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Research Article

Online Dating System based on Smart Terminal

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Abstract
With the development of society, the pace of people's study, life and work is getting faster and faster, and they have no time to take into account the learning circle and the circle of friends outside the work time. This paper develops and designs an intelligent online dating software, which provides a convenient channel for People's Daily online dating.JAVA, uni-app, MySQL and other technologies are used to implement the system. The system implements different functions of different roles: administrators log in to the system to review member information, review friend information, release notices, etc.; After logging in to the system, users can modify personal information, view other users' information, apply for friends, register friend's needs, etc.

Keywords: *Online Dating, Smart Terminal, APP.*

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1. Introduction
With the popularization of social information, online dating has become an irresistible trend[1]. At the same time, with the continuous improvement of network infrastructure, a large number of online users have increased[2], and the application software based on smart terminals has also continued to develop. The emergence of dating software is the trend of current era[3,4]. With the expansion of online dating scale, there are fake accounts, and even criminals to commit fraud[5].Here an online dating system based on smart terminal is designed .The system can make the approved users log in to the system to perform the corresponding functions, and the user is convenient to communicate. The UI is simple and the operation is easy. It uses JAVA[6], uni-app[7]and MySQL[8] to implement user registration and user login, applying for dating, modifying information, processing requests and so on.

2. Requirements Analysis
The functional analysis of system based on the research analysis is roughly as follows:
In the system role management, three levels of member management modes are used such as administrator, ordinary members and visitors. Visitors can only browse the information. They can't store the corresponding personal information. The personal information that was browsed can only be consulted the public information, and the specific data related to personal privacy cannot be found by the visitor user. For ordinary members to register and log in, they need to register their personal information under their real names, without false information. Members who have been successfully authenticated can choose their own dating needs, and the system recommends similar members according to their preferences. If there is no dating need, the system only provides information about some people from the personnel data table. You can contact each other through the contact information provided, and the system provides communication security reminder notifications. The administrator user has the ability of super permissions. They can manage the data in the background of the system, audit the registered users. Only the audited users can browse the system recommended members on the platform, and the administrator has the right to prohibit the operation of the members who are often complained about.

After the user submits the registration information, the submitted personal privacy data is properly encrypted and then stored in the background database so that the information privacy of the member is protected. When the data is read, it is decrypted. When users think that the recommended member provided by the system or the user member found by themselves meets the dating needs, they can provide contact information through the platform and give friendly reminders to inform the dating precautions.

Figure 2-1 shows the use case of an administrator and Figure 2-2 shows the use case of an ordinary member.

