A User Study of the Singapore Memory Portal to Derive a Taxonomy for Content Organization

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Abstract—**Many memory institutions have set up online portals to provide public access to their heritage collections. However, little is known about how such portal interfaces should be designed and how the content should be organized to support user searching, browsing and learning. Many online cultural heritage portals adopt an organization scheme that is either content-oriented or institution-oriented rather than one that is user-oriented. This paper reports an initial user study of a cultural heritage portal called Singapore Memory Portal that was set up in Singapore to collect people's memories related to the history, culture, society, life and landscape of Singapore's past. The study sought to find out users' expectations of the content of the portal, how they search and browse the portal, and what they learn about particular historical or cultural topics from reading postings in the portal. The goal is to derive a taxonomy to organize the portals' content for browsing and learning. For this initial study, 12 Singapore citizens were interviewed, and asked to perform two search tasks on the portal and describe what they had learnt from the memory postings.**

Keywords—Cultural heritage portal; Taxonomy; Searching; Browsing; Content organization; User study

I. INTRODUCTION

An online cultural heritage portal can be defined as a digital gateway to digital representations of a community's shared history and culture [1]. Many memory institutions (e.g., galleries, libraries, archives and museums) that have the responsibility of preserving cultural heritage have set up online portals to increase public access to heritage content in their collection [2]. The aims of such portals include spreading an awareness of the cultural heritage, supporting cultural tourism and improving visitor experience to a country or city [3,4], giving back to society by making the heritage materials available online [5,6] and fostering a national cultural identity among citizens [7].

Little is known about how such portal interfaces should be designed and how the content should be organized to support user searching, browsing and learning. Many cultural heritage portals are organized based on a content-oriented or an institution-oriented perspective, with the result that users have difficulty relating to the metadata tags and content organization. The content is stored, searched and presented as individual records, which does not help users to synthesize a story or a coherent understanding of a topic. We carried out a small study of users' expectations and experience with a particular cultural heritage portal, to draw lessons of how the portal should be organized.

The focus of this study is a cultural heritage portal set up by the National Library Board, Singapore, called the Singapore Memory Portal. It collects, organizes and provides access to a digital collection of "memories" about Singapore via a publicly accessible Internet portal *SingaporeMemory.SG* [8]. The portal is the focal point of the *Singapore Memory Project* (SMP)—a national initiative launched in August 2011 [9]. The initiative involves a few government agencies, with the National Library Board playing a facilitator and leadership role. One of the aims of the portal is to foster national identity.

The content of the portal is contributed by users and professional collectors, though some are contributed by the National Library from its collections. A memory is a personal recollection of some occurrence or experience in the past, or an aggregated summary of a set of related experiences, that is significant in some way to the rememberer or members of the community. It can come in many representations and formats such as photographs, letters, videos and oral interviews. A typical memory contributed to the portal by a user consists of a photograph with a few lines of text describing it; while memories from professional collectors are more elaborate and may contain video footage and an interview transcript. The memories are related to the country's history, culture, society, life/lifestyle and landscape/architecture. Topics covered range from neighborhoods, festivals, food, school, parents' romance and vanishing trades [10].

The objectives of this study were to find out:

1) Users' expectations of the content (topics and themes) of the portal, and organization of the portal.

2) How users search and browse the current portal.

3) What they learn about particular topics from reading postings in the portal.

The goal is to derive a taxonomy for organizing the portal content (i.e. memory postings) to support searching/browsing and learning. A taxonomy is a set of terms/categories that are linked in a hierarchical structure to indicate hierarchical relationships (e.g., subclass, part-of, and attribute of) between

the categories. It can be used to organize a website or digital repository as a menu structure or set of hyperlinks to support user browsing and navigation in the site.

Data collection is through interviews and observation of how the participants search and browse the portal, and what they learnt from reading the memories. Twelve participants who were Singapore citizens were recruited from graduate students in the Division of Information Studies, Nanyang Technological University. In the interview, they were asked what content they expected to find in the portal, what they expected to learn from the memory postings, and to list the themes that they feel make up the Singapore national identity. The answers are used to develop the top-level concepts of the taxonomy.

