



EVA  
(Embedded Vocalizer Automator)  
ADMIN AND INSTALLATION  
GUIDE

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Rev. 1.0 19/01/18	EVA Logger
Rev. 1.1 22/01/18	EVA Player EVA Logger pre-installation actions and changes in installation procedure
Rev. 1.2 23/01/18	EVA Player & Selector
Rev. 1.3 23/01/18	Minimum version of Android added
Rev. 1.4 28/02/18	_eva_config.jcf changed to _eva_services.jcf New parameters in _eva_services.jcf Tables info and ocr added in eva.db
Rev. 1.5 02/03/18	Minor modifications in DB schema and files and directories structures
Rev. 1.6 05/03/18	New folder structure for Eva Logger. Folders 00001 – 0000n added for saving eva.db and captures every time Eva Logger is activated/deactivated
Rev. 1.7 12/03/18	Eva Player log files
Rev. 1.8 23/08/18	Notes section added
Rev. 1.9 14/03/19	“ocr_log” folder changed to “logsOCR”. All eva_history_xxx.log are now saved in a folder named “logs”
Rev. 2.0 09/05/19	New organization about EVA documentation. Segmentatios EVA Logger / EVA Player
Rev. 2.1 16/05/19	“Files and Directory Structure” logs notes.
Rev. 2.2 20/05/19	Disable Google Play Protector before install

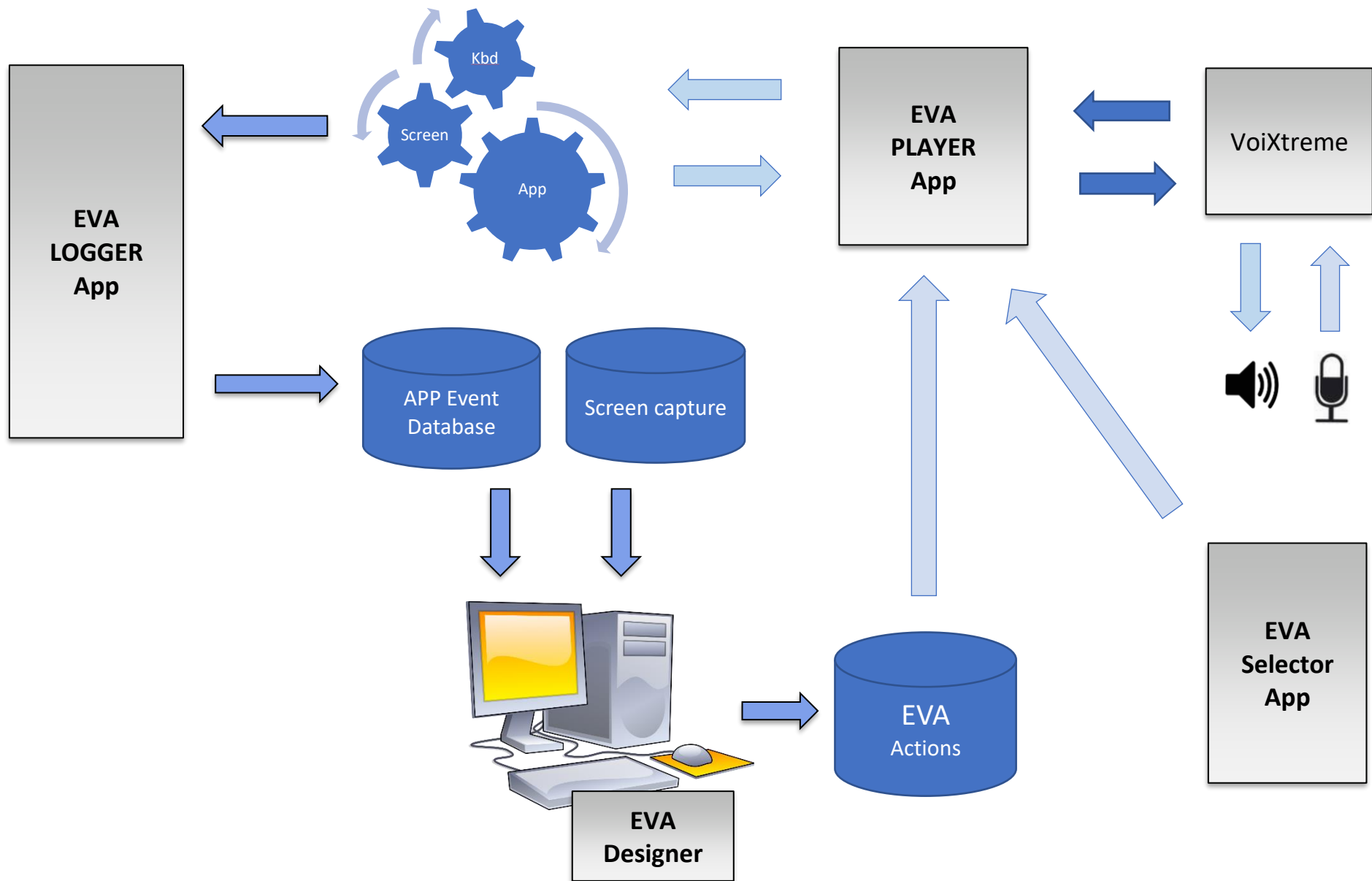
## 1. General Description and Architecture

