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Research and design of home-school interactive system in colleges

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Abstract

The rapid development of information technology has provided a strong guarantee for the healthy development of home-school co-education, and "Internet +" has become a trend. It is necessary to develop a home-school interactive information platform combining the Internet and mobile phone SMS to expand communication channels and build a bridge of home-school communication, so as to form a joint force in home-school education. This system is based on Android Studio development kit, using carousel map framework Xbanner, lightweight server Litepal, Tencent Cloud instant messaging, online database Bmob and other technologies, through Java language coding implementation. This system provides message warning, information query, instant messaging and other functions. With the simplicity and Efficiency, the system will certainly improve the timeliness of education and promote the healthy growth of students.

Keywords

Home-school interaction, IM, Android Studio.

1. Introduction

With the comprehensive promotion of vocational education in China and the continuous expansion of the enrollment scale of higher vocational colleges, how to make full use of information technology to facilitate the interaction of students, parents, and schools, and meet the real-time communication between users, has become a topic of common concern for colleges and universities. Therefore, it is imperative to develop a simple and efficient home-school interaction platform system.

Interaction between home and school based on information platform can greatly reduce the workload of teachers and achieve real-time communication and interaction between home and school by integrating the original data. Through home-school interaction on the information platform, security and academic hazards can be identified as soon as possible, helping students successfully spend their college time. The home-school interaction system based on the information platform will maximize the "trinity" of school, family, and society to achieve a "win-win" of family and school education.

2. Design of home-school interaction platform

The home-school interaction platform can be divided into three modules according to business process design: data acquisition module, data management and analysis module and home school interaction module. The interaction model is shown in Figure 1.

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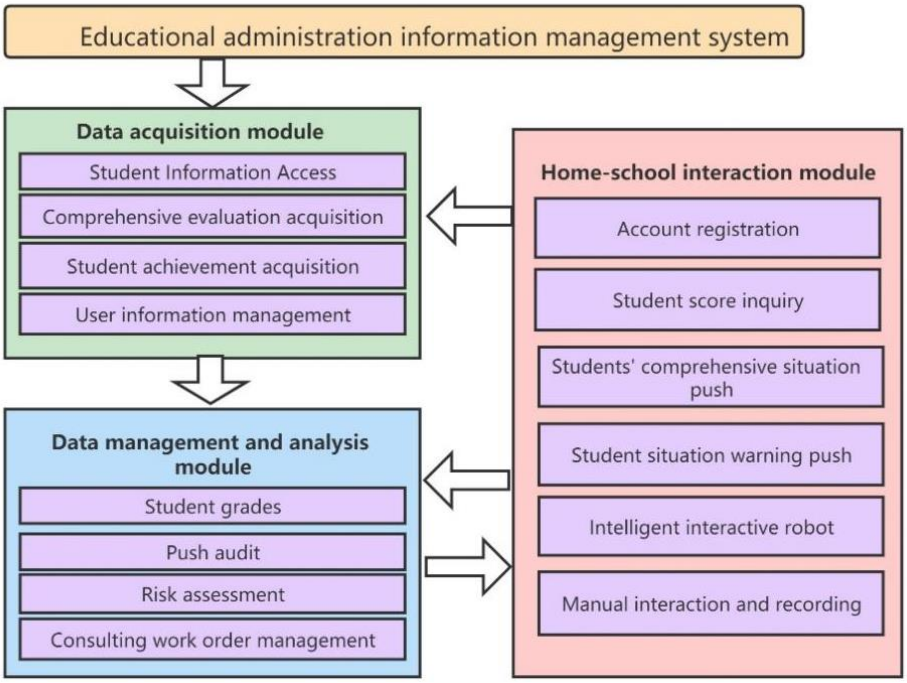

Figure 1: Home-school interaction platform model

2.1. Data Acquisition Module

The student information management system can provide the basic information of students in school, which is the basic master data for the overall project research. All subsequent processes are based on the basic data. The acquisition module regularly grabs student basic information and performance data from the educational administration management system through the API interface, and stores them into a local database.

2.2. Data Management and Analysis Module

The data management and analysis module performs statistics on different dimensions based on students' grades and credit data, and classifies them according to various criteria for normal promotion, repetition, and inability to complete credit graduation.The module automatically analyzes the development trend of students, and if they are close to repeating grades or unable to complete credits, the system will give an early warning.

2.3. Home-School Interaction Module

Based on the analysis of student data, the module will push comprehensive information about students to parents, allowing them to understand real-time dynamic information about students. Although, the platform can receive and process parents' active inquiries, and use artificial intelligence robot technology to automatically feedback and record parents' regular inquiries about information. You can also switch the manual service window and submit the query information in real time. The corresponding instructor and class teacher complete the response to the question, achieving low latency in response.

3. Partial function implementation

The Android based home-school interaction system for universities is mainly divided into message management module, address book management module, school module management, and my module.

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3.1. Main Page

The main interface is mainly displayed through the framework of Fragment + RadioGroup. Users can click the button below to switch pages, and all pages are managed uniformly through Fragment Manager. The module interface effect is shown in Figure 2.

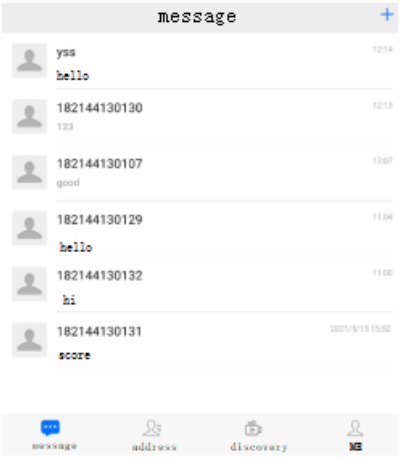

Figure 2: Main Page

3.2. IM

The instant messaging module uses intelligent robots to answer routine questions by default, such as students' comprehensive test scores, academic achievements, and school updates. The module interface effect is shown in Figure 3.

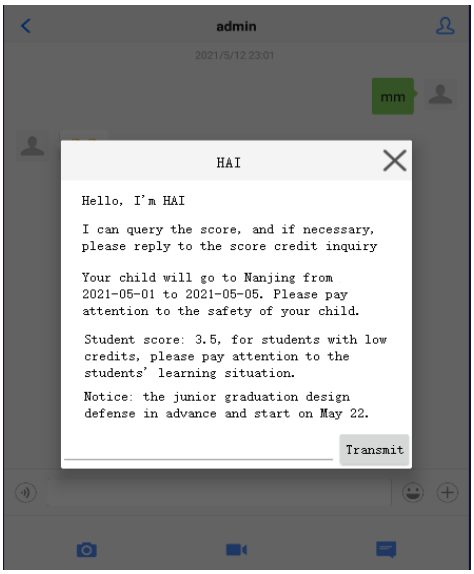

Figure 3: Chat Page

4. Conclusion

This system is realized by instant messaging framework and Bmob back-end cloud server, the advantages are that the mature framework code is written with little redundancy, the function is concise and clear.In order to give users a better experience, we can continue to optimize UI design and database performance in the future.

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