

ICHPEDIA, a case study in community engagement in the safeguarding of ICH online

Soon Cheol Park



ICHPEDIA, a case study in community engagement in the safeguarding of ICH online

● Soon Cheol Park

Professor of Computer Engineering, Chonbuk National University, Jeonju, Korea

ABSTRACT

This article presents a new paradigm of safeguarding methods through digital platforms and technology. Since 2010, a group of researchers in Korea have been developing a new experimental methodology of inventorying intangible cultural heritage (ICH) utilising a new concept of collective intelligence and advanced information technologies. The research team established Ichpedia, a web-based ICH encyclopedia and archive. The purpose of Ichpedia is four fold. First, it functions as the most efficient digital ICH inventorying system available using modern information technologies. It is possible to record and retain the dynamic features of ICH through the use of multi-media resources. Secondly, Ichpedia can facilitate interactivity between information providers and users so that ICH communities, groups and individuals can directly access the system as information providers or editors. Using the functions of the system, their voices can easily be disseminated to the public. Such cooperative work will encourage more awareness and identification of the fragility of ICH. Ichpedia will therefore be instrumental in improving the understanding of ICH communities and individuals and finding better safeguarding methods. Thirdly, Ichpedia can reduce the economic burden of establishing a highly efficient database system. It is easy and simple to use but offers high efficiency compared to other web-based ICH encyclopedias worldwide. Ichpedia has the advantage of being the least expensive option for the development and maintenance of such a system. Lastly, it is hoped that Ichpedia will pave the way for digital innovation in the area of ICH recording with the free and open distribution of the digital platform and technologies.

Keywords

Ichpedia, wiki-model, collective intelligence, interactivity, Korea's safeguarding policy, digital archives, web-based inventories, community participation

1. Introduction

The safeguarding issues related to intangible cultural heritage (hereafter ICH) have drawn international attention through UNESCO's initiatives. The 10th anniversary of the proclamation of the *Convention for the Safeguarding of the ICH* was celebrated during the course of 2013. From the beginning of the *Convention*, there have been debates over the pros and cons among the State Parties but nonetheless 155 states have joined the *Convention* as of July 2013.ⁱ The complete assessment of UNESCO's achievements over the past ten years is beyond the capacity of this article, but we can point to two significant accomplishments. There has been an increase in the awareness of the importance of ICH in enhancing human creativity and cultural diversity. Furthermore, the *Convention* provides the member states with concrete measures that can be employed in order to safeguard ICH, which has been disappearing rapidly as modernisation and industrialisation processes grow within the developing countries. One of the crucial methods of safeguarding ICH is to make inventories of cultural elements through the use of oral and visual devices. The recording process has been enhanced by UNESCO's inventory workshops which provide guidelines and directives, and by many educational seminars.

Drawing upon UNESCO's ICH safeguarding policy, Korea's Cultural Heritage Administration initiated a digital inventory project in 2010. A group of researchers joined this project and developed a new experimental inventorying methodology for ICH utilising a new concept of collective intelligence and advanced information technologies. The research team established Ichpedia, a web-based ICH encyclopedia and archive in Korea. We participated in this project as team managers of the digital archive system. Here, we will present a new paradigm of safeguarding methods through digital platforms and technology.

The digital technology and philosophy employed in our Ichpedia project is innovative in several respects. Non-material features of ICH are known to be difficult and/or impossible to keep static, and such characteristics of ICH are frequently cited as impediments to the process of recording. Through the use of various forms of digital technology such as audio devices and video tools, it is possible to record such dynamic characteristics of ICH. Secondly, ICH's changeable and unfixed nature can be traced more easily by efficient recording processes. Since

many examples of ICH are closely related to everyday lifestyles, practices, and ideas, subtle changes and disappearances may not be readily apparent. Thus, computerised devices can record the current condition of particular examples of ICH and make it easier to keep track of any future changes. Thirdly, our Ichpedia project with its digital innovations encourages voluntary participation on the part of ICH communities. The communities of ICH have direct access to the system and can record certain ICH elements on a voluntary basis. It is completely the communities' own decision whether or not to participate in the recording process. They have access to some guidelines and support in order to input their own information with various source materials and assistance from the Ichpedia team. Fourthly, the recording processes are a way of safeguarding ICH. In this process the community members are able to raise their own awareness of its importance, not just for external groups but for their own community. In particular, the use of digital technology is an efficient way to increase people's awareness of ICH and to share information. Focusing on such advantages, dynamism and efficiency, the methodology of digital recording of ICH is here presented. Fifthly, Ichpedia reduces the cost of establishing a highly efficient database system. It is easy and simple but yet offers high efficiency compared to other web-based ICH encyclopedias worldwide. Ichpedia has the advantage of being the least expensive option for the development and maintenance of such a system. It is hoped that Ichpedia will pave the way for digital innovation in the area of ICH recording through the free and open distribution of the digital platform and technologies.

