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Document: User Manual

Project: Group Chat For Linphone (Agile DO-178)

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1   Introduction

This user manual provides instructional support and guidance to help the users who use Linphone-android. The manual focuses on system configuration, installation, using the system, troubleshooting, etc.

2   General Information

2.1   Project Details

System name affiliation of all stakeholders	
System name	Linphone Group Chat
Stakeholder	Kobus Coetzee
Scrum master	Potego Mello
Client representative	Patience Mtsweni
UX developer	Lutfiyya Razak and Lerato Molokomme
Backend developer	Ephiphania Munava and Potego Mello
Crypto developer	Tsepo Ntsaba
CI / CD support	Patience Mtsweni

2.2   System Overview

The system we are working on is called Linphone. We are are adding additional functionality to an already existing project. The main aim of the functionality we are developing in the Linphone project is to allow a group of users to be able to communicate or exchange messages with each other.
This functionality is achieved by creating a group chat were there will be an interface that allows those messages to be exchanged and viewed. A participant can send messages and pictures to a group, send voice recordings,update the group picture and change the group name.
A participant can become an administrator in the group - usually this is the person who creates the group ,who is responsible for adding and removing other participants.

2.3   System Configuration

2.3.1   Equipment

An Android phone is a smartphone that runs on Google's open-source Android operating system. There are a number of different manufacturers that make Android phones, namely HUAWEI, LG, ASUS, acer, Virgin mobile, Samsung, Motorola, Sony and many more.

Figure 1: Android Phones.

2.3.2 Network

The linphone application requires registration to a SIP provider before you can operate it. The provider ensures that you have a SIP address which is a Uniform Resource Identifier also known as a URI which is represented in the form user@domain.tld.
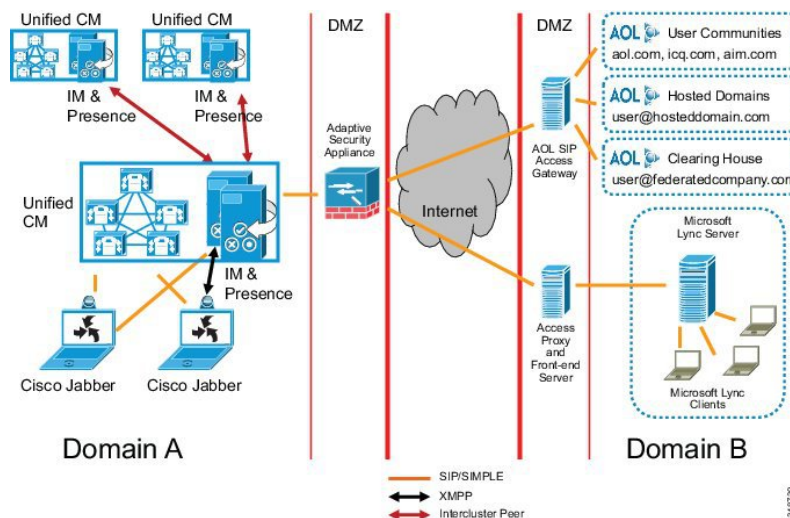

Figure 2: SIP Protocol.

Linphone.org hosts a free SIP service which allows users to make audio or video calls using SIP addresses under the domain sip.linphone.org.

When creating your sip address like sip:baobab@sip.linphone.org you simple use the form provided on http://www.linphone.org/free-sip-service.html and your friends can communicate with you by simply making use of the sip address.

Figure 3: Linphone SIP Registration.

2.4 Installation

- Turn on your Android Smartphone and click on the Google Play icon to launch Google Play.

- Tap the Search button in the upper right corner and type Linphone

- From the result list tap the result with the title Linphone Video to expand it

- Tap the Install button, Linphone for Android will be downloaded and the installation procedure will begin

- Confirm that you accept the Linphone application rights on the screen that will be appear on your Smartphone by tapping Accept. When the file installation is done tap Open.

- Press Agree when the License Agreement appears on your screen to finalize the install and start Linphone for Android.