EVA Suite makes possible to add a vocal component (both speaking and listening using Voixtreme® engine) to almost any professional applications running on Android platform (minimum version: Android Nougat). EVA allows to make a kind of “hands-free” application.

EVA reads the displayed screens, allows to read their contents and, listening to the operator, allows to perform specific actions on the application.

EVA Suite is composed by different elements:

- EVA Logger
  - Capture tool running on Android terminal
  - Captures actions and images of a graphic application
- EVA Designer
  - Development tool running on PC
  - Displays the dynamics of an application
  - Allows to determine the conditions and actions to be performed at the captured screens
- EVA Player
  - Background application running on Android terminal
  - Reacts to the actions of the application
- EVA Selector
  - Launcher tool running on Android terminal
  - Allows the communication between user and application



## 2. EVA Player and EVA Selector

### 2.1. EVA Player and EVA Selector Architecture

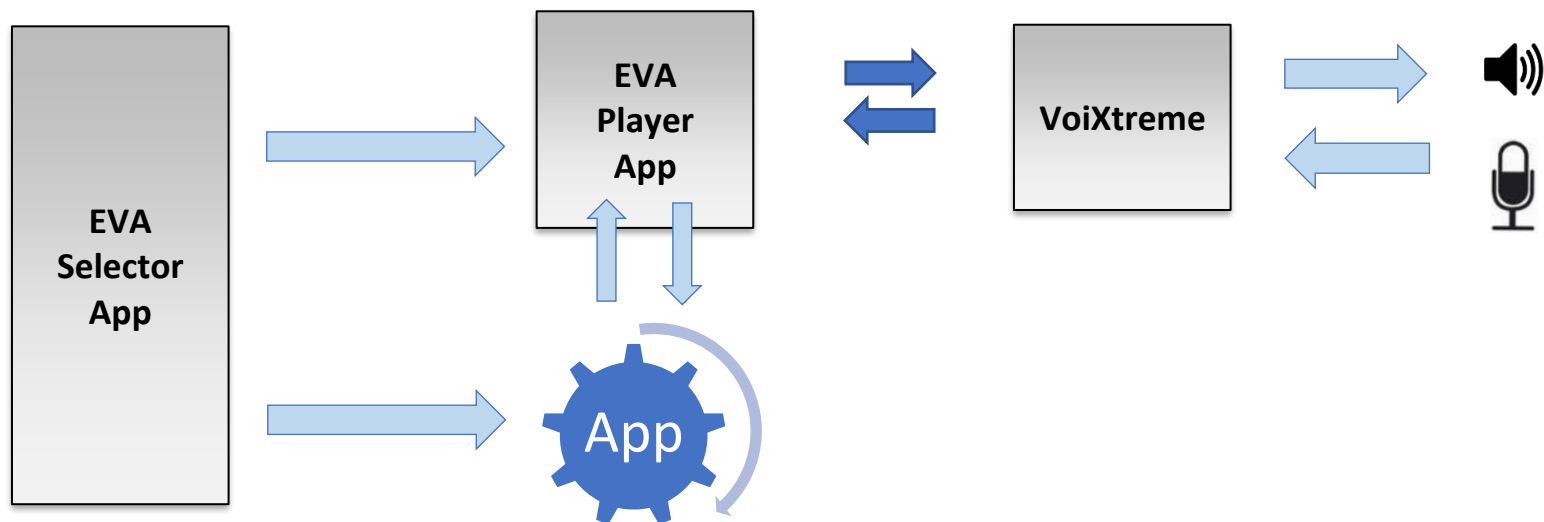
EVA Player executes the actions defined with EVA Designer. Every action is read by EVA Player and the system environment is analyzed to evaluate if triggers must be executed.