2. A new paradigm of digitisation in ICH recording

Several exemplary digital initiatives for safeguarding ICH are found worldwide. Sahapedia in India and Intangible Cultural Heritage in Scotland are examples of such online databases.ⁱⁱ Sahapedia is an open online encyclopedia of Indian culture and heritage. It began with mainly textual information and has been enlarged to include other multi-media features. This large-scale project began in 2010. Its main activities involve documentation, content creation and the compilation of Indian traditional culture. ICH in Scotland is the inventory of ICH in that country which includes a wide range of

practices that fall within the scope of the UNESCO definition.ⁱⁱⁱ It was launched in 2008 and took the form of a customised wiki. Thus it has several advantages. First, there is no need to develop a new system and users may only use the data frames that the wiki provides. Secondly, anyone who frequently uses the wiki can use the system with very little training. Both Sahapedia and the Scottish wiki are designed to be web-based inventories. The web-based inventory has become a key tool for promoting general awareness of, and for safeguarding, ICH. In particular, the web can offer various advantages in the process of inventorying, such as utilising interactive modes of communication among multiple voices, the bringing together of scattered resources and the efficient sharing of information.

The Ichpedia project in Korea started in September 2010 with government funding. It was also a new, experimental, web-based inventorying project like Sahapedia and Scotland's wiki. Ichpedia has similar features to those digital platforms but it also offers more advanced features which allow for dynamism and efficiency in the process of inventorying and in the application of resources. The weakness of Ichpedia is that currently it is only available in Korean. Based on advanced information technologies, it has become a comprehensive multimedia web platform and digital archive. We will show how it differentiates itself in its goals and functions from other similar online inventories.

3. Ichpedia: dynamism and efficiency

3-1. The 'bottom-up' approach

Our research team carried out the survey, fieldwork and research for Korea's ICH from 2010 to 2012. The research consisted of creating a new format for inventorying, a classification system and a web-based platform that would comply with the safeguarding policy of the 2003 UNESCO *Convention*. The *Convention* advises that the relevant communities, groups and individuals must play major roles in instituting safeguarding measures and in the inventorying process.^{iv} This approach requires a new epistemology of ICH and a methodology for collecting the related elements in the Korean context. Unlike the top-down approach of the past, the community's active involvement - which can be characterised as the 'bottom-up' approach - has several

merits. First of all, it helps members of communities regain their identity by inventorying their own cultural heritage. With the community's voluntary participation, we are able to find hitherto unknown examples of cultural heritage and can publicise our findings. During this process, there are many opportunities for more discussions and networking between the community members and outside researchers and administrators. Eventually the outside researchers and administrators who are interested in ICH issues will be able to formulate better ideas for the development of safeguarding measures for examples of ICH before they disappear. It also allows external access to the diversified culture beyond the preconceived notions of ICH, expanding the range of a fixed definition. If it is the case that the relevant community is located in a remote area, external support can more easily reach such a community than before for devising protection plans.

The so-called 'bottom-up' approach may take longer, and may be less efficient in completing the inventory, compared to the top-down approach in which government-supported agencies are mainly responsible for doing the work. In the past, in Korea, with experts and officials taking the lead in implementing the safeguarding measures for ICH, relevant community members were relegated to being just the providers of information, not active participants in the inventorying process. In order to lower the wall surrounding the agencies which impedes access, it was necessary to find a democratic way of sharing information. Ichpedia is designed for the democratisation of ICH safeguarding measures. Its first mission is to increase the access and level of participation of ICH communities, groups and individuals, and even those who are just keenly interested in ICH.

3-2 On-line participation

Though our work is on-going, we have made some definite progress with the ICH inventory, particularly in the field of online survey. New survey methods are required for both expanding the field of surveyors and in creating new data-collecting techniques. We will first discuss the expansion of the field of surveyors. The bottom-up approach allows for any interested individual to participate in the survey. Those who are interested in ICH are encouraged to be active surveyors. For the implementation of such a principle, our team created the online participatory system using the Web 2.0 platform.^v

It allows for numerous surveyors and interested individuals across the country to freely input basic information about ICH elements. The data which is input is shown in real time so that such data can be simultaneously shared with others online. The main point of the online survey system is to use collective intelligence through the participation of various people. We have used Wikipedia as a model and the Web 2.0 platform, where anyone can present their knowledge of ICH by accessing the main page of ICHPEDIA. Those community members and others who do not have the ability to use the web are provided with assistance by members of the Ichpedia team. Through the Ichpedia portal which was created for the user's convenience as shown in (Figure 9 (p.80)), all kinds of participants, including practitioners, communities, researchers, government officials and NGOs should be able to cooperate with one another in carrying out their mandates, from making inventories to safeguarding ICH.^{vi}

3.3. How to cooperate with community members, experts and the public

The online network is open to the public and encourages cooperation among the participants as emphasised above. Surveyors, administrators, NGOs and ICH bearers can be both information providers and modifiers at any time, and with respect to any place within the digital arena created by the Ichpedia system. They are able to establish their own networks in order to share their interests in safeguarding ICH and to gain access to each other's knowledge, activities and practices. (Figure 1) shows an example of the exchange of information and thoughts on a specific ICH element in Korea - *samulnori* which is a traditional form of Korean folk music played with four instruments. In the figure, three features of the content page are shown: its modification history - A, the search result lists - B, highlighting the search terms - C and the statistics of the search results - D. The string 'Modification history' indicated with the character A is hyperlinked to the modification record history list of the current content page made by one or several users. Ichpedia allows for users to modify the content page while retaining the history of the page modifications as Wikipedia does. However, the Ichpedia editing system is a little bit different from that of Wikipedia. Wikipedia shows only the latest modified page while Ichpedia shows all the pages

in the modification history list so that users may compare new and old versions of the ICH data and information concerned. The experts, bearers and community members may want to correct content, pictures and other listed information. Eventually the initial inventorying process will lead to a more complete form of a national inventory through the participation of many different interest groups.

