Design on Mental Health Information System

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Abstract. The traditional mental health information lack of management tools and platforms, it is not suit the needs of information age management. This paper design a software system to support system development. First, design the software architecture composed by data presentation layer, application layer, business logic layer , data access layer and data persistence layer; Then, design the software system work flow and its main function; Finally, using flowcharts do detailed design as psychological testing. According to the designed development software, can enable the mental health information management electronic, standardization and facilitation, has an important role in improving management efficiency, reduce management costs and improve service quality and other aspects.

Introduction

With the rapid development of society, the ever-accelerating of life pace and the complexity of human relationships, people have more and more pressure to bear. The college students are a very special social in the period of youth, their ideological and psychological are not yet mature, and very sensitive to social psychology, there are a number of specific issues, such as conflict between ideal and reality, a new learning environment and selection and adaptation of tasks [1,2]. Traditional mental health management using manual method, lacks of information management tools and platform, not only inefficient, but also lack of scientific and rational mental health evaluation, intervention management system, it is difficult to cope with the increasing needs of Mental Health Management workload. The development and application of information technology bring the convenience for mental health education work. Design and deployment a comprehensive mental health information management system can quantify mental health evaluation standard, through the mental health records management, psychological health assessment, mental health assessment, mental health intervention and a series of scientific work flow provided by the system, track and manage students' psychological health, interference and induce the students in a timely with psychological problems, help students solve their psychological problems and return to health status. At the same time, can also achieve publicizing the knowledge mental health and prevent mental illness, let students truly understand and follow their own independent mental health problems, help college students fully and correctly understand the psychological distress from all aspects, help students improve anti-stress, anti-frustration effectively, and help students accelerate the ability to adapt to society. Through efficient standardized management of college students information, realize its mental health electronic, standardized and convenient, has an important role in improving the management efficiency, reducing management costs and improving service quality and other aspects.

Design on Software Architecture

Software architecture has a certain form of structured elements i.e., components sets, including processing member, data member, and the connecting member. Treatment member responsible for data processing, data component is the processed information, connecting member combines the different parts of architecture. This definition focus distinguishing processing member, data member and connecting member, this method is substantially maintained in other definitions and

methods. The software architecture of students' mental health information management system composed by data presentation layer, application layer, business logic layer, data access layer and data persistence layer, shown in Fig. 1.