The participants were also assigned two open-ended tasks—each task involves searching/browsing for memory postings on a topic and reading the postings. At the end of each task, the participant was asked to describe what he or she had learnt, including interesting insights, what information they found lacking from the postings, and what categories would have helped them to locate appropriate memories or understand the topic better. The answers are used to develop the lower-level concepts of the taxonomy.

II. Previous Studies on the Difficulty of Organizing Cultural Heritage Portals

It is difficult for users to search or browse cultural heritage portals because of a lack of knowledge about the content offered [7]. Thus, one way to evaluate the interface of a heritage portal is to assess whether it conveys an overview of the available content. Differences in the organization of content across portals, the variety of content formats and the fact that content is contributed by both official and unofficial sources contribute to the difficulty in user searching [11].

Designing the content organization of a portal is made more difficult by the lack of a uniform and agreed-upon structure for user-generated content [12], lack of knowledge of the future retrieval requirements of users, difficulty in aligning user-generated content with the traditional metadata categories of memory institutions and the subjective nature of categorizing user-generated content [13].

Little is known about the users of cultural heritage portals [14] and their behaviour [15]. They have not been consulted in detail and their behaviour is not well studied [16]. Often, the structure and content of the cultural heritage collection, rather than the needs and expectations of potential users were the drivers behind the portal projects [17]. It was also found that project initiators focused on managing cultural heritage resources, rather than organizing the content for users to make meaningful interpretations [18]. Researchers of digital libraries have also focused on technical issues and neglected user issues [7,16]. In addition, the Institute of Museum and Library Services also reported that "the most frequently-used needs assessment methods do not directly involve the users" [19]. The information needs and information seeking behaviours of users are not well supported by the standard search interfaces [20].

It is clear that there is a big need to find out the information needs of users that can be satisfied by heritage content, and what kind of knowledge structure is intuitive to users and supports them in searching, browsing and learning. Previous authors have recommended involving users to determine how they might access cultural heritage content and which categories they find useful [13]. They agree that understanding user behaviour would impact the architecture of digital libraries and the interface functionality [16,18].

III. Content Organization Using a Taxonomy

Warner [21] defines taxonomy as a hierarchical categorization formed by a system of labels. The top level categories of a taxonomy provide a high-level map of the resources available. By organizing information resources into categories, one can extrapolate what other sub-categories need to be provided. For instance, if Chinese dialect is used to sub-categorize the Chinese language, then the memory institution could find out the full list of Chinese dialects in Singapore, which necessitates the inclusion of the Teochew dialect, that might have been previously overlooked.

The use of a structured hierarchy for navigation can reveal information previously unknown to the user. The hierarchical structure also supports browsing by allowing users to expand or further filter down their search [22]. Let's say a user is searching for information on the Chinese language. After navigating to that category, he might see another level of categorization, such as dialects: Cantonese, Hainanese, Hakka, Hokkien and Mandarin Chinese. This allows him to be even more specific in his search as he can now specify exactly which Chinese dialect he is interested in.

The records or documents in the repository are organized by assigning terms/categories in the taxonomy to the records—a process called *tagging*. As the terms/concepts are linked in a hierarchical structure, the tagging process in effect assigns records to nodes in the hierarchical structure. Selecting a term in the taxonomy retrieves all the records that have been tagged with that term. Thus the taxonomy terms can also be used for tag searching.

IV. Organization of Current Cultural Heritage Portals

An examination of a sample of cultural heritage portals revealed that few had a well-developed browse structure. Most expect the user to initiate access by entering a search query. However, filters are typically provided to narrow the search results by specifying values for the following facets:

- topic/subject (e.g., World War 2)
- time period (e.g., 1960s)
- place (e.g., California).
- format (e.g., photographs)
- source of the content (e.g., an alphabetical listing of the contributors).

The above facets may also be used as top-level categories for browsing.

American Memory (http://memory.loc.gov/ammem/ index.html) published by the Library of Congress provides

access to heritage materials in the form of "written and spoken words, sound recordings, still and moving images, prints, maps, and sheet music" from the collections of the Library of Congress and other institutions that "chronicle historical events, people, places, and ideas that continue to shape America." Users can browse the collection using four facets: Topic, Time Period, Format and Place.

