

# The Development and the Design of E-pass Translate System for Specialized Foreign Language

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## Abstract

According to the inaccuracy of the existing English translation software, This article hopes to develop a professional translation system that corresponds to academic vocabulary, combining intelligent software with large data and cloud computing, and creating an expansive vocabulary library that can be maintained and updated by users. This system will eliminate the non-professional parts of vocabulary, emphasize the specialization and synthesis of languages, and form a thesaurus integration correspondence of foreign language vocabulary(including English, Japanese, French, German, etc.), which can be transferred out at any time. It can be widely used in various fields such as thesis research, industry, and academic research. Designed an initial system version has been formed that can achieve essential professional vocabulary search functions. After testing, it is well used, has high reliability and accuracy, low cost, and good stability.

## Keywords

Professional English Translation; Word Library; Cloud Lookup; Self-refresh and Self-maintenance.

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## 1. Introduction

Online translation applications have become one of the essential tools for cell phones. It can be used for learning and come in handy in online social activities, online shopping, daily reading, etc. However, the industrial-specific vocabulary is rather complicated and specialized in the current situation. It is very difficult for most industries and enterprises to arrange specialized personnel to carry out the vocabulary translation attack. Especially in the case of poor English communication, it is still challenging to achieve technical communication directly through the existing English translation software. Therefore, it is important and meaningful to realize the systematic organization and reform of industrial, professional vocabulary.

After decades of rapid development, China's industrial structure is gradually being improved. We should focus on studying how to adopt modern information technology to translate, integrate and conduct scientific research on the high-quality literature resources of western developed countries. The standard translation software system is limited to the search of English words. At the same time, our approach has a user self-updating and self-maintaining module. It allows uploading not only vocabulary but also specialized literature. One of the administrator team review functions can even translate, mark up, find and retrieve foreign language literature. This is of great help for design operations on the industrial side and theoretical research on the academic side [1-2].

## 2. Global Design

This system adds a multilingual module compared with our standard translation software. This is more diverse and diversified for language and information processing. Secondly, we have eliminated

the meanings of some words in daily life, thus making this system more specialized. Finally, this system allows users to perform self-maintenance and modification. These operations can continuously enrich the lexicon data after review, thus making the user experience more prosperous and more convenient.

The B/S structure (Browser/Server) is the basic structure that simplifies the development, maintenance, and use of the system. C language is one of the most common and widely used high-level programming languages in the world, so this system is programmed in C. Since the program designed in C language is strongly portable and can effectively improve the efficiency of management personnel when users operate the database, the system can facilitate the individual replacement of components, achieve seamless system upgrades, and minimize system maintenance overhead. Users can download and install the system themselves from the Internet to accomplish the upgrade. We also design the name of the translation system as "E," the "E" in its name comes from the Greek letter "ε" (as shown in Figure1), which means that this letter shows the diversity of our system. The "E" in its name comes from the Greek letter "ε" (as shown in Figure1), implying that this letter shows the diversity of our system. At the same time, the notch of the outer rectangle in the LOGO of the system is designed to express the meaning of communication between industries of different countries.



Figure 1. Soft System LOGO

### 3. System Structure

System structure of the whole structure of the operating system can be divided into three, the user first landing software in the information search interface has two entrances, respectively by the professional search and word search directly. After the two entrances and new entries, the segment in "according to the professional search" column, we will according to the data search frequency recommended the current priority is used or browse the most professional, In the "direct search" bar there will be word search history, hot frequency word recommendation, and other subdivision items, to maximize the convenience of each user's search process.

The query history of each user will also be recorded and identified for future queries and use. For some commonly used professional words named with the first letter of the word, the system will also provide their English translation and the system language selected by the user for translation.

To more intuitive to understand and learn industry professional English vocabulary, for large mechanical equipment, some economic phenomena of economic disciplines, chemical medicines, equipment parts and so on corresponding words, later will gradually develop the module of image and text comparison, thus more precise and intuitive to learn professional knowledge, improve their professional level.

