Lory2

User Guide

Version: 1.0

July 10, 2018

IoT Experts
SystemBase
Since 1987

Revision History

Date of Revision	Version	Page Revised	Details of Revision
July 10, 2018	1.0	All	New

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Website http://www.sysbas.com/
Tel +82-2-855-0501
Fax +82-2-855-0580
16F (1601) Daerung Post Tower-1, 288, Digital-ro, Guro-gu, Seoul, Republic of Korea
For inquiries, please contact us at tech@sysbas.com.

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1. Overview

"LoRa", a wireless communication technology for sensor networks. It is the next generation of LPWA (Low Power Wide Area) technology that enable transmitting small amounts of data over long ranges. Lory2 is a wireless model that utilizes LoRa. It allows text and location information exchanging between terminals through a mobile application, "Himalaya Talk2", even without support from a base station. With STT (Speech to Text) and TTS (Text to Speech) technologies, users also can send and receive data via voice commands. Without a need to connect to wireless mobile networks, Lory2 is available in a variety of situations such as travelling to remote mountainous areas, during mountain climbing, tracking, wilderness exploration, traveling, fishing, construction sites, and while travelling by ship. Lory2, this multi-function device is especially valuable in case of mobile communication failures due to natural disasters.

2. Features

- Bluetooth to LoRa® Converter
- Long Range, Low Power Wireless Communication Modem
- Connects with Smartphones via Bluetooth
- Exchange of Texts and Location Information through Himalaya Talk2
- Supports voice communication with STT and TTS
- High-capacity Power Bank (Battery)
- Solar Charger
- Waterproof and Anti-shock; especially for outdoor activities (IP66)

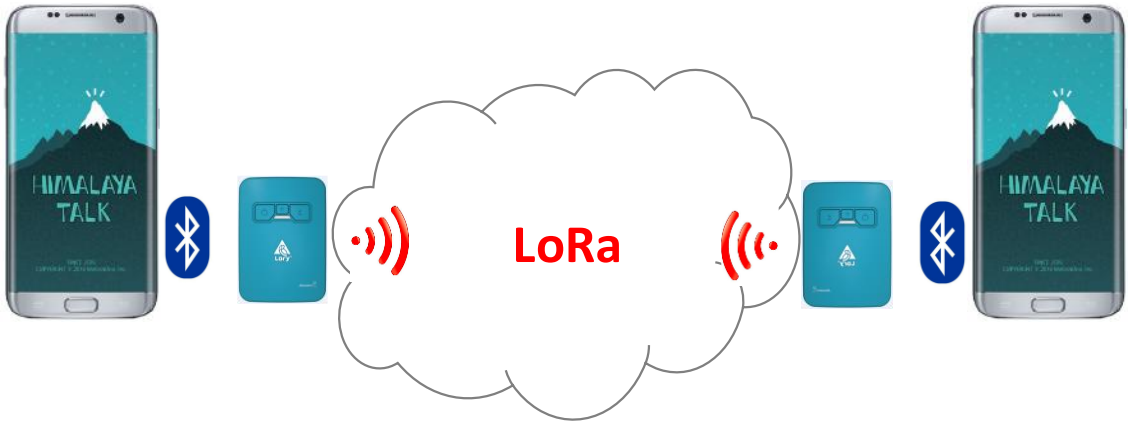
Class B Digital Device

The device is registered with electromagnetic compatibility requirements mainly for residential use (Class B). This device may not only be used in residential areas but also in all other areas.

3. Purpose

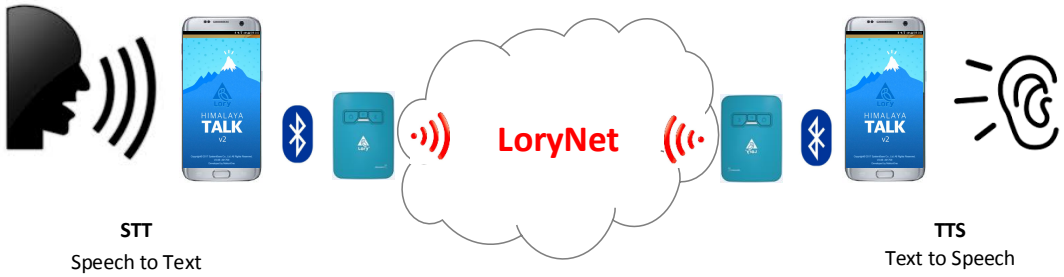
Himalaya Talk2 is a mobile application compatible with Lory2 that supports voice and text (SNS) communication even in radio shadows and in emergencies such as earthquakes or

disasters without the support of a base station. The app is runnable on both Android (4.4 or higher) and IOS (8.0 or higher) and is available in situations such as travelling to remote mountainous areas, for use during mountain climbing, tracking, wild explorations, traveling, fishing, construction sites, and travel via ship without connecting to a wireless mobile network.