Europeana (http://www.europeana.eu/) is Europe's cultural heritage portal that provides access to materials sourced from Europe's memory institutions and from the crowd [23]. Access is primarily through searching using the portal's powerful search engine that has an auto-completion function and several ways to filter the results. Browsing is supported only on the online exhibitions and on the latest contributions from the Europeana partners. Europeana subcategorizes its collection by themes. For example, its collection on "Leaving Europe: A new life in America", has subcategories such as Departure and Arrival, Life in America, Contact with Homeland and so on. This thematic sub-classification informs the user about the various aspects of the topic in question and helps them to make sense of the content.

PictureAustralia, now absorbed into Trove's *Pictures, photos, objects* (http://trove.nla.gov.au/picture), is a portal that collects digital images of Australia's cultural heritage. Its subjects include mountain sports, politics, music, festivals and religion. Access is via searching, with result filtering by format and decade. Depending on the search, it even allows filtering by occupation such as geologist, author, ethnologist and academics.

Singapore Infopedia (http://infopedia.nl.sg/) is an electronic encyclopaedia on Singapore published by the Singapore National Library Board. Topics covered include "historical events, arts, culture, economy, government and key personalities." Users can browse only via 15 broad categories: Arts, Communications, Community and Social Services, Economy, Education, Events, Geography and Travels, Heritage and Culture, Nature and Environment, Organisations, Personalities, Politics and Government, Sports and Recreation, Streets and Places, and Transportation. However, each record display includes a display of its subject headings field that can be clicked on to search for other records with the same subject heading.

The content of the *Singapore Memory Portal* is currently organized by five top-level categories as shown in Table 1. An immediate observation is that there is no subject or topic facet to organize content by various kinds of topical categories. Hence, the user would not know which category to click on to reach a memory about a particular topic. Another observation is that the categorization does not provide an overview of the content available in the portal. Based on our experience it is difficult to search the portal and gather a coherent set of memories on a specific topic.

TABLE I: Top level categories of the Singapore Memory Portal

- **Partners**
  - Army Museum of SG
  - Asian Film Archive
  - Bhaskar's Arts Academy
  - …

- **Collections**
  - Our Homes
  - Tanjong Pagar Railway
  - My School Days
  - …

- **Contributors**
  - <Alphabetical listing of names of contributors>

  Campaigns [i.e. campaigns by the Singapore Memory Project team to solicit memories on particular themes of interest]
  - Parks
  - Christmas
  - Science Centre
  - …

- **Showcase**
  - <Collection of 'best' memories>

V. RESEARCH METHOD AND FRAMEWORK

A small study was carried out with 12 Singapore citizens who were interviewed and asked to perform 2 tasks on the portal. The participants' age group ranged from 25 years to 41 years. The majority were Chinese. Only one participant had prior experience using the portal.

Each user session comprised the following steps:

- **Step 1. Overview of Singapore Memory Portal**

  Participant views a PowerPoint presentation with screenshots of the portal interface highlighting available search options.

- **Step 2. Pre-Task Interview**

  Participant is asked the following questions:
  2.1. What are your expectations about what is in the portal?
  2.2. What do you think one can learn from the memory postings?

- **Step 3. Information Search & Use Task**

  An open-ended task is assigned to the user that requires searching the portal for information (memories) on a topic and learning about the topic. The user's interaction with the portal is captured with a screen-capture program, Snagit.

- **Step 4. Post-Task Interview**
  Participant is asked the following questions:
  4.1. What have you learnt from the memories? Summarize interesting insights.
  4.2. What do you find lacking and what else would you want to know about the topic?

4.3. What kind of search categories would have helped you to locate appropriate memories or help you to understand the topic better?

- **Step 5. Listing Themes that Represent National Identity**

   Participant is asked to list down on paper, the themes that he or she feels make up the Singaporean national identity. Examples of themes include 'Historic Places', 'Food' and 'National Events'.

As each participant is assigned two tasks, steps 3 and 4 are repeated for the second task. A total of four tasks were prepared to cover different types of topics, and selectively distributed to the 12 participants such that no two participants performed the same sequence of two tasks. Each task was attempted by 6 different users. The four tasks are:

- **Task 1:** What can you learn about the National Day Parades of the past? [An annual national event]

- **Task 2:** What can you learn about people's memories of the KTM/Tanjong Pagar Railway? [A place—a well-known and historically significant railway track and railway station to Malaysia that was recently terminated; but also an activity—taking the train to Malaysia—that was a memorable part of people's lives]

- **Task 3:** What can you learn about festive foods in the celebration of Chinese New Year/Deepavali/Hari Raya (depending on the ethnicity of the participant)? [A cultural/religious festival; also, food is an important part of culture and people's lives)

- **Task 4:** What themes do you encounter in memories of school days? [Life in the past]

These are topics Singapore citizens can readily identify with, and have basic knowledge to carry out a search and flesh out their understanding of the topic. We also made sure that the portal contained sufficient content about each of these topics.

