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## The application of digital content curation

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### **Abstract:**

*The rise of internet and social media with rapid growth in digital information; the quality merits and difficult true result in changes of information dissemination and information sharepocalypse. Digital content curation originated from the demand on information selecting and sharing of internet community, based on curators' aesthetics, values and personal tastes to build up relevant contents from personal interested topics or hot issues and presented in blogs, websites or platforms by providing links and evaluate the original source. Through curatorial process with manual or semi-automatic mechanisms screening a large amount of digital information to extract clear and useful information which is useful to community for information dissemination, sharing, learning, seeking answers, exchanges, social networks, and reputation enhancement. The rapid expanding on curation tools and platforms is also speeding up the development of digital content curation. The common methods on digital content curation including aggregation 、 distillation 、 elevation 、 mash-up, and chronology. This research will introduce applications for library and magazines publishers. It will also share the experience of curation workshops related to the applications.*

**Keywords:** digital content curation, application service, curriculum of workshop

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**I. Introduction**

**(I) Quality merits and difficult true on digital information**

The web development provides opportunities to link global computers and brought in all kinds of information to assist human solving problems, but the diverse sources of information also generate a problem of the quality merits and difficult true, therefore, how to select, filter, sort and systematic displays from numerous information being more important.

**(II) The applications of information and communication technology and the emerge of social media**

The community relations between social media records and manage users also provides a channel for user to create and share information, and ICT applications make it more popular that influences from individual to institutions such as library and related information services industry started focus on information services of electronic collections, web resources and subject gateway but also pay attention to the development of social media.

**(III) Changes of Information and Communication Dissemination**

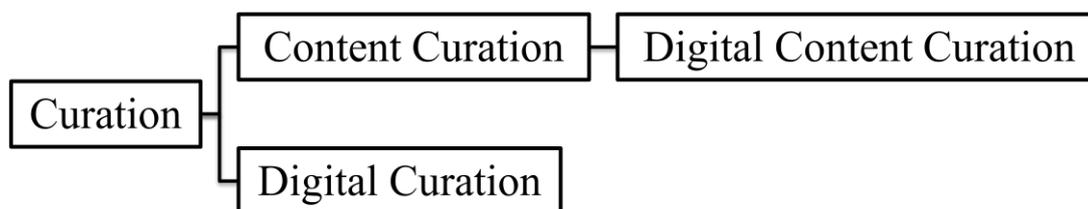
Curatorial based website provided space for those interested in graphic, audio information who collected and organized and to share on platform. The platform also becomes a way of self-expression of user. Thus, creators, media, and users are involved as curators.

The flourishing of digital content curation provides high-quality information to users while it also derives many issues worth further discussion. The study explores the development, application services, and workshop curriculum experience on digital content curation.

**II. The development of digital content curation**

**The evolution of curation concept**

The concept of Digital Content Curation is derived from content curation and digital curation. The term curation is mainly used in the museum/art gallery. Later on, development of two major implications, one is content curation providing quality information to users; the other one is digital curation, the storage and use of information. The evolution of curation concepts is tabled as detail (see fig.1).



**Fig.1 The evolution of curation concepts**

### **III. Methods and presentation of digital content curation**

Contents presented by curators originated from Internet resources. It needs process of aggregation, distillation, elevation, mashup, and chronology to display and share in social media as platform. Products' quality of digital content curation depends on information organization. The mentioned five methods as stated by Bhargava in 2012 that social media optimization (SMO) is explained as below (Bhargava, 2012):

(I)Aggregation is the act of curating the most relevant information about a particular topic into a single location. Most popular style appears by blogs in catalog format.

(II)Distillation is the act of curating information into a more simplistic format where only the most important or relevant ideas are shared. To distillate among quantitative amount of data produces more completed and relevant articles.

(III)Elevation refers to curation with a mission of identifying a larger trend or insight from smaller daily musings posted online. So, curators must emphasize his (her) capability and personal innovative viewpoints.

(IV)Mashups are unique, curated juxtapositions where existing content is merged to create a new point of view.

(V)Chronology is a form of curation that brings together historical information organized chronologically to show an evolving understanding of a particular topic.

Through above methods of organization, it presented varies models as follow (Fern & Madsen, 2012):

(I)Link lists: A link list is a dynamic and structured list of links on a particular topic. It can be connected by dynamic and structural methods to the particular topic and form up the Link lists of the topic. The list can either be curated by a company or by a user community.