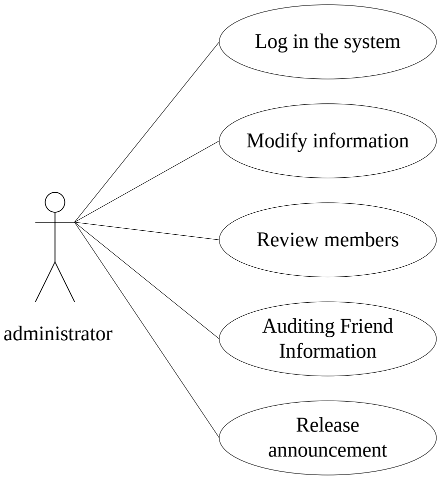

Figure 2-1 Use Case of Administrator

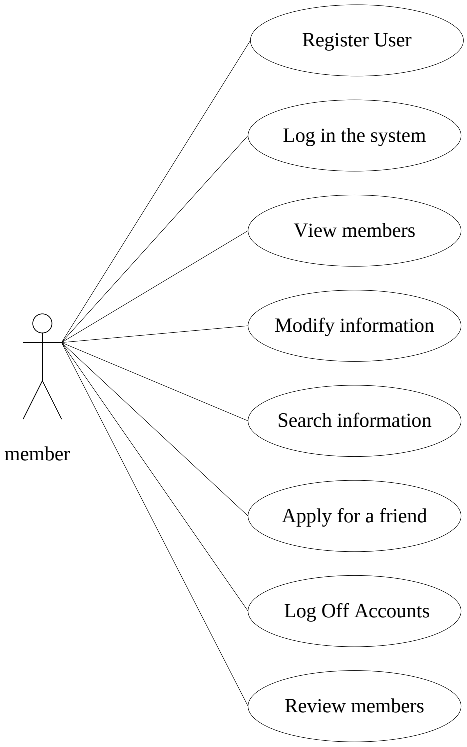

Figure 2-2 Use case of member

3. System design

3.1 Overall system design

The online dating APP is divided into three functional modules: administrator, member and visitor. The corresponding functional block diagram is shown in Figure 3-1, and the main functional modules are described as follows.

Registration module: Users who apply for membership register their information on the website through the form of registered users, requiring that the information must be real-name system, the website for the privacy of personal information is confidential, but the user must provide real and reliable information, only through the background administrator review of the user can log in to the website, otherwise as a tourist user role to give the corresponding access rights.

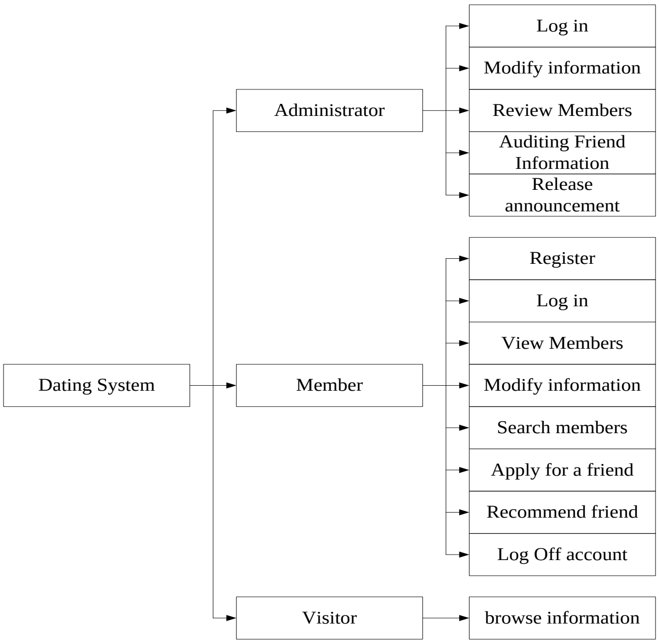

Figure 3-1 System framework design drawing

Register friend needs: Each member has different need for making friends, some are looking for a life partner, some may be looking for like-minded friends, such as learning a certain technology or skill to discuss. After successful login, you can set the requirements of friend's configuration, you can set a number of Settings, in addition, but also need to provide a description of their own personality and other aspects.

Recommending users: After a user with permission logs in successfully, the system uses the recommendation algorithm to provide brief information about other users who meet the user's requirements based on the personality description and dating requirement description configured by the user. Users can view the general information of the recommended member, and if they feel that the other party may be the friend they are looking for, they can send a friend request to the other party through the system.

Search members: Network users can put forward their own specific needs for making friends according to their preferences, and the system searches the database of friend's members according to the needs of the above network users in the dating system, and returns the query result set to the user. At the same time, the system records the new search conditions entered by the user and the corresponding features of the conditions, so that the user can re-recommend the user set that meets the dating characteristics when the user logs in next time or refreshes the page.

Apply for friends: Users can select users who meet their dating needs according to the set of users found or the set of users recommended by the system. If the conditions of the member meet their own requirements, they can provide contact requests, and they can communicate through chat or third-party software such as QQ and WeChat. In all communication processes, attention should be paid to complying with laws and regulations. And pay attention to the safety of personal property.

Log off user: If the user is to find a life partner on this platform, if he or she find a satisfied one and marry, then the user can cancel the account to prevent other users to search for information and bring unnecessary interference.