The study makes a few assumptions about learning:
- Learning about a topic involves synthesizing information into a coherent understanding and linking together related concepts (i.e. aspects and attributes of the topic, and relations to other topics). This coherent understanding can be represented as an ontology—a set of concepts linked with conceptual relations.

- In the course of reading the memory postings, users will identify salient, important or interesting aspects/attributes about a topic, as a first step in synthesizing a coherent understanding.

- Users already have some prior knowledge of a topic as well as opinion about the important aspects and attributes of a topic. This prior knowledge guides searching and browsing, and provides an initial template structure for synthesizing an understanding. Some of the associated aspects/attributes may be tacit—something the user can recognize but might not remember in free recall. So the system can support the user's learning by providing a taxonomy or mind map to guide the user in browsing and making sense of the topic and memories.

VI. FINDINGS

A. User expectations of the portal content and organization

Similar kinds of user responses were obtained for the following questions:
- expectations about what is in the portal (Question 2.1)
- what one can learn from the memory postings (Question 2.2)
- search categories to help users locate appropriate memories (Question 4.3)
- themes that represent national identity (Step 5)

These are collated and organized into a taxonomy with 11 top-level categories, each of which has subcategories. These are shown in Table 2. The 11 top-level categories are:
1. Place
2. Activity
3. Event
4. Personality
5. Organization/Institution
6. Emotion
7. Format
8. Culture/Society
9. Daily life/Lifestyle
10. National issue/Government policy
11. Others

The most number of suggestions were obtained from Step 5 where users were asked to write down the themes that the user feels make up the Singaporean national identity. A total of 125 themes were listed.

In retrospect, the questions on "expectation about what is in the portal" and "what one can learn from the memory postings" are too broad and vague. As the questions were delivered verbally, follow-up questions obtained more specific answers. In the future, users can be asked what topics and sub-topics they would expect in the portal. They can also be shown the top level categories in Table 2, and asked for sub-topics that they would expect to find in the portal.

Note: The numbers in parenthesis indicate the frequency of the concept in the users' responses. For the leaf categories, only three examples are provided because of space constraints.

Place
General
- City in the past (1)
- Garden city (1)
Leisure place
- Sentosa (4) [a resort island]
- Esplanade (4)
- Singapore Flyer (2) [similar to London Eye]
Food-related place
- Satay Club (2)
- Lau Pa Sat (1) [a food court]
- Durian stall (1)
- Wet market (1)
Historical place (1)
- National monument (1)
Neighborhood (1)
- Chinatown (1)
- Jurong Industrial Zone (1)
- Orchard (1)
Iconic building/structure (1)
- Marina Bay Sands (4) [hotel and casino]
- Merlion (3)
- Changi Airport (2)
- Story about a landmark (1)
Place of daily life
- School in Singapore (1)
- MRT (Mass Rapid Transit) (1)
- Primary school memory (1)

Activity
Leisure activity
- Traditional game (1)
- Shopping (1)
- Entertainment (TV, football) (1)

Personality
Lee Kuan Yew (5)
Stamford Raffles (3)
Catherine Lim (1) [author]

Event
National event (3) (including national celebration)
- National Day Parade (3)
- National Day Parade song (1)
- Election Rally (1)
Historic event (1)
- Independence of Singapore (2)
- Founding of Singapore. (1)
Disaster/crisis (3)

- SARS (1)
- Hotel New World (1) [hotel collapse]
- Nicoll Highway (1) [railway tunnel collapse]
Cultural event (including public holiday)
- Festival (Hari Raya, Chinese new year) (1)

Organization/Institution
Port of Singapore Authority (2)
National University of Singapore (2)
Nanyang Technological University (2)
Singapore Police Force (2)
Housing & Development Board (2)

Emotion
Success story (1)
Sad story (1)
Overcoming adversity (1)

Format
Photo (3)
Story (3)
Anecdote (2)
Audio recording (1)
Speech (1)