This inventory making process from the first listing, through discussions to the final modification on the web may be less systematic as compared to the current one initiated by central and local governments. In the early stage of this online system it is possible that many problems may occur. We may face some critical issues in the period of transition, such as the reliability of information, the infringement of human rights and



Figure 1
Screenshot of Result of keyword search for 'Samulnori'. Source: Ichpedia.org, 2014

copyright disputes, but when these problems are resolved, making an inventory through an online system using collective intelligence will eventually evolve into a cultural movement. This means that ICH elements located within remote communities, groups, and individuals that are in danger of disappearing will be protected and preserved by the actions of the diverse stakeholders.

3-4. Safeguarding measures: archives

Ichpedia has been designed to record and retain dynamic features of ICH through the use of multi-media resources. Intangible features of cultural heritage are difficult to record using only interviews and written texts. Performances, rituals, oral traditions, skills, arts, religion and even knowledge exist within the realm of, and in connection with people’s activities, thoughts and beliefs. One of the characteristics of ICH is that it is not static but is mobile and alive. Thus it is crucial to record the whole performance, ritual or working process of what people do. In this case, recording means not only making textual records, but also audio and visual ones by establishing a digital archive system which allows the management of a large amount of the intangible heritage information and resources collected. The digital archive system is called the Ichpedia Digital Archives (IDA) and it is an important part of the Ichpedia system. The basic database structure of the Ichpedia system consists of four main table groups: Ichpedia tables, Archives tables, Categories tables and Ontology tables, as shown in (Figure 2). Due to

the growing trend of global standardisation in web-based software, Ichpedia adopted the international standard in software programmes and meta-data. This increases the flexibility of applications. For example, the attributes of two tables in the Archives tables in (Figure 3) follow the Dublin-Core metadata standard in order to allow the ICH resources to be shared internationally. In addition, the composition of Ichpedia tables is based on the attributes needed in the process of inventorying guided by the UNESCO *Convention*. To this extent, Ichpedia can be operated without difficulty in other countries as well. In many countries, including Korea, industrialisation and urbanisation continue to affect traditional culture and, in particular, intangible features of culture. As one of the safeguarding methods, the recording and archiving of the current features of people’s arts, skills and knowledge, together with their voices and non-verbal expressions, detailed ritual processes and performances, not to mention the everyday lives of the practitioners, are indispensable.

4. Quantitative and qualitative analysis by Ichpedia

Ichpedia offers some of the analytical features of ICH inventories. It provides some insights for scholars and administrators and the NGOs who work for safeguarding ICH. Once the inventory data comes through the Ichpedia system, such data is automatically categorised by region and domain. We classified the inventories by provincial

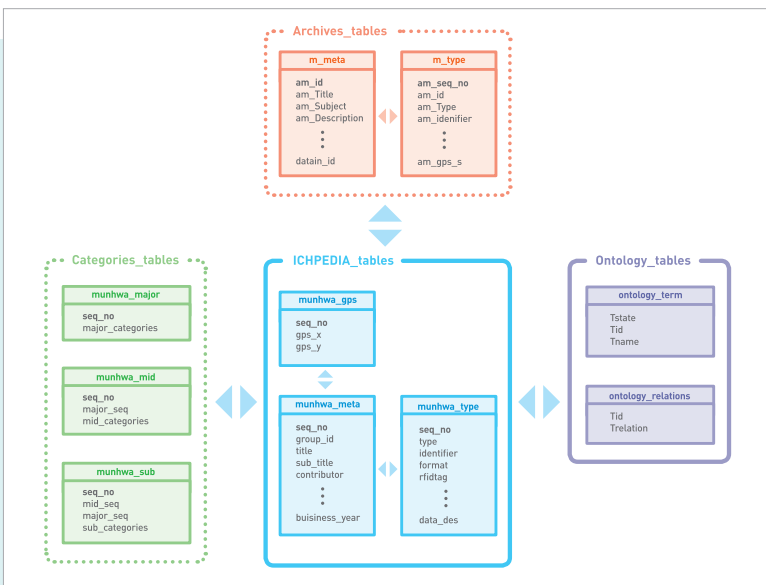
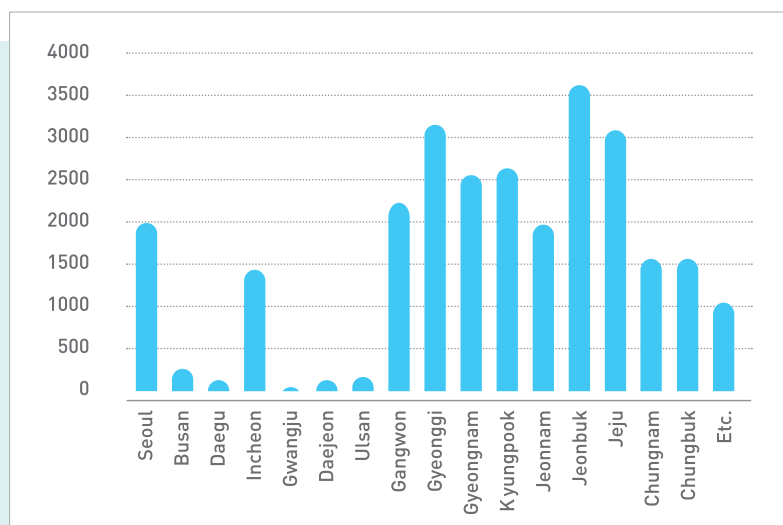