(II)Collections: A collection is a bundle of articles, images, videos, or websites that relate to a specific theme to complete a particular topic collection.

(III)Periodic summaries: Periodic summaries are daily, weekly, monthly or annual summaries, often including a list of links, around a particular theme. These summaries can be presented online, via email or in magazine format. Or it also includes some particular topic Link lists.

(IV)Content with Commentary: Content with commentary is when one identifies one or more 3rd party articles and then adds one's own point of view.

(V)Hybrid: A hybrid approach that combines original content and different forms of curated content. Therefore, it creates a particularly rich experience for viewers.

(VI)Social media sharing: is an approach to share curated content (with or without commentary) via social media sites like Twitter, LinkedIn, Facebook, and Google+.

Digital content curation can adopt a single or combination methods to display in different ways.

#### **IV. Tools of digital content curation**

Much of the curation effort is done individually, but what separates content curation communities from personal curation is the coordinated curation work that pulls content into a mass repository (Rotman, Procita, Hansen, Parr, & Preece, 2012).

The tools of digital content curation types are introduced as follow:

##### **(I)Tools of Curation on Graphic : Pinterest**

Pinterest provides collecting and organizing graphics on Internet, similar to function of Album Categories which was invented by Ben Silbermann 、 Paul Sciarra 、 Evan Sharp in 2012(Pinterest.com, 2013).

##### **(II)Tools of Curation in Audios Type**

###### 1. 9x9.TV

9x9TV was invented in 2003 which allows curators to utilize curation process on films from YouTube, then build channels and put into their own channels.

###### 2. Magnify

Magnify was invented in 2007, the major functions include Curation, Video discovery, Audio-visual transforming, encoding/trans-coding, storage, hosting, and CDN delivery(Magnify.net, 2012a).

###### 3. Newsy

Newsy was initiated in 2008, it rotates editorial teams that monitor each day's news (including TV, Newspapers, Magazines, Blogs) to form topic news films in order to analyze and compare these films(Newsy.com, 2013).

##### **(III)Tools of Curation on Graphic and Audios**

The diversity of Internet resources, there are graphics, pictures, or audio shared types attached to a topic. Therefore, produced various types of topic-oriented curation websites:

###### 1. Storify

Storyfy is a news curation website that initiated in 2010. It can integrate articles of Tweets (Twitter Post), TwitPics(TwitterPictures) 、 FacebookPost 、 Flickr Pictures into webpage and form a package as a story(Storify.com, 2013).

###### 2. About.com

About.com was initiated in 1997 and now had become a website includes various knowledge. There are more than 900 topic sites and Guide sites which covers more than 88,000 topics(About.com, 2013).

###### 3. Flipboard

Flipboard was initiated by Mike McCue in 2010. It aims to establish personal Social Magazine (Flipboard.com, 2013).

###### 4. Zite

Zite is an App mobile platform which was initiated in 2005. Zite evaluates millions of new stories every day, looking at the type of article, its key attributes and how it is shared across the web. Zite uses this information to match stories to user's personal interests and then delivers them automatically to user's iPad or iPhone. (Zite.com, 2013)

## **V. Applications of digital content curation**

### **(I) Digital content curation and school librarian**

For librarians, curation is a tradition and popular concept which applies into two categories (Robertson, 2012).

#### **1. Social Bookmarking Services**

For teachers and students, Pinterest allows conceptual categories to develop into useful resources, for instance, one can establish a special education edition to recruit teachers of special education to access useful resources.

#### **2. Hybrid Curation Tools**

Storyfy can bring social media into classroom and become a meaningful teaching aid. Students can utilize curation to connect current events, health care resources to access information from social media. They can also add personal description to make information become meaningful stories.

Paper.li looks like newspaper clipping and editing tool that allow students to connect with topic, resources, pictures or music to support subject discussion in the classroom. They can help students to discuss what they have found from outside of the campus.

### **(II) Commonwealth Magazine**

Commonwealth Group is a powerful and influential physical and digital media. It gathers 180 thousand fans. Digital Content Curation is one of their marketing methods. Mr. Wen, Chair of Internet Section of Commonwealth Magazine shared three digital marketing cases in a “Digital Contents Curation Workshop” held in August of 2013. These three cases included 1) Beautiful Formosa; 2) Innovative City; 3) Mobile Green-Life. These are contents marketing, event marketing, and promotion oriented cases. In addition to utilize their Facebook fans page to collect topical pictures (such as Beautiful Formosa), it also allows fans to post their event’s URL. The interaction have reached the goal of approaching their website, URL without cost but with high effects. It also raised the rate of sharing , promote the recognition and value of Commonwealth Magazine.