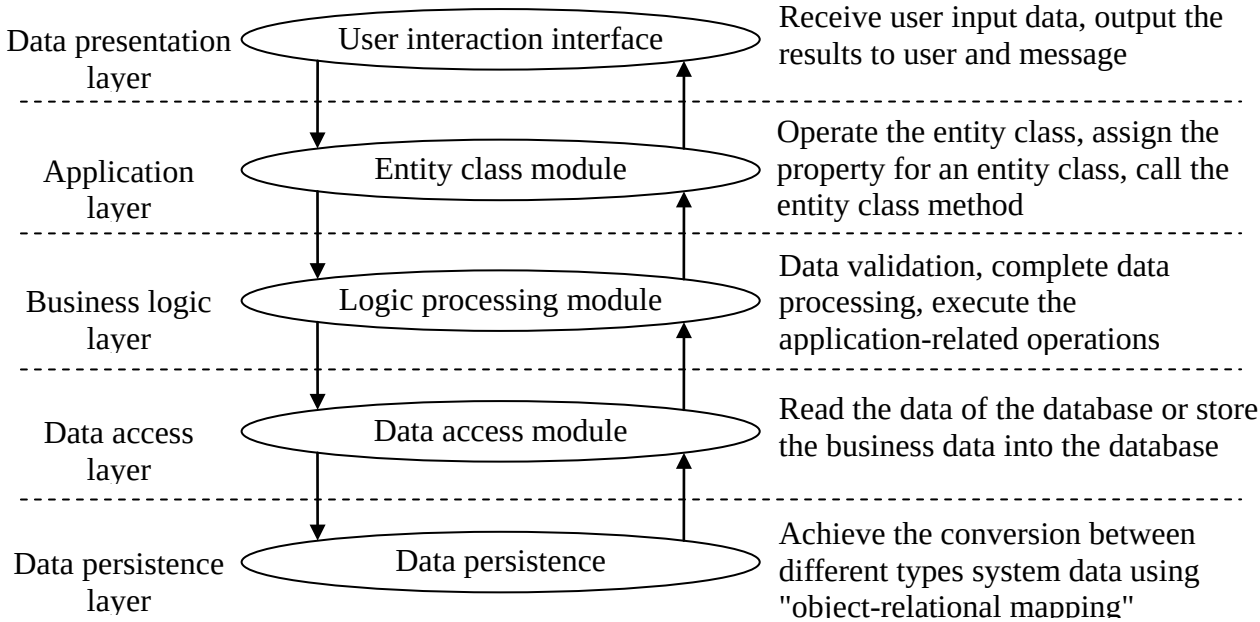

Fig. 1. Software architecture

Data presentation layer.ata presentation layer is located in the outermost layer, called the interface layer, is responsible for the interactive user interface. Provide service and interface for users, receive user input, invoke business function, complete user needs and return the results to user.

Application layer. Application layer formats the data and computational processing data type conversion, data processing after data presentation layer obtained data, then transmits data to business logic layer, business logic layer then returns data and processed, data type conversion, again impart data to data presentation layer.

Business logic layer. A business logic layer may include several query, insert, update, delete operation. After the program's application layer gets data, it will create all the required insert, query, delete, update, and other business operations.

Data access layer. receive add, delete, modify operating instructions during data access layer, then operate the database through a common database access module, reset the data returned from database to Data access layer.

Data persistence layer. The design goal of data persistence layer is to provide a high level, unity, security and concurrent data persistence mechanism for the entire project. Completion of various data persistence programming work and provide services to the system logic layer.

Design on Software Process

College students mental health information management system, based on the realization of students' psychological health information collection, management, query and statistical functions, the more important goal position is: Audit the authenticity and validity of students basic information; advanced data mining technology fully tap the potential of the original information related information; provide teachers with students analysis, detailed psychological analysis data; for parents to know the students in the school situation, mental health status; provide a basis for the students' mental health management, promote student-taught; students understand their own mental health status, enhance self-education and self-management skills. The software system flow shown in Fig. 2. Start program, enter the user name and password, if wrong, you will need to re-enter; if correct, the system main menu waits users select the appropriate action.