3.2 Description of the system architecture

The system architecture is described from the point of view of software development, which mainly describes the running mode of the program, the hierarchy structure, the calling relationship and so on. In order to achieve "high cohesion and low coupling" among various functional modules, a three-layer architecture model is adopted, and each functional module is divided into presentation layer, business logic layer and data access layer. Each layer can access each other through pre-set interfaces, and data is transmitted through the entity class object established by the object model, as shown in Figure 3-2:

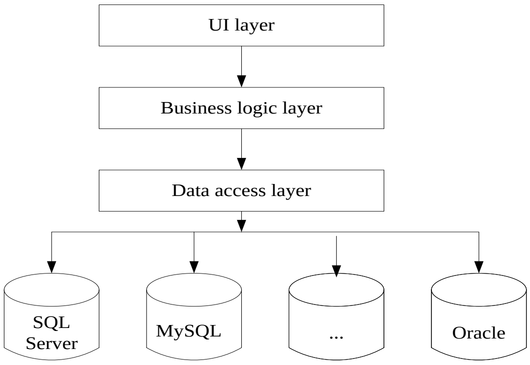

Figure 3-2 Architecture of the module

3.3 System function design

- **Client function flow**

If the user is a registered user, when he or she opens a web page., the account and password needs to be entered to log in to the system and perform related operations. If the user is not a registered user, the user performs related operations after registration.

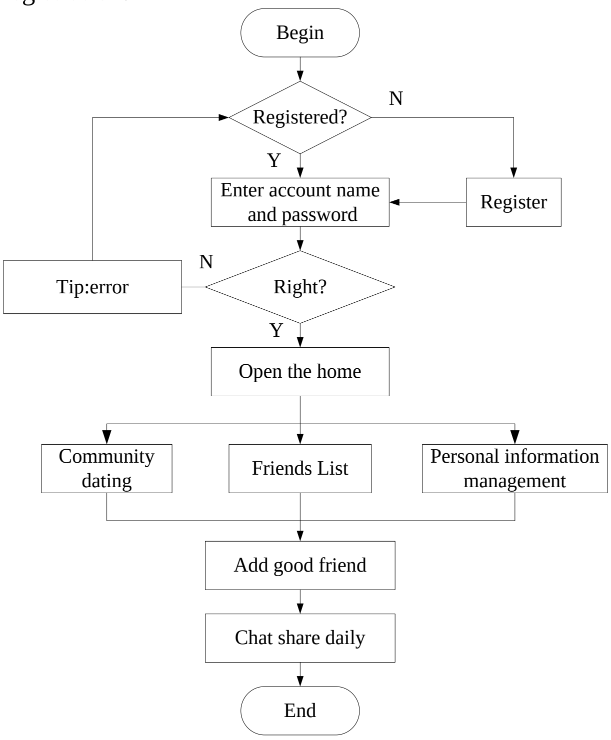

Figure 3-3 Flow chart of foreground user

- **Function module of the administrator**

The administrator function module has the functions of logging in to the system, modifying personal information, reviewing friends information, reviewing members, recommending users, etc. The functions of recommending users and reviewing members' information are described here, and other functions are omitted.

✓ Recommending user

After a registered user logs in to the system, he or she enters the dating preferences or uses certain keywords in search, the system extracts the dating characteristics of the user, analyzes the types of friends, and obtains the corresponding information from the resource database through the corresponding algorithm to recommend the user, as shown in Figure 3-4.