Digital Content Curation applications are ongoing.

## **VI. Outcome of conducting the Workshop of Digital Content Curation**

**The Department of Information & Communications (ICs) and Library Association of the Republic of China (LAROC) conducted a joint session of Workshop on Digital Content Curation during August 12-16, 2013.**

### **(I) The philosophy of the courses arrangement of the workshop**

Toshinao SASAKI said that Curation is that a curator defines a piece of information, providing his opinion, and making a conclusion. Fei-Peng, Ho, the director general of Taiwan Digital Publishing Form, simplified that statement to a formula that Curation is the content plus 3C (context, comment, and conclusion). According to these notions of Curation, we transformed that definition of Curation into the formula that Curation is equal to the combination of collecting, creative thinking, and communication. The arrangement of the courses of Workshop was based on these components.

In addition to the philosophy of the three components of curation, there are two types of knowledge, theoretic knowledge and the practical knowledge that were attached to the

components. We tried to convey these two types of knowledge in a five-day workshop to attendees. That means we have to use alternative teaching method for short term learning. Thus, the Workshop was organized into courses that trained the participants to work on a project through teamwork. The Problem-Base Learning (TBL) and Action Learning (AL) teaching methods were applied to encourage attendees learning by doing.

In summary, we arranged the courses of the workshop according to the three components of Curation and two types of knowledge (see Table 1. Matrix of Components of the Curation and Types of Knowledge).

The following courses were include :

1. Trends in Curation: Learning the current and future development of Curation in the world, for example, the course named “Social Media and Curation.”
2. Theoretic knowledge:
  - (1) How to collect the key information and recreate the new information
  - (2) How to curate the information creatively.
  - (3) How to distribute the information you have curated.
  - (4) How to utilize the technology to distribute the information effectively.  
For example, “Marketing and Curation”, “From UGC to Curation”, “Application of the Curation”, and “Social Media and Digital Content Curation.”
3. Practical skills:
  - (1) Learning how to implement the theoretical knowledge into the real world.
  - (2) Learning how to curate the show in the real world : For instance, “The Practical Experience in Digital Content Curation”, ” The Relationship between Curators and Shows – To Curate a Show”, and ”Curation and Publication.”
4. Learning by doing: Let attendees to use and organize what he has been learnt in the courses to finish a team work.
5. Feedbacks from the workshop attendees: Let attendees to provide the suggestions for the workshop, including the arrangement of courses.

**Table.1 Matrix of Components of the Curation and Types of Knowledge**

		Components of the Curation		
		Collect	Creative	Communicate
Types of Knowledge	Trends			➤ Social Media and Curation
	Theoretical Knowledge	➤ Application of the Curation	➤ From UGC to Curation	➤ Marketing and Curation
	Practical Skills		➤ The Relationship between Curators and Shows -- To Curate a Show	➤ Social Media and Digital Marketing ➤ The Practical Experience in Digital Content Curation ➤ Curation and Publication
	Output Learning	➤ <u>The Teamwork Project Presentation</u>		
	Feedback on the workshop	➤ Feedback on the Workshop from the Workshop Attendees		

## **(II)The characteristics of the curriculum of the workshop:**

1. Combining the theoretical knowledge and practical skills.
2. Teachers in the workshop includes some mentors having wonderful practical skills and some teachers focuses on the producing theoretical knowledge
3. Teaching : Applying the PBL(Problem-Base Learning) 、AL (Action Learning) 、 Learning by Doing