2.5 Getting started

2.5.1 Registering on the network

To get started with the system, you need to install Linphone Application onto your android phone. To do this refer to section(2.4), and follow the results as shown there. Once you have Linphone installed, you should setup your sip account, which you will need to be able to use the system. For more details on what a SIP address is, refer to section (2.3.2).

- Click on the **settings** button on the bottom of the screen. Next click on **Account Setup Assistant**.

- Click on **Let's go**. Next, click on **Create account on linphone.org** then click **Create** .

- Otherwise, if you already have a SIP or linphone.org account, click on their options and click **Apply** .
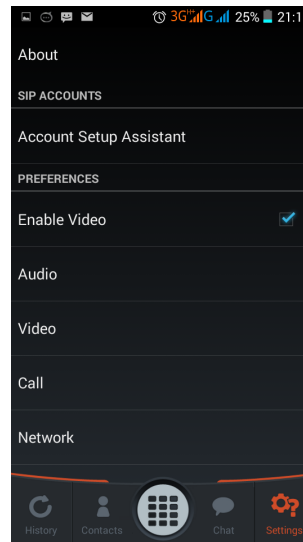
Figure 4: Home Screen
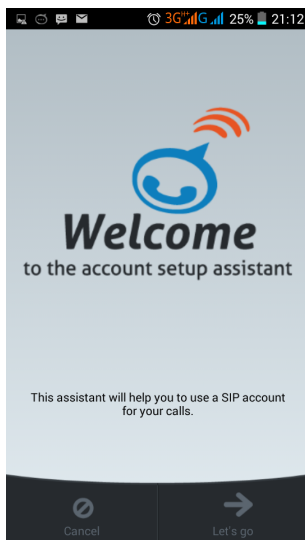

Figure 5: Settings Screen
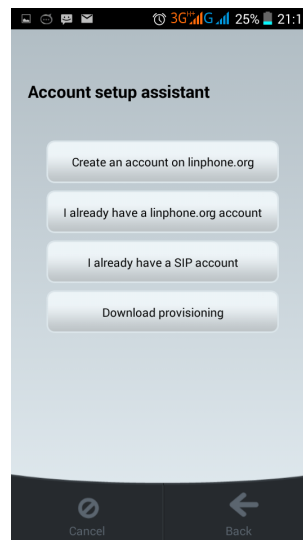

Figure 6: Account Setup Screen

Figure 7: Options Screen

2.6   Using the system

After successful installation and setup (sip account) of the linphone application, you should then
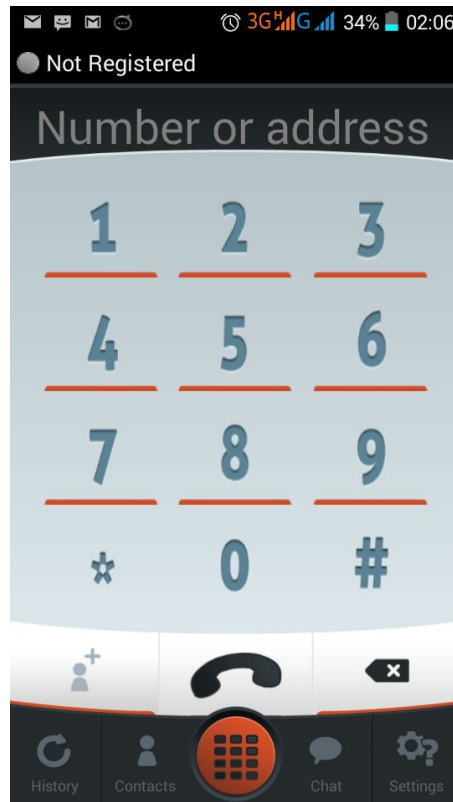see the following screen:

Figure 8: Main Screen.

