Research on Computer Intelligent Proofreading System of Improved English Phrase Translation Model

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Abstract—When carrying out English translation based on phrases and sentence patterns, the contextual coherence of phrases and sentence patterns is relatively poor, which will directly affect the effect of English translation. In the process of designing and improving the English translation computer intelligent proofreading system, we need to study the specific modules of the system design. At the same time, we need to improve the design level of the English translation computer intelligent proofreading system based on the improved phrase translation model. Only in this way can it be ensured that vocabulary can be proofread when translating English, and the translation effect can be improved. This is also the main goal to realize the design of an intelligent proofreading system for English translation. In the process of analyzing and researching the proofreading system, we need to analyze and compare the accuracy of the design system and proofread the incoherent context in the English translation results in time. This can give full play to the advantages of the intelligent angle system with high accuracy and contextual coherence.

1. INTRODUCTION
As the pace of global economicization continues to accelerate, trade exchanges between China and different countries have become more frequent. In this context, English translation has become an important language used in different countries. In the context of the rapid development of modern information technology, English learning methods and learning approaches are becoming more and more diversified. In particular, the English electronic dictionary can promote the simplified development of English learning to a certain extent, and can change the learning habits of the English community. In the context of more and more widespread use of smart phones, mobile electronic dictionary APP has become a key tool in the process of English learning and English translation, and it is widely concerned and welcomed by people. Many English lovers can directly use their mobile phones to complete their English learning. However, in the application of English electronic dictionary, the reliability of English translation results has been affected to a certain extent. People must use smart proofreading software to effectively proofread the English translation results to ensure the accuracy of the English translation results. The manual proofreading speed is relatively slow, which cannot meet the current large number of translation needs. Moreover, its investment in manpower and material resources is relatively large. Therefore, the design and improvement of computer intelligence based on phrase translation model can improve the level of intelligent proofreading of English translation and ensure the reliability and accuracy of English translation results. In addition, it also has positive significance in promoting the innovation and development of information technology in the English intelligent proofreading system.
2. **DESIGN OF COMPUTER INTELLIGENT PROOFREADING SYSTEM FOR ENGLISH PHRASE TRANSLATION MODEL**

2.1. System Framework Design

When designing the English translation intelligent proofreading system, we need to ensure that the overall value of the system is scientific and reasonable. Only in this way can we use effective module design work to obtain data in the work process. At the same time, we need to use the behavior log to complete the data recording operation, which not only facilitates the background engineer to use the behavior log to view the intelligent proofreading system in real time, but also can effectively improve the system's problems in the application process, which is conducive to improving the proofreading performance of the system. In the application process of the intelligent proofreading system, we need to use the method of translating English sentences to replace the wrong content in the original translation, so as to achieve the intelligence of proofreading, so that users can obtain the correct translation results. When the proofreading work is carried out in the operation of the intelligent proofreading system, the proofreading task is mainly completed by sentence characteristics. In the actual proofreading process, we can use relevant information to search the Internet to obtain the necessary information, and store the information obtained from the search in the working mode. The overall structure of the English translation intelligent proofreading system is shown in Figure 1.

![Figure 1. The Overall Architecture of the English Translation Computer Intelligent Proofreading System](image)

In the system framework of the intelligent proofreading system, we need to use the work module to complete the intelligent proofreading character of English translation. The work module can accept the search link of the translation module, and the translation module can analyze the vocabulary features in the sentence waiting for proofreading based on the sentence, and sort the translation results according to the similarity. In this way, the intelligent proofreading system can as far as possible ensure that the translation results meet the actual needs of users. In addition, in the process of networking, users can also use the translation module to implement operations such as English-Chinese translation or English-Chinese translation. If there is no network, users can use the local dictionary for offline query. Moreover, the intelligent proofreading system can also provide users with certain software setting services, mainly including voice functions, vocabulary books, system caches, etc. As the system is updated and upgraded, the offline vocabulary in the intelligent proofreading system can be continuously updated according to the changes of vocabulary sentences. This enables users to obtain more sentences and vocabulary without connecting to the Internet, thereby improving the accuracy of users' offline queries. The offline translation module can also be used to modify words and interpretative example sentences in time to enrich the word interpretation database and improve the translation performance of the intelligent proofreading system for English translation [2].