Figure 2
Ichpedia database tables. Source : Ichpedia.org

Figure 3
Regional data collection statistics. Source: Ichpedia.org,
Dec. 2014



regions and sub-regions as well. The statistical distribution of ICH by region is shown in (Figure 3). So far, a total of approximately 30,000 ICH elements have been collected from all over Korea since October 2010. The figure shows about 3,500 in Jeonbuk and 3,200 each in Gyeonggi and Jeju. These numbers indicate how many ICH elements in each region have so far been collected into the Ichpedia system. However, this may not be an actual reflection of the number of resources in each region as there are still more ICH resources to be collected. The statistical features will encourage provincial governments, ICH practitioners and communities, and researchers to bring together ICH resources within the system. This practice will inspire the identification of ICH within each region and raise awareness of the fragility of each ICH element. Eventually the necessity of a safeguarding policy for ICH will become more fully established and accepted.

Another important analytical feature of Ichpedia is the way in which the inventories are categorised by domains. There are seven domains of ICH in Korea:

1. oral traditions and expressions
2. traditional health care, agricultural and fishing knowledge [TK and P I]
3. food, clothing and housing and traditional customs [TK and P II]
4. performing arts
5. social practices, rituals and festive events
6. folk belief and social rituals [TK and P III]
7. traditional craftsmanship.^{vii}

The statistical distribution by domain has many significant implications for safeguarding policies for ICH. The most abundant ICH resources in Korea fall into the domain of 'oral traditions and expressions' which make up 47% of the total. The sequential frequency rates are identified as 29% in 'traditional health care, agricultural and fishing knowledge' [TK and P I], 8% in 'food, clothing & housing and traditional customs' [TK and P II] and so on, shown in (Figure 4). This type of statistical analysis indicates which domains of ICH may be the most and least viable within a modernising Korean society. Moreover, it is possible to analyse the classificatory distribution within an individual region. This provides visibility to the regionally distinctive features of ICH and allows for comparative studies based on the different patterns disclosed by the statistics which would provide some insights to those who are engaged in qualitative methodologies.

In addition, the statistical analysis of the domains and regions can be used simultaneously for both establishing the understanding of the current situation of a particular individual ICH element, and also for the establishment of its safeguarding policy. Taking *samulnori* as an example, firstly, we can easily get to know in which areas *samulnori* is now actively performed, and secondly, how *samulnori* is characterised and classified at present by the experts, researchers and administrations. Two statistical graphs are shown - *D* in the content page. The right hand graph shows the regional distribution ratio: 10% of the total results were collected in Yangju, 6% in Yongin and so on. It tells us in which regions' *samulnori*