Once a trigger condition is evaluated to true, EVA Player performs the intended actions and manages the voice engine to perform speaking and configure operator voice recognitions.

It processes voice responses to translate them into user actions depending on the configuration.

EVA Selector allows the communication between user and application managed by EVA Player generating speech outputs (TTS) and voice recognition (ASR) through VoiXtreme® engine.

The beginning of this communication is made through the configuration of different profiles in EVA Selector.

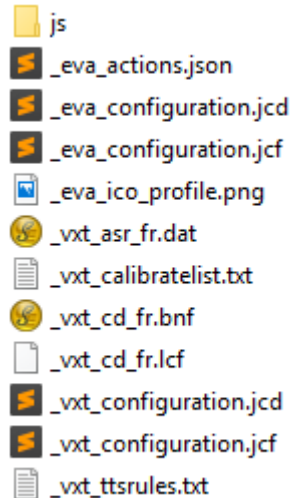


## 2.2. Manual installation procedure

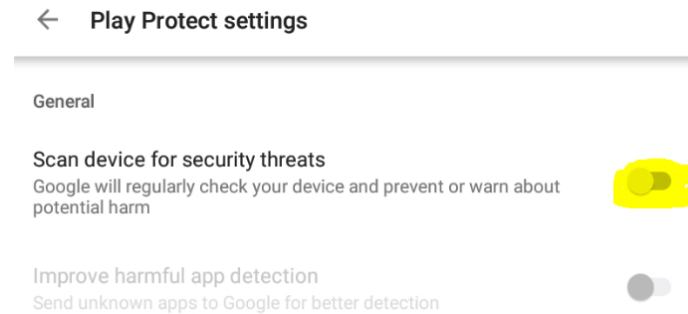
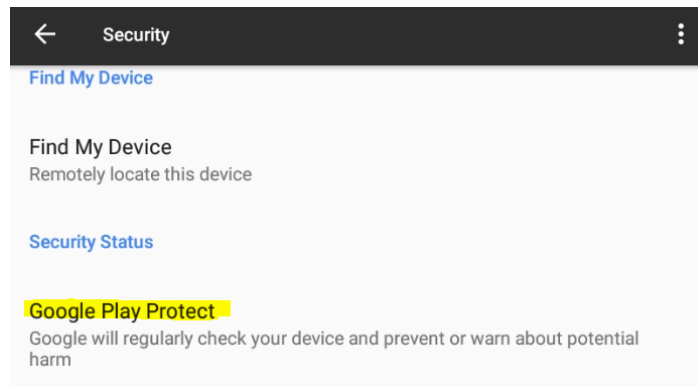
1. Before proceeding with EVA Player and EVA Selector installation, some actions must be performed manually.
  - a. A new folder named “Profiles” must be created in your existing “eva” folder in the Android device sdcard (/sdcard/eva/Profiles)
  - b. Inside “Profiles” folder, create a new folder named as the wished profile (e.g. ProfileX)
  - c. Copy the Voixtreme files from “voixtreme” folder in your sdcard to this new folder “Profiles/ProfileX”
  - d. EVA Designer generates a file named \_eva\_actions.json from eva.db information. This file located in your PC “EVA Designer projects folder\Project\Export” must be copied to “Profiles/ProfileX folder” in your Android device too.
  - e. Finally, you will be provided with \_eva\_configuration.jcd and \_eva\_configuration.jcf files to set up specific options of EVA.

