Release Notes

Voice RCU Android Application

SW-B-010

Abstract

This document contains the release notes for Dialog Semiconductor's Voice RCU Android Application, version 3.310.6.

Contents

Tables

1 Terms and Definitions

API	Application Programming Interface
BLE	Bluetooth Low Energy
GA	General access
HID	Human Interface Device
LA	Limited access
RCU	Remote Control Unit
SDK	Software Development Kit

2 Release Data

Table 1: Information Table

Software	Voice RCU Android Application
Device Type	Android device
Operating System	Android
Operating System Version	Android API level 19 and above
Software Release Date	24-Oct-2019
Software Version Number	3.310.6
Software Release Type (Note 1)	FULL (GA)

Note 1   Releases can be of the following types: FULL (GA), FULL (LA), RELEASE CANDIDATE, ENGINEERING, PATCH or BINARY

3 License

Licenses covering this Voice RCU Android Application release are listed in the license.txt file in *Voice-RCU-Android-3.310.6-src.zip/audiorcu_app_android*.

4 Related Documentation and References

[1]   Voice-RCU-Android-3.310.6-src.zip, Source Release, Dialog Semiconductor
[2]   Voice-RCU-3.310.6.apk, Android Executable, Dialog Semiconductor

5   Release Description

5.1   Overview

This is a FULL (GA) release of Voice RCU Android Application. It includes several fixes and improvements, new voice commands and support for voice recognition partial results.

5.2   New and Updated Features of 3.310.6

Table 2: 3.310.6 New Features

Feature Number	Description
1	**Google speech API: Support for voice recognition partial results** Partial results will be displayed on the UI, while the voice recognition stream is active. This feature is configurable in the settings (enabled by default). Disabling it restores the old behaviour
2	**Check if Location Services are enabled before starting scan** From Android 6 onwards and depending on the device configuration, the location services may need to be enabled in order to perform BLE scans. The app reads the location services requirement setting from the Bluetooth system app and informs the user if the location services are required but not enabled. The scan is not started until the user enables the location services or bypasses the check
3	**Modified audio save path** From "/Dialog Semiconductor/Audio RCU" to "/Dialog Semiconductor/Voice RCU" in external storage
4	Behaviour changes: ● Require encryption only for HID devices or if auto pairing is enabled ● Perform full initialization on reconnection for non-HID devices
5	In Voice Command mode, apart from the search commands, there are two additional voice commands available, which initiate local actions on the device: ● Camera (no image saving): "[open] [the] camera", "take [a] picture/photo" ● Flashlight: "[turn] [on/off] [the] flashlight/flash/light [on/off]"
6	Disable multi-window mode because it can cause issues with the app
7	UI fixes and improvements: ● Disallow new connection until the previous one is properly closed ● Prevent fragment change on menu disconnect click ● Info UI code cleanup ● Minor modification in side menu
8	Updated app icon
9	Removed embedded fonts ● Use image instead of text for app name in splash screen
10	Set target SDK to 26

5.3   Fixes and Improvements since 3.310.4

Table 3: 3.310.6 Fixes and Improvements

Fix Number	Description
1	**Fixed upsample algorithm coefficients** The upsample algorithm output level was around 60% of the input level, due to the filter gain from the selected coefficients not being equal to one. The coefficients were scaled up so that the filter gain became one
2	**Fixed data length in WAV file header** The WAV file writer keeps track of the bytes written to the file and updates the header before closing the file. The update method considered the byte number as sample number, so it actually stored double the correct value. It also stored the value as big-endian, while it should be little-endian
3	**Fixed crash on fragment unregister from bus** The bus register/unregister calls were not symmetrical, so the app could crash if it tried to unregister a component that was not registered yet
4	**Fixed crash on system HID connection procedure** When initializing a system HID connection, the service discovery is delayed in order not to interfere with the connector service. If the RCU was disconnected during this delay, the related objects were reset and the app crashed when it tried to start the service discovery
5	**Fixed crash on Google speech API request end** When using the request handler, if no data had been sent (HTTP_REQUEST_DATA), then the output stream variable was not initialized and the app crashed when it tried to close the stream on HTTP_REQUEST_END
6	Fixed hidden API names for Android 9

6 Release History

6.1 3.310.4

Version 3.310.4 of Voice RCU Android Application was released on 13-Jul-2017.

6.1.1 Overview

This was a FULL (GA) release of Voice RCU Android Application. It fixed an issue with the web search voice command and added support for streaming the audio data to the voice recognition server.

6.1.2 New and Updated Features of 3.310.4

Table 4: 3.310.4 New Features

Feature Number	Description
1	System HID connection timeout
2	**Google speech API** Support for streaming the encoded audio data while they are produced, instead of sending them all after the stream is stopped (configurable at compile time, enabled by default)
3	Minor fixes and improvements

6.1.3 Fixes and Improvements since 3.310.2

Table 5: 3.310.4 Fixes and Improvements

Fix/Improvement Number	Description
1	Fixed Google search URL for "web" voice command

6.2 3.310.2

Version 3.310.2 of Voice RCU Android Application was released on 08-Jun-2017.

6.2.1 Overview

This was a FULL (GA) release of Voice RCU Android Application. It was the initial release of the application. The app supports Dialog's Voice RCUs based on DA14585 and DA14582, providing features like audio recording and voice recognition with support for voice commands.