Culture/Society
General
- Multiracial/Ethnicity (2)
- Singapore identity (1)
- Arts in Singapore (1)
Cultural trait
- "Kiasu" (4) [Afraid to lose]
- Obedient citizen (1)
- Kampong spirit (1)
Food (5)
- Chilli crab (1)
- Chicken rice (1)
- Durian (1)
Language
- Singlish (3)
Humor
- "Fine" city (2)

Daily life/lifestyle (3)
General
- Living in Singapore (2)
- How life was like during my parent's days (1)

- How life was like in early HDB [public housing] (1)
Time period
- Japanese Occupation (2)
- Singapore during World War 2 (2)
Life stage
- National service (3)
- Childhood (2)
- School days (3)
- Parents' childhood (1)
- Parents' student days (1)
Entertainment
- Things people did for entertainment (1)
- Toys we played with (1)
Occupation (2)
- Singapore workforce in images (1)

National issue/Government policy
Housing
- HDB flat (Housing Development Board)
Land planning (4)
- URA (Urban Redevelopment Authority) (1)
- Land reclamation (2)
- Jurong/Tuas Industrial Area (1)
Education (3)
Campaign (3)
Transport
- Public transport (1)
- COE (1) [Certificate of Entitlement to buy a car]
Water (1)
- Newater (1) [Reclaimed water]
National policy
- Stop at 2 children (1)
Nation building (1)
Politics (1)
- Major political change (2)
New development in Singapore (1)

Others
Stomp.com (1) [citizen journalism website]

B. How users search and browse the current portal

Several participants highlighted that the Home screen was "difficult" and "not informative". The choice of terms for the existing categories, namely 'Campaigns', 'Partners', 'Collections' and 'Contributors' do not give the users an idea as to what memories that category encompasses. The existing categories seem to focus on:

- Highlighting the campaigns and collections developed by the Singapore Memory Project team .
- Recognizing the major contributors of the memories (partners, contributors).

Dalbello [17] had noted that heritage collections created were often the basis for organizing the portal. This is a key reason why it has proven difficult to obtain an overview of the available content and to search for a particular topic. Many users were unsure how to begin the search. They did not know what's there and what's where.

As the browse structure in the portal was inadequate, all the users resorted to keyword searching followed by browsing of the postings retrieved. It was observed that users were able to broaden their search when no postings were retrieved. Users may enter a more specific search phrase first, and upon failing to retrieve relevant postings may broaden the search with a less specific search phrase, for example:

- "national day parade" was broadened to "national day"
- "festive food" became "festive"
- "Chinese New Year food" became "festive food"

We observed two kinds of behavior when users browse the search result list (with snippets of the memory postings):

- Scanning (breadth-first search): scan the memory snippets in the result list to get an overview of the topic, then select records to read.

- Digging (depth-first search): select a record in the result list, read the memory post, then return to result list and select another record, and so on. Users obtain a sense of the retrieved records not by scanning the result list, but by reading individual memories.

C. What users learn from memory postings

The current portal does not provide users with any help to synthesize an understanding of a topic. It just displays all the records retrieved by the search query in an ad hoc order. It does not display related or associated terms/concepts to help the user identify different aspects of the topic or related topics. The top-level taxonomy given in Table 2 can give users an overview of the content of the portal and help them to locate memory postings on a topic. However, it is probably not sufficiently fine-grained to offer related aspects and topics.

To identify more fine-grained categories, which may be topic specific, we asked users what they had learnt from the memory postings and to summarize interesting insights. We also asked what they found lacking and what else they would want to know about the topic—to identify associated categories that are not yet in the available postings.

From the responses, we identified the following attributes or relations of the topics:

