Student Buddy

用陌生的文字温暖你的生活

CONTENT

Requirements specification

-- Social Networking Application for Students

1. Introduction

1.1 Purpose of Writing

The purpose of this document is to outline the requirements for the development of a student social networking application. This application aims to provide students with a platform to connect, communicate, and fulfill various social and lifestyle needs within their university community.

1.2 Project Background

In response to the growing trend of students using electronic social applications, the project aims to create an application that can be used on both computer and Android, providing students with a safe, convenient and high-quality social platform. The app will offer features such as friend chat, confession wall, errand service and used goods trading. It will enhance students' social interaction and improve their college experience.

-Software name:Student Buddy

-Project task proposer: Teacher Lin

-Project developer: Code Crafters team

1.3 References

[1] John Smith. (2020). A Study on the Impact of Social Networking Apps on Student Engagement. Journal of Education and Technology, 45(3), 267-283.

[2] Mary Johnson. (2019). Enhancing Student Learning through Mobile App User Experience Design. Educational Technology Research, 22(4), 431-449.

[3] David Brown. (2021). Ensuring Security and Privacy in Student Social Networking Apps. Information Security Journal, 38(1), 56-71.

[4] Emily Davis. (2018). Usability and Accessibility Evaluation of Mobile Apps for University Students. International Journal of Human-Computer Interaction, 12(2), 189-205.

[5] Michael Clark. (2022). Real-time Communication Techniques in Mobile Apps for Student Social Networking. Mobile Computing and Communications Review, 55(6), 789-802.

2. Overall Description

2.1 Objectives

2.1.1 Development Intention

College students face many difficulties, including adapting to a new environment, establishing a new social circle, and finding study partners. To meet the social and living needs of students in their daily lives and enhance their overall student life experience. Student life is a period of communication and socializing, but traditional social platforms often fail to meet the special needs of students. Therefore, developing a social app specifically designed for students can provide a more convenient communication platform using Unity engine to develop a multi-platform with different functions College students face many difficulties, including adapting to a new environment, establishing new social circles, finding study partners, etc. To meet the social and living needs of students in their daily lives and enhance their overall student life experience. Student life is a period of communication and socializing, but traditional social platforms often fail to meet the special needs of students. Therefore, developing a social app specifically designed for students can provide a more convenient communication platform, which is developed using the Unity engine. To help students better communicate and interact with their classmates, friends and community. It will leverage the Photon Cloud server for efficient communication and incorporate tools such as MemoryPack, Newtonsoft.Json, Baidu Wenyan, MySQL, and Smtp for seamless integration.

2.1.2 Application Goals and Scope

The ultimate goal is to enhance the university experience for students by providing a comprehensive and user-friendly platform. The app aims to create an active and high-quality online community where students can share their lives and make friends; You can also facilitate your life by running errands and trading used goods. This app can be used by students in colleges, universities, and other educational institutions. It can also be extended to be used by high school students or any other community where students are looking for a dedicated social platform tailored to their specific needs.

2.1.3 Product Prospects

First of all, college students are a huge user group, and they usually have high social needs and activeness. This APP can provide a friend chat function to help college students establish contact and communicate with each other and meet their social needs.

Secondly, the function of the advertisement wall can provide a platform for college students to express their feelings and convey their love. This can be very appealing to students who are shy or don't know how to express themselves. It's also of great interest to some students who want freedom of speech.

In addition, errand services and second-hand trading functions are also very practical. College students usually need some help, such as help to pick up the delivery, shopping, etc., errand function can meet these needs. In addition, the second-hand trading function can make it convenient for college students to buy and sell their idle items, providing an economical shopping channel.

3. Functional Requirements

3.1 Friend Chat

- Users should be able to send and receive real-time text and image messages.
- Users can create and manage their list of friends.
- Users can create groups and communicate in groups

3.2 Confession Wall

- Users can post messages to express their emotions, or they can choose to post anonymously.
- Sensitive word detection will be implemented to maintain a respectful environment.
- Users can like, comment on, and report posts.

