



# Information-based Management of Putonghua Proficiency Test

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## ABSTRACT

*Putonghua is the official language of China. With the rapid development of China's economy, and the promotion of comprehensive national power, Putonghua becomes more and more important for all the countries all over the world. In this condition, more and more people want to improve their pronunciation of Putonghua. The scale of Putonghua test is continuously expanding. In this paper, the current situation of Putonghua test management is analyzed. The disadvantages of modern Putonghua testing management are given, and then, an information-based manage model is proposed. And the advantages of our model are analyzed. These views can help us improve the management in the testing process and the efficiency of the testing work.*

**Keywords:** Putonghua, Information-based Management, Proficiency Testing, Model

## 1. INTRODUCTION

For the Chinese people, Putonghua is a very important language. Though there are more than 100 kinds of Chinese languages, Putonghua is the universal and accepted language. People come from different areas of China can communicate with each other by using Putonghua. It is also one of the most important tools for international communication. With the development of economy and culture, and the popularization of Putonghua, more and more people in different areas learn Putonghua due to its advantages [1]-[3]. In this way, the workload of Putonghua proficiency test is increasing rapidly.

The Putonghua testing management is an important part in the development of Mandarin. Putonghua proficiency test is an important way to implement the work of Chinese standard language and characters. With the development of computer technology, such as speech recognition, audio information processing technology, etc., the standard test of Putonghua has entered a new stage. In the original stage, human testing is used, and then, the computer-aided testing came out, and fully information-based management is used in the latest stage.

## 2. IMPORTANCE OF INFORMATION-BASED MANAGEMENT

The Putonghua proficiency test is a kind of spoken language test (the rank test of the standard Chinese). A good testing management for Putonghua proficiency test can greatly improve the basis of testing, and promote the popularization of Putonghua.

With the rapid development of management mode, the manual test mode is out of time. Currently, there are more than 35 million people need to test, and the number is increasing continually. The awkward manual test mode is not suitable for the testing work, and cannot meet the social needs and development or support large amounts of candidates.

Computer-aided testing promotes the achievement of information-based management of Putonghua proficiency test [4]-[6]. The testing work is becoming efficient. The waiting time for candidates is greatly reduced, and the testing time is shortened. Thus, the testing efficiency is improved. Meanwhile, the cost of test is reduced, and the complex preparation is simplified. Information-based management is fairer for test, which reduce the subject effect in the testing process [7], [8].

## 3. DISADVANTAGES IN CURRENT MANAGEMENT

There are several aspects of the disadvantages, we will discuss as follows.

Firstly, Putonghua proficiency test is a very tedious work: sign up, training, test, manage the test results, manage the records, issue certificates, and so on. In the process, there are many workers work for this, however, they are always part time workers, and there is usually no full-time staff. When some problems come out, there is no responsible officer to solve the problems.

