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Improving Public Health Multidimensional Services through the Use of Smart Cloud Model

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Abstract

To better understand the practical applications of smart cloud technology in response to public services improvement, this paper researches the application results of Smart Cloud Model Based Public Health Multidimensional Services (SCMBPHMS). Different from the previous studies that focused on the details, this paper establishes a relatively macroscopic large model of SCMBPHMS, we have established a knowledge model based on artificial neural network on the model data processing to sense various users' data acquisition habits of SCMBPHMS and let Public Health Smart Cloud Service (PHSCS) gaining the function of intelligent mining and data intelligent classification via training library. Finally, we give the example of some important features of SCMBPHMS via PHP language. In future, SCMBPHMS combined with the Residents' Health Card will greatly influence the quality of Public Healthcare Services

Keywords: *Smart Cloud Service, Smart Public health service, Neural Knowledge Database*

1. Introduction

Public Health Care Smart Service serves not only patients but also healthy residents. During the past decade technology has gradually been moving towards Ambient Intelligence (AmI) environments aiming to help inhabitants in everyday life [1, 2, 3]. Pervasive healthcare as an emerging discipline is consist of wireless applications, mobile and intelligent technologies [4]. Smart devices provide assistance for various physical and neurological disabilities [5]. Being perceived personal health information would be stored in Residents' Health Card then pushed to cloud services. Home tele-health is known to decrease healthcare costs and to improve the people's quality of life [6, 7].

With the implementation of the policies of the national healthcare reform, Public Medical Wisdom Service as a primary way to maximize the value of information is the inevitable trend of the development of information technology. Regional health information collaborative platform is the core content of the regional health [8]. Private hospitals, government hospitals and basic health unit may form a collaborative healthcare together or with similar units in another town or city [9]. Simulation wearable sensors data of vital signs are used for developing a health diagnosis system [10]. To reduce the workload of staff and improve efficiency and service quality through the utilization of information technology and the Internet [11].

Public Health Management Decision Support Service, based on various types of existing urban application systems and services [12], supports public managements to acquaintance and forecast the trend about health or disease then making decisions.

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Regional health's goal is to use the IT technology to form a platform full supports to the regional medical service and management decision-making, improves the level of healthcare and the performance of public health service [13]. Best practices and strategies for performing knowledge management within a local institution can be elicited and studied [14-16].

Public Knowledge Management Smart Service covers medical staff and medical students via u-learning. Knowledge management is a process used in business that involves unearthing people's thoughts and executing management policies [17-19]. The integration of a Knowledge Management System (KMS) into the medical field can help change the medical industry [20]. Users have the ability to search through various levels of knowledge and evidence from a broad range of disciplines to identify the information most relevant to them [21]. Knowledge strengthens organizational efficiency, improves the quality of policy-making and improves standards of service through the construction, sharing, promotion, and storage power of information technology [22].

In this paper, we advocate the use of Smart Cloud Model to improve Public Health Multidimensional Services. We design a relatively macroscopic large model of Smart Cloud Model Based Public Health Multidimensional Services (SCMBPHMS) that performs real-time health data exchange between terminals and clouds, and ultimately pushes related health information through websites or apps to users of various types of SCMBPHMS provided.

2. Cloud Services Research in Public Health Care

2.1. Cloud Services Architecture

We studied Cloud Services Architecture including server clusters, DB cluster (Cloud Storage), template engines. Data transmitted from each server node will directly converge DB cluster (Cloud Storage). While calling for data analysis and processing work will be done on server clusters. Its detailed architecture is presented in Figure 1.

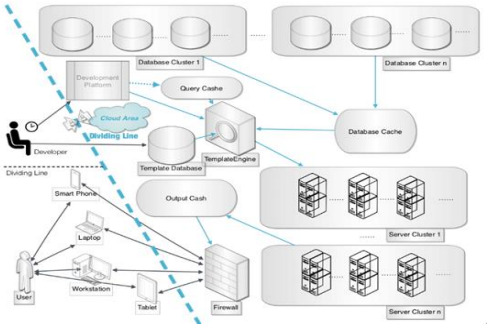

Figure 1. Cloud Services Architecture

2.2. Health Cloud Research

As the trend of future society development [23], IT has been an important part of health management and service work [24]. Health information construction will eventually become next important application field of cloud technology [25]. In recent years, technology innovations with internet have brought the development of new service infrastructures such as Public Health Smart Cloud Service that provides Public Health Care Smart Service; Public Medical Wisdom Service; Public Health Management Decision Support Service and Public Knowledge Management Smart Service to end users. Meanwhile, improving the scientific management level of the hospital, the quality of medical services and medical work efficiency also need the support of Cloud Service [26]. The accumulated data is stored in a cloud based storage repository for efficient