6.2.2 New and Updated Features of 3.310.2

Table 6: 3.310.2 New Features

Feature Number	Description
1	Initial version
2	User interface according to Dialog Semiconductor's brand guidelines
3	Application UI: ● Remote control keyboard screen with configurable layout ● Sound screen for audio capture ● Application log screen ● Configuration screen
4	Voice recognition support, using Google speech API (requires internet connection)

5	Audio input modes:
	● Live Capture: Capture RCU audio with optional voice recognition
	● Voice Command: Execute commands based on voice recognition result. Supported voice commands/keywords:
	  ○ Google search: google, search
	  ○ IMDb search: imdb, movie(s)
	  ○ YouTube search: youtube, video(s)
	  ○ Google search in browser: chrome, web

6	Additional audio input modes (kernel support required): ● Speech Recognizer: Use Android's speech recognition API ● Audio Record: Use Android's media API to record audio
7	Supports Dialog RCU custom profile
8	Supports RCU HID profile. From Android 5.1 onwards, the app must be converted to system privileged (the system image must be modified) for this feature to work
9	Adaptive audio rate
10	Replay/Save captured audio
11	RCU connection configuration: ● Connection parameters ● Packet size
12	Auto pairing (configurable)
13	Auto system HID service connection (using hidden API, configurable)
14	Backwards compatible with 582 RCU (newer features not available)

Appendix A Software Versioning Rules

This describes the software version numbers and does not apply to documentation version numbers (as found in the footer of this document).

Each software version number string consists of four numbers: MAJOR. BRANCH. MINOR. and BUILD.

#MAJOR: It is increased (by one only) if the project undergoes a major modification, for example major ROM changes. It usually changes only when the project sources undergo major restructuring affecting most of the repository. It is initialized at 1.

#BRANCH: Used in the case of concurrent projects that for special reasons need to be spun off the major repository. It corresponds to different versions of the repository code that have to be supported concurrently. In this case each branch number corresponds to a different GIT branch. The basic project has BRANCH id 0.

#MINOR: Odd numbers indicate Engineering (or Patch or Binary) versions, even numbers indicate Full release versions or Release Candidates of Full versions. Each Full release increases this number by one. After the Full release, the number is increased by one again. Therefore, Project releases correspond to release numbers like 2.0.1.xxx, 2.0.2.xxx. etc. The #MINOR number is initialized at 1.

#BUILD: The # BUILD number increases by one at every repository update and thus indicates the total number of changes since repository initialization. The BUILD number is initialized at 1.

Release Notes

Revision 1.0

24-Oct-2019

CFR0011-138-00

8 of 10

© 2019 Dialog Semiconductor

Document Revision History

This section summarizes the changes made to this document and not to the Software that this document describes.

Revision	Date	Description
1.0	24-Oct-2019	Initial version.

Document Status Definitions

Status	Definition
DRAFT	The content of this document is under review and subject to formal approval, which may result in modifications or additions.
APPROVED or unmarked	The content of this document has been approved for publication.

Disclaimer

Unless otherwise agreed in writing, the Dialog Semiconductor products (and any associated software) referred to in this document are not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of a Dialog Semiconductor product (or associated software) can reasonably be expected to result in personal injury, death or severe property or environmental damage. Dialog Semiconductor and its suppliers accept no liability for inclusion and/or use of Dialog Semiconductor products (and any associated software) in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

Information in this document is believed to be accurate and reliable. However, Dialog Semiconductor does not give any representations or warranties, express or implied, as to the accuracy or completeness of such information. Dialog Semiconductor furthermore takes no responsibility whatsoever for the content in this document if provided by any information source outside of Dialog Semiconductor.

Dialog Semiconductor reserves the right to change without notice the information published in this document, including, without limitation, the specification and the design of the related semiconductor products, software and applications. Notwithstanding the foregoing, for any automotive grade version of the device, Dialog Semiconductor reserves the right to change the information published in this document, including, without limitation, the specification and the design of the related semiconductor products, software and applications, in accordance with its standard automotive change notification process.

Applications, software, and semiconductor products described in this document are for illustrative purposes only. Dialog Semiconductor makes no representation or warranty that such applications, software and semiconductor products will be suitable for the specified use without further testing or modification. Unless otherwise agreed in writing, such testing or modification is the sole responsibility of the customer and Dialog Semiconductor excludes all liability in this respect.

Nothing in this document may be construed as a license for customer to use the Dialog Semiconductor products, software and applications referred to in this document. Such license must be separately sought by customer with Dialog Semiconductor.

All use of Dialog Semiconductor products, software and applications referred to in this document is subject to Dialog Semiconductor's Standard Terms and Conditions of Sale, available on the company website (www.dialog-semiconductor.com) unless otherwise stated.

Dialog, Dialog Semiconductor and the Dialog logo are trademarks of Dialog Semiconductor Plc or its subsidiaries. All other product or service names and marks are the property of their respective owners.

Contacting Dialog Semiconductor

United Kingdom (Headquarters)
Dialog Semiconductor (UK) LTD
Phone: +44 1793 757700

Germany
Dialog Semiconductor GmbH
Phone: +49 7021 805-0

The Netherlands
Dialog Semiconductor B.V.
Phone: +31 73 640 8822

Email:
enquiry@diasemi.com

North America
Dialog Semiconductor Inc.
Phone: +1 408 845 8500

Japan
Dialog Semiconductor K. K.
Phone: +81 3 5769 5100

Taiwan
Dialog Semiconductor Taiwan
Phone: +886 281 786 222

Web site:
www.dialog-semiconductor.com

Hong Kong
Dialog Semiconductor Hong Kong
Phone: +852 2607 4271

Korea
Dialog Semiconductor Korea
Phone: +82 2 3469 8200

China (Shenzhen)
Dialog Semiconductor China
Phone: +86 755 2981 3669

China (Shanghai)
Dialog Semiconductor China
Phone: +86 21 5424 9058

Release Notes | **Revision 1.0** | **24-Oct-2019**