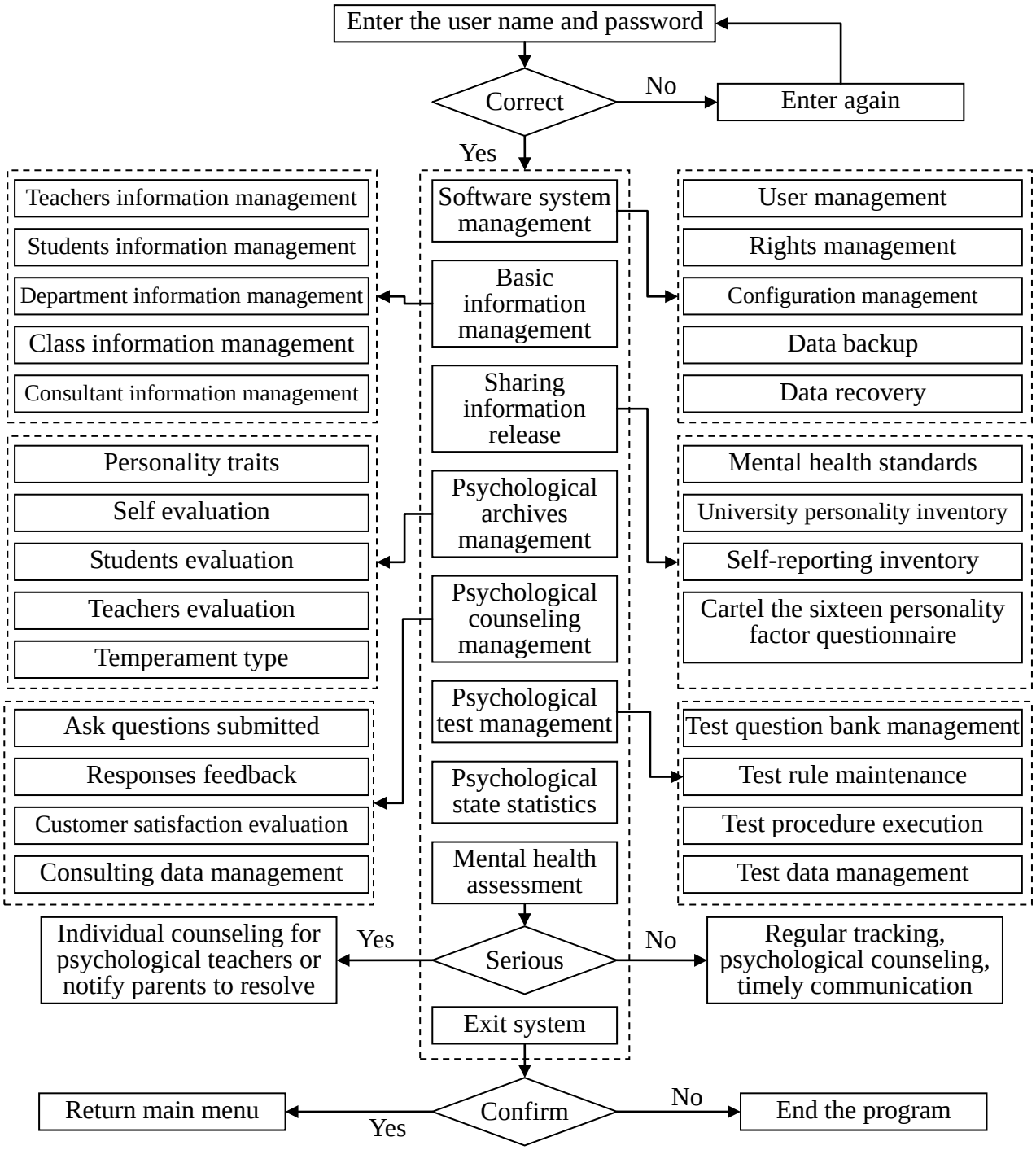

Fig. 2. Software system process

There are eight main functions included in Fig. 2, briefly described as follows [3-5]:

Software system management. The core functions are software maintenance, changing some or all according to demand change or hardware environment change, this function refers to the provision of software system management applications.

Basic information management. Basic information is the normalized data, system provides a unified management interface for basic information management, to be completed add, modify, delete operation, also be backed up and restored information.

Sharing information release. It means the transfer from the sender to the recipient of information, there release some knowledge about students' mental health related fields, browsed for parents or teachers.

Psychological archives management. Archives refers to preserve the value of the original records in various forms, where record students' basic information and important psychological status

information, manage the of students' mental health development status facility.

Psychological counseling management. It refers to using psychological method, provides psychological assistance for the consultants that have problems of psychological adaptation and seek to it . This is mainly that students ask questions and counselors or teachers give answers.

Psychological test management. It is a scientific measurement method through a series of measures to quantify some psychological characteristics of students to measure the level of individual psychological factors and individual psychological differences. By testing can master the mental health status of college students.

Psychological state statistics. Statistics the profile information, consultation information, test information of students and analysis in-depth, find out the more serious student population have common problems and mental health problems.

Mental health assessment, based on Mental health standards to build mental health evaluation index system and mathematical model, assess a comprehensive evaluation on mental health of college students based on data in the database, using the appropriate measures according the evaluation results.