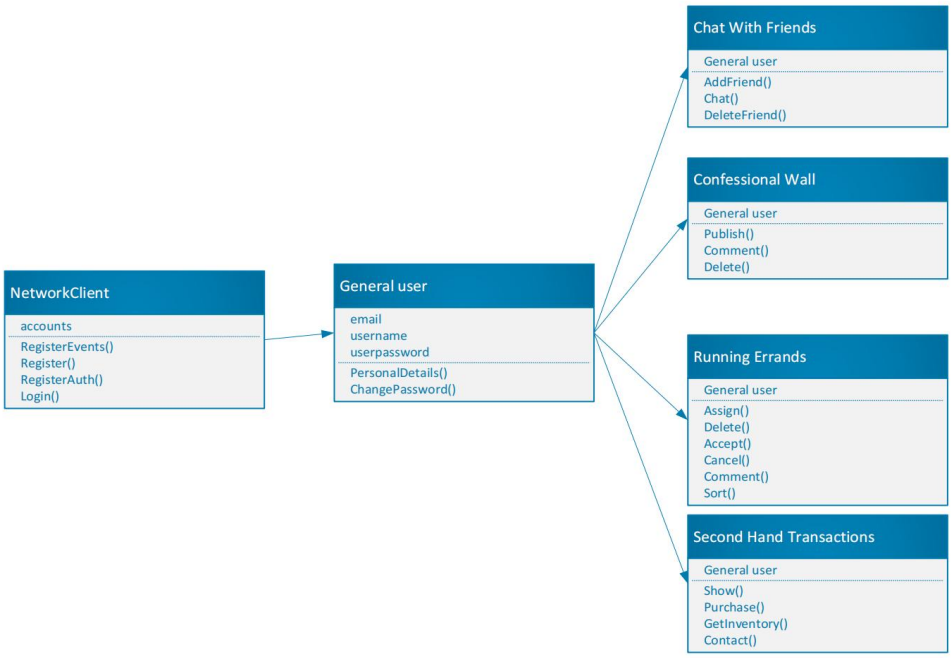
3.3 Campus Errand Services

- Users can post errand requests, specifying details and rewards.
- Other users can browse and accept errand requests.
- The system will match the errand request with the appropriate user based on suitability.

3.4 Second-hand Item Sales

- Users can list items for sale, including item details and price.
- Buyers can browse and search for items.
- Users can negotiate prices and arrange meetings for transactions.

3.5 Class Diagram



RegisterEvents()	It is used to register event handlers and associate different events with corresponding handling methods.
RegisterHandler()	Register the event handler and accept two parameters, one for the EventCode and the other for the handler (Register, Login, RegisterAuth).
Login()	LoginRequest defines a data structure for a login request with two attributes: Email and Userpassword. LoginResponse defines a data structure for the login response with two properties: Success and ErrorCode.
RegisterAuth()	It is an asynchronous method. In the method, the byte array is first converted to a RegisterAuthRequest object by deserialization. Then, verify that the registration verification code is correct by calling the FzuMail.CheckCode() method; Otherwise, the registration information is inserted into the database by calling the FzuMySql.Accounts.Insert() method and the registration authentication response message is sent to indicate that the registration is successful.

4. Non-Functional Requirements

4.1 Performance

- The application provide a smooth and responsive user experience, with minimal latency in messaging and interactions.
- It support a large number of concurrent users without performance degradation.

4.2 Security

- User passwords will be securely stored using industry-standard encryption methods.
- Sensitive word detection to prevent offensive content on the confession wall.
- User data will be protected against unauthorized access, and data breaches will be promptly addressed.

4.3 Usability

- The user interface should be intuitive, visually appealing, and user-friendly.
- The application support multiple languages to cater to international students.

5. Function Description and Acceptance Verification Standards

5.1 Detailed Function Description

5.1.1 Campus social network

This feature enables students to connect with friends and classmates, facilitating communication and information sharing.