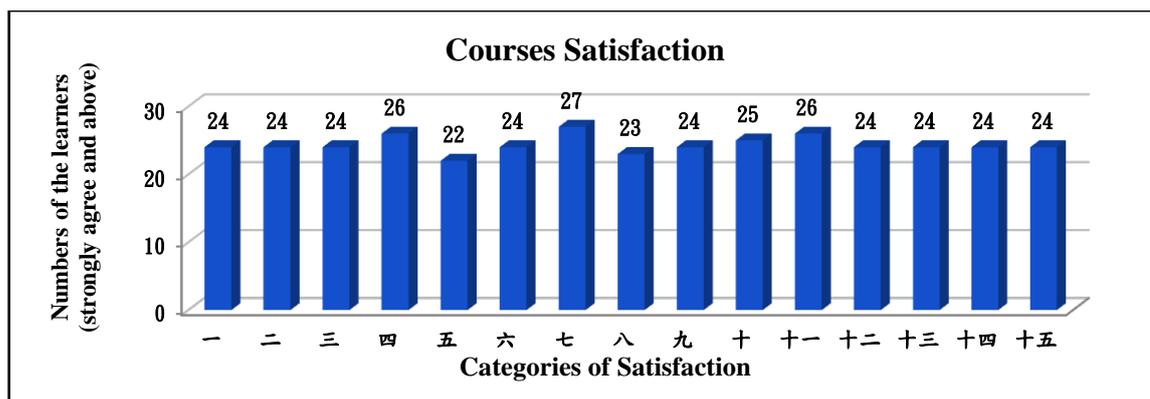
## **(III)The workshop attendees' response:**

From the questionnaires, the main motives of workshop attendees are:

1. Tried to realize what curation is. Curation is a new idea introduced to Taiwanese in 2013. Before July 2013, there is no workshop specializing on Curation. The attendees joined the workshop to understand what Curation is and hope to improve their job skills.
2. Tried to learn more knowledge to upgrade their work skills. Most attendees work in the library or do the jobs related to a librarian. They thought the workshop conducted by the Library Association of Republic of China could better their work skills and make them do the library jobs more efficiently.

In the end of the workshop, the questionnaire of the courses satisfaction had been done. The result is that 80% of the attendees satisfied the courses, mentors, and teaching methods which were used by the mentors. At the same time, the most people (96% of the attendees) agreed that the mentors have abundant knowledge about the courses they shared. The followings are the details of the questionnaire:

- (1)24 attendees (86%) agreed that “The theme of the workshop is compatible with their jobs.
- (2)24 attendees (86%) agreed that “The main ideas of the workshop will improve their performance in work.”
- (3)24 attendees (86%) agreed that “The knowledge learned from the workshop can improve their career skills.”
- (4)26 attendees (93%) agreed that “The workshop helped attendees to realize the main ideas of the curation.”
- (5)22 attendees (78%) agreed that “The knowledge learned from the workshop could be combined with their job experience.”
- (6)24 attendees (86%) agreed that “The courses of the workshop met their expectation of the curation.”
- (7)27 attendees (96%) agreed that “The mentors have abundant knowledge about the topics they shared.”
- (8)23 attendees (82%) agreed that “The teaching methods used by the mentors inspired my interest in the topics they shared in the class.”
- (9)24 attendees (86%) agreed that “The teachings of the mentors made the knowledge to be easily understood.”
- (10)25 attendees (89%) agreed that “the knowledge the mentors shared in the class fit me.”
- (11)26 attendees (93%) agreed that “The mentors immediately responded to the workshop attendees.”
- (12)24 attendees (86%) agreed that “The teaching methods of the mentors encouraged me and help me figure out some problems in the work.”
- (13)24 attendees (86%) agreed that “I am interested in the topics which the mentors shared in the workshop.”
- (14)24 attendees (86%) agreed that “He/ She did their best to learn more in the workshop.”
- (15)24 attendees (86%) agreed that “He/ She learned more knowledge about the curation by joining the workshop.”



**Fig.2 Courses Satisfaction of Workshop of Digital Content Curation**

## VII. Conclusion and Suggestions

1. Curation includes curating and utilizing the collection
2. Digital Content Curation originated from selection and sharing needs of digitized information via social media community.
3. Needs of Digital Content Curation created curation-type web-stations and tools
4. Elements of Digital Content Curation includes information selection, organization, presentation and development.
5. Digital Content Curation utilizes integration, dissemination, combination, and chronicle tables.
6. Tools of Digital Content Curation contain types of graphics, audio-visual, and graphic-text.
7. Digital Content Curation applies to library's services
8. Planning and Practices of "2013 Digital Content Curation Workshop" turned out to be a successful one.

## VIII. Suggestions for Future Research

1. The impact of Digital Content Curation worth continuous attention
2. Ethical issues of practicing Digital Content Curation worth further attention
3. There is an immediate and urgent need for educating and training Digital Content Curation specialist and it is an obligation of the profession of Information and Communications.

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