commons License BY-SA
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(Images are from YCAM's website.)

5 Discussion

5.1 Achievement of Goals

The results of the practice are discussed below with regard to each goal.

1) Spread Work and Boost New Creation

In some projects, YCAM's open shared works were expressly utilized (A6,7,9,10). They were not only employed for experimental use, but also for the creation of new artwork. One case was acclaimed by leading competition in the field [25]. It is believed that the open shared works have been spread and boosted new creation.

Open shared documents from YCAM (including legal tools) were not explicitly used on the Internet. On the other hand, Tasuku Mizuno, who is one of the core members of the GRP Contract Form production team, mentioned that the GRP Contract Form considerably affected some projects, for example, 1) successive projects by Shigeru Kobayashi that open share contract forms including the "IAMAS/makeathon agreement" and 2) "HACKberry," which is an open-source project producing a myoelectrically-controlled artificial arm by exiii. The GRP Contract Form was spread outside of YCAM, even outside of the media art field, and it is thought that it helped new creation.

2) Archive Properly

Each work is open shared on each project's website. The works are not only published, but are also combined with other documents for users such as the introduction of the projects, manuals, or samples. This increases the possibility of use of these works by third parties, and helps to properly archive the works and knowledge related to the projects.

3) Boost R&D

As a result of open sharing, not only has the creativity of third parties who utilize the work been enhanced as mentioned above, but also the creativity of creators who make the original work [19]. The user evaluation of the GRP Contract Form (mentioned in 3.3) showed that using the form has a beneficial effect because it leads to a "sense of safety, as it is possible to utilize the work after the end of the project" and an "increase and maintenance of motivation through confirming the implementation of open sharing." According to users' comments, an increase in motivation to improve quality is caused by the fact that the work will be made available to third

parties and that reuse is guaranteed. This means that open sharing has a beneficial effect on enhancing R&D.

4) Help Education

In some participatory projects, participants open shared their own works and created new works by utilizing others' works. They are strongly related to the activity of YCAM education team, especially from the point of view of education that promotes learning the idea of open sharing and experience it.

The YCAM Summer School (B3) offered a series of workshops focusing on media technology that were open to all citizens. The works made by the participants in the YCAM Summer School were open shared with the participants' consent. Each participant who created a movie and soundtrack not only published his/her work but also made the decision to apply a public license (Creative Commons License) to it (Movie Creation: 8 w/CCL:7; Sound Creation: 4 w/CCL:2; Modulobe: w/CCL:51).

In Think Things (B2), participants created (a) new personal "games" through their experience, including "Play," "Create," and "Share." The created "games" were published at the venue and on the website (like art pieces that are exhibited in museums). Participants could not only create an idea from scratch but also withdraw the ASOLOG (record of "games") created by others and arrange it to create new "games." In a period of about 60 days, 730 ASOLOG were created and open shared.

At the 2015 YCAM Sports Hackathon (B1), around the core concept of "developplay," an expression coined to refer to a combination of "development" and "play," the participants developed new types of sports which engaged both the brain and body. Ten documents of created sports were open shared.

Workshops were held where participants used open shared works (A2,5,7,9). This system is effective for education because the works were archived properly and were able to be utilized after the event by the participants.

The participants could learn about open sharing through experiencing open sharing. In addition, the consent forms were utilized for legal considerations and they enriched participants' understanding of open sharing (B1,2,3). This means that we can utilize consent forms as tools for facilitating open sharing.

5) Increase Presence

Widely advertising a center's unique and beneficial activities has the effect of increasing its presence. YCAM's open sharing activities sometimes appear in media articles. Although the number of such cases is small, the main topic of such articles is open sharing [1][26][27]. Many cases take up open sharing as a topic when YCAM's activities receive recognition or they are introduced to the public [28][29][30][31]. Additionally, open sharing is considered helpful in increasing affinity and ensuring the smooth dissemination of information, which in turn leads to an increase of the presence of the operating body (YCAM).

Regarding YCAM's function as a hub that can create new networks of personal connections, it is mainly determined by 1) the personal, outward-looking activities of people who are involved in the project, 2) the impact of the project, 3) the usability and availability of the work, and 4) the management that aims to spread the project. Additionally, open sharing indirectly contributes to enhancing the center's hub function through participatory projects, utilizing the open shared works (including workshops), ease of access to the open shared works, the affinity caused by open sharing, and the connection to the open source community.