Voice Communication

"LoRa" utilizes low-bandwidth wireless communication that is unsuitable for voice transmission. However, SystemBase introduced the world's first voice transmission feature using LoRa, which allows voice communication even in radio shadows through Lory2 and Himalaya Talk2. This is particularly useful in emergencies as it can be used to communicate via text and voice command.



STT
Speech to Text

TTS
Text to Speech

4. Specifications

4.1 Detailed Specification

Category	Subcategory	Specification
LoRa	Specification	Specification LoRa
	Air Interface	Air Interface 917 ~ 923MHz
	Transmission Power	Transmission Power Max. 25mW
	Encryption	AES 128
Bluetooth	Specification	Bluetooth 4.1 (BLE)
	Air Interface	2,400 ~ 2,483.5MHz
	Maximum Distance	10m
Operating Environment	Operating Temperature	-10 ~ 60℃
	Storing Temperature	-20 ~ 70℃
	Humidity	90% Non-Condensing
Hardware	Power	DC3.7V 2000mA Li-polymer Battery (Available as a external battery)
	Power Connector	Micro-USB B (Power Input), USB A (Power Output)
	LED (Battery status)	Green (Full), Yellow (Half), Red (Empty)
	Solar Pad	80(W) x 58(L) mm
	Buzzer	90dB (Pairing Status alarm)
	Battery life	72Hours (Continuous use)
	Dimensions	70 (W) x 100(L) x 22.95(H) mm
	Weight	Weight 122g
Software	App	HimalayaTalk2
	O/S	ANDROID 4.4 or later

4.2 LED & Switch

POWER BUTTON

Feature	Mode	Button	LED	Device	Alarm
Power & Battery Overlay	Off	Press and hold the button for less than 3 seconds	No Display	-	
		Press and hold the button for more than 3 seconds	Display of the Battery Overlay with Green LED Bars on the Device	On	Beep↗
	On	Less than 3 seconds	Display of Battery Overlay	-	
		More than 3 seconds	No Display	Off	Beep↘

PAIRING

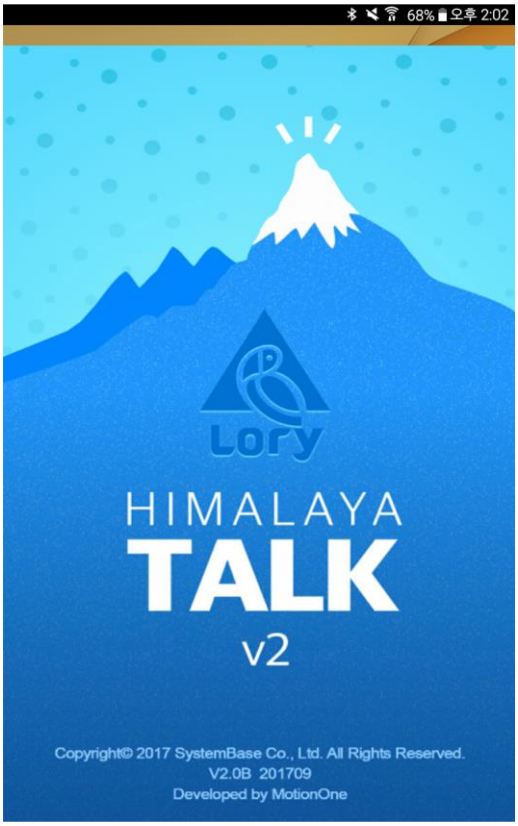
Feature	Mode	Button	LED	Device	Alarm
Pairing Status	On	Press and hold the button for less than 3 seconds	Display of Battery Overlay	-	3 Beeps
	Off			-	Beep-
Pairing Mode	Off	Press and hold the button for more than 3 seconds	Display of Battery Overlay	Un-pairing	Beep-

5. Component

Order Number	Components
Lory-1011NCL	Lory2, USB Power Cable, Carabiner

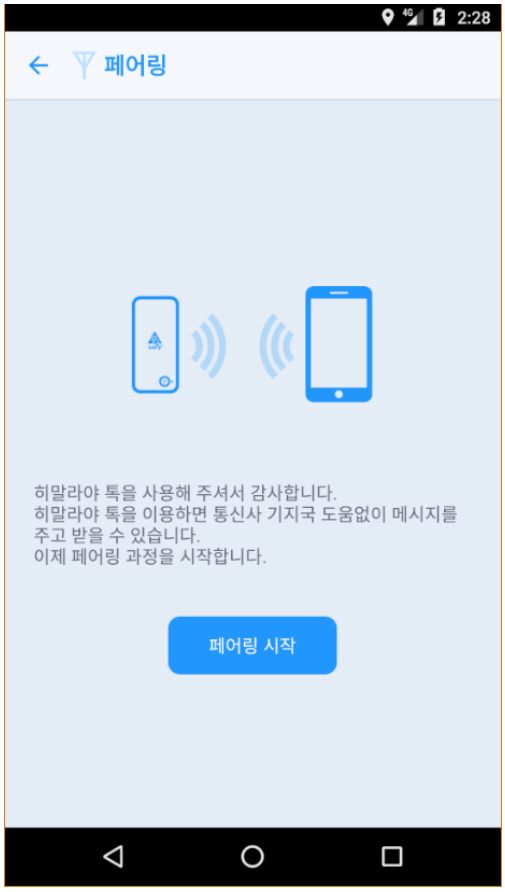
6. How to Use

Download Himalaya Talk2 on Google Play (Android) or App Store (IOS)