### 3.1 The Overall Structure Design Block Diagram.

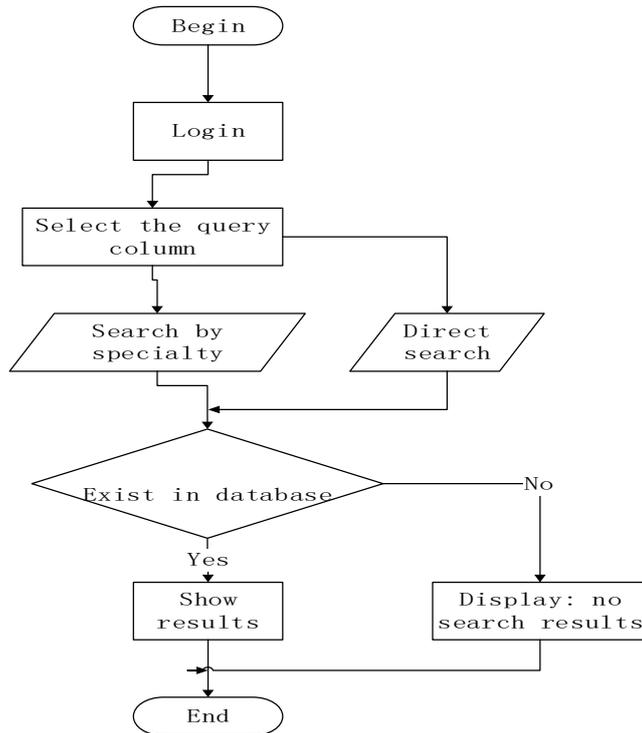


Figure 2. overall structure design block diagram

### 3.2 User Module

Each user can query words, enter words, retrieve documents, and modify passwords in the user module.

(1)bThe block diagram of the word entry module is shown in Figure 3.

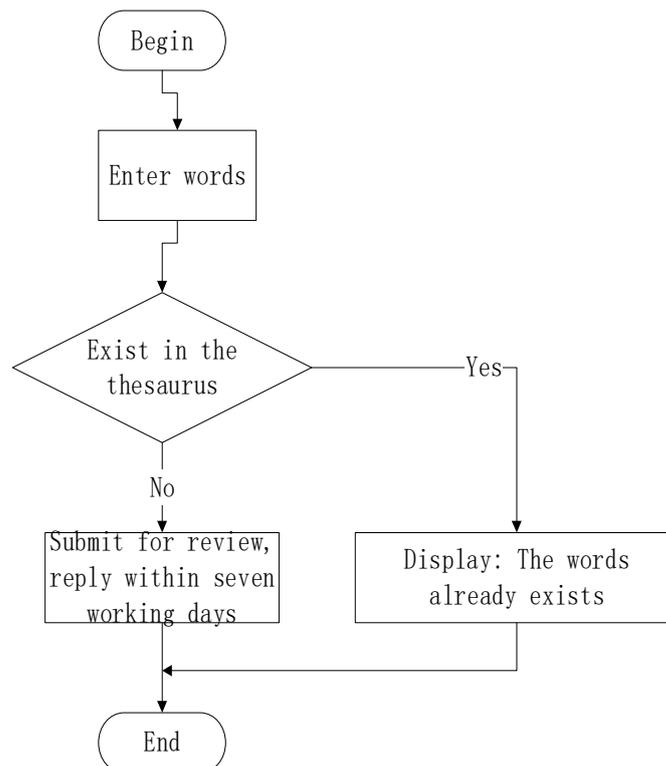


Figure 3. block diagram of the word entry module

(2) The flow chart of the user's password modification is shown in Figure 4.