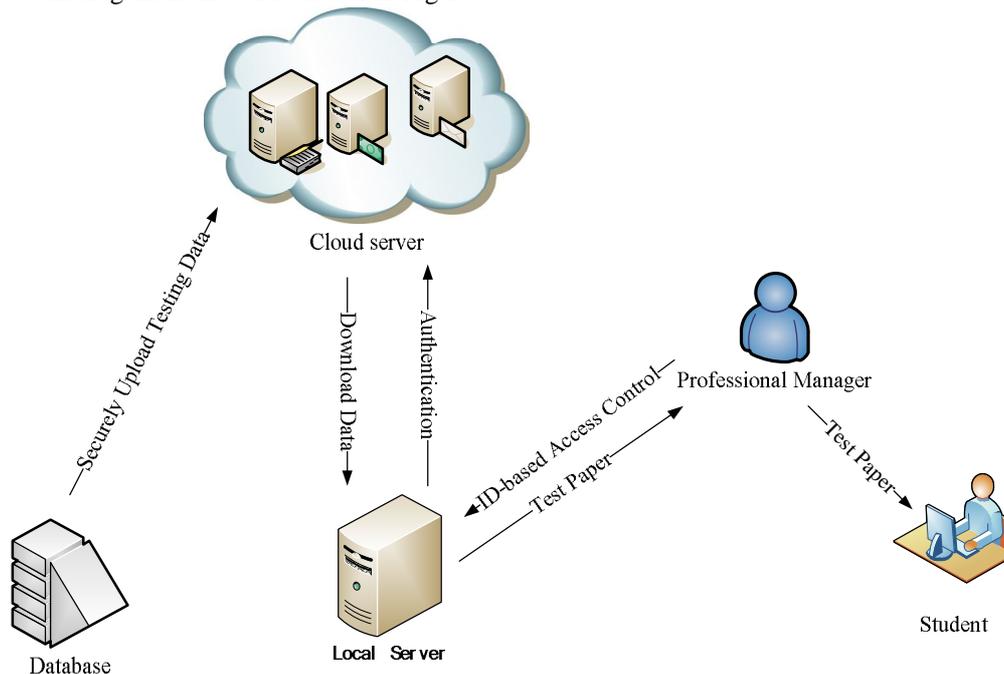
Secondly, in computer-aided mode, electronic equipments are always used. High quality equipments are needed. However, old equipments are still used in most of the high schools. The speech recognition ability of the equipment is low. It is easy to be interrupted in the recording process, and the recordings are often storing failed. In this circumstance, some of the students have to retest. Though students have the opportunities to retest, they may hard to do better. Usually, they get lower scores. And this is waste of time. On the other hand, the records need large storage space. Due to the limited storage resources, the records cannot be kept for long time. It is hard to manage and review of the records, if the records do not exist.

In addition, the network is not stable. Usually, in the testing process, the network shut down, and the audio records cannot upload to the server. That means the students have to retest again at other times. The instability of the network increases a lot of difficulties for the testing work, and wastes much time and human and physical resource.

Finally, the testing resources in the test database are not enough. The current database is not suitable for Putonghua proficiency test, and the basic database needs to be extended. Students need some practice before they take the examination. However, there are only a few testing contents in the database. In the examination, some examine questions may be the same questions in the exercises.

#### 4. INFORMATION-BASED MANAGE MODEL

Information-based management at least needs the following units: an information-based manage system, a database contains adequate testing resource, a non-break server, professional managers, advanced equipments and so on. The information-based management model is shown in Fig.1.



**Figure 1** Information-based Manage Model

In this model, a database server with adequate testing resource is the most important core. Huge resource for test and exercise is stored in it, in which the repetitive rate is less than 0.1%. In this way, the students can get the fully training, and no testing content would be revealed.

The cloud server is used as a non-break server, the database center uploads the data to cloud server, and cloud server provides the service to local servers. Due to the powerfulness of cloud server, the service would not be interrupted. And local server can download the testing resource from it in anytime.



Professional manager can use the local server. In order to keep the security of local server and the testing resource, the ID-based access control can be used. Professional manager can get the test paper from local server, which is issued from the original database and downloaded from the cloud server. Then, professional manager can send the test paper to the students.

This process is fully automated, and the system would not breakdown with the help of the powerful cloud server. And when professional managers are used, the non-standard operations will be reduced, so that the probability that the equipments shutdown will be very small. The efficiency of proficiency test will be improved and the human and physical resources will be saved.

## 5. CONCLUSION

**Putonghua is increasingly popular all over the world.** As the official language of China, all Chinese people would learn it well. The proficiency testing scale is growing, and the traditional manage mode is not suitable to the modern large-scale proficiency test. In this paper, a novel model—information-based management model of Putonghua proficiency test is proposed. The cloud server is introduced to achieve the information-based management. Using our information-based management mode, the training and testing time is saved, and the cost of equipments maintenance and training and testing management is reduced. Our information-based management is useful for Putonghua proficiency testing.

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