To make call via VoIP (Voice over Internet Protocol), type in (where it's written "Number or address") the sip address or the phone number of the person you would like to contact and press the dial button like screen two:
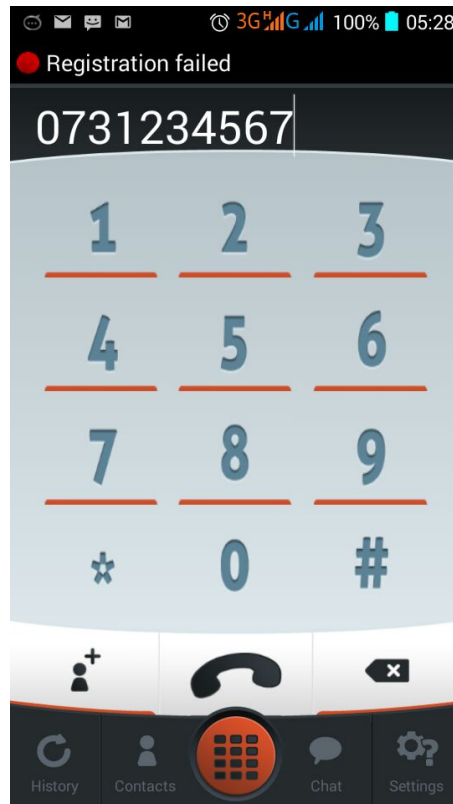
Figure 9: Screen two.

To start chatting just click on the chat button in the menu at bottom of the screen. It will take you to the following screen:
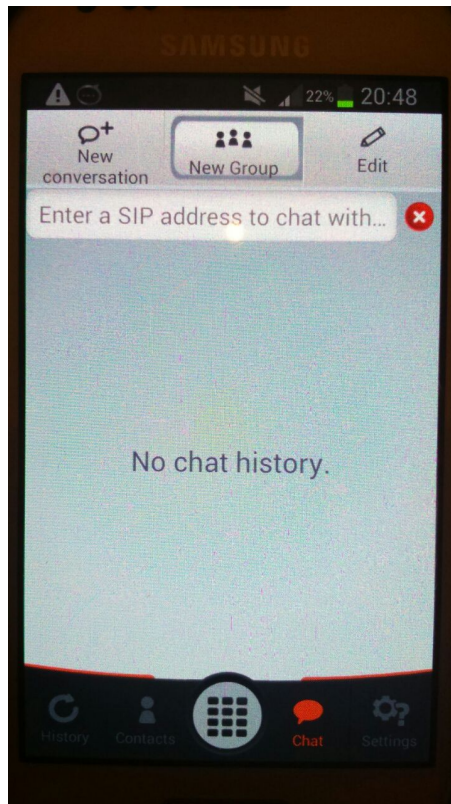
Figure 10: Screen three.

Now click on the "new conversation" button at the top left position which will then lead you to the your contact list where you have to select the contact you would like to chat with like in the following:
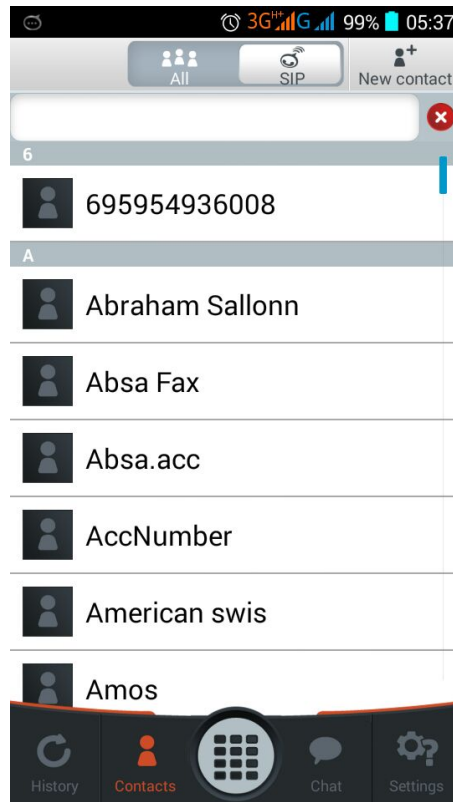
Figure 11: Contact List.

