

Design Network Teaching Evaluation System Based on MVC

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Abstract—The traditional teaching evaluation system is high cost, complex and low efficiency, This paper proposed based on Model-View-Controller(MVC), use Struts and Spring and Hibernate framework technology to achieve design of the Network Teaching Evaluation System(NTES). It can remedy the defects in traditional teaching evaluation system. The NTES is now on trial and the result says that it not only can improve work efficiency, be operated simply, but also has good stability, maintainability and expansibility.

Keywords- NTES; MVC; Expansibility

I. INTRODUCTION

Teaching evaluation system is an important part in the university. The results of the teaching evaluation has been widely applied in school level evaluation, professional assessment, curriculum evaluation, teachers' promotion, teacher employment, teaching awards and so on. However, the traditional way of teaching evaluation, mainly use the "Forum", "Questionnaire", "Information Card", these methods has four shortcomings. Firstly, it is singleness, boring and can not guarantee result's impersonality and equality. Secondly, teaching evaluation information feedback is too slow, number and locations will be limited by time and space, the later statistics and analysis is very complicated, long period, low efficiency and high error rate; Thirdly, to fill out the student card must according to the specification, otherwise the card is invalid, it will influence the final results of the evaluation, and the card cannot be used again, which is a waste. Finally, the evaluating process is very simple because evaluating often emphasize on one class, while ignoring the overall evaluation of teaching work. Based on the above, the traditional evaluation form makes the teaching and management are separated, which has restricted the development of university.

After campus network built, university has established University Management System(UMS), which is the bridge of all departments. Network Teaching Evaluation System(NTES) based on UMS, NTES is a sub-system of UMS, which make students and teachers evaluate teaching more conveniently according to the teaching evaluation rules. NTES can also extend evaluation content and evaluation methods. It can even take excellent NTES experience of other countries to assess teaching attitude, teaching content, teaching method and teaching effect all-around. Therefore, NTES is vital to UMS.

II. MVC MODEL

MVC Model(Model-View-Controller) as shown in Fig.1. Its application program is divided into Model, View and Controller, they cooperate to complete each task. Wherein, Model is the main part of the application program, used to store the business logic and data, a model can provides data for multiple view, so as to improve the reusability; View is the users interacts with the computer interface, which is responsible display relevant data for the users, and accept the users input data, but it does not do any actual process, the actual business process is completed by Model; Controller is to define the behavior of the application program, and to interpret user's action, it is responsible to coordinate Model and View to work synchronously, which accept user input data and call model's view to complete the user's request, but it doesn't do any data processing.

The NTES frame design as shown in Fig.2, It is made up of client layer, presentation layer, business layer, persistence layer and database layer. NTES development process is based on MVC model, Wherein, presentation layer using Struts framework to achieve View and Controller in MVC Model; Persistence layer using Hibernate framework and Spring framework to achieve the Model in MVC Model, The Spring framework is in the business layer; Database layer is based on the MySQL5.0, so the NTES can use the J2EE architecture, and can use Struts + Spring + Hibernate to develop system. This method makes the human computer interface and data processing, business logic and data processing are separated, so the NTES has better scalability, portability and easy maintenance, and it can realize SSH framework low coupling characteristics.

III. THE TARGET OF SYSTEM DESIGN

The NTES research object is the school teaching quality evaluation and supervision, it is based on the Teaching Evaluation Standard(TES) to complete each task (as shown in Fig.3), therefore, its design target is:

(1)User Management Module can manage different users. The administrator defined standards and grades, to make a variety of teaching evaluation mode. The students, teachers and experts can be anonymous voting or scoring, so as to ensure that the data is true and credible. After teaching evaluation results are collected, the teacher can view the teaching evaluation results. Therefore, the NTES need to ensure reliability, completeness, timeliness, and can effectively analyze and manage the data.