retrieval, updates and quick transfers as and when required [27]. It allows for wide accessibility and provides access to huge amount of computational and storage resources [28]. The inherent advantages like scalability, lower costs, rapid provisioning, fast deployment, low-cost disaster recovery, rapid re-constitution of services, greater resiliency, instant elasticity and data storage solutions promises the potentials of cloud computing, storage and services [29, 30].

2.3. Evolution of Health Cloud Application

The Wisdom Regional Medical Center Hospital that we have always tracking and mining data was taken as a present, enrollment and the actual reservation number of this hospital in 2012, 2013 and 2014 are analyzed by this paper after the hospital carrying out the Health Cloud Application. Hospital health cloud registered in the number of visits analysis is given in Figure 2.

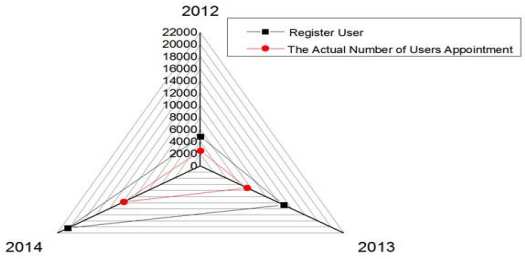

Figure 2. Hospital Health Cloud Registered In the Number of Visits Analysis

Since 2012, the wisdom center hospital began to promote online services project based on Health Cloud Services. In 2012, the hospital completed the build of the basic functions of Health Cloud and perfected the cloud service function based on the Residents' Health Card in 2013. Online booking experiences of the health people and health cloud modeling were completed in 2014. The situation of enrollment during the promotion of the project: 4888 people in 2012, 12780 people in 2013 and 20403 people in 2014. The number of actual utilization of health cloud online appointment registration function: 2498 people in 2012, 7186 people in 2013 and 11772 people in 2014. As shown in figure 2, the number of enrollment and reservation is increasing with the development of Health Cloud Services.

3. Architectural Overview of Conception Model

3.1. Model Implications

Our objective is to design a Smart Cloud Model Based Public Health Multidimensional Services (SCMBPHMS) that performs real time data exchange of public health data. Our conception model can accommodate a variety of knowledge (after processing the data of analysis and classification) including: public health care data, public medical wisdom data, public health management data and public knowledge management data by analyzing the different categories of users data stored in smart cloud repositories. However, in this paper we concentrate on one use case, namely, Improving Public Health Multidimensional Services. The conception model architectural overview of our constructed model is depicted in Figure 1. As shown, our conception model is composed of five sub services: a) Public Health Care Smart Service (PHCSS); b) Public Medical Wisdom Service (PMWS); c) Public Health Management Decision Support Service (MDSS); d) Public Knowledge Management Smart Service (PKMSS); e) Public Health Smart Cloud Service (PHSCS). SCMBPHMS Architectural overview of conception

models is given in Figure 3.

