ORBIT READER 20

Localization User Guide

12th July, 2017
Version 0.05

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Rev.	Date	Description of Changes	Author
0.0	6th March, 2017		
0.1	30th March 2017		
0.2	5th April, 2017		
0.3	26th April, 2017		
0.4	31st May, 2017	Quick steps to apply localization added	
0.5	12th July, 2017	Format of lan file section modified	

Revision History

1 Introduction

This document covers guidelines for the user to apply and use localization feature in the Orbit Reader 20 device. It also consists of reasons for need of localization, process of performing localization on the device and how to use the localization feature during usage. Example and samples are covered in the appendix.

2 Background

2.1 General concept

Generally, in any file (.txt, .brf or .brl), the content is internally stored in the form of ASCII values or Unicode values depending on the file type.
Whenever the file is open in any program, it reads these values and converts them into an appropriate form for display to the user.

For example, if notepad reads value 0x41 in an ASCII encoded file (or 0x0041 in an UNICODE formatted file), it displays symbol “a” on the screen for inserted value. This is done through translation tables within the programs. Depending on the program used, there can be single or multiple tables supported. The major categories for these tables are ASCII and Unicode to Display symbol.

Similarly, when the user writes the file, an ASCII or Unicode value corresponding to the key pressed by the user is written in the file. For example, if the user presses “a” on the keyboard, value 0x41 is written in the file depending on cursor position in an ASCII encoded file (Or 0x0041 for UNICODE formatted file).

2.2 Orbit Reader 20 contexts of localization

Similarly, when the Orbit Reader 20 device reads files, it converts the read values to the corresponding braille pattern using a translation table and demonstrates on the display panel. The same analogy applies to writing files on the device.

There are several standards available for this translation table in braille. Different languages and standards may have different corresponding braille display pattern for any particular ASCII or Unicode value. It is impractical to accommodate support for all the standards available within the device firmware.

Further, some of the local language text files (such as Chinese) can be read/ edited in Unicode format only. Without Unicode support, it will not be possible to access these files on the Orbit Reader 20 device.

Similarly, just like the files, system messages (such as ‘low battery’, ‘charging’, ‘copying’ etc.) are also stored in the form of ASCII values within device firmware. A same translation table is used for displaying such system messages. Simply

changing the translation table may not solve the purpose (problem) and entire phrase needs to be modified for the appropriate description of the message in the local language.

So, for the context of the Orbit Reader 20 device, localization means-

a. Allowing the user to add the ASCII/UNICODE to braille translation tables as per the standards appropriate to their language.
b. Allowing the user to write down and use their own customized versions of the system messages appropriate to their language.
c. Allowing the user to read/edit Unicode formatted files on the device.

In summary, the user willing to do localization needs to perform the following-

1. Add ASCII to the braille translation table
2. Add localized version of the system messages (Optional, but recommended)
3. Add Unicode to braille translation table (Required only if the user wishes to use Unicode formatted files in Reader/Editor)

3 System Default behavior

The default translation table used by the Orbit Reader 20 device is English Braille ASCII. The default tables are always available within the device and can be used even after performing localization of the device.

The Unicode support is not available by default. But a user can enable support by adding a Unicode to the braille translation table.

4 Performing Localization of the Orbit Reader 20 device

Localization of the Orbit Reader 20 device can be performed by first creating the localization files and then uploading these files to the device.

4.1 Creating localization files

User needs to create two files –the system message file and the table file.

1. The system message file
    a. Consists of a localized version of the system messages
    b. It is named as .loc file
    c. Sample message string for the French language is covered in Appendix 1 of this document.
2. The table file
    a. It consists of translation tables which may contain ASCII to the braille translation table only or both the ASCII to braille and Unicode to braille tables.
    b. It is named as .lan file.
    c. An example of such table is captured in Appendix 2.

4.1.1 The file naming conventions

Following naming convention is to be followed while creating these files.

The pattern will be <prefix>-<language>-<REGION>.<extension>.

- It is essential to keep the prefix as .OR20.
- Language is a lowercase ISO 639 language code. The codes from ISO 639-1 are used when available. Otherwise, codes from ISO 639-2/T are used.
- REGION specifies an uppercase ISO 3166-1 country/region identifier.
- It is necessary to use an extension as it specifies the type of file to be used for messages (.loc) or language (.lan).
- Length of the file name should be less than 20 characters.

For example, the table file name in English (United States) is ".OR20-en-US.lan" and system messages file name in English (United States) is ".OR20-en-US.loc".

Detailed steps for how to create these files are covered in later sections of this document.

4.2 Uploading localization files

A folder needs to be created with name "locale" in the root directory of the SD card. Localization file created by the user needs to be copied to this folder. These files can be then uploaded to the device using the available menu options.

There will be following menu items available in preference menu for localization.