2.2. Hardware Design

After completing the system architecture design, we need to design the hardware according to the actual requirements of the English translation computer intelligent proofreading system. The level of hardware
design affects the application performance of the intelligent proofreading system to a certain extent. Therefore, the design staff need to pay attention to the hardware improvement design of the intelligent proofreading software for English translation. Under normal circumstances, hardware design needs to proceed from the following two aspects. Firstly, design the search module. The main function of the search module is to complete the extraction of lexical features in sentences, and to analyze lexical features at the same time. In the application of the smart proofreading system, the search module can use the analysis function to accurately extract the meaning of words and similar information. Subsequently, the module can simulate the storage method of the human brain, continuously update the vocabulary features, and improve the accuracy of the intelligent correction results of English translation as much as possible. In the application process of the search module, the user needs to be able to receive and process vocabulary in time when inputting information. Meanwhile, users need to search for vocabulary features as soon as possible, use the mapping thread to create a mapping thread that can complete the proofreading vocabulary meaning and subject content search, and can effectively extract the vocabulary features that have not been proofread. In general, with one-to-many translation mode, the system can ensure that all mapping points in the entire mapping range are vocabulary and subject content that need to be proofread. This can ensure that the searched answer is as close as possible to the search range, thereby reducing the user's search error rate. Secondly, the behavior log design work. The behavior log is another major part of the hardware design. Its main function is to record all user behaviors in the system application process, and display these behaviors in the form of data information. In this way, when the user performs a second operation on the intelligent proofreading system, the system can proofread the same English translation multiple times according to the recorded user behavior information. Moreover, the system can intelligently increase the scope of vocabulary translation and search to obtain more user-demand results. This will help improve the proofreading performance of the system and ensure the accuracy of the English translation computer intelligent proofreading system [3].

2.3. Software Design
In the design of the English translation computer intelligent proofreading system, the software module design is an important part of it. The design effect of the software module will directly affect the performance of the system proofreading. System designers usually start from the following aspects to complete the design of the intelligent proofreading system software module to improve the improvement effect of the intelligent proofreading system for English translation. Firstly, the system application framework design work. The system application framework is an important foundation for the stable operation of the intelligent proofreading system, as well as the key content in the design of software modules. In order to improve the design effect, designers can use different program architecture modes to complete the deployment of system applications. In this design process, the MVC architecture pattern is used. The main reason for using this mode is that the application advantages of mandatory program output and access of the MVC architecture can be used not only to separate the display layer and the logic layer, but also to improve the efficiency and speed of system development. In addition, using the XML interface in the Android system to present results to users, and combining it with the MVC architecture has certain advantages. The specific system application architecture diagram is shown in Figure 2. Secondly, the network topology design. In the process of network topology design, the Android system is mainly used to send access requests, while interacting with the database to deliver translation results to users. In the network topology design, the speed and convenience of customer experience should be improved as much as possible. Therefore, the designer can use the C/S architecture to design the overall structure pattern. This network topology design can improve the overall response speed of the system. In practical applications, the system can create a small database on the mobile terminal and complete basic information storage operations based on the database in the Android system. The schematic diagram of the network topology of the intelligent proofreading system is shown in Figure 3. Thirdly, client design. In the design process of the English translation computer intelligent system, the client will directly affect the customer's experience and satisfaction. When
designing the client, the designer needs to add functions such as image recognition and text scanning, and the user can directly use the mobile phone camera to take pictures of the text that needs to be translated. Subsequently, the system can send the text to the cloud server in the form of picture information, and the system can collect the local equipment to complete the picture selection. Make precise settings for flash, brightness, focus, and identification information in the option settings. Afterwards, the system can select the picture information and use the HTTP protocol to transmit the taken picture information to the cloud server. The OCR software deployed in the cloud server can complete image information recognition and form text information. Finally, the system can call the application server to translate the text information formed by the picture information, and feed back the translated language to the mobile terminal. The user can complete the editing of the feedback target source, or directly use the Internet of Things to search for the corresponding content. In the client design process, the designer needs to enrich the client application functions as much as possible based on the analysis of the system client design structure. In the meantime, the designer needs to design the client's icon, etc. to improve the aesthetics of the client's icon [4].

![Figure 2. Smart Proofreading System Application Architecture Diagram](image)

![Figure 3. Schematic Diagram of the Network Topology of the Intelligent Proofreading System](image)

3. **System Application and Improvement Effect**

3.1. **System Implementation**

After completing the system design work, we need to analyze the implementation and application of the system. In order to ensure the application performance of the improved design of the English translation intelligent proofreading system, we need to implement the system functions from the following aspects. Firstly, the pronunciation module. The main function of this module is to complete the English pronunciation of user search information, so that users can learn. The pronunciation module is the main way for the intelligent proofreading system to read English content. In the implementation of this module, the main purpose is to use the built-in voice synthesis function in the Android system to read the English content voice. Secondly, the realization of the translation module. In the application process
of the translation module, we need to use specific algorithms to realize the relevant functions of the translation module. After the module is translated, you can select English to Chinese in the drop-down menu, and then output the corresponding English to obtain the translation result. Thirdly, the user interface. In general, there are more mobile terminal users, and the interface design effect largely determines the user's satisfaction with the smart proofreading system mobile terminal. Therefore, we need to pay attention to the design and improvement of the user interface. When designing the user interface, we need to ensure the fit between the user interface and the mobile phone display, and the mobile terminal interface of the mobile phone is required to be beautiful. Simultaneously, we need to improve the simplicity of the interface design as much as possible to facilitate user operations. In the system design process, the proofreading performance of the intelligent proofreading terminal and the design of different function indication buttons should be emphasized. Especially in the display process of the mobile phone interface, we must carry out appropriate integration, and put the main application functions of the smart proofreading system in the prominent position of the mobile phone interface as much as possible. We will adjust and optimize the user interface based on this. In this design, although attention should be paid to improving the aesthetics of the interface, the aesthetics of the interface should not be overemphasized and its practical functions should not be ignored. Under normal circumstances, we need to start the user interface improvement design work from the main functional areas such as the interface button layout, the main interface and the online translation interface. Besides, we need to adjust the user interface of the client according to the original English translation intelligent proofreading system. We must follow the principle of user interface stability and try to maintain the consistency of the updated user interface with the main functional partitions of the original interface. This can prevent large changes after the user interface is updated and affect the user experience [5].

