

History Beginner-Oriented Online Museum based on Correlative Information

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Abstract

Virtual museums have grown in popularity with the growth of internet penetration around the world. People are now able to enjoy a variety of rare artworks without leaving the comforts of their homes, and in cases learn more from the virtual museum than from actually visiting the physical museum. Online Museums, as a way to preserve historical heritages and promote traditional culture, is widely accepted by internet users. However, seldom of online museum put the needs of history beginners into consideration. The introduction of artworks online is too professional or too brief for ordinary visitors or history beginners to understand. In this paper, we designed a history beginner-oriented online museum for TOKUGAWA Art Museum with correlative information from both internal and external data source.

1. Introduction

Nowadays, information technology in its various forms has pervasively permeated people's lives and has been affecting existing environments of museum, and then virtual museum or online museum came into being and play an essential role in popularizing history knowledge and preserving historical heritages. "A virtual museum is a museum that exists only online. A virtual museum is also known as an online museum, electronic museum, hyper museum, digital museum, cyber museum or Web museum. The term used depends upon the backgrounds of the practitioners and researchers" [1]. The virtualization of physical museums can increase interest by students learning about their collections: "Virtual visitors to museum websites already out-number physical (on-site) visitors and many of these are engaged in dedicated learning" [2].

The usual online museum is physical museum-centered, to some extent, it is "a supplement to exhibition of museums" [3], it will Evoke online visitors' interests to history and local culture; Provide a contextual environment or information of artworks so that make an exhibition more understandable to the visitors online; Preserve traditional culture archives and via which introduce traditional culture to the public in the world.

However, we found that few online museums took demands from history beginners or foreigners into consideration in our sampling survey of online museums. In order to investigate what had been done for history beginners in existing online museum, we selected 30 online museums randomly.

In this sampling survey, we found some current issues:

- (1) No special service designed for history beginners to evoke their interests to history heritages and understand them deeply.
- (2) Basic introductions of collections or artworks are too professional or brief to be understood. 70% samples provided online visitors with only basic introduction of collections.
- (3) Contents about collections almost (90%) came from local Database of museums.

Therefore, we designed a History Beginner-Oriented Online Museum and developed a prototype system meanwhile. This paper is organized as follows: In section 2, we analyzed some characteristics of history beginners, according to which, we proposed system design of online museum for history in section 3. Finally, we draw the conclusions.

2. Characteristics of History Beginner

Network applications attracted many young people who mastered many skills about surfing online, however, they usually have little idea about history cultures or heritages or have no interests to them. The young people and other who know little about history can be defined as history beginners.

Characteristics of history beginners can be summarized as:

- (1) Lack of history knowledge or paid little attention to historical cultures
- (2) May know something about history but not know it well
- (3) Need correlative information to understand history knowledge deeply

According to the first characteristic of history beginners, some convenient way should be provided to evoke their interests to history heritages or cultures. And then, supply history beginners with correlative background knowledge as much as possible to guide them understand history knowledge deeply.

3. System Design of History Beginner-Oriented Online Museum

We designed a history beginner-oriented online museum in terms of characteristics of them show as figure 1. In this system, except traditional category of collections inside a physical museum, collection map based on Google Maps is also available. Visitors online will easily find collections they are interested in on map, and then access to introduction and correlative information about certain antique or artworks. Google maps is so popular that majority of online users are familiar with it. Consequently, we located collections on Google Maps, the “collection map” is come into being. The relationships among collections will be visualized on this collection map in the next step researches. Google Maps is a nice user interface to attract history beginners and even foreigners learn more about history cultures and heritages.