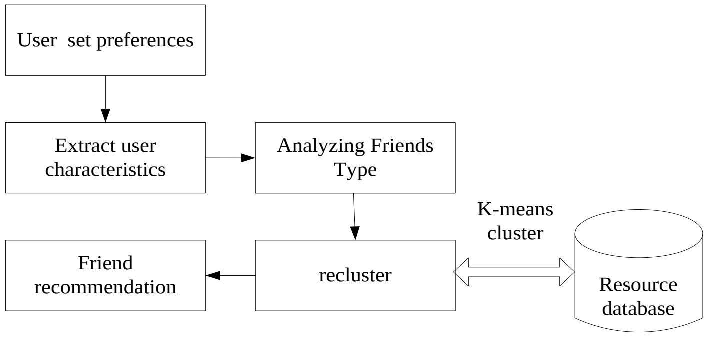

Figure 3-4 Recommendation model

✓ Review of member information

The administrator checks the information of unaudited users in the list of registered users, and determines whether the user registration information is authentic and whether it is real-name registration according to the requirements of relevant laws, rules and regulations. If the user registration information is real, the administrator gives the decision to pass the audit; otherwise, the audit is not passed. The audit sequence is shown in Figure 3-5 below.

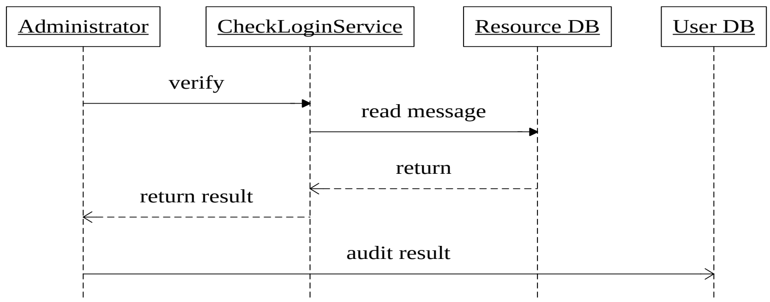

Figure 3-5 Sequence chart

3.4 Database design

The background database of the system mainly includes member login registration information table, administrator login information table and so on.

Member login registration information table contains fields: name, primary key to account, login password, gender, mobile phone number, ID number. Table 3-1 lists the parameters.

The administrator login information table contains the following fields: account primary key, login password, name, gender, and mobile number. For details, see Table 3-2.

Table 3-1 Member Login Registration Information Table

Field	**Data type**	**description**
user.name	varchar（255）	name
user.account	varchar（255）	Account id
user.password	varchar（255）	password
user.sex	varchar（255）	Gender of the user
user.phone	varchar（255）	Phone number of the member
user.sfz	varchar（255）	Identity card number

Table 3-2 Administrator Login Information Table

Field	**Data Type**	**description**
admin.account	varchar（255）	Primary key to the admin
admin.password	varchar（255）	Password of the admin
admin.name	varchar（255）	Name of the admin
admin.sex	varchar（255）	Gender of the admin
admin.phone	varchar（255）	Phone number of the admin

4. System implementation

4.1 Home page

Figure 4-1 shows the home page of the system, which contains system announcements, pay attention to friends information, system recommendation dynamics, and search functions.Click the corresponding function to enter the detailed information interface.

Figure 4-1 Home page of the system

4.2 Friend List management

Friend management includes paying attention to friends' news, community topics, and posting messages and other functions. Click the corresponding function to perform the corresponding function operation. Users can share their interest in the dynamic message, you can also view the user's information, in order to in-depth understanding. If you encounter uncomfortable, illegal information dynamics can also be reported, the administrator can deal with and feedback in time, and carry out corresponding punishment. Figure 4-2 shows the following page.

Figure 4-2 Pay attention to friends

4.3 Message management

Message management can conduct address book query, location pairing, add friends, share chat and a series of operations. Figure 4-3 shows the message management page.

Figure 4-3 message management

4.4 Online chatting

After adding a friend, the user can find the other party in the address book and click the other party to enter the chat function interface, which basically satisfies the idea of real-time sharing between users and friends, as shown in Figure 4-4.

Figure 4-4 Online Chatting

5. Conclusion

This paper introduces the design and implementation process of online dating system APP based on smart terminal. The APP platform can make friends through the community, view other people's information and manage personal information and other modules, you can choose the desired users to make friends, improve the user's dating experience. At the same time, there are also some areas that need to be improved, such as the lack of audio and video optimization functions, and further system optimization will be carried out in the future.

6. Acknowledgement

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