6.1 Bluetooth Pairing

- Ensure that you pair Himalaya Talk2 with Lory2 when you run the app for the first time
- Ensure that your mobile device Bluetooth and Lory2 are both switched on before Bluetooth paring

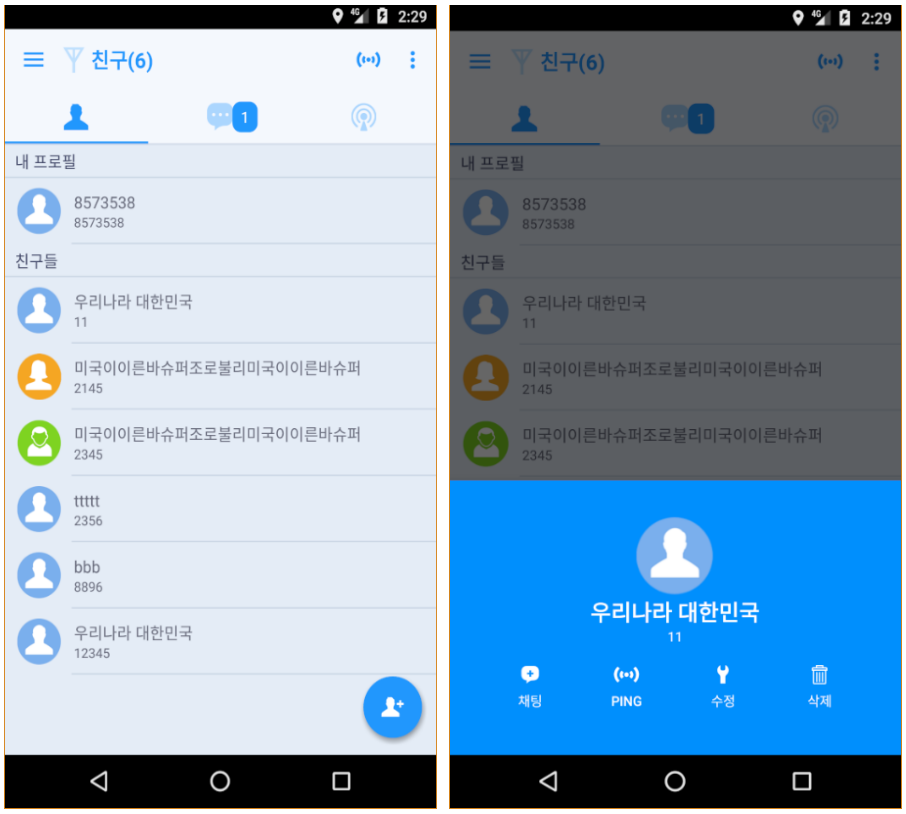


- Check whether Lory2 is discoverable on your smartphone once pairing begins
- Ensure that the numbers on the back of Lory2 and on Himalaya Talk2 are identical before selecting Lory 2 on the app to connect
- Next, go to the main screen after the beep indicating that the devices are paired

6.2 Main Screen

- There are three important sections on the main screen: “Menu”, “Title bar”, “Contents” (List of Friends/ Chats/ Broadcast)
- Tap the left icon on the title bar to see the menu and to use detailed features of Himalaya2
- An icon on the title bar provides descriptions of features and shows the status of connection with Lory2
- A green antenna icon indicates a working connection between the app and Lory2 and turns red if an app is disconnected from the modem
- An antenna turns red in cases of a flat battery or long distances between Lory2 and the smartphone (App)
- Automatically reconnects as Lory2 becomes re-connectable