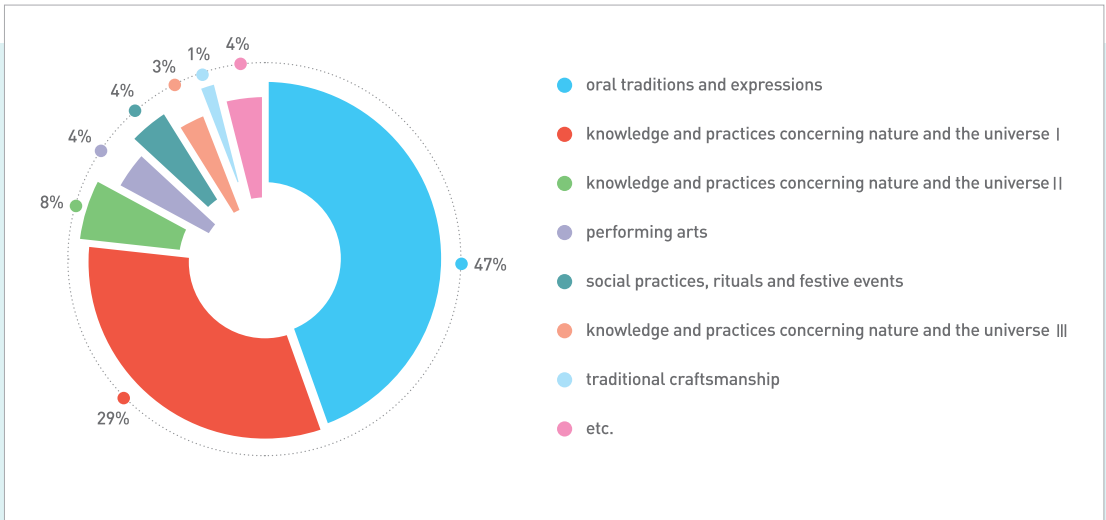


Figure 4 Data collection statistics by category. Source: Author

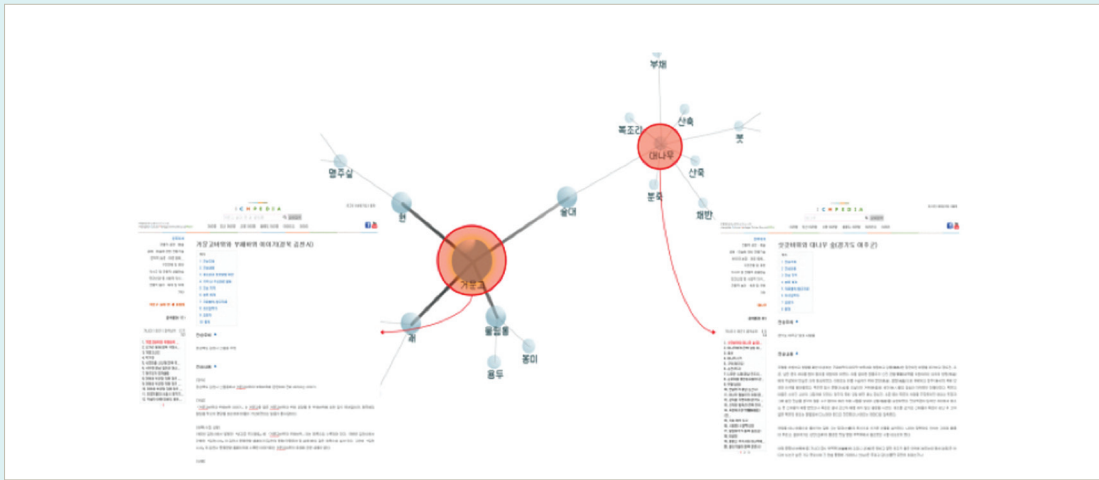


Figure 5 Search on 'geomungo' using the term-network. Source: Ichpedia.org, 2014

is the most viable. The left hand graph shows the characteristics of *samulnori* which consist of a domain of 'traditional play' [51%], 'oral traditions and expression' [17%], 'performing arts' [12%] and so on. In fact, *samulnori* should be considered as a complex of all those domains. Ichpedia shows how the characteristics are combined and integrated into one single performance. *Samulnori* practitioners and the communities where it is practised do not think of *samulnori* as being made up of separate dimensions. Ichpedia thus presents, vividly and systematically, all the elements of *samulnori*. These two statistical graphs are instrumental in finding new facts and clues for a new analysis of *samulnori* for the researchers concerned.

The ontology of ICH elements is established through a collaboration between ICH experts, anthropologists, folklorists and computer scientists, including the author. It is an ambitious project to build up the ontology of ICH elements and it is not yet perfect, but the implications of its capabilities and effects are quite meaningful. One of the ontology terms selected was *geomungo* (a traditional Korean musical instrument), and it is related to *bokjori* (fortune rice picker), *but* (traditional pen) and *buchae* (traditional fan) through the source material *taenam* (bamboo) - as shown in (Figure 5). At first glance, *geomungo* and *bokjori* seem to have nothing to do with each other. However, *taenam* is essential for the manufacture of both *geomungo* and *bokjori*. For that reason, both craftsmen who make traditional musical

instruments and communities manufacturing bamboo rice pickers were found near where good quality bamboo trees grow.

(Figure 5) visualises a tree structure with the nodes whose values are the terms related to *geomungo*. Users may click on one of the nodes in the tree to look for interconnected terms and content. The ability to find interconnected elements is significant in encouraging an integrated approach to safeguarding ICH. In order to protect the craftsmen who make *geomungo*, and the communities which make *bokjori*, we must first protect the fields of bamboo trees. Additionally, makers of *but* and *buchae* have long been parts of manufacturing clusters near good bamboo fields. The ontological network analysis will be instrumental in finding an integrated safeguarding policy for ICH. Ichpedia's semantic search thus shows that an individual ICH element is usually associated with other elements and its associated structure makes it possible to understand how one ICH element fits within the wider networks of the domain.

5. Mapping: from cultural configuration to safeguarding

The mapping of cultural elements has long been considered a meaningful device for determining cultural configuration. The Ichpedia team, however, tries to go further in using the mapping method as a safeguarding

and research device. The map in (Figure 6) shows the search results for the keyword *pungeoje* in the Ichpedia system. The search generated a list of 50 pieces of content related to *pungeoje* distributed along the coastal areas. *Pungeoje*, a ritual for ensuring a year of good catches is practised by fishing villages, and is one of the ICH elements that have been rapidly disappearing. It is usually held on the day of the first full moon after New Year's Day by the lunar calendar. Most fishing villages hold this festive ceremony in the hope of ensuring abundant catches of fish and the safety of the villagers, particularly the fishermen and their ships. Together, the villagers prepare for the ceremonies and each household makes a contribution to the ceremonial funds and the work needed to organise the ritual. On the day of *pungeoje* the Dragon god, who is said to be the main god living under the sea, the mountain god and other gods and goddesses are worshiped with a series of rituals which takes place in the villages. The villagers request many blessings from these gods and goddesses and present them with sumptuous food and wine. Folk music, songs and dances go on all day and all night. The ceremony used to be a vital way of boosting the villagers' community spirit. However, few villages now keep up this tradition as is shown in the map in (Figure 6).