1. Load language
2. Switch language

There will be following sub-menu items available under "Load language" option in the preference menu.

1. Load locale
2. Load .loc only
3. Load .lan only

4.2.1 Upload the locale

When the user selects this menu choice, the OR20 will show REGION Code name list for the languages that has both the table files (.lan) and messages files (.loc) available in "locale" folder of the SD card along with default option. If there are no files, the list will only have default option.

The user can navigate through these names and press select button to apply.

4.2.2 Upload the system messages language only

This menu will show a list of the messages file (.loc) along with default option. If there are no files, the list will only have a default option.

The user can navigate through these files and press select button to apply it.

Note that the user needs to ensure that the correct ASCII to the braille table required for displaying the messages correctly has been uploaded.

4.2.3 Upload the reader/editor language only

This menu choice will show a list of the table files for system (.lan) along with default option. If there are no files, the list will only have default option.

5 Using the device with localization

The user can switch between the user defined language and default language. In addition, user can create a Unicode formatted file on the device in the editor and read the same.

5.1 Switching between default and local

Once the user uploads any locale, it becomes the current set language for the unit. However, the user can switch back and forth between the system default and user defined language if required.

Following sub-menu items are available under “Switch language” option in the preference menu.

1. Switch locale
2. Switch .loc only
3. Switch .lan only

5.1.1 Switch the locale

When the user selects this option, the device switches both system messages versions and the table.

5.1.2 Switch the .loc only

When the user selects this option, the device only switches the system message versions between default set and user defined.

5.1.3 Switch the .lan only

When the user selects this option, the device only switches between default table and user defined table.

5.2 Creating Unicode formatted files on the device

Text files can be created with encoding format ANSI or Unicode. Unicode has further few variants. Text file for some of the languages can be created in Unicode only.

In order to allow the user to create local language text files on the device, OR20 will allow user to choose encoding format for the file the user creates.

ANSI will be the default set option. The user can choose the following encoding format for the new file to be created on the system

1. ANSI
2. UNICODE16LE
3. UNICODE16BE
4. UTF-8

The user should choose the ANSI if one is trying to create the BRF/BRL files else the file might be unreadable by other programs.

This setting is only applied to the files created using the “create new” command. It has no impact on the existing files being opened for editing.

The format cannot be changed while any file is open for editing.

6 Guidelines

6.1 Format of .lan file

The User should open the sample file .OR20-fr-FR.lan” with notepad or any other plain text editor and replace the default braille pattern definition numbers with a new braille pattern definition for each index. User should not modify the Index and period preceding the braille pattern definition from the example file. It should be kept as it is. An example of such table is captured in Appendix 2

Table file will have two sections.

1. Unicode to braille table - one to one
2. Unicode to braille table - custom

Content of section 1:
[ASCII-Braille values]
[Unicode-Braille values – one to one]

Content of section 2:

Header of section 2:
[*****]

Content of the custom Unicode to braille table.

Footer of section 2
[*****]

Following rules need to be followed while generating the .lan files:

#Rules Unicode – Braille table

#	Specification	Values	Example
1	The string format of Unicode to braille table - one to one	[Unicode number][.][Braille pattern][NEW LINE CHARACTER (ENTER)]	0001.1234678 And 0901.12367
1	String format of Unicode to braille table – custom	[Unicode number][-][Unicode number][.][Braille pattern][-][Braille pattern][NEW LINE CHARACTER (ENTER)]	091C-094D-091E.156 And 091A-094D.4-14
2	File extension	.lan	
3	File Name format	<prefix>-<language>-<REGION>.<extension>	.OR20-en-US.lan

6.2 Custom translation rules section in the lan file.

There are scenarios in different language where one Unicode character represents multiple braille symbols. Also there are instances where single braille sybmol represents multiple Unicode values.

To support this there is a specific section in the .lan file where the user can define such combinations. In the second section of lan file user can define such custom translation rules.

Following list of the different combination of custom translation is supported by the OR20.

1. One to many:

When one Unicode value represents more than one braille combination.

Format:
[Unicode value].[Braille pattern 1]-[Braille pattern 2][New line]
Example:
0960.6-1235

2. Many to many

When combination of more than one Unicode values represents more than one braille combination.
Format:
[Unicode value 1]-[Unicode value 2].[Braill pattern 1]-[Braille pattern 2] [New line]
Example:
095A-094D.4-1245

3. Many to one:

When combination of more than one Unicode values represents one braille combination.

Format:
[Unicode value 1]-[Unicode value 2].[Braill pattern][New line]
Example:
091C-094D-091E.156

6.3 Format of .loc file

The user should open the sample file .OR20-en-US.loc" with notepad or any other plain text editor and replace the default strings with its translated version for each index. User should not modify the Index and period preceding the message string from the example file. It should be kept as it is.

To understand the details of what the string user can refer to "Localization.xls" file that contains a detailed description of each string.

