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Design and Implementation of Japanese Translation Information Platform Based on PHP Technology

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Abstract

The construction of the Japanese translation platform will be of great importance in translation industry and the related industries. It is the important foundation to promote the development of Japanese translation. With PHP technology, this paper will build a Japanese translation information system, which use database technology to design a background system architecture, and use DW platform for front design. It includes network information technologies such as E-R Model, MYSQL, PHP and web publish. Design and implementation of Japanese translation system is the only way to realize informationization of the contemporary Japanese translation.

Keywords*: Translate informationization, PHP technology, big data, MYSQL*

1. Introduction

Translation is a kind of cultural form between different human civilization. Translation is important cultural activities to enrich and improve the quality of human life, and exchange achievements of social development. In the era of big data translation industry needs to implement informatization, PHP technology can be perfect to complete the mission.

1.1. Informationization of Japanese Translation

As an important part of translation, Japanese translation is very important for cross-cultural international communication. As the world's second largest economy for a long time, Japan has a significant impact on the world, and Japanese translation involves human life in all areas. We can say, the higher people's living standards is, the more urgent the demand for Japanese translation is.

In the Information time, Japanese translation also needs to keep pace with the times. A lot of information about Japanese civilization needs to be compiled and codified into database. Translation is not only bilingual transfer, also reflected in the international communication, business trade and cultural transmission, that has entered the stage of the industrialization and information. With the development of the PHP technology, in particular, the advent of the era of big data, the lifestyle of modern people has been radically changed. The strategic significance of big data technology is not only to master the huge data information, but to analyze and process these data with specific meanings.

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1.2. The Development of Japanese Translation System Based on Php

PHP has been in use since 1995,A programmer of USA whose named Rasmus Lerdorf, developed a perl/CGI script that was used to take control of his own online data. Today, More than 40% of the world's web page is built in PHP technology.

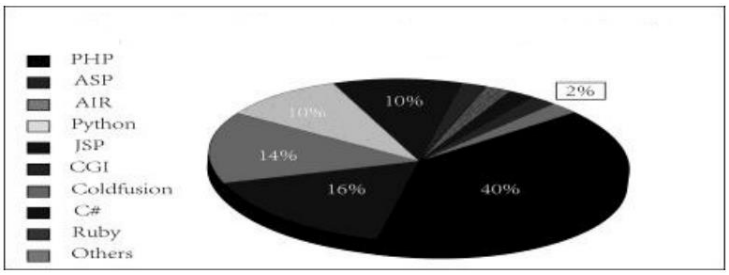

Figure 1. Model of PHP Web Page Proportion in the World

1.2.1. PHP's Features Include

1. Unique PHP syntax a mixture of C, Java, Perl, and create new PHP syntax.2. PHP or Perl more quickly than CGI perform dynamic web pages, dynamic pages, compared with other programming languages, PHP is embedded in the HTML document will program to execute, execution efficiency is much higher than the complete generated HTML tags CGI.PHP has a very powerful function, all the function of the CGI PHP can achieve.3. The PHP support almost all popular database and operating system.4. The most important is the expansion of the PHP can program in C, C + +.Many large companies in the world are using PHP technology to build website.

Table 1. The International Famous Company Using PHP Technology

WebSite	Programming Language	OS	Database
Facebook	PHP	Linux+Apache	MySQL
Yahoo	PHP	FreeBSD+Apache	MySQL
Baidu	PHP	Linux+Apache	MySQL
Wikipedia	PHP	Linux+Apache	MySQL
Taobao	PHP	Linux	Oracle
Sina	PHP	Linux+Apache	MySQL
BKOHTAKTE	PHP	Linux+Apache	MySQL
Tumblr	PHP	Linux+Apache	MySQL

1.2.2.We should erect a Web site driven by database to solve the Japanese translation system solutions: manage the application to implement a highly efficient work. The application of the database structure: 1. Create a Japanese translation information database, create all kinds of related tables in the database, get the corresponding information depending on the user’s requirement. 2. With PHP variable conditions and control structure, write access to the translation database, give the user's browser HTML script [1] 3. DW visualization interface technology, set up and test server and so on.

