SYSC 4907

Come and Chat(C&C):

Fourth Year Engineering Project Proposal

Carleton University

Group Members:

Yunzhou Liu 101027110

Shizhong Shang 101115304

Zirui Qiao 101100225

Supervisor:

Lynn Marshall

September 18, 2022

**Contents**

1. Introduction
   1. Purpose
   2. Scope
   3. Definition, Acronyms, and Abbreviations
2. Background
3. Objectives

3.1 Functional Requirements

3.2 Page Requirements

3.3 Performance Requirements

3.4 Design Constraints

3.5 Software Quality Attributes

3.6 Other Requirements

3.7 Measurability

1. Skills and Prior Knowledge

4.1 Yunzhou Liu

4.2 Shizhong Shang

4.3 Zirui Qiao

1. Relation to Degree Program

5.1 Yunzhou Liu

5.2 Shizhong Shang

5.3 Zirui Qiao

1. Plan
2. TimeTable
3. Risks and Mitigation Strategies
4. Special Equipment Required
5. Conclusion

References

1. **Introduction**

**1.1 Purpose**

Instant messaging is an efficient way to deliver information, and today, instant messaging software has become an integral part of our lives. For some of the most famous instant messaging software, such as Discord, WhatsApp and FaceBook Messenger, we enjoy the convenience they offer while occasionally complaining about their shortcomings. This has led us to take a keen interest in such software.

In this project, we will build an imitated, web-based instant messaging software called Come and Chat(C&C). This proposal will outline the proposed plan and objectives to complete a working prototype of the project in early January 2023.

* 1. **Scope**

The C&C will provide mechanisms for signing up/in users, searching users, adding/deleting friends, sending/receiving messages to/from friends, building group chats, recording chat history, and allowing users to post messages as their status, allowing users' friend to see users' status.

More functions could be added after the functions above are implemented. Customized parts are always considered after the procedures above.

**1.3 Definition, Acronyms, and Abbreviations**

Message --- Information in text, image, audio, video, link, or hybrid.

Friend --- A relationship between users that gives both parties a quick link to each other.

Status --- A message posted by a user that the user’s friends can only see.

Chat --- A connection tube between two users.

Group Chat --- A connection tube among three or more users.

The system --- represents the C&C Instant Messaging Software system.

1. **Background**

// show research 自己写自己的research结果

1. **Objectives**

**3.1 Functional Requirements**

**3.1.1 Identity and Relationship Functions**

3.1.1.1 Users provide phone number/email address, nickname, and password to sign up for the system.

3.1.1.2 Users provide their phone number/email address and password to sign in.

3.1.1.3 Users can modify their profiles by changing personal information.

3.1.1.4 Users search for other users by phone number/email address/username.

3.1.1.5 A user can apply to be a friend of another user.

3.1.1.6 A user can approve/reject a friend request from another user.

3.1.1.7 A user can delete a friend.

3.1.1.8 A user can create a group chat by inviting friends as group members.

3.1.1.9 A user can leave a group chat.

3.1.1.10 A user, as a group member of a group chat, can invite their friends to join the group chat.

**3.1.2 Communication Functions**

3.1.2.1 Users can only communicate with their friends.

3.1.2.2 Only the user themself and the friend can see messages in a chat.

3.1.2.3 All users in a group chat can see messages from all users in the group chat.

3.1.2.4 A user can view the chatting histories of chats and group chats.

3.1.2.5 Users can send text, image, audio, video, link, or hybrid-type messages in chats.

3.1.2.6 Users can only see their own and their friends' status.

3.1.2.7 Users can write text as comments to status.

3.1.2.8 Users can post text, image, audio, video, link, or hybrid-type messages as their status.

**3.1.4 System Scheduling**

3.1.4.1 The system shall use the MVC model.

**3.2 Page Requirements**

3.2.1 The list shows all friends' chats, and group chats should exist the whole time after signing in.

3.2.2 Signing in/up page should be a separate page from the chatting pages.

3.2.3 The avatar list of all users in a group chat should be shown when users are in a group chat window.

3.2.4 All messages sent by a user should appear with their avatar simultaneously.

**3.3 Performance Requirements**

3.3.1 Any operation on the website should be performed in 5 seconds.

**3.4 Design Constraints**

3.4.1 The system shall be usable at least on Chrome.

3.4.2 The system shall support PC and mobile.

3.4.3 The system must comply with the relevant privacy legislation.

**3.5 Software Quality Attributes**

3.5.1 Users can only see messages in chats between themselves and their friends and the group chat they joined.

3.5.2 Users can only view the history of messages that they can see.

3.5.3 The system can be remotely accessible to all users.

3.5.4 The system shall protect all users' information.

**3.6 Other Requirements**

3.6.1 The hard deadline for the system is the end of April of next year for project completion.

**3.7 Measurability**

The functional requirements, page requirements and other requirements are all Boolean attributes of the system, and therefore they can be tracked in an issue tracker. A performance test is needed to follow performance requirements. Design constraints and Software quality attributes can only be measured by a variety of different tests.

1. **Skills and Prior Knowledge**

// 已经会什么技能

**4.1 Yunzhou Liu**

**4.2 Shizhong Shang**

**4.3 Zirui Qiao**

1. **Relation to Degree Program**

//为什么项目和自己的专业相关

**5.1 Yunzhou Liu**

**5.2 Shizhong Shang**

**5.3 Zirui Qiao**

1. **Plan**

// shizhong shang & yunzhou liu

1. **Timetable**

// zirui qiao

1. **Risks and Mitigation**

// shizhong shang & yunzhou liu

1. **Special Equipment Required**

One or many servers are required for this project.

1. **Conclusion**

**//** shizhong shang

**Reference**