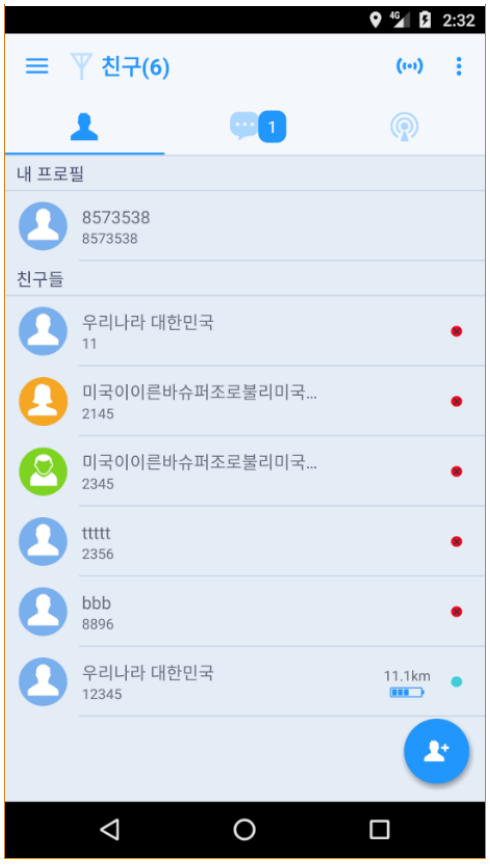
6.3 List of Friends



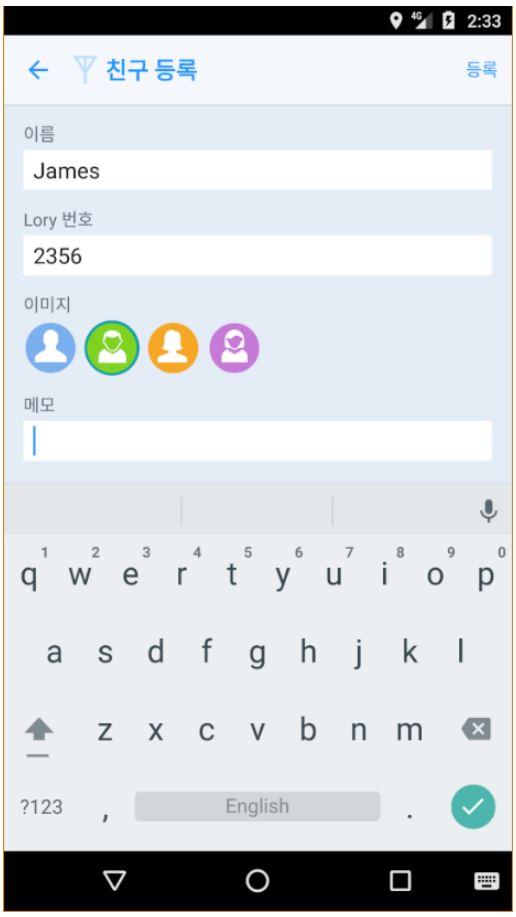
- Tap My Profile or Profiles of friends to see detailed features like above
- Chat: Start a chat with a friend you have selected.
- PING: Display the status and location of the friend you tapped or selected and battery outlay of the person's device
- Edit: Edit friend information (Lory2 numbers are not changeable)
- Delete: Delete a friend from the list

6.4 PING

Tap "PING" at the top to check activation status of friends, distance from my device and battery outlay of devices

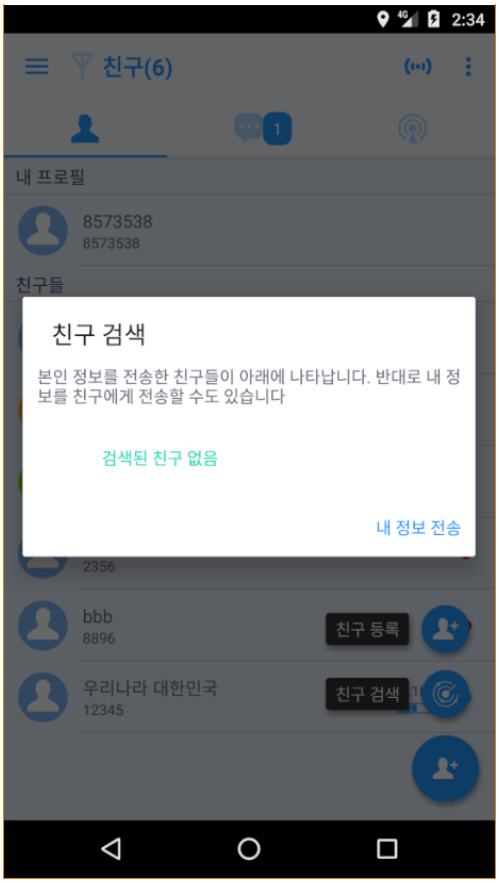

2:32
친구(6)
1
내 프로필
8573538
8573538
친구들
우리나라 대한민국
11
미국이이른바슈퍼조로불리미국...
2145
미국이이른바슈퍼조로불리미국...
2345
ttttt
2356
bbb
8896
우리나라 대한민국
12345
11.1km