Data collection of Japanese translation information has certain particularity. On the basis of investigation and collection of Japanese translation resource, establish a Japanese translation information resource database and information inquiry management system using information technology.[2] From the practical application, this system collects regular feature of Japanese translation information, also join the Japanese local

characteristics, Japan's traditional culture and art, Japan's industrial economy, Japanese characteristic areas such as anime. It embodies the practicality and the social value. This system uses a flexible way of query, and its aim is for the convenience of users. It implements informationization and standardization management, [3] provides a variety of reference for the creator and builder of Japanese translation information. This system will be of great importance to improve the standard of Japanese translation.

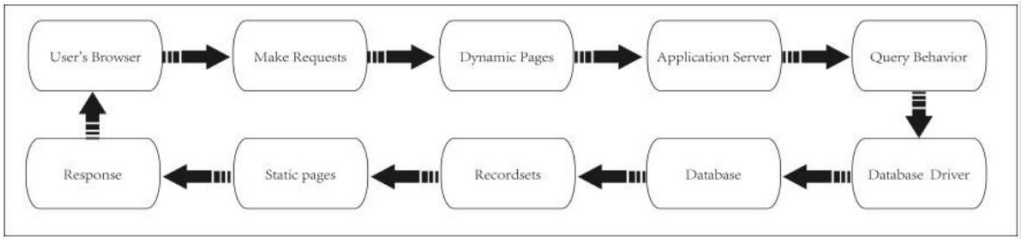

Figure 2. Model of Japanese Translation Information Interaction Platform

2. Architectures and Design of Japanese Translation Information Interaction Platform

The general idea of system construction is to collect representative Japanese translation resource and built a comprehensive information database, development and management the database by modern information technology. The main function of this system includes data entry, query, statistics and analysis, picture browsing, system maintenance. It has characters such as full-featured, user-friendly control，enormous information，data processing speed，flexible data output. System provides a comprehensive application database for Japanese translation industry users. The system structure should includes following parts: Analysis of data source, Conceptual structure design, Logic design, Physical design and implementation.

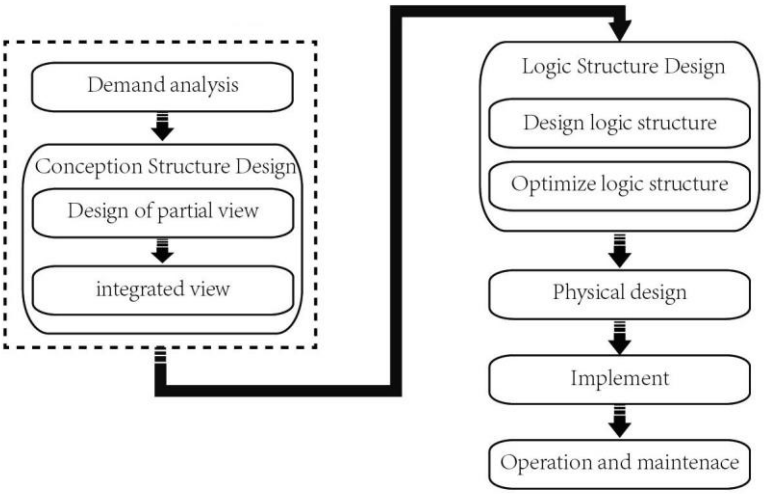

Figure 3. Database Structure of Japanese Translation Information Interaction Platform

2.1. Data Collection and Processing

The monitoring and collection of Japanese translation information is featured with huge amount of data, variety, structural complexity. According to data forms, it includes quantitative numeric data, numeric text, graphics, image, audio, video and hyper text, *etc.* According to data acquisitions, it includes online collecting, manual record, dynamic monitoring, *etc*. According to data base intention, it includes original data, data processing after finishing to calculate, and result data through professional statistical analysis processing. Online collecting refers to the electronic data collection behavior including Japanese dialect, science and technology of foreign trade. Manual record refers to scene photos, audiotapes and videotapes, written record and draw pictures. Dynamic monitoring refers to Japanese evolution in use. In order to meet various needs such as system operation, diversification of user requirements and completeness of system, Japanese translation system needs more comprehensive.