Since Ichpedia is keeping records about the ceremony in real time, we can keep track of the current state of *pungeoje*. Researchers, administrators and other outsiders who are interested in the safeguarding of this ceremony can find out in which areas or which villages

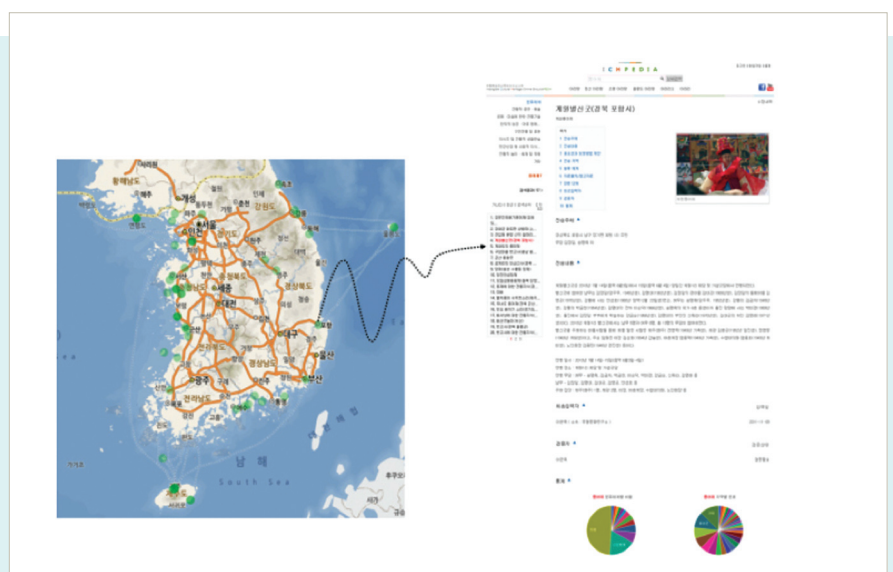


Figure 6
Screenshot showing the ICHPEDIA system using location information. Source: Ichpedia.org, 2014

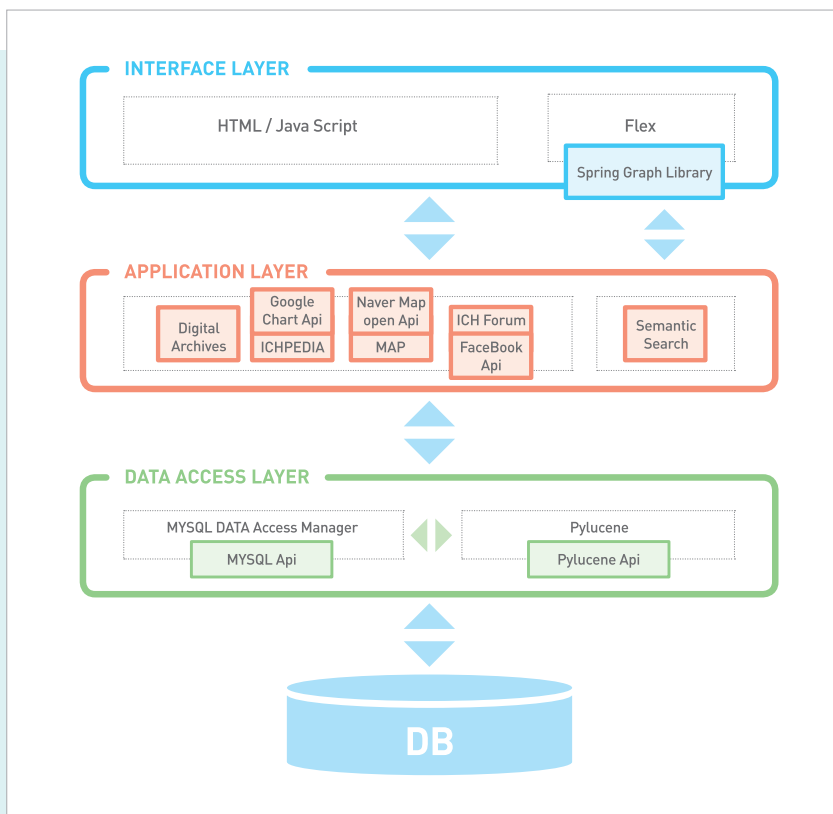


Figure 7
The ICHPEDIA software structure.
Source: Ichpedia.org, 2014

the ceremonies still go on. The online map gives a more detailed visual of the current state of the ceremony when you touch one of the circles. Each circle on the map indicates a location where relevant information regarding *pungeoje* was collected. On the left side of (Figure 6) is the pop-up window of the content page for *pungeoje* collected in the area of the southwestern coast of Korea.

6. Cheap simple digitalisation

The Ichpedia system has been designed and coded under the LAMP environment. LAMP is a combination of free, open source software. The acronym stands for Linux (operating system), Apache HTTP Server, MySQL (database software), and PHP, Perl or Python. When used together they support web application servers. Countries or groups can therefore share this system in order to manage and access intangible cultural resources throughout the Web without incurring any extra costs. Our ultimate goal is to provide this basic structure free of charge to those countries and communities which may not have easy access to the digital platform and technologies.