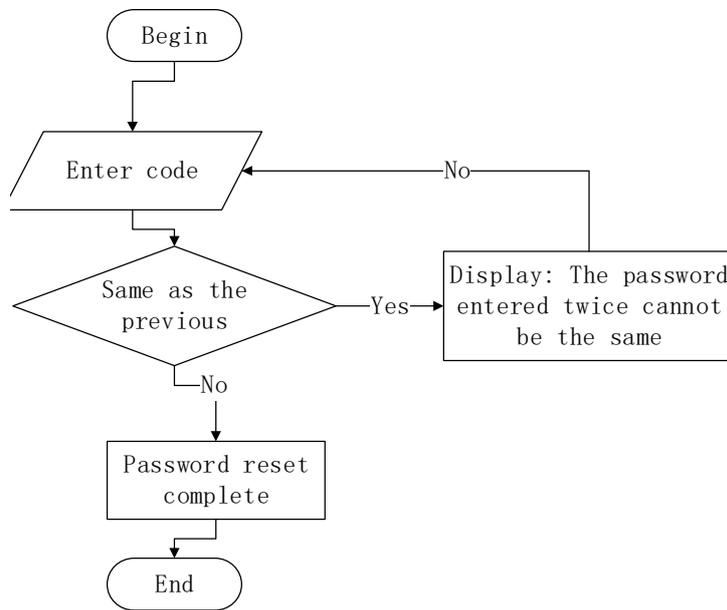


Figure 4. flow chart of the user's password modification

### 3.3 Administrator Module

Administrators can filter, review and modify the content submitted by users, and add valid information to the thesaurus, thereby enriching and expanding the thesaurus.

(1) The block diagram of the review module is shown in Figure 5.

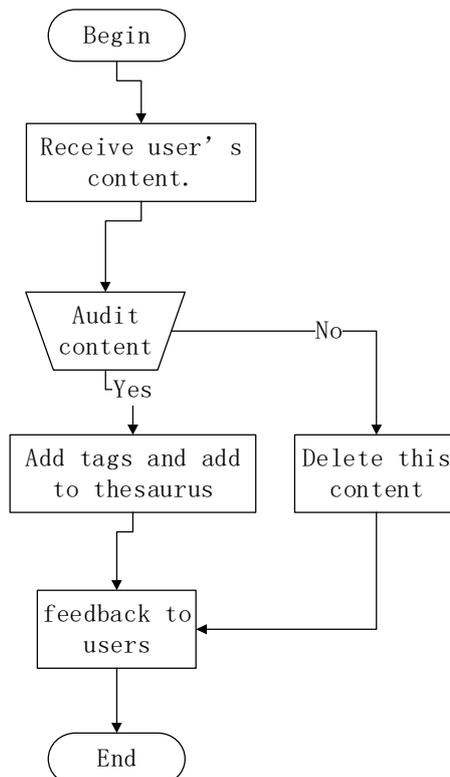


Figure 5. block diagram of the review module

(2) Modify module

As shown in Figure 6, if a new academic term or vocabulary combination appears, the administrator needs to modify or add information to ensure the thesaurus's timely update and efficient use [3].