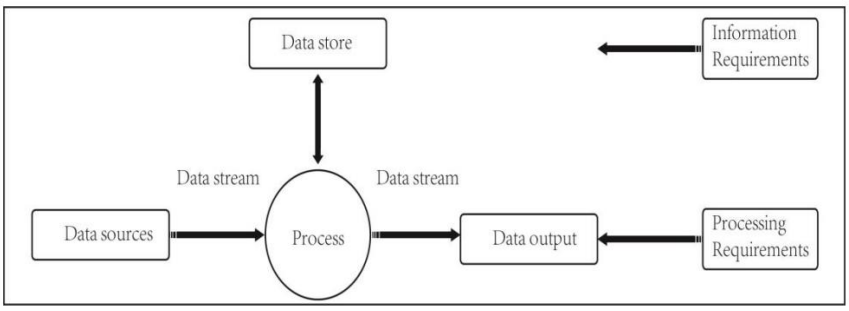

Figure 4. Model of Data Processing

2.2. Conceptual Design

At the bottom of the Japanese translation database, a Japanese translation information database. It will support each subsystem such as data input, data management, data analysis, result announcing. Data input subsystem includes automatic collection, manual record, dynamic monitoring and historical data load.[4] Through automatically collect data interface, input monitoring data of automatic system into database, or handle moving the data using the method of scanning, input historical data on-line such as audio and video. Data input should have efficacy. The BGF calculation formula realizes data processing and transformation, gross error reject, complementary error function, ensure the reliability of the incoming information. According to the specific needs, select the server-side trigger technology or application programming.

The functions of the application of data management subsystem are based on the database, which should provide query information about item information, actual photos, safe and reliable database, add, modify, deletion function and output function, complete all kinds of files according to the user customization. Moreover, the database has functions such as statistics, compilation, analysis. Above functions need data interface between application and the database.

Data analysis subsystem provides models and relevant parameter such as professional model analysis, online comprehensive analysis, analytical derivation, expert consultation. The data is open to the users for query and maintenance. The database also need to have intermediate information storage function, for data exchange and sharing between supply application.

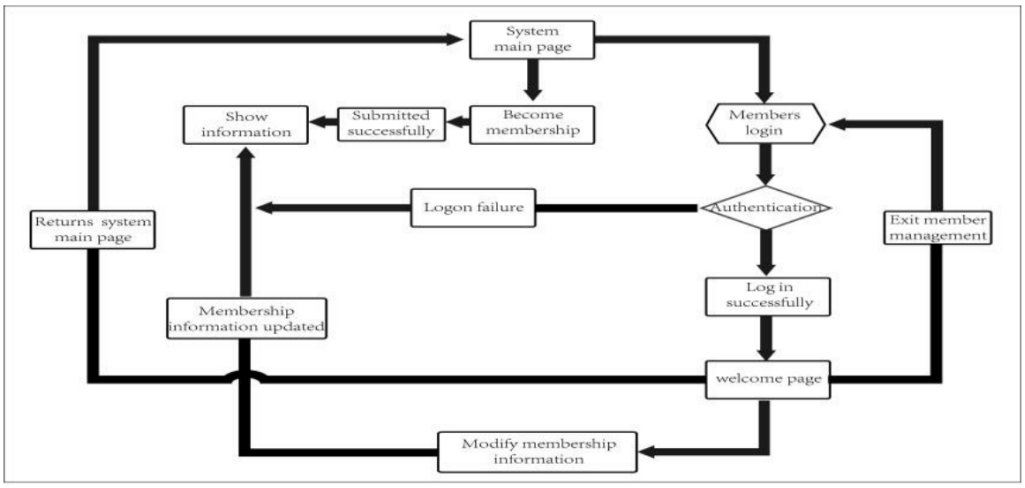

Figure 5. Model of Japanese Translation Information Interaction Platform

Publish subsystem has integrated management functions as monitoring records, analysis results, expert advice. In conclusion, Japanese translation database is based on the underlying database, should include the following content: 1. Project Collection Database, storing information of Japanese translation. 2. Original Database, storing the original information. 3. BGF database, storing project data completed preliminary processing. 4. Result Database, classification for government affairs manager economic policymakers Japanese cultural translation information professional translation agencies, and other information users Japanese translation. The database structure is logic design concept. On the physical implementation, all the data will be put in one or a few actual database, in order to design the data relationship and data correlation operation. According to the different needs of users, create classification database with visual technology.

2.3. Logic Design

Logical design for database is the core of database system optimization design. Logical design is for the database tables and interaction design between table and table. [5] Good logic design is the base of database and the performance of application. It includes: found data dictionary, create E - R model, define the object naming conventions, and design tables, fields, index, major key and foreign key.

