Ad-hoc 그룹을 위한 채팅 응용 프로그램 설계 및 구현
Design and Implementation of a Chat Application for Ad-hoc Groups

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Abstract

With the rise of the Internet era, instant messaging is playing an increasingly important role in the entire Internet market. Nowadays, most of chat softwares on the market are designed for chatting with friends. Before joining a group chat, we must be invited by your friends. On certain occasions, it is very troublesome to invite lots of people quickly if people want to build a group chat temporarily. Therefore I developed a chat application for ad-hoc groups to solve the problem. Ad-hoc groups can be used for some specific occasions for example some large meetings and gatherings. People can create a group at any time any where and other people can join the group chat fast. People that include friends and strangers all can join a group chat by scanning the QR code without adding anyone as friends.

I. Introduction

Instant messaging is a set of communication technologies used for text-based communication between two or more participants over the Internet or other types of networks. IM-chat happens in real-time. Of importance is that online chat and instant messaging differ from other technologies such as email due to the perceived quasi-synchrony of the communications by the users. Ad hoc is a Latin phrase meaning "for this". In English, it generally signifies a solution designed for a specific problem or task, non-generalizable, and not intended to be able to be adapted to other purposes. Ad hoc can also be an adjective describing the temporary, provisional, or improvised methods to deal with a particular problem. It also could mean shifting contexts to create new meanings or inadequate planning.[1] Ad-hoc group is a specific group or a temporary group.

II. Related Works

Nowadays there are many chatting applications on the market, such as WhatsApp, WeChat and Kakaotalk and so on. Both WeChat, Kakaotalk and WhatsApp are chat Apps, and they support us to send and receive instant messages, calls, photos, videos, just so many feature similar. Now there are a lot of works about group chat. Most researchers focus on the influence of group chat on our daily life. Therefore they put research topics on way of increasing some functions on group chat to make users' life easier. Minsam Ko introduces a scenario about how to help us to mitigate smartphone distractions in group chat. Once the user start a group limit mode with Lock n'LOL, other applications can not run on the smartphone and all the alerts are muted.[2] In addition to many researchers have begun to pay attention to Ad-hoc group. In Jonathan K. KIES's paper, he create an ad hoc communications group in a push-to-talk (PTT) system.[3]

Our work is differentiated from other works. We want to create ad-hoc groups in chat application quickly. We use QR code to solve the problem. People that include friends and strangers all can join a group chat by scanning the QR code without adding anyone as friends. Figure 1 is UML diagram of our system.

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1) 교신저자
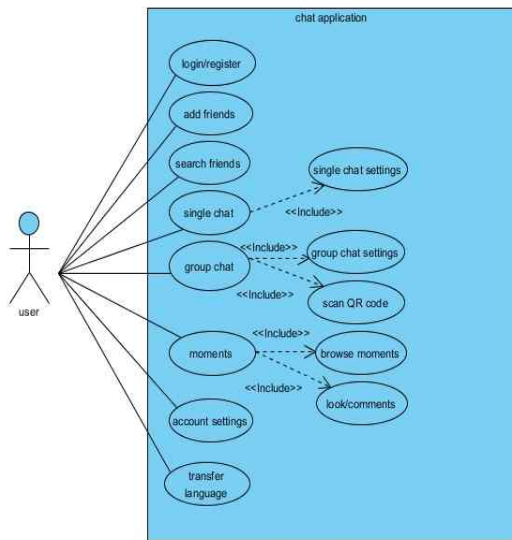
▶▶ Figure 1. Chat Application UML Diagram.

Ⅲ. Key Code

In our system, it is very important to scan the QR code join the group chat. Figure 2 is a part of codes scan QR code to join the group chat.

```
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_scan);
```

```
mZXingView            =            (ZXingView)
findViewById(R.id.zxingview);
setTitle(getString(R.string.group_code_sacn));
    Button rightButton = getHeadRightButton();
    rightButton.setVisibility(View.GONE);
    mZXingView.setDelegate(this);
    sp        =        getSharedPreferences("config",
Context.MODE_PRIVATE);
    String            userId            =
sp.getString(SealConst.SEALTALK_LOGIN_ID, "");
    startDisList.add(userId);
```

▶▶ Figure 2. Scan QR Code

Ⅳ. Conclusions

In order to solve the problem that creating group chat will take a lot of time and energy in some special occasions, we designed and developed out chat application. And we showed our system's key codes. I hope you can exchange ideas with us to make our project more perfect.

▌ References ▌

[1] Wikipedia, Ad hoc, https://en.wikipedia.org/wiki/Ad_hoc
[2] MinsamKo , Seungwoo Choi , Koji Yatani , Uichin Lee (2016) Lock n' LoL: Group-based Limiting Assistance App to Mitigate Smartphone Distractions in Group Activities. CHI '16, May 07−12, 2016.
[3] Jonathan K. Kies, Encinitas, Jason B. Kenagy, La Jolla. SYSTEMAND METHOD FOR CREATING AN AD HOC GROUP INA PUSH-TO-TALK SYSTEM. United States Patent : Date of Patent: Apr. 1, 2014.