6.5 Add a Friend



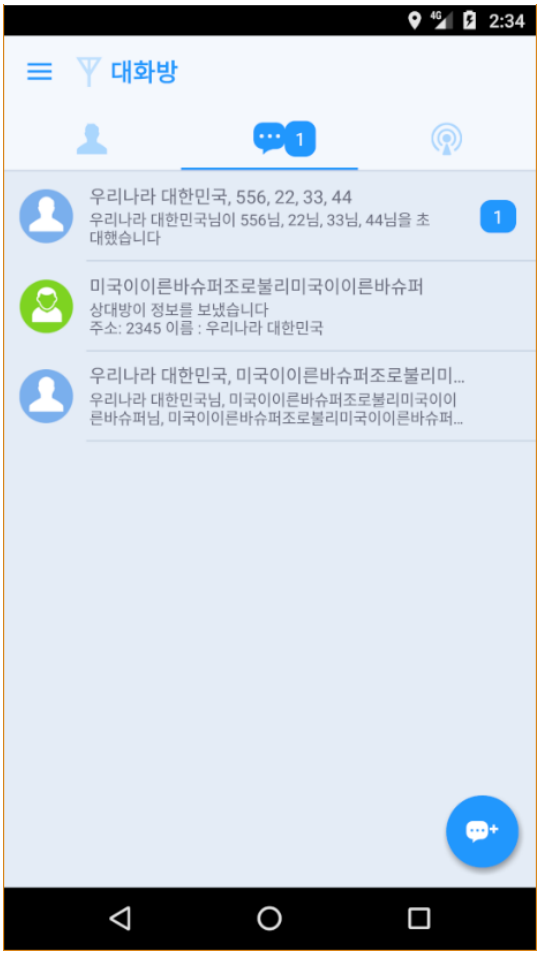
- Add a friend to the list after pairing the app to Lory2
- Assign a nickname to a friend (Put the number of Lory2 of the friend in the box under “Number of Lory2”)
- Put and store information in the Memo box (Such information is only displayable on your screen and will not be shared with others)

6.6 Search a Friend



- “Search Friends”: A feature of adding friends automatically to the list of friends
- Tap “Send My information” to share your information (Name/ Number of Lory2/ Avatar image) with friends who are running the app on their smartphones within the given range
- The Information sent is displayable in a chat room, tap “+” to add the friend.

6.7 Chat room



- Users can continue to chat in the existing room or choose to start a new chat room
- Number of unread messages is displayed on the right side of each chat room
- Number of unread messages is displayed on a badge on the home screen of your smartphone

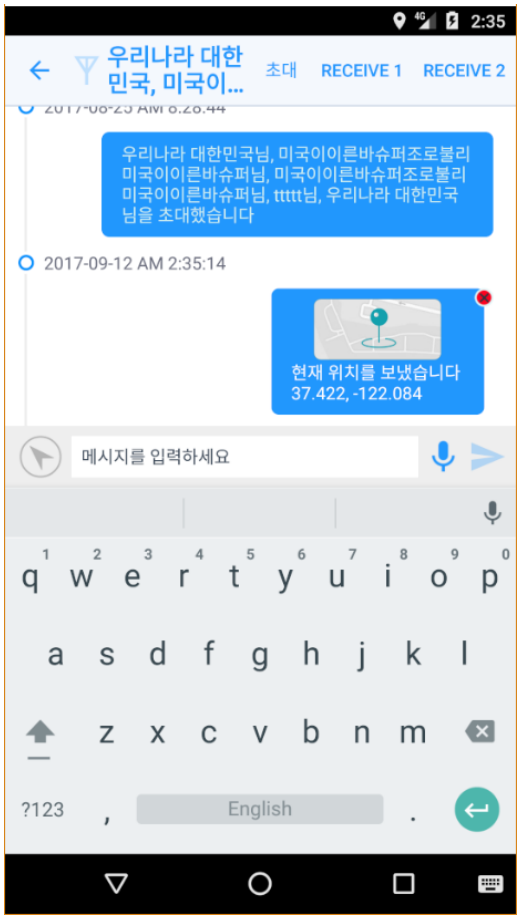
6.8 Create a Chat room and Start a Chat

1:1 Chat

Tap a friend on the list to start 1:1 chat, unlike Group Chat, read receipt and delivery notification features are offered