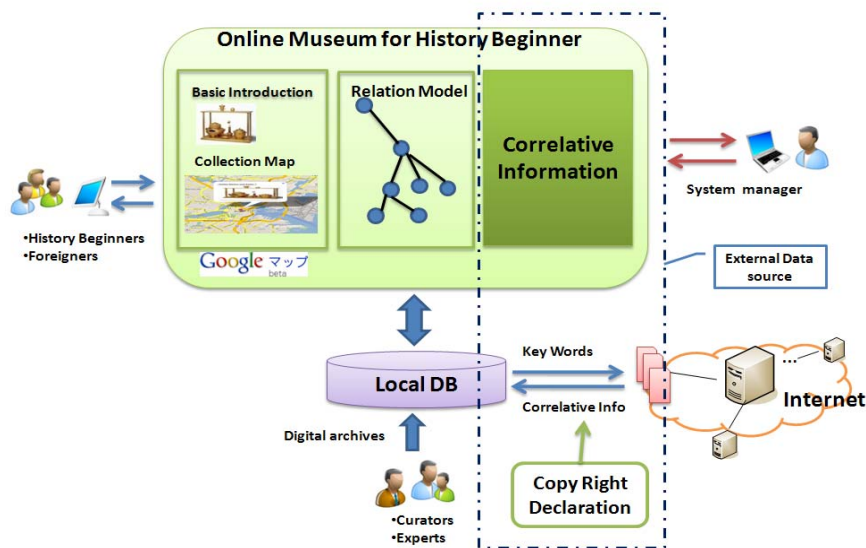


Fig.1. Architecture of History Beginner-Oriented Online Museum

In addition, there are two kinds of data sources: the local database and external history knowledge retrieved from correlative history knowledge distributed online. The former will support basic introduction of collections, the later provides history beginners with background knowledge of certain antiques, so that to cater to history beginners’ studying needs.

3.1 Correlative Information

In our sampling survey, we found 100% of existing online museums show collections to online visitors with pictures and relevant introductions (Fig.2.). It is a popular way to illustrate antiques online. However, the introductions are always too brief or professional for history beginners to understand, that cannot evoke their interest to history cultures or heritages.



Fig.2. Introduction of Artwork in TOKUGAWA Art Museum

3.1.1 Related Information inside Local Museum

In our system, keywords were used to illustrate the relationship among different collections in local museum. Collections will be connected via shared keywords, shown as following figure 3. If one antique was visited, users can get other connected antiques that shared certain keyword with this antique.

Therefore, collections will be connected as a net of knowledge. History beginners may easily find background knowledge while enjoying collections one after another.

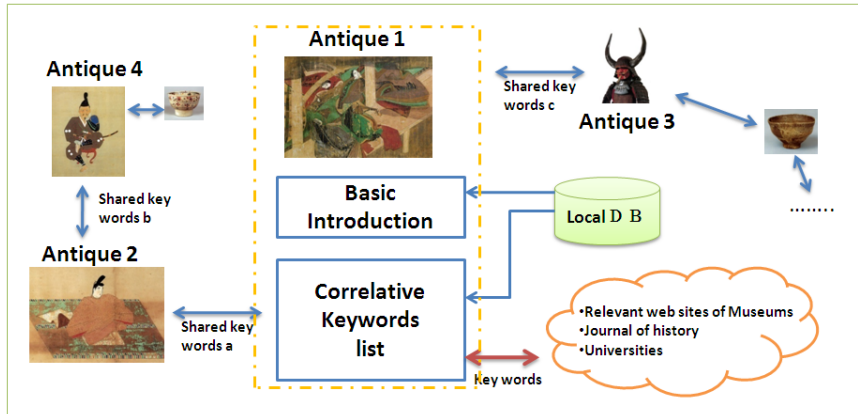


Fig.3. Connection among Collections based Shared Keywords

Take antique 1 for instance, users can get information about antique2 and antique 3 by shared keywords when they are visiting antique 1, what's more, based on keyword b, antique 4 can be also visited via antique 2.