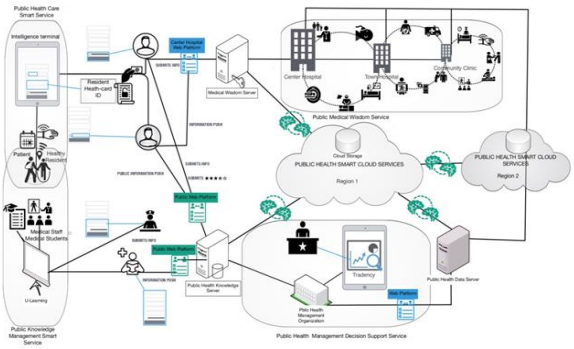

Figure 3. SCMBPHMS Architectural Overview of Conception Model

3.2. Public Health Care Smart Service

3.2.1. Patient-Oriented Services

(1) Before treatment**.** Intelligent services provided for patient locks the location information of patient mainly by the positioning of the GIS, which based on the residents' health, patients can directly submit the information of the reserve of expert, on-site first aid, illness advisory to the large hospital website or the government's public health service website. It bases on choosing the website of a large hospital or of the Government's public health service. After submitting information, there two ways submitting it to the cloud storage, a) patients submit the information of medical appointments to the website platform of the health care smart hospital they have chosen, the information, at first, is submitted to the server node of the health care smart hospital, then it's submitted to the cloud storage; b) patients submit the information of the hospital and doctor they have chosen to the server node of public knowledge server of public health departments by public health care platform website, and then submit it to the cloud storage. After reaching the cloud storage, the data of patients will pass the intelligent processing of cloud storage and be delivered to the user intelligent terminal according to the two ways through the node server. This time the information that patients needing can be shown in the intelligent terminal. The information consist of the list of "the most-powerful large hospital in the field of the illness that patient suffered (local and remote)", "large hospital of specializing the illness that patients suffered in the city they live", "the most convenient hospital for patients to seek medical advice (shortest path hospital)", "recourses of the experts specialized in the illness", "the situation of the medical equipment recourses usage". At last, in the information submitted, there are several optimization recommended treatment plans. (2) After treatment. After treatment, the PMWS of the smart hospital will submit the patient's detailed medical records to the PHCSS based on the Residents' Health Card number. a) Presenting the assessment information. Once finished a treatment, patient can evaluate all aspects of the treatment process according to public web platform (patient's single evaluation result will not open to the hospital, but the health authorities will gather all patients' overall evaluation results within appropriate time and feedback to hospital. b) Intelligent push for patient's personalized service information. If the patient orders the information push service, he will receive the information of 2 ways that have been intelligently processed by PHCSS, this information concludes the next recommendations of the diagnosis and treatment of patients, and the expert's recommendation and rehabilitation knowledge push associated with the disaster and disease the patient suffered. The patient service information is published by the Center hospital web platform within the region. c) Inquiring the patient

medical record information at any time. The patient's medical record information will be accessed through PHSCS in local or inter-regional when patients need to check previous medical records; no matter they are in local or in another place. Patients only need to enter its own residents' health card number to query.

3.2.2. Health Services for the Population

PHCSS service provided for healthy people including: a) personalized medical appointment service. Healthy people can make an appointment to visit their medical appointments by similar patterns of patients, specific processes are in 3.1.1. b) Health monitoring and modeling services. There are still some controversies of wearable medical devices in China currently; thereby we will use it on the healthy people's daily health monitoring. The wearable device sensory data for the healthy people, generally, is gained by wisdom center hospital and submitted to PHSCS, meanwhile, according to the residents' health modeling information, PHJSCS deals with the data relatively, when it comes to abnormal health data, it will warn timely and push feedback to PHCSS residents intelligent terminal (mobile app). If you need further examination, you can return to personalized medical appointment service in 3.1.2; if you need to go to the hospital for further diagnosis of the disease, you can return to experts' appointment registration service in 3.1.1.

3.3. Public Medical Wisdom Service

This article has been described the patient -oriented intelligent services, PMWS in this section will mainly explain the healthcare collaborative between large, medium and small hospitals. Implementation of medical wisdom is an important direction in China is to promote the first diagnosis sinking, which lets ailment, postoperative care and other sectors into the community, thereby shunting the number of patients in the large hospital. PMWS's services are divided into three aspects. 1) Community Clinics (township hospitals) in the PMWS consists mainly of community health talks, maternal and child health , ailment clinics , rehabilitation care , *etc*. 2) Medium-sized city hospital in the PMWS consists mainly of treatment of common diseases, routine medical testing and diagnostic services medical equipment, surgical treatment of common diseases, common diseases hospitalized, conventional pharmacy services and emergency services. 3) Large wisdom Center Hospital in PMWS focuses primarily on the incurable diseases specialist treatment services, ICU, complex surgery, inpatient treatment of incurable diseases, the treatment of euplastic diseases, infectious diseases treatment, medical equipment medical services, pharmacy services large , complex projects and pathology laboratory medicine, emergency sub-centers, etc. These three levels of medical institutions treatment services are backward compatible, upper medical units are generally including clinic project of lower medical units. Thereby, these three levels of medical institution can collaborate across levels when they have two-way referral and tele-consultation. Wisdom Center Hospital in PMWS has the ability of resource coordination and technical collaboration to affiliated medical institutions. The healthcare collaborative problem can be solved in PMWS can also be solved by Medical Wisdom Server Node of wisdom center hospital, however, if incurable diseases cannot be resolved within their own wisdom medical area, it needs to connect expert resources in other areas to have cross-regional and even international tele-consultation service through PHSCS tele-consultation service.