Under this feature, students can create a profile, add friends, and communicate with other users through private messages. This helps strengthen campus social networks and provides a friendly platform where students can get to know and communicate with each other better.

5.1.2 Confession Wall

Confessional walls allow students to openly express their emotions and promote emotional connection within the campus community.

Under this function, students can post their confessions and moods anonymously, and other users can communicate and support the publisher through likes, comments and private messages. This helps students release emotions, share experiences, and build empathy and support within the campus community.

5.1.3 Campus errand service

The feature helps students solve challenges in everyday life by connecting with others who can help.

Under this function, students can post task requirements, such as express delivery, pick up express delivery, print documents, buy food, etc., and other users can accept the task and complete it. This helps students solve daily chores, saving time and energy, while also promoting mutual aid and cooperation on campus.

5.1.4 Transaction of second-hand goods

Students can easily buy and sell used items within the campus community.

Under this feature, students can post information about used items for sale or purchase, and other users can contact them and make transactions. This helps students save on purchase costs and reduce resource waste, while also promoting sustainable consumption and resource sharing on campus.

5.2 Input and Output Format

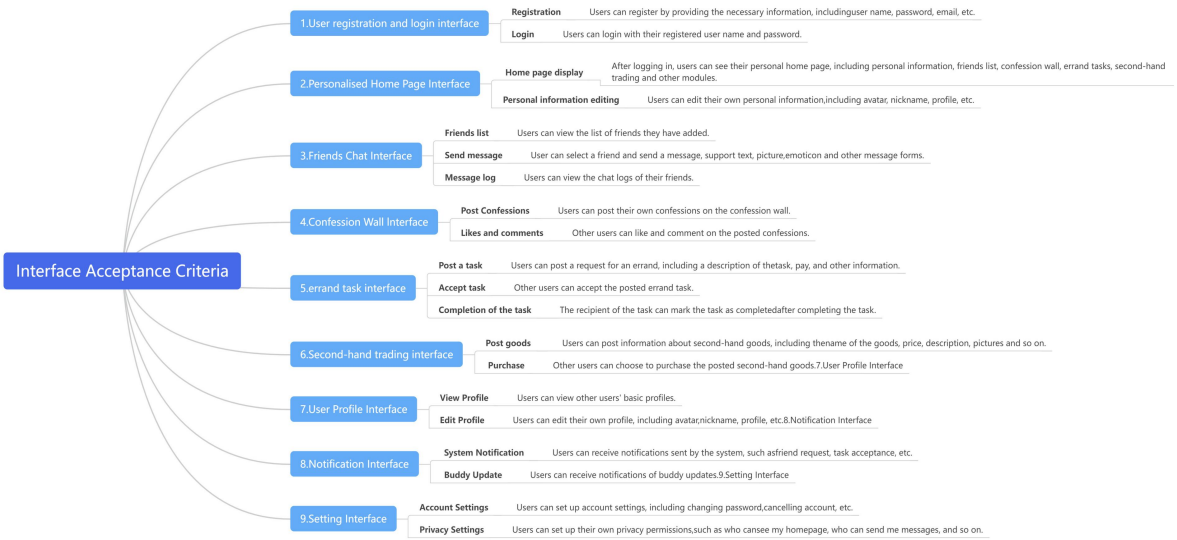
The application primarily relies on text-based inputs and outputs, encompassing text-based communication, posting messages, and sharing information within the app.

5.3 Interface Acceptance Criteria

Clear criteria for accepting the user interface design will be defined. Initially, the interface should be intuitive and engaging to facilitate a user-friendly experience. Upon opening the software, users are required to register via email before gaining access to the application. The application is structured into four main sections: "Chatting," "Confession Wall," "Running Errands," and "Second-Hand Transactions."

In the "Chatting" section, users can engage in conversations with others and also have the option to add friends if they choose to do so. The "Confession Wall" section provides users with a platform to express thoughts they might hesitate to share in their daily lives, as all posts in this section are anonymous. However, it's essential to note that political and abusive comments are strictly prohibited in this section, with sensitive vocabulary automatically hidden.