With some engineering database integrate data table as an example, data dictionary and SQL statements are presented. The design of the other tables and fields is based on the above method. The database logic design should consider the integrity of the data. It relies on the rules of foreign key cascade trigger stored procedures, *etc.*

E-R Model is an important tool for database design. Its basic constitutive elements include Entity, Attribute and Relationship. Database logic design needs E-R model design, then change into relation model. Entity: Entity with the same properties has the same characteristics and properties, which is shown with the rectangular. Attribute: An entity can be characterized by several properties. It is shown with the oval.

Relationship: Contact is also called relationship, shows the connection between the internal entities. Links within the entity means the relationship between the various properties of the entity. The connection between the entities usually refers to the connection between the different entities set, and it will be shown with rhombus.

E-R Model of Japanese translation database is shown as follow:

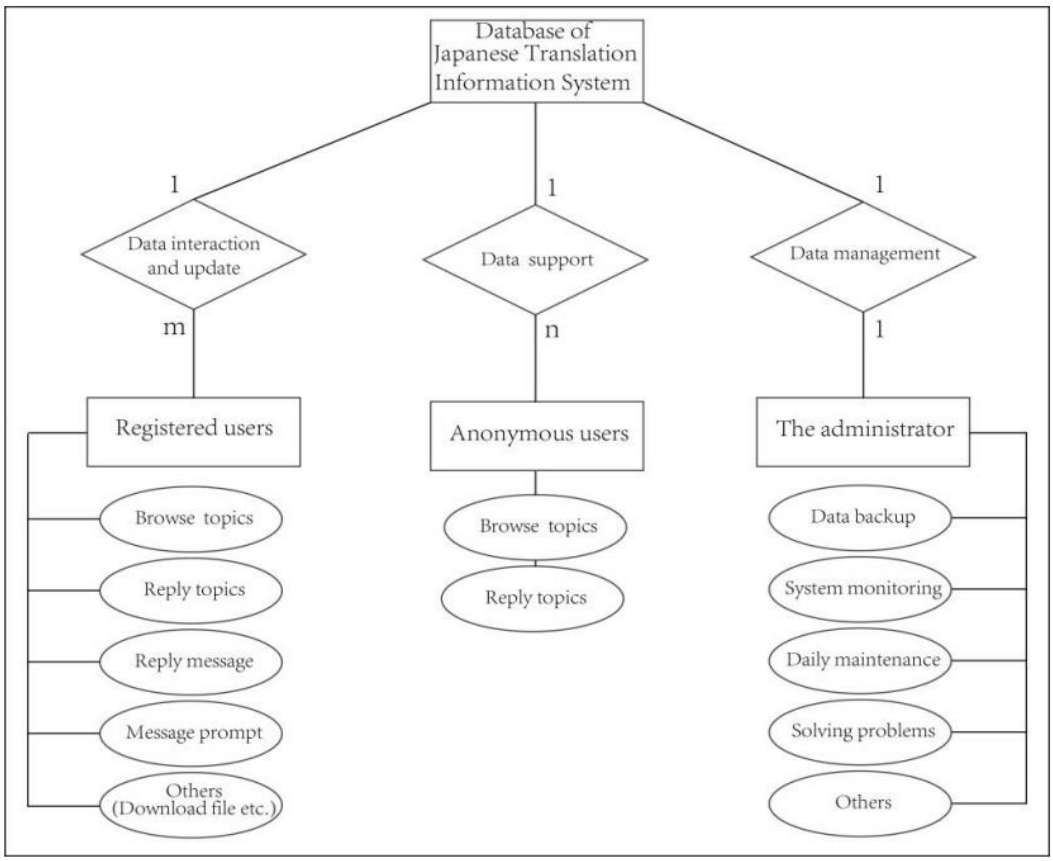

Figure 6. Model of Japanese Translation Information Interaction Platform

2.4. Physical Design

On the basis of logic design, physical design designs data storage structure and access methods, ensure that the database things run efficiently.

The hardware and software of Physical Design need to fully consider efficiency of application system, capacity of the security and so on. DBMS needs to be selected in the famous database products such as Oracle, MS SQL server, DB2, MY SQL. [6] The physical database construction process needs to classify the data, especially to distinguish between dynamic and static data, and multimedia data, Monitor updated data at any time to improve executing efficiency.