### 3.2. Improved Application Effect

After the system application function is realized, we need to conduct experimental analysis to accurately evaluate the specific application situation of the system. We can start the experimental analysis process from the following aspects. Firstly, verify the effectiveness of the system. In order to verify the use of the improved intelligent proofreading system in the English translation process, it is necessary to carry out an English translation proofreading test. We need to accurately record the specific conditions during the experiment and accurately evaluate the translation results of the system performance. During this experiment, the number of word proofreading was 400 characters, while the number of short text proofing was 500. The overall proofreading number of the system was 50KB/sec, and the word recognition speed was 25KB/sec. Using the improved intelligent proofreading system to compare the accuracy of English translation results and proofreading accuracy can reveal the following aspects. After three experiments, the accuracy of the improved intelligent proofreading system averaged 69.7%. After the improved intelligent system was proofread, the accuracy of the translation results after three experiments was 98.9% on average. The accuracy of the English translation results obtained by the intelligent proofreading system is greatly improved. It can be proved that the system has outstanding effectiveness in the design of this intelligent proofreading system. Second, compare and analyze the distribution of proofreading nodes. In order to accurately grasp the application advantages of this intelligent proofreading system, the distribution of proofreading nodes of the two intelligent proofreading systems is compared mainly with phrase and syntax intelligent proofreading during the experiment. The experimental samples used by the system are still based on the experimental samples for validity verification to complete the performance test of the intelligent proofreading system. During the operation of the system, in addition to completing the phrase and syntactic intelligent proofreading, we also need to record the specific translation results of the system's English translation computer intelligent proofreading. At the same time, we need to analyze the number and distribution of nodes in the original system after proofreading. The distribution of control points will describe the degree of relevance between English translation and context. The denser the distribution of control points, the higher the accuracy of the system’s English translation proofreading and the more consistent the context of the proofreading results. If the control points are loosely distributed, the accuracy of the
system's English translation perspective is high, but the contextual coherence of the proofreading results is relatively poor. In this research process, the control points of the improved intelligent proofreading system are relatively compact and orderly, indicating that the proofreading performance of the intelligent proofreading system designed this time is relatively high. This can solve the problem of incoherent English translation context while ensuring the accuracy of the proofreading results. The original English translation computer intelligent proofreading system also showed a relatively compact distribution of node control points in different experiments, but there is still a problem of loose node control points. This shows that this system has relatively high proofreading accuracy in the application process, but it cannot effectively solve the problem of relatively poor contextual coherence of English translation results. What's more, the original intelligent proofreading system has loose and compact node control points alternately and relatively poor stability [6].

Through the above system verification, it can be found that after improving the design of the original computer intelligent proofreading system, its proofreading accuracy is relatively high. Moreover, this can effectively solve the problem of incoherent context in English translation results. This can also ensure that the translation result is more in line with contextual coherence and English grammar and syntax requirements, which has a strong advantage compared with similar computer intelligent proofreading systems.

4. CONCLUSION
All in all, hardware design and software design can be completed by improving and optimizing the original English translation computer intelligent proofreading system. The system can use the search module to search the meaning of the vocabulary and subject information in the intelligent proofreading system, and use the behavior log to accurately grasp the user's behavior data. This will not only complete the system upgrade, but also improve the application performance of the intelligent proofreading system. In actual operation, we can improve the phrase translation model based on improving the application performance of the computer intelligent proofreading system. Experiments have verified that the improved English computer intelligent proofreading system has higher accuracy in the English translation results during the application process, and it can effectively improve the problem of incoherent context in the English translation results. Furthermore, compared with similar smart proofreading systems, its accuracy and contextual coherence have strong application advantages. As a result, full application of the improved intelligent proofreading system can reduce the cost of manual payment. This can also ensure the accuracy of the English translation proofreading results, improve translation efficiency, and have strong application value.

Acknowledgements
The research finding of College English Level B of the first Golden Courses in Hulunbuir University

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