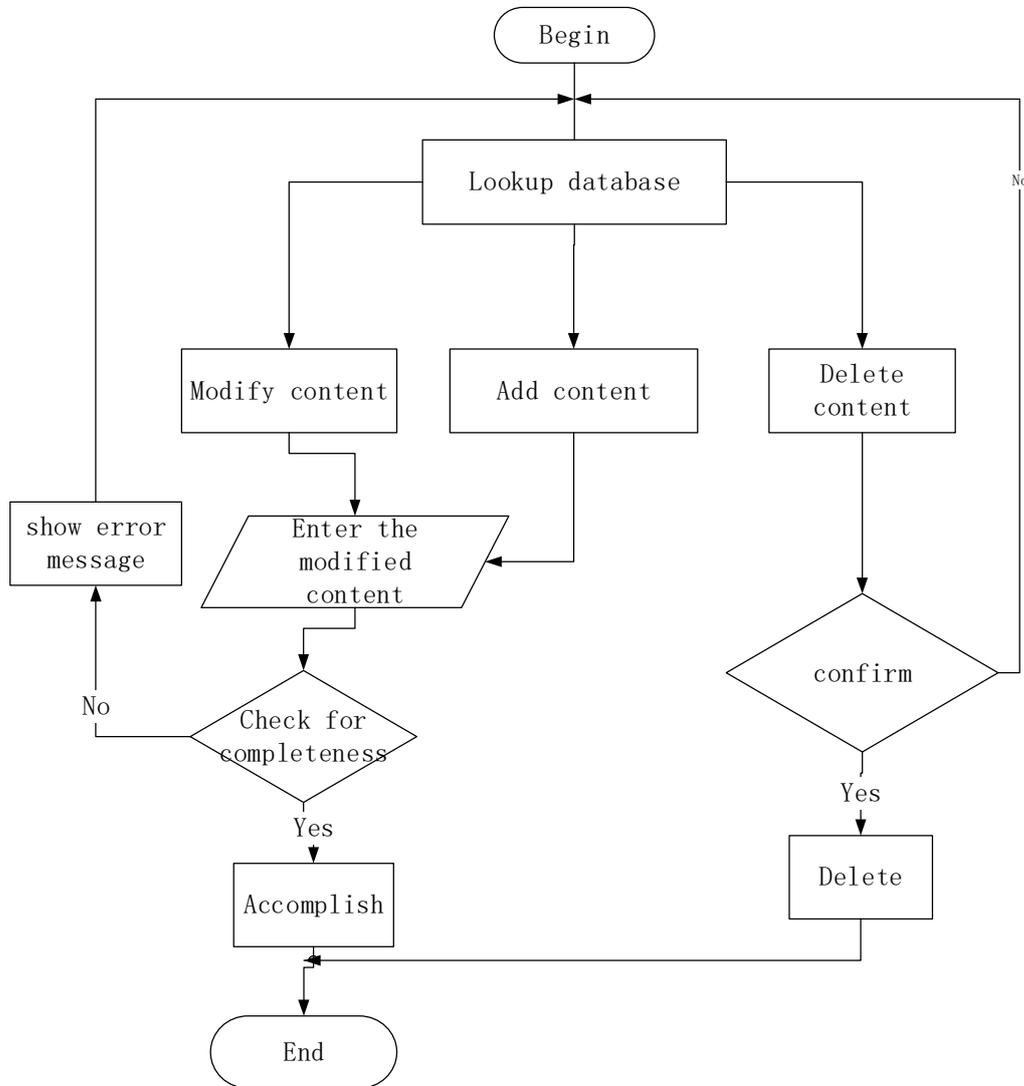


Figure 6. Modify module

## 4. Implementation of the System

### 4.1 The Establishment of the Database

This article uses MySQL to build the database. The SQL language used by MySQL is the most commonly used standardized language for accessing databases. MySQL software adopts a dual-licensing policy, which is divided into community version and commercial version. Due to its small size, fast speed, the low total cost of ownership, especially open source, MySQL is generally chosen as the website database for developing small and medium-sized websites [4].

Part of the procedure to create the database:

drop database if exists words;

create database words;

use words;

create table PHE;

(

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id int(3) auto_increment not null primary key,  
name char(10) not null,  
address varchar(50) default 'PH',  
year date;  
).
```

## 4.2 User Login

Open the software to enter the user login interface, and then query the vocabulary. During the translation conversion process, the user can choose the output method, such as English, Japanese, French, etc., and the drop-down menu of the display interface can see the display results. The display results shown is omitted. If you query multiple words or phrases in this process, you can use "," to separate them for easy retrieval in the library. The display results will be displayed in order. Each displayed content will be marked according to the output mode selected by the user to realize retrieval and information acquisition. We can see that our preliminary debugging results achieve the goal we originally envisaged. What we need to do is to enrich the thesaurus and add functions such as languages continuously. We will also build our website and constantly update the thesaurus to adapt to the development of the times. All involved programs are compiled by C language [5-6].

## 5. Conclusion

In conclusion, compared to common translation software, the translation system designed by us is more diversification and professional.

Our software has functions that allow users to upload professional and academic documents. Through the verification of our administrators, the users would have access to translating, labeling, and searching specific documents written in foreign languages. These functions of our software would be of great assistance on design and theoretical research on industrial studies.

Our translation program has passed several early tests, which shows its functionality and promotional value since our program had shown its high accuracy, high stability, and low cost.

Of course, since our translation program is still in its early stages, it still has problems such as the real-time uploading still having space for improvement and the lack of optional languages. These are some of the existing issues that we will continually improve.

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