Software Detailed Design

In the ideal case, algorithm process described using natural language, natural language often has more meaning in syntax and semantics, often express the problem clear depend on the context [6]. For detailed design tool, be able to provide unambiguous description for design, can show the control flow, processing function, data organization and other implementation details, so that can translate design description into program code during programming phase. Psychological test management module as example to illustrate the detailed design method.

System understand children's psychological status mainly through psychological tests and sent out a psychological warning to the potential problems students. First, counselors develop psychological test scale, and add it to the system after review, and publish test. Then students log into the system, do a test, database automatically draw questions for students to test, students submit test. Systems analysis and process data, obtain psychological test results. Finally, counselors view psychological test results, and send warning messages to students with psychological problems [7,8]. This module features have the convenient for students to keep abreast of their own mental health status, help students discover their own potential problems as quickly as possible, counselors can grasp students' psychological development better and solve the problem as soon. Psychological testing process shown in Fig. 3.

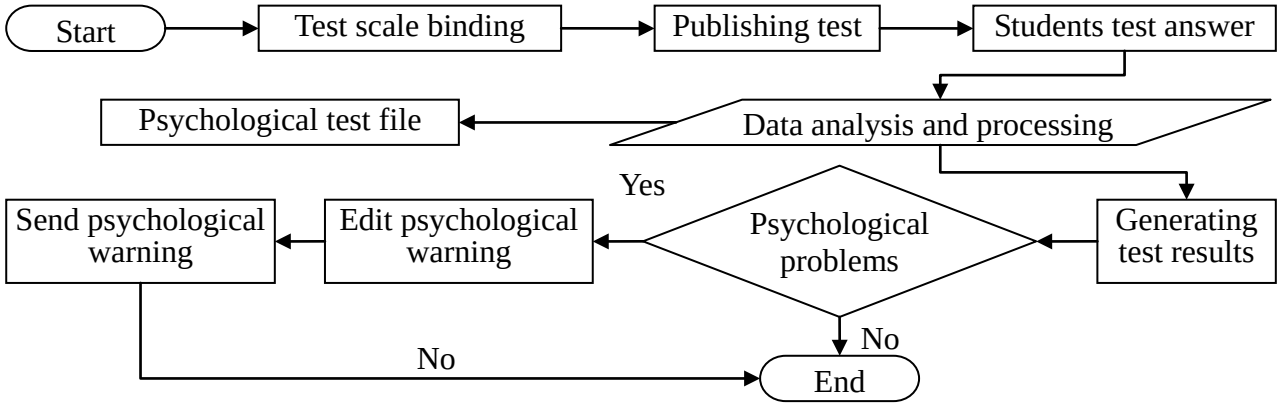

Fig. 3. Psychological testing process

Conclusion

College students mental health information management system is a practical system that designed and developed for college students mental health management, aim to take full advantage of computer and information technology to carry out their mental health management, find out students' mental health problem timely and efficiently, try to grasp students' psychological development, can be easy to guide, and improve the overall quality of students of psychology, both provide better and more advantageous to help students grow healthy, and resolve problem for mental health education and management of university. Studied the contemporary college students mental health standards carefully before software development, including: Keep learning deep interest and desire for knowledge; maintain a positive self-awareness, acceptance of self; coordinate and control situation, maintain a good mood; maintain harmonious interpersonal relationship, happy intercourse; maintain a complete and unified personality traits; maintain good environmental adaptability, handle the relationship between individual and environment correctly ; psychological behavioral in line with the age characteristics. Based this standards, follow the ideas and methods of software engineering, according to the system research, needs analysis, outline design, detailed design, database design, programming, software testing process to complete all the work. System has simple interface and easy to use, high storage efficiency, safety and good features. Through developing students' psychological health information management system, complete, accurate, and system reflects each student's mental health information, realize the automation of college students psychological health information management, improve the effectiveness of college student mental health management.

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