What follows is a brief description of the software and hardware structures for the benefit of technicians who are interested in adopting the Ichpedia system. The structure of the Ichpedia system has a 3-layer architecture, as shown in (Figure 7). The data layer is implemented through MySQL and Lucene on a Linux server and contains all the system's data structure and information. The application layer is built on the MVC framework written on PHP and Python which implement all the functionalities such as the digital archives, Ichpedia, the culture map, etc. The interface layer is based on HTML, CSS and JavaScripts to allow for a smooth user interaction with the applications, and Flex to manage detailed geographical data sets like the term networks. The hardware structure of the Ichpedia system is shown in (Figure 8). In our system, the firewall is a hardware-based network security system that controls the incoming and outgoing network traffic and determines whether they should be allowed through or not. The Apache Server, as a web server, is used to provide the web page to clients using the Hypertext Transfer Protocol (HTTP). This enables the delivery of HTML documents and any additional content that may be included, such as images, style sheets and scripts. The

database server (MySQL) is used to provide database services to the Ichpedia programmes. The Ichpedia hardware system has been designed and constructed to solve unexpected errors immediately. The firewall in the system has a dual structure to protect the system from external attacks. One of the firewall machines is active while the other is on standby, so that as soon as the active firewall faces a problem the standby will immediately be activated so as to ensure continuous protection. Three Apache servers run together for the safe and fast execution of Ichpedia web applications. They are controlled by one load balancer within the firewalls. The three servers are all active, but even if one of the servers is out of order the others can be used as substitutes.

We also have two extra data servers (two MySQL cluster nodes) managed by MySQL MGM which provides administrative services for the cluster. MySQL MGM controls starting and stopping MySQL Cluster nodes, handling MySQL Cluster logging, backups and restoration from backups, as well as various other management tasks. (<http://dev.mysql.com/doc/ndbapi/en/mgm-api.html> [accessed August 2013])

7. Conclusion

We have presented the multi-functional web-based inventorying system for intangible cultural heritage, Ichpedia. It is designed to promote dynamism and efficiency in the process of inventorying and to find a way to advance safeguarding methods for ICH. An extensive inventorying of ICH can be performed on a collaborative basis by the various interest groups including ICH bearers, communities, researchers, administrators and the public. Ichpedia employs an open and democratic policy on data collecting and sharing by leveraging a high level of information technology such as databases and digital archives. Ichpedia can thus freely facilitate interactivity between those information providers and users so that anybody who wants to participate in this on-line ICH circle can directly access the system. Such interactive work is based on a cooperative spirit for making a better inventory, and will encourage more awareness and identification of the fragility of ICH. Ichpedia will thus be instrumental in improving the understanding of ICH communities, groups and individuals and finding better safeguarding methods.

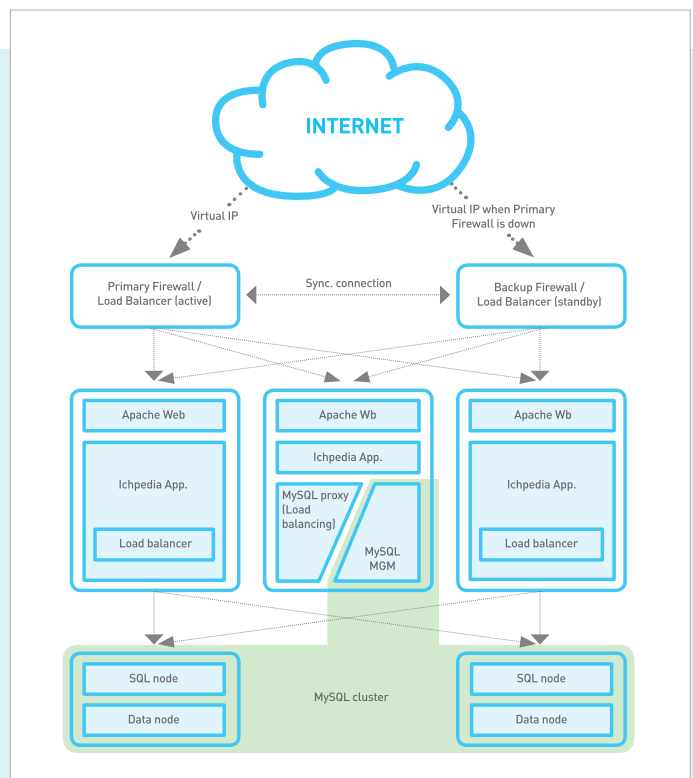


Figure 8
The ICHPEDIA hardware structure. Source: Ichpedia.org, 2014

With this vision, our team has developed various analytical functions such as statistical and dimensional distributions of ICH, and the building of a network of ICH elements on the basis of ontology and mapping. These analytics are valuable in reconsidering current safeguarding policies and establishing better ones. Finally, it has been a priority of the IChpedia digital team to minimise the cost of establishing an integrated database system. Using modern information technologies, IChpedia makes it simpler and easier to digitise and store ICH resources consisting of texts, voices, photos and videos. Once the database and its management systems are established, it will be possible for other institutions to implement their own systems. In particular, the original system may be provided to those who have limited access to funds, techniques and methodologies with respect to ICH recording. Therefore, our IChpedia system has the advantage of being the least expensive option for the development and maintenance of such systems. Furthermore, with a little effort the system can be run in various language environments so it is highly portable. IChpedia will hopefully pave the way for digital innovation in the area of ICH recording with the free and open distribution of the digital platform and technologies.



Figure 9 Screenshot of ICHPEDIA portal. Source: IChpedia.org, 2014.