Group Chat

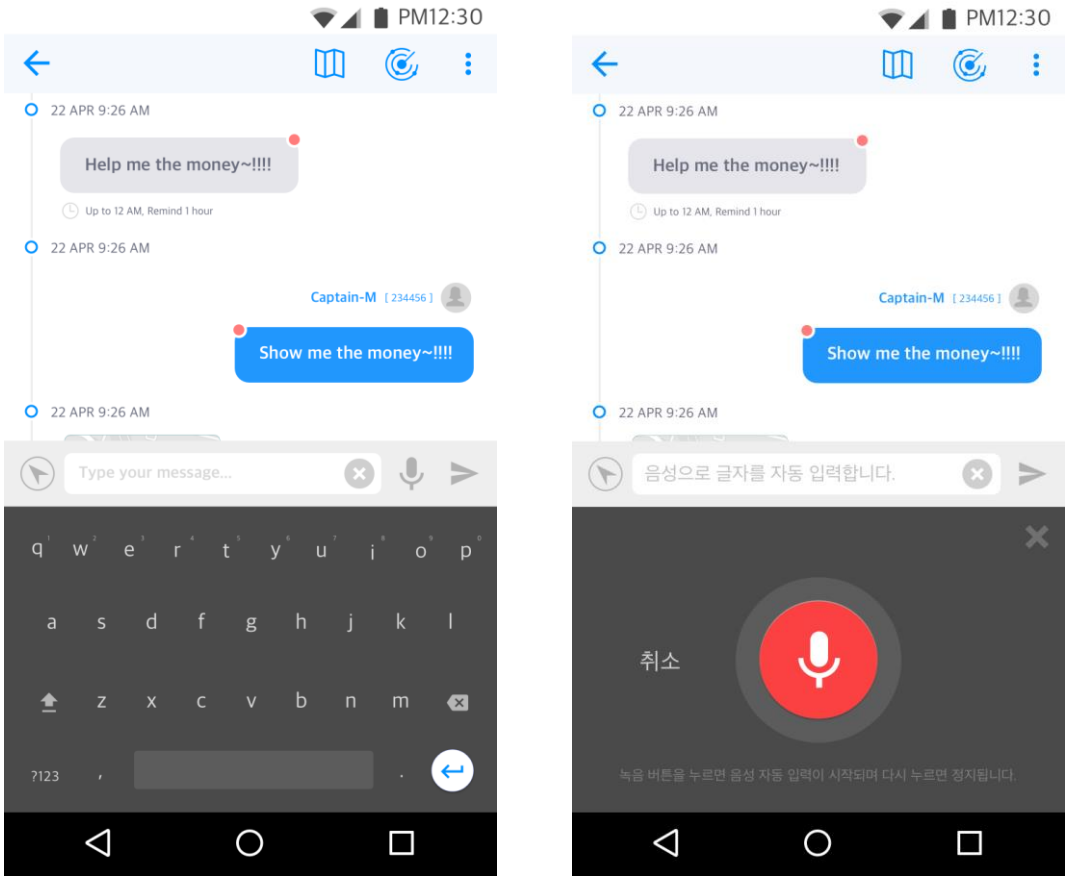
Start a chat room with a maximum number of seven friends. Users can invite more friends to the chat after creating a Group Chat room



- Text communication on a chat room as above
- Transmit text messages of up to 250 bytes
- Send information on your location, location you positioned on the map, and even requests to share location information of your friends.
- My Location: A feature of sending the coordinates transmitted from GPS of your smartphone and allowing your friends to tap the message to check your location on the map.
- Sending Information on a Location Positioned on the Map: A feature of sending coordinates of the location you are positioned on the map and allowing your friends to tap the message to check your location

- Request for Sharing Location Information: A feature of requesting your friends to share the location information and allowing automatic sending of location information of message recipients if “Auto-Sharing of Location Information” mode is activated
- Sending My Information: A feature of sending my information (Name/Lory2 Number/ Avatar Images), adding message recipients to the list of friends once they tap your message and making it easy for users to invite friends to Group Chats or SHOUT

STT



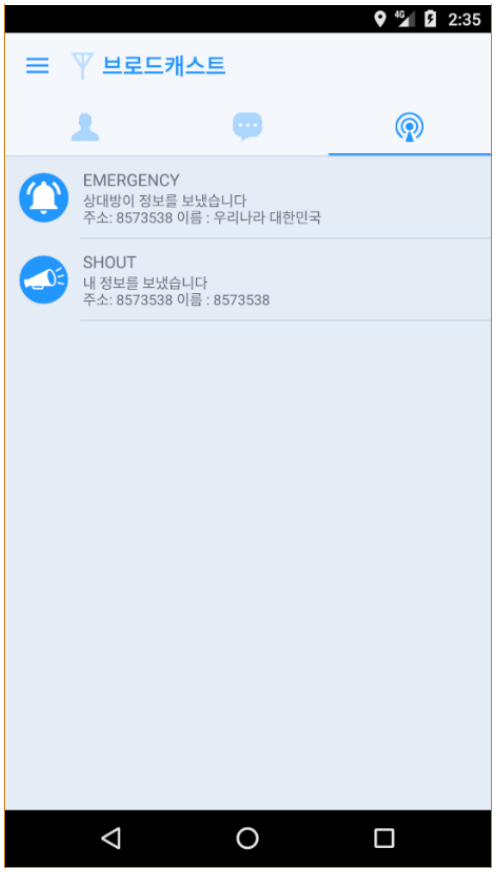
- Tap the new button, “Voice Recognition” on the left of the “Send” button to switch to voice recognition mode
- Voice commands will be converted into text on “Voice Recognition Mode”
- Share the converted text via “Send” button
- Tap “Send” to share the converted text or Tap “Voice Recognition” to re-recognize your voice
- You can “Confirm” at the Options menu

- The text will only be sent after TTS reads the text and gets your confirmation when “Confirm” is on while the text will be sent automatically after voice recognition to the designated chat when “Confirm” is off