Fig.1. MVC Framework

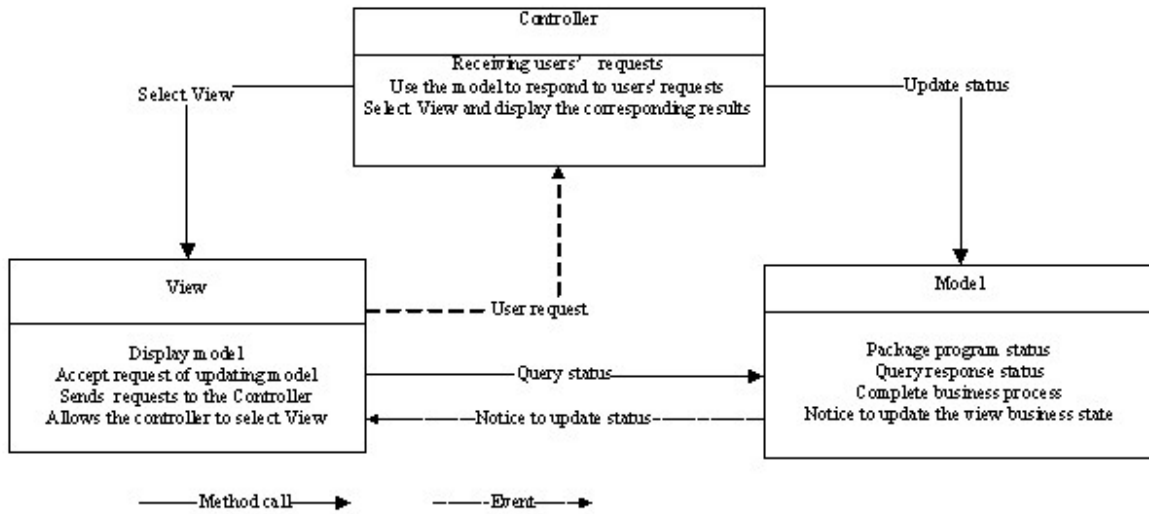
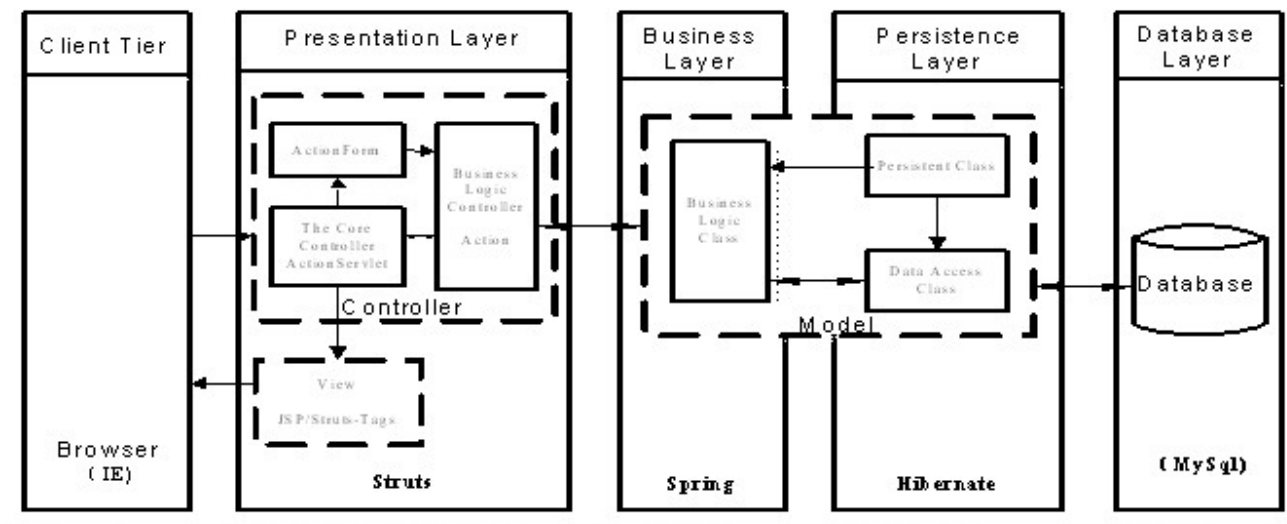


Fig.2. University NTES Framework Design Based On MVC



(2) Score and Statistics Management Module is to make information retrieval, statistics and analysis.

(3) Score Management Module needs to establish a database, to achieve unified management and resource sharing.

(4) Manage Teaching Evaluation Methods Module can dynamically modify the TES, and can generate different statements, this process should be transparent, reasonable, fair and justice, because system's ultimate goal is to monitor and promote the teaching.

IV. NTES WORK FLOW

The main work flow of The NTES is the basic information management, system management, evaluation

management and teaching evaluation results, its work process is shown in Fig.4.

Firstly, the basic information management, is to set the data, it includes departments, semester, teachers, students, classes, courses and other data, which is foundation of the system. The system can automatically import batch data, but also can export files to save and print.

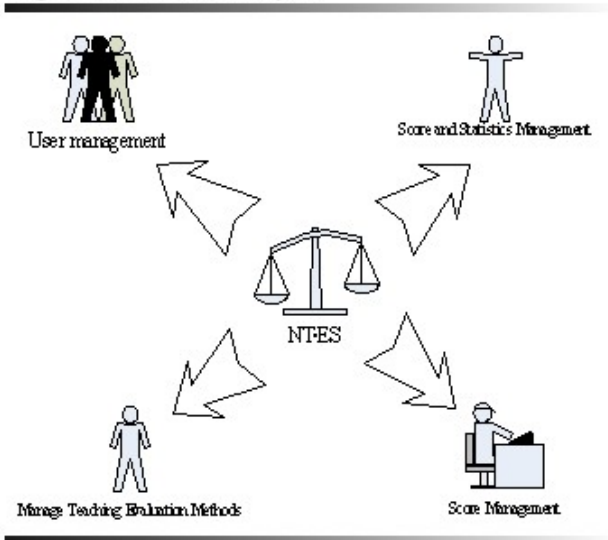
Secondly, system management, its main task is to define TES, which includes setting different evaluation standard for students, teachers and experts. Only administrator can set TES. In fact, the TES is the core of the NTES, it can promote the development of school, but also can stimulate teachers' work enthusiasm.

Thirdly, evaluation management, its work process is different users to log on to the system, and according to the TES to operation. The administrator will collect and analyze

the data and generate evaluation report, finally, the administrator feedback evaluation results to the teachers.

Finally, teaching evaluation results, is to feedback evaluation results to the users. In fact, the goal of the NTES is to analyze teacher's advantages and disadvantages by evaluation results, so this module must calculate all the data according to the specified standard weight, and collecting and sorting data, finally, feedback the results to each department and teachers themselves. Each department analyze and summarize teaching quality based on the evaluation results. On this basis, if the user finds TES is unreasonable, they can reflect the problems to the administrator through error processing channel, these problems will be analyzed and demonstrated by the experts and managers, finally, the administrator dynamically adjust the evaluation standard according to the need.

Fig3. NTES Need Analysis



V. CONCLUSION

This paper explains how to use MVC and Struts + Spring +Hibernate framework technology to design NTES, This technology conforms to the characteristics of NTES.

NTES is now on trial and the result says that it not only can improve work efficiency, be operated simply, but also has good stability, maintainability and expansibility.

ACKNOWLEDGMENT

The authors would like to express their sincere thanks to the reviewer for suggestions and comments. This work was supported by Yuxi normal university of China.

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