So, the general structure of eva profiles folder in your Android devices will be the following:

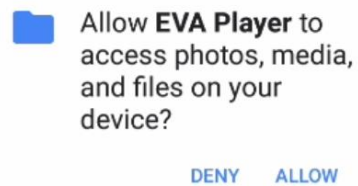
Internal shared storage > eva > Profiles > ProfileX



2. Make sure Google Play Protector is disabled in your device: **Settings – Google – Security – Google Play Protect**

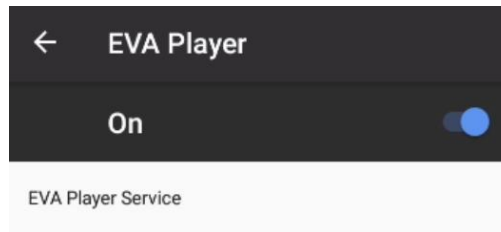
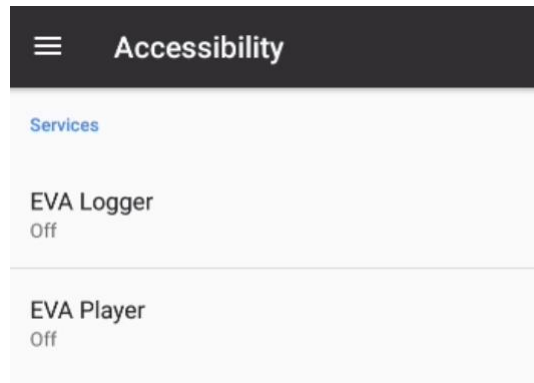


3. Install the eva-player.apk in your Android device.
4. Allow the required permissions





5. Activate Eva Player in Settings - Accessibility Services screen.



### Use EVA Player?

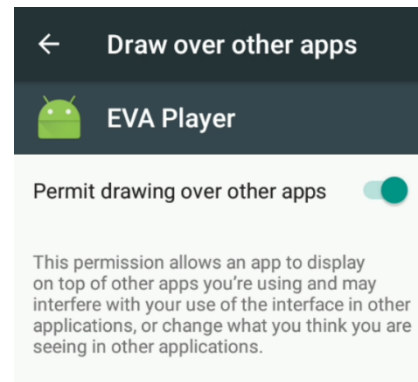
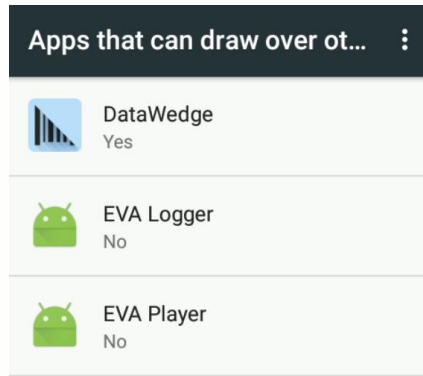
EVA Player needs to:

- **Observe your actions**  
Receive notifications when you're interacting with an app.
- **Retrieve window content**  
Inspect the content of a window you're interacting with.
- **Observe text you type**  
Includes personal data such as credit card numbers and passwords.
- **Perform gestures**  
Can tap, swipe, pinch, and perform other gestures.