The workshops utilizing open shared works (mentioned above) are a case in point (on a face-to-face basis). The participants worked together at these workshops and made new connections. It was reported that some teams that were created during the workshop continued their activities even after the workshop had ended (A5).

In another case of participatory projects (B2), the participants created new games based on others' games. This is another example of people being connected via a medium (ASOLOG in this project).

There are more than ten cases in which third parties who saw "How to Make the EyeWriter 2.0" contacted YCAM. Some of them inquired about the details of how to build it (and some of them did), while others suggested a collaboration with YCAM. These third parties are a diversity of people like designers, welfare participants, and so on.

Some works are open shared on GitHub and connect with the open source community through relationships on the Internet. In A7 and A9, openFrameworks, an open source software (toolkit for creative coding), was utilized for development, and the works were open shared. This led to the convening of the 2013 openFrameworks Developer Conference at YCAM as a hub for intercommunication. It also encouraged popular creators in the open source community to come to YCAM from distant places at another time.

Through open sharing, these activities enhanced the creation of new connections among people who did not previously know each other or YCAM, and thus increased the center's function as a hub. Of course, open sharing also plays an important role in increasing the center's public presence.

5.2 Problems and Future Research

5.2.1 Problems

The works of some projects were not expressly used by third parties. Third parties utilized open shared works of the other projects to create something new. However, we have not had possession of a tracing system that would allow us to properly track this. Tracing is important not only for evaluating the effects of the activity, but also for making connections between third parties and YCAM. While it is difficult to trace the spread of works, it may be important to consider using a tracing system or providing some incentive for third parties to report their own usage. Sustaining community support and maintenance are also problems that remain to be solved.

In participatory projects, user evaluation of open sharing has not yet been conducted. Evaluations that include users' points of view are needed to understand the effect on participants' creativity.

5.2.2 Future Research

1) Share Know How

We open shared the tools and results of the study presented in chapter 3. The guidelines for open sharing is practical but could be relatively less versatile (as mentioned in 3.4). We hope to make a guidebook to summarize our expertise that is more accessible to the public. Through these activities, we want to share and spread experience and knowledge gained through these practices, which can be called the meta-design of open sharing.

2) Update

Because the cycle of technology or methods in the field of media technology moves rapidly, it is often necessary to consider and absorb new elements (e.g. bioware). Legal elements like licenses are on a level with this cycle. It is necessary to update our works related to open sharing by introducing new discussions on a constant basis.

3) Combine Open Operation and Exclusive Operation

It is thought that the choice and combination of open operation and exclusive operation will be more important and significant in IP management. We want to utilize our study for education to acquire this kind of ability. Additionally, we want to take in an operation combined with open sharing and exclusive operation that is effective for increasing creativity (e.g., Arduino).

4) Considering a New Framework

YCAM has practiced two kinds of frameworks: "a framework of creation with collaboration and open sharing via the Internet" and "a framework of creation where people gather physically." We have attempted to expand collaborative networks by increasing face-to-face connection and online connection in conjunction with the two frameworks. For example, RAM Summer Camp 2014 was a workshop/hackathon that was run in a learning-camp style at YCAM and covered the subject of open shared works on the website. Increasing the synergetic effect of the two frameworks is a future issue.

5) Effective Utilization of Open Shared Works

LabACT vol. 1 "The EyeWriter" was a project that produced new art works using the EyeWriter, which is a piece of open-source hardware as mentioned above. It was held in YCAM in 2011 with two artists, exonemo and Semitra. LabACT vol. 2, "Eye-Tracking Informatics," was developed and created together with the artist Seiko Mikami. "How to Make the EyeWriter 2.0," which is mentioned above, and the "Eye2Eye" workshop are also a part of the works of this

project.

In this project, we utilized the open shared work, gave it a new perspective and technology, intensively produced new expressions, and created a new value for the work. Research into process and production methods that utilize open shared works effectively will become more important with the increase in open shared works.

6 Conclusion

We have set up open sharing practices at the art center, made tools for open sharing, and considered related issues. We practiced open sharing and discussed how it worked. The discussions supposed open sharing worked to achieve its goal. On the other hand, some problems were also discovered. We wish to conduct further research and practice in order to address these newfound problems and challenges.

We thank YCAM's legal advisor, Tasuku Mizuno (an attorney at law, City Lights Law Office, Arts and Law, Creative Commons Japan), who has given us valuable advice and collaborated with us to progress open sharing.

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