Selecting a contact to chat with should now take you to the chatroom which is the place where messages are exchanged. Look at the following:
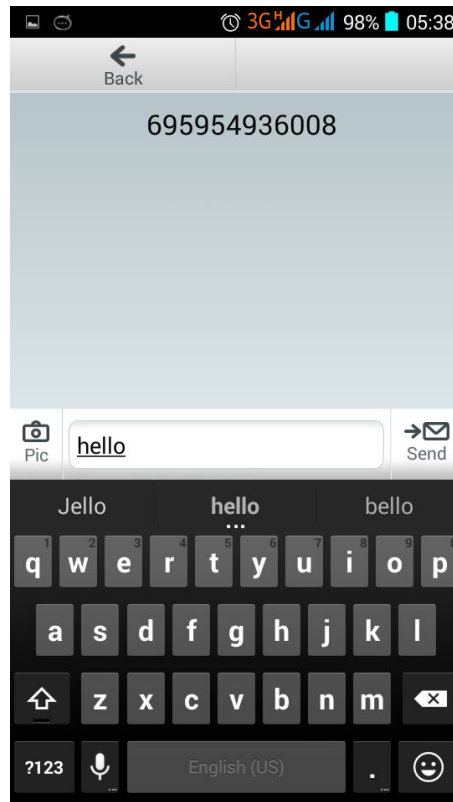
Figure 12: Chatroom.

There is a small text box at the bottom of the chatroom that can be used to compose your messages and then when ready, you can click on the send button next to it to send the message to your peer. Like this:
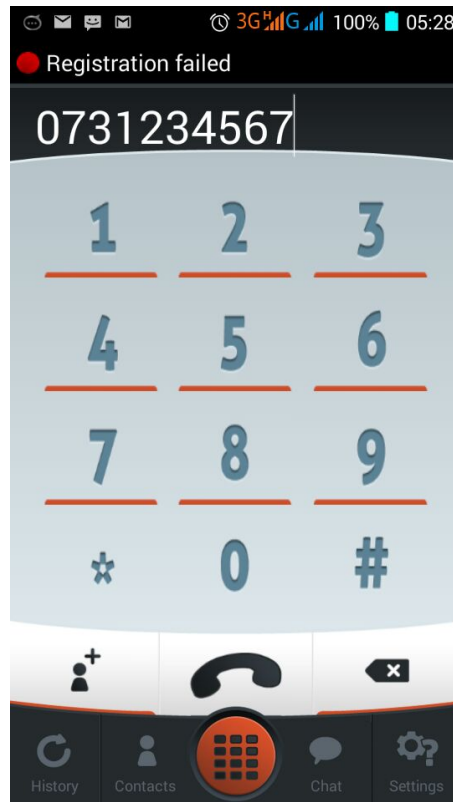
Figure 13: Chatroom 2.

To add new contacts via linphone just go back to the main screen and click on the contacts button. This will take you to the Contact list screen. At the to right position of that screen click on the new contact button and you will be led to the following screen:
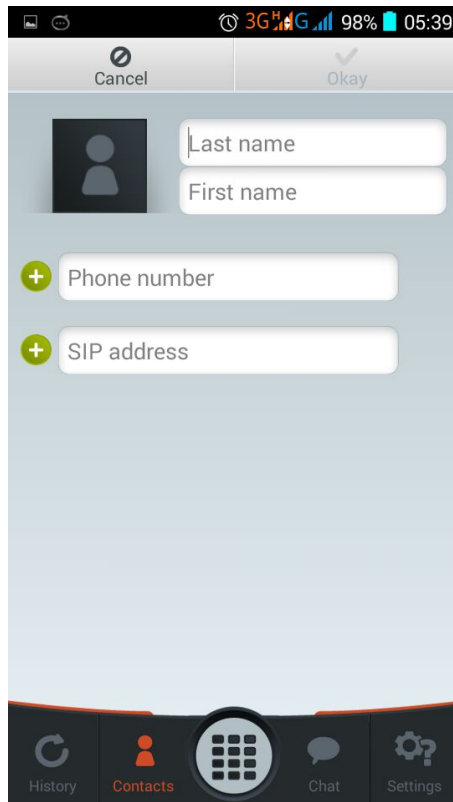
Figure 14: Create New Contact.