The "Running Errands" section allows users to earn rewards by running errands for others or find runners to assist them with tasks, enhancing overall convenience in daily life. Lastly, the "Second-Hand Transaction" section offers users a platform to list items they no longer need, facilitating easy communication and private transactions with interested parties.



5.4 Functional Acceptance Criteria

Criteria for accepting the functionality of the software features will be outlined to ensure a seamless user experience. The software's functions must be implemented without critical errors, ensuring the smooth operation of essential features such as chatting, posting on the confession wall, and providing clear information through the "Running Errand" section. Moreover, user experience and usability will be key factors considered in our acceptance criteria.

1. User registration and login functions:

- Users can register by providing a valid email address and password.

- Users can log in using their registered email address and password.

2. Personalised Home Page Function:

- Users can view their personal information and avatar on their personal home page.

- User can edit his/her personal information and avatar on his/her personal home page.

- Users can view their friends list.

3. Chat function:

- Users can have one-to-one real-time chat with their friends.

- Users can send and receive text, picture and voice messages.

- Users can view chat history.

4. Confession Wall:

- Users can post confessions on the confession wall.

- Users can view confessions posted by other users.

- Users can like and comment on confessions posted by other users.

5. errand function:

- Users can post errand tasks, including the type of task, task description, and remuneration.

- Users can view the list of errands posted.

- Users can accept and complete the errands posted by other users.

6. Second-hand trading function:

- Users can post information about second-hand items, including the name of the item, price and description, etc. Users can view the list of posted second-hand items.

- Users can view the list of used items posted.

- Users can buy and exchange second-hand items with other users.

7. User Profile Function:

- Users can view other users' profiles.

- Users can edit and update their own profiles.

8. notification function:

- Users can receive system notifications and message notifications from other users.

- Users can view and manage received notifications.

9. Settings Function:

- Users can change their personal settings, including privacy settings and notification preferences.

6. KANO Model

According to the KANO model, we can analyze the impact of the app's functions on the user experience.

6.1 Chat with friends

This function is a basic expectation, and one of the main purposes for college students to use social apps is to keep in touch and communicate with friends. Therefore, this feature is essential to the user experience.

6.2 Confessional wall

This feature is potentially expected to provide an anonymous way for students to express their feelings. Although not every user will use this feature, it can make the app more interesting and interactive.

6.3 Campus Errand Services

This function is expected to help students solve small problems in daily life, such as shopping, picking up deliveries, etc. This feature can raise user expectations for the convenience and usefulness of the app.

6.4 Second-hand Item Sales

This feature is expected, and college students are often interested in second-hand transactions because they can save money and find more options. This feature can increase users' expectations for the economic benefits of the app.

7. NABCD Model

7.1 Need

The student social networking application addresses various campus life needs, offering a convenient, efficient, and secure platform for social interactions and problem-solving.

7.2 Approach

The app is developed for Android, incorporating features like friend chat, confession wall, errand services, and second-hand item trading to meet students' diverse needs.

7.3 Benefit

The application enhances students' overall university experience by providing a platform for communication, emotional expression, problem-solving, and sustainable trading.

7.4 Competitors

Competition in the student social networking app sector may include existing apps such as WeChat, QQ, TikTok, and university forums like Weibo. To stand out, the app will offer unique features for university students.

7.5 Delivery and Future Plans

7.5.1 Promotion Strategies

To promote the student social networking app, strategies include collaboration with universities, social media advertising, discounts, rewards, word-of-mouth marketing, and continuous improvement of the app for an enhanced user experience.

7.5.2 Team Overview

Our project team is well-structured, with clear roles and responsibilities. Team members are committed to ongoing learning, development, and project improvement.

7.5.3 Future Plans

Future plans involve continuous learning of relevant programming languages, further development of app features, UI enhancements, data analysis for personalized recommendations, and a strong commitment to data security and user privacy.