3.4. Public Health Management Decision Support Service

PMWS 's clients are mainly public health manager, the data of HIS systems, electronic medical records system and electronic health records system are dynamically uploaded to PHSCS, which can intelligently aggregate and analyze these data, after PHSCS online intelligent analysis and processing, the Web Platform of PMWS will provide the

following WEB-based interface services to Public Health Manager: a) Residents' health card data mining analysis services: The residents' health card records health changes of resident 's life in the data, public health authorities develop a more rational regional health management objectives and implementation policies through deep data mining and epidemiological analysis. b) Prevention and control of diseases and early warning analysis services: CDC KPI analysis is formed via health emergencies and disease epidemics management systems smart analysis submitted by Public Health Date Server Node of PHMDSS. Multi-level, multi-angle analysis of disease control management is provided for PHMDSS via powerful cloud computing capabilities of PHSCS. c) Consumption Index of Regional Health Services: PHSCS can analyze the environment and the level of medical care within the current health of residents in the area to provide a reference for public health decision-making via mining and analysis of the number of outpatient of hospitals in the area, outpatient costs, per capita medical expenses, the average medical cost of hospitalization submitted by Public Health Date Server Node and perceiving the amount of consumption of various types of expenses, billing source, means of payment and increase at all levels. d) Medical drug supervision and management analysis. Research, product, circulate and use of drugs and devices in the area are supervised dynamically via PHSCS. Via the data submitted by Public Health Date Server Node, public health authorities can distill, conform, monitor analyzes the prescription and drug consumption data of the three levels of hospitals, thereby, obtains the data of drug consumption ranking, usage of priority drugs and drug sales charges, finally the data that has been intelligently treated is submitted to the Public Health Date Server Node by PHSCS and more straightforward data expression such as graphical KPI, chart, dashboard are provided to public manager by Web platform based on web forms, managers can also easily drill hospitals , departments and even individual detail from the station of information.

3.5. Public Knowledge Management Smart Service

PKMS is a public health knowledge service; the server node belongs to Public Health Authorities. PKMS is a public health resources Knowledge Management Service, its range of services is generally in the public health area where itself belongs, in a sense it can be understood as a local public health knowledge management services, however, their knowledge is limited within the region, thereby it needs to connect with the knowledge base of outside region, at the same time, needs build knowledge-sharing mode with experts outside the wisdom area, which means that learners of PKMSS systems continue to learn and turn the explicit knowledge into their own hidden skills experiences in the brain and share the skills and experiences they have had with others. PHSCS bear the task of immediate knowledge of dynamic linking, mining and push when Public Health Knowledge Server Node establishes a data connection with PHSCS, the Web Platform of PKMSS will provide the following services based on interface service of WEB for Public Health Manager: a) Technical training of medical staff and surgical case library services. b) Medical students' clinical practice case library services. c) Residents' Health Knowledge Base Services. In the wisdom area of this study, the residents can not only get help through consulting services of 3.1.1, but also consult problem and share experience through Public Web Platform of PKMSS if the residents want to get the health advisory or share the experience of rehabilitation, PKSS will push their customized information automatically to registered users.