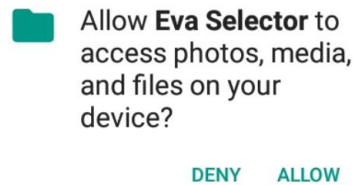
CANCEL OK

**NOTE: You must previously deactivate EVA Logger if it is installed and active in your Android terminal. If both apps are set to ON, the results obtained will not be the expected ones.**

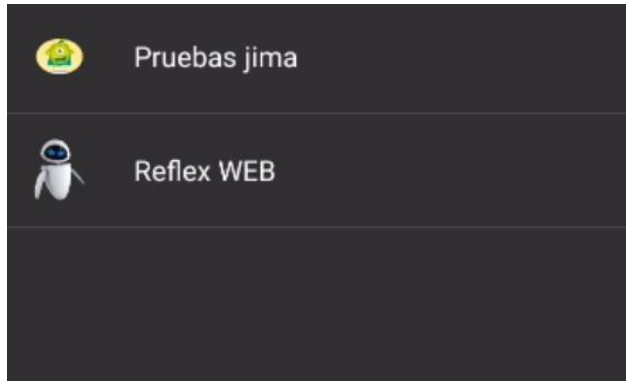
6. Set EVA Player as an application that can be run over other apps



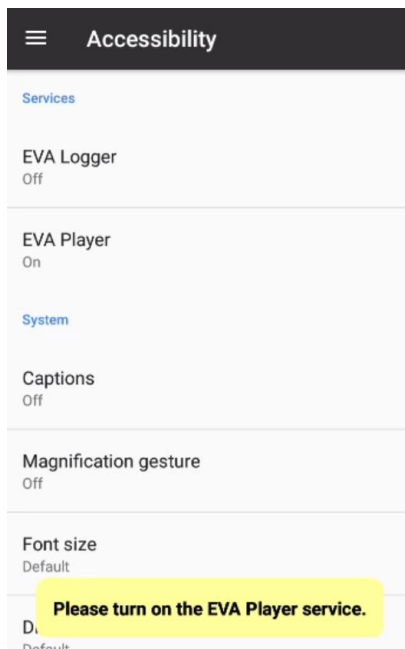
7. Install the eva-selector.apk in your Android device.
8. Allow the required permissions



9. EVA Selector profiles will be loaded



**Note:** In case EVA Player is not active, you will be required to activate it on Settings – Accessibility Services before loading EVA Selector profiles



### 2.3. Files and Directory Structure

These are the files used in EVA Selector per Profile.

File name	Usage
_eva_actions.json	File generated by Eva Designer including actions to be performed in every captured screen
_eva_configuration.jcd, _eva_configuration.jcf	Eva Player settings definition and configuration files
_eva_ico_profile.png	Customized icon to display in Eva Selector app
_eva_history_YYYYMMDD_HHMMSS.log	Log file generated every time you start Eva Player from Eva Selector
_vxt_asr_xx.dat	Acoustic model corresponding to the selected language
_vxt_configuration.jcf, _vxt_configuration.jcd	VoiXtreme configuration file
_vxt_cd_xx.bnf, _vxt_cd_xx.lcf	Grammar rules
_vxt_calibratelist.txt	List of ASR calibrate words to say
_vxt_ttsrules.txt	TTS substitution rules
logs/eva_XXX.log	Where all log files are stored
Js/*.js	Javascript files used by triggers in _eva_actions.json file
logsOCR/xxxxxx/	Each subfolder corresponds to a new start of EVA Player. These images will only be saved when using log mode DEBUG mode.

Directory structure:

<b>eva</b>	<b>Profile</b>	ProfileX	_eva_actions.json _eva_configuration.jcd _eva_configuration.jcf _eva_ico_profile.png _eva_history_YYYYMMDD_HHMMSS.log  _vxt_asr_xx.dat _vxt_configuration.jcd _vxt_configuration.jcf _vxt_cd_xx.bnf _vxt_cd_xx.lcf _vxt_calibratelist.txt _vxt_ttsrules.txt	
			<b>js</b>	*.js
			<b>db</b>	*.csv, etc
			<b>logs</b>	*.log
			<b>logsOCR</b>	0001\ 0000x*.bmp  0002\ 0000x*.bmp  ...  000n\ 0000x*.bmp

## 2.4. Creating new profiles

You'll find the directory "Profiles" where EVA Selector profiles are located. In this directory, there is a folder per profile.