TTS

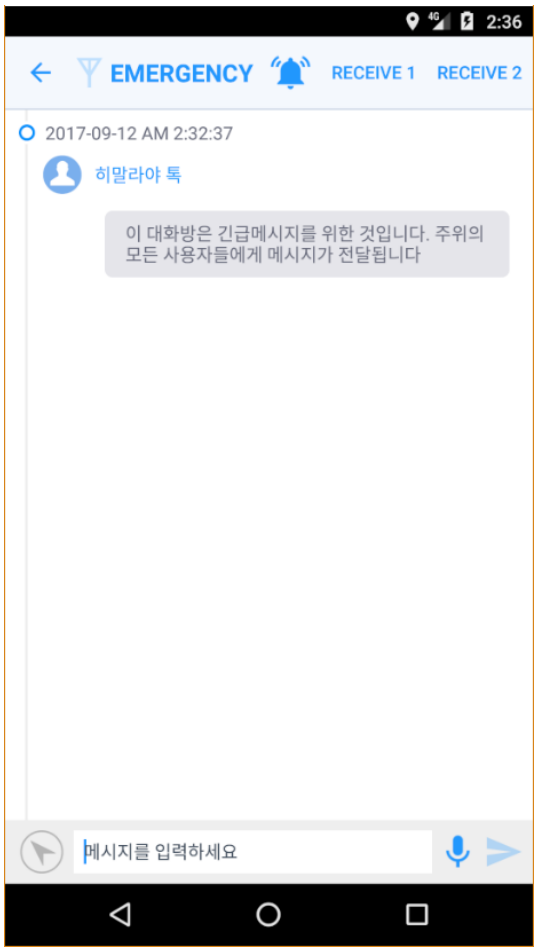
- Output of basic voice commands when a new message is received not from the existing chat rooms
- All features controllable via voice commands on the STT mode after the audio output depending on options
- Users can enable “Audio Output upon Message Reception” and “Voice Recognition after Audio Output”
- Input of voice on Auto-Voice Recognition mode, which is automatically switched on after TTS reads the message received when “Auto Voice Transmission after TTS” is enabled
- Messages may be sent and received via this feature without touching the screen
- Activated only on “Background” Mode

6.9 BROADCAST



- A special type of chat sharable with all people in the Lory2 coverage without designating friends
- Used to send messages in emergencies or share information with all friends nearby
- Do not share confidential information as it is not encrypted and sent in a plain text on a chat room; A feature of Read Receipt disabled on the chat room

6.10 EMERGENCY



- A chat for SOS messages if you are in emergencies such as distress alerts

- A chat with a special feature on sending SOS messages periodically and repeatedly

- Tap the bell icon at the top to send SOS messages repeatedly

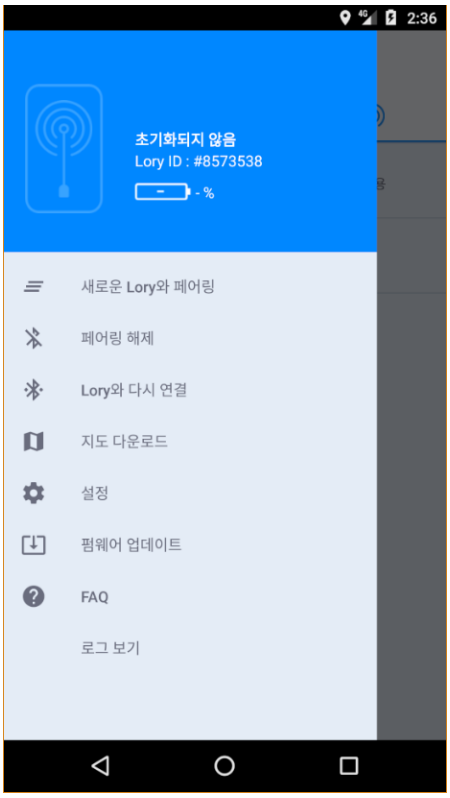
- The feature available in Lory2 by pressing the power three times within 3 seconds

SHOUT

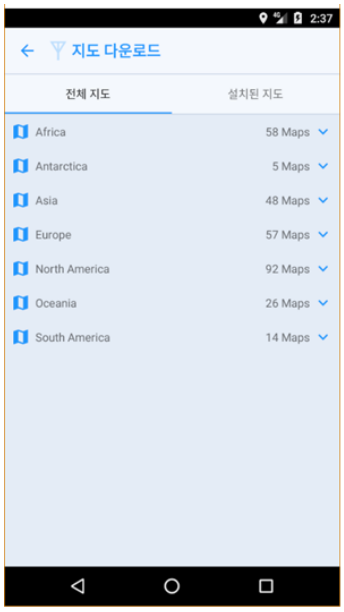
- A chat to send a message that is not urgent to all users within range