3.6. Public Health Smart Cloud Services

3.6.1. PHSCS Neural Knowledge Database

PHSCS is the most core service among various wisdom services mentioned in this

article. The paper presents the Cloud Services Architecture in 2.1 and four services that supported by PHSCS are detailed in 3.1-3.4，this section focuses on the related detailed description of PHSCS from the technical architecture perspective. In the cloud storage, the intelligent mining and perception of data are mainly coming from PHSCS. This mining and perception are mostly based on artificial neural networks' machine learning, this paper will connect cloud storage and intelligent mining to establish Neural Knowledge Base, which needs to continue to learn the information of the mining habit, preferences and features from different users of various server nodes via machine learning to push the intelligent processing information to various types of end-user of PHSCS. Generally speaking, the new data will be combined with rule base after connecting training data and nerve Knowledge base and finally it will be pushed to the relative server node via an inference engine and explanation tool. The Structure model of Neural Knowledge Database is given in Figure 4.

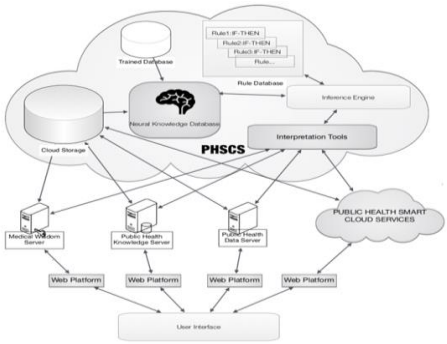

Figure 4. The Structure Model of Neural Knowledge Database

3.6.2. Classification Model of Neural Knowledge

In order to better sort of knowledge, classification relational model of the node data, rules, user is provided when the data gathered to the cloud storage, this model clearly shows the process of data mining and neural knowledge classification rules of PHSCS. Classification model of neural knowledge is given in figure 5.

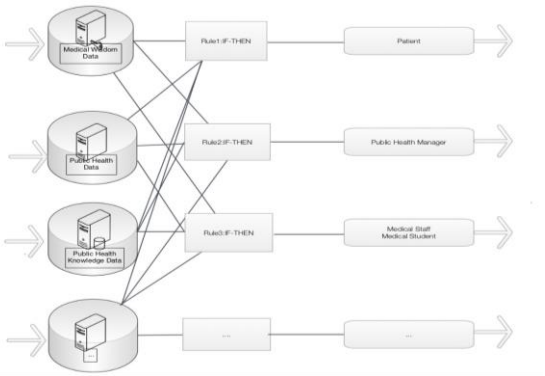

Figure 5. Classification Model of Neural Knowledge Model

4. Implementation

4.1. The Current Situation of Public Health Multidimensional Services Based on PHSCS

Based on the analysis of the current situation of public health multidimensional services of PHSCS in conceptual model (Figure 3), there are details in Table 1.

Table 1. The Current Situation of Public Health Multidimensional Services Based on PHSCS

Region	Service Objects	Situation Description
Public Health Care Smart Service	Patient	1. It's a trend, nowadays, patients see a doctor by using smart devices to reserve and consult. 2. At present the patient service platform is not intelligent enough and it can't give the data advice (medical equipment resource and expert resource) for patients according to where the patient is.
	Healthy Resident	1. More and more people begin to concentrate on their own state of health, they hope to check out their previous health records on internet. 2. Although there are many debates on the wearable device in China, more and more people start to monitor their health by using it.
Public Medicine Wisdom service	hospital	1. For patients in different medical institutions or different cities, the test results and the wills measures are main problems needed to be resolved. 2. Three kinds of medical institutions, large, medium and small have the trouble of the linkage of medical resources and services, what's more, the form of it is rigid. 3. The information silos problem is general and the intelligent level of the tele-consultation and two-way referral cooperation is low.
Public Health management Decision Service	Public Health manager	1. At present administrative departments of public health make decisions mostly based on data mining. 2. The data can provide powerful decision support for making policy, preventing and controlling disease, emergency management. However, we lack of dynamic monitoring based on individual health information. 3. At present the Data -aware mode is unitary. The intercommunication mechanism between medical institutions and public health authorities is still not perfect.
Public Knowledge Service	Medical Staff	1. It's difficult for so many health professionals to go to college or training units receiving massive face-to-face training. 2. Knowledge platform of public health care service has been given due attention, especially the web-based training platform for national GP is starting to take shape.
	Medical Student	1. As students are more and limited hours, clinical practicum and practice does not meet the needs of students' practice. 2. Students need to see more surgical cases, so as to achieve apply their knowledge, clinical practice courses in medical colleges have been moving towards online video teaching.
	Patient	1. The patient wanted to evaluate the hospital's medical services, but they are afraid of suffering retaliation when they receive next clinic because of his bad evaluation of the hospital, they can't trust the hospital's own services feedback system. 2. The lack of public health services evaluation platform. At present, medical patient satisfaction evaluation system is not yet completed, mainly lacking of intermediary carrier. Patients don't know by what means, how to evaluate hospital.

