Research of MVC System Application in Philanthropic Aged Service Time Banking

Shuliang Zhao, Xiaolong Yang, Rumin Lv, Ruifang Zhao, Yiyun Cui, Yuhui Li and Ziyi Zhao

ABSTRACT

This research focuses on the philanthropic aged service model with information technology in order to promote the development of the philanthropic model. This paper analyzes the specific requirements of Time banking, the advantages of architecture and J2EE platform from the technical point of view, completes the design of the system, and implements the management information system based on WEB based on MVC mode. This paper puts forward the construction of a comprehensive philanthropic mutual-aid endowment management system—Time banking to solve the problem of implementing the philanthropic mutual-aid endowment model, and discusses the functions, characteristics and functions of philanthropic endowment Time banking.¹

KEYWORDS

Philanthropic Aged Service, Time Banking, Mvc System

BACKGROUND

The burden coefficient of China's elderly population is in rising trend. From a demographic point of view, the challenges posed by China's aging population are indeed serious. To cope with such a historic challenge, we must solve the various needs of the elderly population from many aspects, one of the key is to do a good job of home care. In the field of mutual assistance, the application research of information technology is relatively few. At present, the application direction is

¹Shuliang Zhao, Xiaolong Yang, Rumin Lv, Ruifang Zhao, Yiyun Cui, Yuhui Li, Ziyi Zhao, Shandong Technology and Business University, Yantai, China, 264005
mainly through the construction of volunteer online call center and the maintenance of volunteer service network, collecting data on volunteer service activities, timely publishing volunteer information on the Internet, providing information support for various volunteer services. Although the establishment of call centers and related websites has solved the problem of asymmetric information between suppliers and demands in voluntary services to a certain extent, it is difficult to provide adequate support for home-based care because of the small number of volunteer services. After studying the server and development platform, the development environment and running environment of the system are determined. The application of MVC mode in system development is described with examples, and the implementation scheme based on MVC mode of the main modules in the philanthropic aged service Time banking system is given.

INTRODUCTION

The MVC pattern, originated from Small-talk and widely used as Model-View-Controller pattern, is a very classic design pattern. MVC development pattern is a “divide and conquer” idea, which separates data access from data representation. With this model, we can develop a scalable, extensible and easy to maintain entire process platform. For developers, MVC separates data control from data representation in the schema, allowing developers to distinguish responsibilities, backstage developers to focus on business processing, and foreground developers to focus on user interaction interfaces, thus speeding up product development and market time. Since the three components of an application using MVC are relatively independent, changing one of them will not affect the other two, a good low-coupling software architecture can be constructed based on this design idea, making the software to a new level in robustness, code reuse and so on.

PHILANTHROPIC SYSTEM OF TIME BANKING

From the previous analysis, we can see that the main demand in the field of philanthropic mutual aid management is the management of mutual aid information and mutual service, and there is no good management information system to do this. Considering that the ultimate carrier of mutual service value is virtual e-money, and its management mode is similar to real money management, we refer to the operation mode of virtual bank, and propose to build a philanthropic mutual aged service management system—"Time banking"—to manage the philanthropic mutual aged service. There must be some systematic problems to support the mode of mutual support for the aged.
TIME BANKING MODEL

Time banking is not an isolated management system, but an organic combination of self-help information system and public information system. The application of information technology in the fields of mutual assistance, public assistance and self-help constitutes the service interaction part of the information system of home care services.

ANALYSIS AND DESIGN

Overall System Requirements: Software development often uses typical scenarios to understand what a system needs and how it works. But in doing so, they are rarely archived in effective form. Use cases are formal and formalized technologies that capture these scenarios. Requirements acquisition and modeling based on use cases overcome the shortcomings of no uniform format, lack of formalization of description and arbitrariness. The use case diagram can directly reflect the user's requirements for system functions, facilitate the interaction between system analysts and users, thus effectively extracting user requirements. At the same time, the use case diagram helps to partition the functional modules of the system from an abstract level. First, use cases are defined to determine the functional requirements of the system. Through analysis, the role of the system includes tourists, savings members, administrators and system administrators. The system use cases confirmed on this basis include individual information maintenance, service information interaction, service active matching, etc. Another aspect of the analysis phase is domain specific analysis to list specific domain classes in the system. We can do domain-specific analysis by reading specifications, use cases, and finding "concepts" that the system handles, or by discussing with users and domain experts to identify all key classes to be handled and their relationships. The specific domain here refers to a specific scenario rather than the entire system area.

MEMBERSHIP MANAGEMENT

In the case of membership management, membership management can be divided into several sub-use cases, including viewing membership information, modifying membership information, increasing membership, deleting membership, membership evaluation.

THE ROLE OF TIME BANKING

The role of Time banking includes the following aspects: Time banking frees managers from the complexity of their work. The operation process of mutual
assistance and philanthropic endowment is an orderly process of dealing with a large number of information, the processing, preservation and transfer of a large number of original records has become an important part of the work of managers. If this process is handled by hand, it will take a lot of manpower and time, and the task is very heavy. Time banking has realized information management and solved this problem.

CONCLUSIONS

The design of the Time banking system is based on a three-tier structure, based on the pattern of development, the future of new modules can be easily integrated into the whole system, while data display can be easily transferred to other types of browsing interface. Generally speaking, this study is characterized by interdisciplinary, involving computer technology, fuzzy mathematics, social science and other fields of research, in order to achieve an efficient mutual management system. This study solves the real social problems, can produce enormous economic benefits, is a successful example of computer application in social science research.

RESEARCH PROSPECT

At present, applications of information technology in the field of mutual aged service is limited, but some information systems have been implemented to support the promotion and development of mutual aged service model. It can be predicted that information technology will play an important role in this field. I believe that the work of this paper can play a certain reference role for future researchers.

REFERENCES