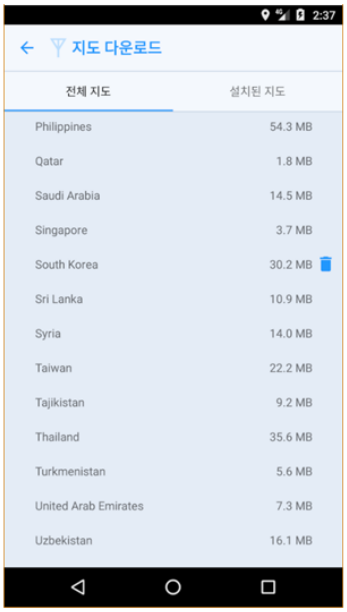
7. Set Up

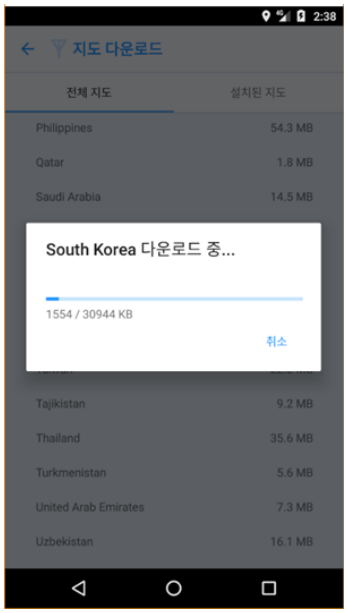
7.1 Menu



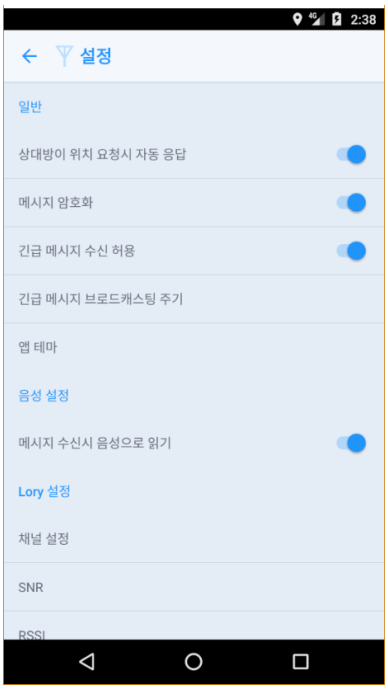
- Pairing with New Lory2: a menu to disconnect from the existing Lory2 and start pairing with a new Lory2
- Un-pairing: Terminate access to the currently connected Lory2; Tap “Pair with New Lory2” on the menu to pair again







- Downloading Maps: a menu to download maps available offline for features of “Send My Location” and “Send Location on the Map”, and for recipients to see the location on the maps
- WIFI or LTE connection required for the feature.
- Tap “All Maps”, to see a list of all the maps that you can download or “Installed Maps” to see the list of maps you have previously downloaded on your smartphone
- Tap the name of continent or country before you start downloading a map.
- Tap the trash bin icon to delete a map from “Installed Maps”



- Go to Settings to enable or disable features
- “Auto Response to the Request on My Location”: a feature of sending your location automatically when a friend makes a request for your location information during the conversation
- “Message Encryption”: an option to send texts after encrypting the conversation, but not available on BROADCAST
- “Allow SOS Messages”: a feature of ignoring SOS messages sent by a friend on EMERGENCY chat
- “SOS Message Broadcasting Period”: Users can select how often (in minutes) SOS messages can be sent on EMERGENCY chat
- “App Theme”: Users can select one from Bright Theme or Dark Theme
- “Channel Settings”: Users can select a channel from 1 to 20 needed to send and receive messages and tap “Search for Receiver Sensitivity” to find the channel with the greatest sensitivity. Chat participants must use the same channel.

Firmware Update

A feature to update Lory2 with a new version of firmware, which requires an internet connection on your smartphone (Resource: https://www.sysbas.com/)

WARRANTY

This product is accepted through a thorough quality management and inspection process. Therefore, this warranty is valid for five (5) years from the date of purchase by the consumer. (However, the quality is assured up to 60 months from the manufacturing date if the date of purchase is unknown.)

- Any failures caused by the manufacturing defects or defective parts during the warranty period are fully repaired at no cost. (Excluding the defects under the paid service).
- The repair for the same defects for 4 consecutive times during the warranty period will be exchanged with a new product at no cost.

Paid Service Requirements

- Product expired the warranty period
- Failure caused by the user's random modification, disassembly or repair
- Failure caused by the uses of peripheral devices that were not provided by the company
- Failure caused by the overcurrent of power and failure of connection device
- Failure caused by user's fault (fall, shock, flooding, contamination, corrosion)
- Exterior damages and deformation caused by the organic solvent such as thinner, benzene, etc.
- Failure caused by the natural disasters such as fire, salt stress, flooding, thunder stroke, earthquake, etc.

The product to be exchanged or returned should returned at the same condition as it was delivered and any damages or lost components or parts are not able to get refunded.

The antenna(s) used for this device must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet ēquipement doit ētre installē et utilisē avec unminimum de 20cm de distance entre la source de rayonnement et votre corps.

FCC Information

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC notification to users

This equipment has been tested and found to comply with the limits for a CLASS B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference, the user is encouraged to try to correct the interference by consulting with a dealer or an experienced technician for technical assistance.

Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.