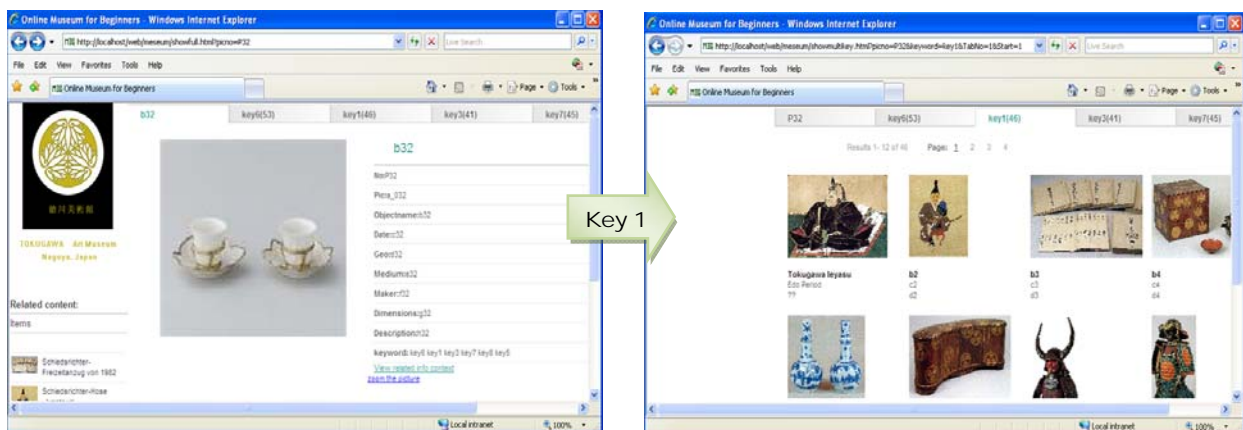


Fig.4. Prototype -Relationship among Collections via Shared Keywords

Figure 4 illustrates the user interface of our prototype system. If one visitor is interested in an antique, he may also desire to get some ideas about its keywords and related collection via shared keywords. Visitors online will get to know related collections in local museum by just clicking corresponding keywords' tags above the windows. Furthermore, the background history knowledge will be pushed to online history beginners by proper way in the next step work.

3.1.2 Related Information from Internet

It is obviously, data in local databases cannot provide enough information for history beginners to learn more about history or traditional cultures. Therefore, outside data is necessary.

There are many methods to get information from outside websites. The most further information needed by users is found by utilizing search engines online. However, using search engines, sometimes, is not very convenient. On one hand, some method should be mastered to define the key words that really needed. Not all the online users have the ability to find proper key words to illustrate the information they are looking for. When it comes to history beginners, it is the same. It is not easy for them to summarize keywords about which they have little idea. On the other hand, switching frequently between web pages of online museum and other web pages is very discommodious.

Users will be lost or stray away from what they are looking for when they are roaming online. For such reasons, a part of correlative information was searched by utility of Google Ajax Search API, which let us put Google Search in our web pages with JavaScript. Via Google Ajax Search API, search results can be shown in our own web pages. Please refer to figure 5 below.

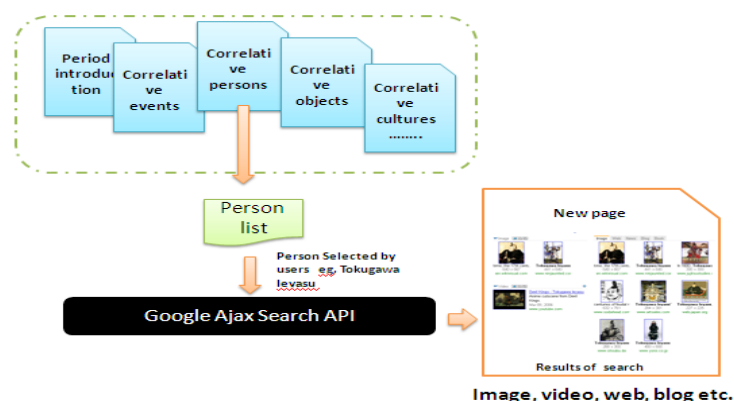


Fig.5. Obtain Correlative Information Online for History Beginners

3.2 Collection Map based on Google Maps

Google launched Google Maps and make people embed maps in their own web pages. Some successful application used in traffic information system to navigate online visitors to arrive their destination [4]. It is able to facilitate history beginners' visiting process online.

In the sampling survey, we found maps were used in several online museums. However, the maps cannot be zoomed in or out, and could not load more information except the icons. In our system, "Collection Map" is made, which visualized the geographic information of collections directly. History beginners will more conveniently find where the collections come from by "Collection Map" then by reading textual geographic information on web pages. Meanwhile, "Route Map" of collections is available too in our online museum. Visitors will know where have the collection been immediately by seeing the "Route Map" drawn by Google Maps. The next step, we will insert visualized relationship among collections and history knowledge on "Collection Map" and "Route Map" based on Google Maps or Google Earth.

4. Conclusions

In this paper, we firstly proposed online museum for history beginners. Based on sampling survey of existing websites of museums, we pointed some current issues while history beginners visiting the usual online museums. Thanks to the current issues and characteristics of history beginners, we gave relevant solutions and then came up with a system design of online museum for history beginners. A prototype system is also developed correspondingly.

5. Acknowledgements

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