We can see from Table 1, the current Public Health Multidimensional Services are still some deficiencies in the application of intelligent cloud services; we need to strengthen the thinking of the application in intelligent mining and cloud computing in the future.

4.2. Part of the Function of the Software Code about the Conceptual Model

Based upon SCMBPHMS Model, We did an experimental part of the practice about software programs at the Chinese hospital and Health authorities in 2012-2014. The following are some code achievements of the section 3.1 Model Implications' functions based on PHP language.


```
/ * For PHCSS, PMWS, PHMDSS, PKMSS the associated user's knowledge of the
same type of random recommendation * /
functioncategory_related_random_knowledge($category_id)
{
$where."g.is_delete = 0 AND g.cat_id=$category_id ";
      $sql = 'SELECT g.knowledge_id, g.knowledge_name, g.knowledge_name_style,
g. external_knowledge, AS internal_knowledge, ' .
                  "IFNULL(mp. external_knowledge, g. internal_knowledge *
'TRANSMIT[knowledge]) " .
                  'g.check_start_date, g.categorize_end_date, g.knowledge_brief,
g.knowledge_thumb ,g.knowledge_img ' .
            'FROM ' . $GLOBALS['ecs']->table('knowledge') . ' AS g ' .
            'LEFT JOIN ' . $GLOBALS['ecs']->table(' internal_knowledge ') . '
ASmp ' .
                  "ON mp.knowledge_id = g.knowledge_id AND mp.user_rank =
'$_SESSION[user_rank]' " .
            "WHERE $where ORDER BY rand() limit 12";
      $res = $GLOBALS['db']->query($sql);
      $arr = array();
while ($row = $GLOBALS['db']->fetchRow($res))
      {
            $arr[$row['knowledge_id']]['knowledge_id']       = $row['knowledge_id'];
            $arr[$row['knowledge_id']]['knowledge_name']     =
$row['knowledge_name'];
            $arr[$row['knowledge_id']]['short_name']     =
$GLOBALS['_CFG']['knowledge_name_length'] > 0 ?
sub_str($row['knowledge_name'], $GLOBALS['_CFG']['knowledge_name_length']) :
$row['knowledge_name'];
            $arr[$row['knowledge_id']]['knowledge_thumb']    =
get_image_path($row['knowledge_id'], $row['knowledge_thumb'], true);
            $arr[$row['knowledge_id']]['knowledge_img']       =
get_image_path($row['knowledge_id'], $row['knowledge_img']);
            $arr[$row['knowledge_id']]['external_knowledge'] = knowledge
_format($row[' external_knowledge ']);
            $arr[$row['knowledge_id']]['internal_knowledge'] = knowledge
_format($row[' internal_knowledge ']);
            $arr[$row['knowledge_id']]['url']                = build_uri('knowledge',
array('gid'=>$row['knowledge_id']), $row['knowledge_name']);
if ($row['promote_level'] > 0)
            {
                  $arr[$row['knowledge_id']]['random_ knowledge '] =
random_knowledge($row['random_knowledge'], $row['check_start_date'],
$row['categorize_end_date']);
                  $arr[$row['knowledge_id']]['formated_random_knowledge'] =
knowledge_format($arr[$row['knowledge_id']]['random_knowledge']);
            }
else
            {
                  $arr[$row['knowledge_id']]['random_knowledge'] = 0;
            }
      }
return $arr;
}
```

```
/ * Create a template file to push for the same kind of knowledge the user * /
<!--{foreach from=$category_related_random_knowledge
item=category_related_random_knowledge_data}-->
<li class="li1" style="float:left; margin-bottom:20px;"><a
href="{$category_related_random_knowledge_data.url}"><imgsrc="{$category_related_
random_knowledge_data.knowledge_thumb}"
alt="{$category_related_random_knowledge_data.knowledge_name}"/></a></li>
<li class="li2" style="float:left; margin-bottom:20px;"><a
href="{$category_related_random_knowledge_data.url}"
title="{$category_related_random_knowledge_data.knowledge_name}">{$category_rela