Now you can fill in the details required in the form and then click on Okay to save the new contact. Like so:
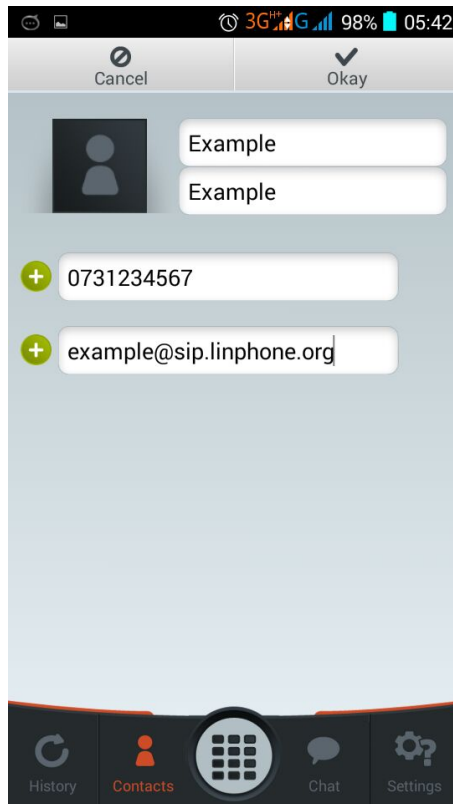
Figure 15: Create New Contact with details.

Your call logs can be found by going back to the main screen and then clicking on the History button at the bottom left screen menu. The log for outgoing and incoming calls are shown here:
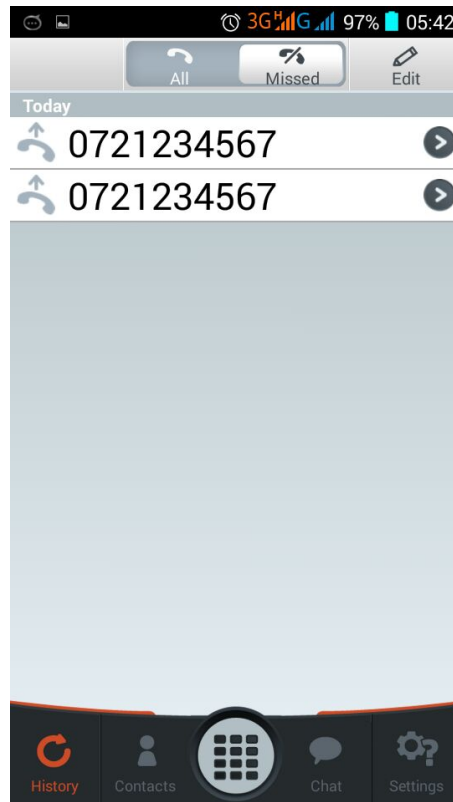
Figure 16: Call Log History.

2.7 Troubleshooting

Troubleshooting, FAQ and Problems

Connection problems

I try to phone to my friend ¡sip:toto@example.com¿, but nothing happens, no ring, nothing at all. You must verify that linphone uses the network interface that connects you to the internet (or to the network where calls should go).
Use the property box, section Network, to select the correct network interface. In other case, the person you are contacting may be not reachable at the moment...

Audio problems

Linphone seems to connect to the remote sip url, it rings, but when the callee answers, nothing happens and we can't hear each other.

Most people get problems because they don't choose the correct network interface in the property box, section network.

In other cases, it will fail.
First rise up playback and recording level.
If the voice is sometines cutted, you can modify parameter RTP¿jitter
compensation in the property box to greater values to avoid this. But it increases the delay transmission.

FAQ How do I use Linphone Calling?
Linphone Calling lets you call your friends and family using Linphone for free, even if they're in another country. Currently, Linphone Calling is available on Android.
Linphone Calling uses your phone's Internet connection rather than your cellular plan's voice minutes. Data charges may apply. Please note: you can't access 10111 and other emergency service numbers through Linphone. You must make alternative communication arrangements to make emergency calls.

Bugs reporting and suggestions

First go to linphone's home page at http://www.linphone.org to check if you have the latest version of linphone.