APPENDIX: The Ichpedia portal (Figure 9)

Ichpedia is user-friendly and the functions make it easy to access the ICH data stored in the database system. Ichpedia was designed using the concepts of Web 2.0, and ordinary users and experts alike can access and build the database through the Internet whenever and wherever they wish. Users can start to navigate their way through the ICH resources in the system by accessing the Ichpedia portal through the entry page. The portal entry page (www.ichpedia.org) is shown in (Figure 9). This page contains ten main features, which are as follows:

- A. Term network list for semantic searches
- B. Regional statistics
- C. ICH categories
- D. Recently inserted lists and the recommended list of ICH data.
- E. Links introducing Ichpedia
- F. ICH communities and 'living human treasures'
- G. Notice board
- H. ICH forum on Facebook
- I. Sites related to intangible cultural resources
- J. Websites related to ICH

A, B, C, D and E are based on the search functions using Lucence Api to connect ICH resources in various ways. B and C have the GUI environments to access data in a user-friendly fashion. F is the set of web pages which introduce Ichpedia, including its editing methods and policies. G is the web sub-portal which presents ICH communities and living human treasures. H and I are the notice board and the ICH forum on Facebook. We use Facebook API to list the contents written in the ICH Forum in real time. It is very convenient for members of Ichpedia to inform or share ICH information without logging into Facebook. J shows the websites of other organisations and institutes related to ICH.

ACKNOWLEDGEMENT

The Author is indebted to Prof. Hanhee Hahm, Professor of Anthropology at Chonbuk National University for her generous advice, support and assistance in the preparation of this article.

ENDNOTES

- i The statistics are drawn from the webpage of UNESCO: www.unesco.org/culture/ich [accessed August 2013]
- ii *Intangible Cultural Heritage in Scotland*, www.ichscotlandwiki.org [accessed August 2013]; *Sahapedia, An Online Encyclopedia on Indian Culture and Heritage*, www.sahapedia.org [accessed August 2013]
- iii UNESCO defines ICH as *...the practices, representations, expressions, knowledge, skills - as well as the instruments, objects, artifacts and cultural spaces associated there with - that communities, groups and, in some cases, individuals recognize as part of their cultural heritage.*
- iv The webpage of UNESCO: www.unesco.org/culture/ich [accessed August 2013]. Although the *Convention* encourages the community's involvement in safeguarding and inventorying processes, the recent study done by Rudolff and Raymond has pointed out that the reality is murky (Rudolff, B. & S. Raymond, 2013). The authors have reviewed the community participation in a sampling of the nomination dossiers for the 2011 cycle to the Representative List and concluded that the community involvement should be strengthened.

- v See homepage, www.ichpedia.org
- vi A detailed description of the Ichpedia portal is provided in the appendix.
- vii The 7 Korean domains are a revised classification of the UNESCO *Convention's* 5 domains: oral traditions and expressions, performing arts, social practices, rituals and festive events, knowledge and practices concerning nature and the universe and traditional craftsmanship.

REFERENCES

- Choi, L.C., Choi, K.U. and Park, S.C., 2008. 'An automatic semantic term-network construction system' in *International Symposium on Computer Science and its Applications*: pp. 48-51.
- Davis, C., and Fonseca, F., 2007. 'Assessing the Certainty of Locations Produced by an Address Geocoding System' in *Geoinformatica* 11: pp.103-129.
- Hahm, H. H. and Park, S. C., 2006. 'Digital Archives of Cultural Archetype Contents: its Problems and Direction' in *Journal of the Korean BIBLIA Society for Library and Information Science* 17: pp. 23-42.
- *Intangible Cultural Heritage in Scotland* www.ichscotlandwiki.org [accessed 4 April 2014]
- *Intangible Cultural Heritage Online Encyclopedia* www.ichpedia.org [accessed 4 April 2014]
- Kim, Y. H., Choi, L. C., Chon, S. I., Lee, J. S., Na, J. H. and Park, S. C., 2008. 'Ubiquitous Application of Exhibition and Field Site System for Digital Archives' in *Proceedings of the 3rd International Conference on Ubiquitous In-formation Technologies & Applications (ICUT)*, Vietnam.
- Levy, M., 2009. 'WEB 2.0 implications on knowledge management' in *Journal of Knowledge Management* 13: pp.120-134.
- Marwick, A. D., 2001. 'Knowledge management technology' in *IBM System Journal* 40: pp. 813-830.
- Murugesan, S., 1997. 'Understanding Web 2.0' in *IT Professional* 9: pp. 34-41.
- Ogilvie, P., Voorhees, E. M. and Callan, J., 2009. 'On the number of terms used in automatic query expansion' in *Information Retrieval* 12: pp. 666-679.
- Park, S. C., 2008. 'A Study of The Digital Archives of 20th Century People's Life Research Center' in *Journal of the Korean Youngnam Culture Institute* 14: pp. 35-61.
- Rudolff, B. & S. Raymond, 2013. 'A Community Convention? An analysis of Free, Prior and Informed Consent given under the 2003 *Convention*' in *International Journal of Intangible Heritage* vol. 8: pp. 153-164.
- *United Nations Educational, Scientific and Cultural Organization* www.unesco.org [accessed 4 April 2014]
- Voorhees, E. M., 1994. 'Query expansion using lexical-semantic relations' in *Proceedings of the 17th annual international ACM*: pp. 61-69.
- Weibel, S., 2007. 'The Dublin Core: A Simple Content Description Model for Electronic Resources' in *Bulletin of the American Society for Information Science and Technology* 24: pp. 9-11.
- *Wikipedia, The Free Encyclopedia* www.wikipedia.org [accessed 4 April 2014]