ted_random_knowledge_data.short_name}</a><br />
<!-- {if $category_related_random_knowledge_data.current_knowledgeneq 0} -->
        {$lang.current_knowledge}<font
class="f1">{$category_related_random_knowledge_data.formated_random_knowledge}
</font>
<!-- {else} -->
        {$lang.internal_knowledge}<font
class="f1">{$category_related_random_knowledge_data.internal_knowledge}</font>
<!-- {/if} --></li>
<!--{/foreach}-->
/ * For the same user-created templates automatically update knowledge * /
<!--{foreach from=$category_related_random_knowledge
item=category_related_random_knowledge_data}-->
<div class="knowledgebox" style="background:none; padding-bottom:4px;
height:213px; margin:7px 3px">
<div class="imgbox" style="width:130px; height:130px; padding:5px; border:1px
#ddd solid"><a
href="{$category_related_random_knowledge_data.url}"><imgsrc="{$category_related_
random_knowledge_data.knowledge_thumb}"
alt="{$category_related_random_knowledge_data.knowledge_name}" width="130"
height="130"/></a></div>
<div class="xx_sptt"><a href="{$category_related_random_knowledge_data.url}"
title="{$category_related_random_knowledge_data.knowledge_name}">{$category_rela
ted_random_knowledge_data.short_name}</a></div>
<div style="color:#807e7e;padding-top:4px;">￥<span class="inpr">
<!-- {if $category_related_random_knowledge_data.random_knowledgeneq 0} -->
    {$lang. random_knowledge }<font
class="f1">{$category_related_random_knowledge_data. random_knowledge}</font>
<!-- {else} -->
<font class="f1">{$category_related_random_knowledge_data.internal_ knowledge
}</font>
<!-- {/if} --></span>
</div>
</div>
<!--{/foreach}-->
/* Calling of user knowledge of the template file copied the template file created by the
user's knowledge into a unified template folder and file specified in the call to fill in the
calling code*/
<!-- #BeginLibraryItem "/library/category_related_random_knowledge.lbi" -->
<!-- #EndLibraryItem -->
/* For PHCSS, PMWS, PHMDSS, PKMSS the associated user's knowledge of the
same type of random ordering*/
$luoyangzixun = $db->getAll("SELECT title,article_id FROM txg_article WHERE
```



```
cat_id=13 or cat_id=16 or cat_id=17 or cat_id=18 or cat_id=14 or cat_id=19 or cat_id=12
ORDER BY RAND() LIMIT 15");
    $smarty->assign('luoyangzixun',$luoyangzixun);
```

5. Conclusion

In this paper, we have presented a Smart Cloud Model Based Public Health Multidimensional Services (SCMBPHMS) and intelligent real-time processing of each server node data uploaded to cloud storage, followed the processed data are transferred back to the original server nodes, and ultimately through website or app pushed to users of various types of SCMBPHMS provided. It applies improving Public Medical Wisdom Services, Public Health Management Decision Support Services and Public Knowledge Management Smart Services via Public Health Smart Cloud Services. Different from the previous studies that focused on the details, this paper establishes a relatively macroscopic large model of SCMBPHMS, we have established a knowledge model based on artificial neural network on the model data processing to sense various users' data acquisition habits of SCMBPHMS and let Public Health Smart Cloud Service (PHSCS) gaining the function of intelligent mining and data intelligent classification via training library. Finally, we give the example of some important features of SCMBPHMS via PHP language. In future, SCMBPHMS combined with the Residents' Health Card will greatly influence the quality of Public Healthcare Services.

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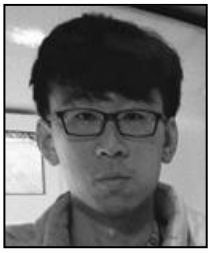

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