- *Place*, for example,
  - o Different venues of the national day parade over the years
  - o Festive food sold in Chinatown
  - o The school compound
  - o The canteens along the railway
- *Role/participant*, for example,
  - o Contingents involved in the parade
  - o Contingent commander of the parade
  - o Participating schools
  - o The teachers
- *Crisis/adverse situation*, for example
  - o Years it rained during the parade
  - o Unexpected things, hiccups
- *History*, for example
  - o Inauguration of TV in 1963, coinciding with the National Day Parade
  - o How the railway track developed over time
  - o Changes in how festive food have been prepared over the years
- *Program item*, for example
  - o The fly pasts (of military aircraft)
  - o Fireworks
- *Time*, for example
  - o Year of the National Day Parade
- *Personal experience*, for example
  - o People's experiences in the train or station
  - o The last train journey
- *Activity*, for example
  - o What people do to celebrate the festival
  - o The games that children play
- *Subtype*, for example
  - o The different types of festive food
- *Event*, for example
  - o Events related to primary schools such as enrolment, health screening and exams
  - o The journey of Chinese new year celebrations (the events leading up to it)
  - o How teacher's day/sports day is celebrated
- *Sentiment*, for example
  - o How it feels to eat at the railway canteens
- *Others*
  - o Attire (e.g., school uniforms)

These attributes can be used in various ways in a digital heritage portal. They can be used as metadata fields to describe significant features of each memory posting. They can be used as ontological relations to link different concepts that are mentioned in a set of memory postings. For example, when the user has selected a topic to view in a portal (e.g., National Day Parade), the system can make use of the

ontological relations to display a network of related concepts in the form of a mindmap to summarize the kinds of things associated with the National Day Parade. When the user selects a particular National Day Parade in a specific year, the associated concepts in the mindmap can be instantiated into specific values, for example the venue (place) of the National Day Parade, the contingent commander (role), any adverse situations (e.g., rain), the nature of the fireworks (program item), etc. While the top level categories of the taxonomy help the user to narrow down to a specific topic of interest, the attributes/relations help the user to study a specific topic from different angles.

Two participants mentioned that some memory postings were superficial. They contain only one or two short sentences and are not informative enough to be of value. Users also mentioned that some of the memories were too personal to be of use to the general public. Memories of poor quality are counterproductive to information synthesis and frustrate users. Perhaps such records can be identified and tagged in some way. Assuring the quality of cultural heritage portal content [13], and motivating users to contribute quality content [24,25] are challenging issues for crowd-sourced collections.

VII. Conclusion

Few heritage portals provide a browse structure for users to explore heritage content in the portal. Users are expected to think of specific topics and keywords to search. A limited kind of browse structure is provided in the form of an alphabetic list of "collections." This is an impediment to users to explore the heritage content as there is no bird's eye view of what the heritage portal contains.

We carried out a small study with 12 citizens to find out what topics and subtopics they expected to be in the Singapore Memory Portal, and what they thought were the themes related to national identity, as one of the goals of the portal is to foster a sense of national identity. A taxonomy of terms/concepts with eleven top-level categories is derived from the users' responses. This can serve as the top-level browse structure for the Singapore Memory Portal. It is suggested that some of categories may also be relevant to crowd-sourced heritage portals in other countries.

The portals also do not support users in learning and synthesizing an understanding of a heritage topic. They do not suggest different aspects or attributes of a heritage topic, and relations to other topics. Accordingly, we asked the participants in our study to search for memory postings on two topics, and tell us what they learnt from the memories. From their responses, we identified eleven attributes or relations that represent salient aspects of the topics we selected, which included an annual national event, a historically significant place and service, a cultural/religious festival, and life in the past.

We propose that these attributes and relations can be used to create a kind of mind map (or an informal ontology) to indicate different aspects of a topic and its relation to other topics. This is similar to providing an overview introduction to a virtual exhibition. In the Europeana portal, when a user views a virtual exhibition, the user is first presented with introductory information about the topic. Subsequently, different themes that make up the topic are presented to indicate different perspectives of the topic. The introductory information and thematic classification help users to contextualize and synthesize information. This is a top-down approach where the user is gradually introduced to the topic and fed with more detailed information the further the user delves into the collection.

As future work, we are planning three separate studies for each of the research objectives:

1. A questionnaire survey of what topics and subtopics users expect in the Singapore Memory portal, in an effort to validate the top-level of the taxonomy and to flesh out the lower levels.
2. An in-depth qualitative study of how users learn from the memory postings and synthesize their understanding. Users can be asked to outline an essay on a heritage topic. An ontology can be derived from this study.
3. Implementation of the taxonomy and ontology as a faceted browse interface for the Singapore Memory portal, and a user study of how effective the interface is in supporting searching, browsing and learning.

In addition to adults, other user groups can be included in the study—primary and secondary school students, culture enthusiasts, and social science and history researchers.

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