To change the name of a specific profile, just rename the corresponding folder.

To add a new profile, create a new folder, and paste inside the same content of another profile, just changing the folder name.

In each profile folder, we provide you an icon for the application profiles (**\_eva\_ico\_profile.png**), but you can also create your own one and locate it in the corresponding profile folder. It just has to accomplish these requirements:

- The icon file must be in \*.png extension.
- The icon file must be **256x256 px**.



## 2.5. Configuring profiles

All the configuration parameters of EVA Selector profiles, are stored in 1 pair of JSON files: its descriptive file jcd (just informational), and its configurable file jcf.

`_eva_configuration.jcd`

Type: JCD File

`_eva_configuration.jcf`

Type: JCF File

As EVA Player generates speech outputs (TTS) and locutions recognition (ASR) through VoiXtreme® engine, in profile folder we have the pair of JSON configuration files corresponding to VoiXtreme® application:

`_vxt_configuration.jcd`  
Type: JCD File

---

`_vxt_configuration.jcf`  
Type: JCF File

---

*Refer to **EVA\_configuration\_services** file for further information about each parameter.*

## Log files

Every time you start EVA Player from Selector a new log file will be created (`eva_history_YYYYMMDD_HHMMSS.log`) in your Profile directory (Profile/logs directory). That means there is a log file per profile. The log files are kept during the amount of hours specified in the “keepLogsHours” parameter in config file.

In your profile you will also find a folder named "logsOCR" with subfolders. Each subfolder corresponds to a new start of EVA Player. These images will only be saved when using log mode DEBUG, ERROR or VERBOSE mode (see “logMode” parameter in `_eva_services.jcf` file)

**Necessary instructions for modifying these files? VisualJsonEditor?**

### 3. Notes about EVA

EVA uses a Google specific library when OCR is active (*“useOCR” parameter set to “true” in \_eva\_services.jcf file*). This library is automatically installed as a part of Google Play Services.

So, it is necessary that:

- **The Android devices where EVA is installed must be GMS certified.**
- **The Google Play Services app must be updated to the last version.** To get this fact, the device must be connected to a wifi network with an available Internet connection. Google Play Services will be automatically updated if you wait for a few minutes.

If you set the log mode to ERROR, VERBOSE or DEBUG (*see “logMode” parameter in \_eva\_services.jcf file*), a line referring to the INCORRECT activation of OCR will be written:

```
2018-08-23 15:09:37 | INFORMATION | EVA Player v1.6.9
2018-08-23 15:09:37 | INFORMATION | Player Service started in: /sdcard/eva/Profiles/Reflex WEB
2018-08-23 15:09:37 | INFORMATION | Log Level: DEBUG
2018-08-23 15:09:37 | INFORMATION | Using OCR: true
2018-08-23 15:09:37 | WARNING | screen is disabled: click_autre_de_prise
2018-08-23 15:09:37 | INFORMATION | Player started with 29 screens enabled out of: 32
2018-08-23 15:09:37 | INFORMATION | ScannerType: sdp
2018-08-23 15:09:37 | INFORMATION | ScannerAction: com.tellnext.bt_pairing.action.COMMAND
2018-08-23 15:09:37 | ERROR | Text recognizer (OCR) engine NOT available
```

Otherwise, you will only see the use of OCR message

```
2018-08-23 15:09:37 | INFORMATION | EVA Player v1.6.9
2018-08-23 15:09:37 | INFORMATION | Player Service started in: /sdcard/eva/Profiles/Reflex WEB
2018-08-23 15:09:37 | INFORMATION | Log Level: DEBUG
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2018-08-23 15:09:37 | INFORMATION | Text recognizer (OCR) engine available
```