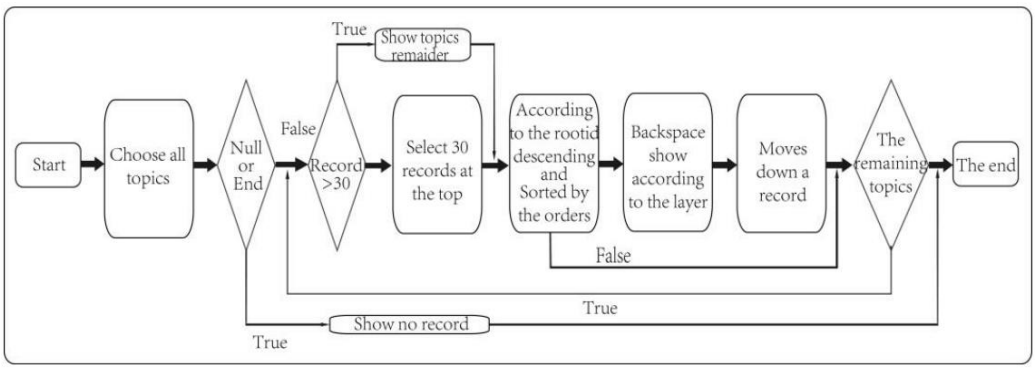

Figure 7. The Mode of Browsing Topics Module

2.5. Implement and Maintain

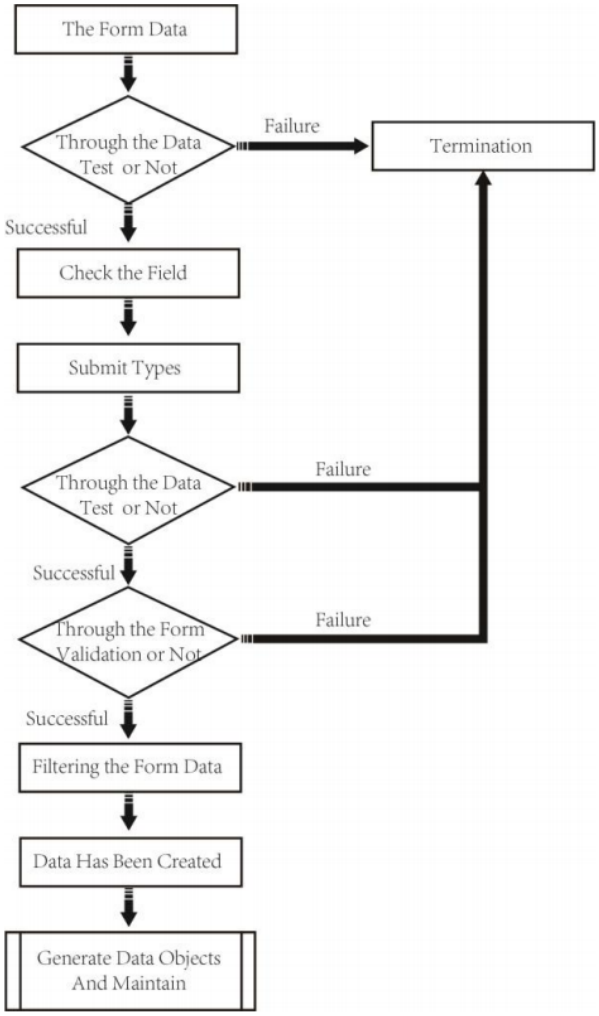

Figure 8. The Flow of Japanese Translation Information Interaction Platform

The reliability of the Japanese translation information database construction is very important, and the stability of the system is particularly important. It can be considered from the following aspects: Firstly, choose a mature and stable hardware system. Secondly, Use data from a high security backup and repair system, in order to realize date recovery in the event of the inevitable hardware failure.

Database Modle: As a game with hundreds of millions of potential customers, uses MYSQL as the database. In each aspect all can get good results, and has a certain capacity. [7] The flow of Japanese translation information interaction platforms as Figure 8:

3. Conclusion

Translation is a systematic and complicated project. In the background of big data, the construction of Japanese translation information platform does not permit of any delay. It is important foundation and requirements of the times for the contemporary Japanese translation. This paper used the combined way of PHP + MYSQL, construct a database for Japanese translation information platform. We hope it can promote efficiency of Japanese translation, promote the translation industry informatization, provide useful help for social economy and social cultural development.

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