Following rules need to be followed while generating the .loc files:

#Rules

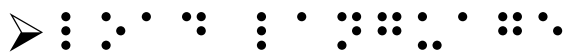
#	Specification	Values	Example
1	String format	[INDEX NUMBER][.][TRANSLATED STRING][NEW LINE CHARACTER (ENTER)]	5.Sort Name
2	The maximum allowed string length	20 characters	
3	File extension	.loc	
4	File Name format	<prefix>-<language>-<REGION>.<extension>	.OR20-en-US.loc

7 Quick steps to apply localization

Once the locale folder is created in the root of the SD card and it contains valid language files, then the user is ready to apply the localization. Please refer following example steps to apply Spanish localization.

1. Press Space + Up and to get preference menu. The message will be “charging xx%” or “battery xx%”

2. Press Down arrow **7 times** and to get an option of “Load language”



3. Press right arrow to get sub-menu item “Load locale”

4. Press select to get “Default English”

5. Press down arrow key to get “.OR20-es-ES”

6. Press select to apply the localization and the message will be “Localizaci+n efec” (Localization OK in Spanish)

8 Known limitations

List of limitations

A. Back translation is supported up to the level where one braille indicates one/multiple ASCII or Unicode values. A character which represents multiple braille value or multiple occurrence of the single Braille value within a table is not supported it may lead to garbage display.
B. System message length is limited to 20 characters.
C. Only one additional language can be loaded and supported at a time.
D. Special translation rules support up to the limit where One Unicode value represents 3 braille values. So, a character represents more than 3 braille values is not supported. Similarly, when there are three Unicode values to represent one Braille combination is supported, whereas a braille pattern requires more than 3 Unicode values is not supported.

9 Appendix 1

Content of Message file ".OR20-fr-FR.loc"

1.Erreur SD
2.Erreur accès fichier
3.Carte SD pleine
4.Signet ajouté
5.Signet supprimé
6.Ajout signet
7.Dernier signet
8.Occupé
9.Tri impossible
10.Chargeur connecté
11.Suppression signet
12.Copié
13.Mémoire insuffisante
14.Mémoire insuffisante
15.Opération réussie
16.Date:
17.Suppression
18.Fin de fichier
19.Connexion invalide
20.Connexion valide
21.Quitter préférences
22.Fich. lecture seule
23.Fichier non trouvé
24.Fichier protégé
25.Fichier non protégé

26.Action invalide
27.KB
28.Clavier verrouillé
29.Clavier déverrouillé
30.Mode local
31.Marqueur effacé
32.Marqueur fin
33.Marqueur début
34.Nouveau dossier
35.Aucun signet
36.Aucun fichier
37.Plus de signet
38.Carte SD absente
39.Non trouvé
40.Appairage Ok
41.Opération réussie
42.Position:
43.Initialisation SD
44.Protégé
45.Recherche signet
46.Actualisation...
47.Connexion bluetooth
48.Connexion mode HID
49.Connexion en Cours
50.Connexion série
51.SD déconnectée
52.Taille:
53.Tri: date crois.
54.Tri: date décroi.
55.Tri: consul. crois.
56.Tri: consul. décroi.
57.Tri: nom crois.
58.Tri: nom décroi.
59.Tri: taille crois.
60.Tri: taille décroi.
61.Début de fichier
62.Erreur système
63.Non protégé
64.Protégé en écriture
65.Copie en cours
66.Nouveau fichier
67.Batterie faible
68.Batt. en charge
69.Batterie chargée

70.Batterie
71.Tri:
72.Tri: par nom
73.Tri: par date
74.Tri: par taille
75.Tri: dernier fich.
76.Tri: croissant
77.Tri: décroissant
78.Mots coupés
79.Mots coupés oui
80.Mots coupés non
81.Filtrer point 7
82.Filtrer point 7 oui
83.Filtrer point 7 non
84.Organiser texte
85.Organiser texte oui
86.Organiser texte non
87.Texte compressé
88.Texte compressé oui
89.Texte compressé non
90.Version
91.Réinitialiser
92.Série
93.Bluetooth
94.Bluetooth oui
95.Bluetooth non
96.USB
97.USB série
98.USB HID
99.Émulation
100.Émulation RB18
101.Émulation non
102.Curseur clignot.
103.E quitté
104.M marqueur
105.C copier
106.V coller
107.X couper
108.Charge déconnecté
109.USB Stockage
110.Mode stockage
111.Stockage
112.Localisation Ok
113.Fichier non trouvé

114.Erreur localisation
115.SD protégé écriture
116.Mémoire atteinte
117.Changement invalide
118.Mémoire tampon
119.Appairage
120.Appairage sans pin
121.Appairage code pin
122.Appairage codes Ok
123.Valider action?
124.Mode
125.Mode local
126.Mode bt
127.Mode USB
128.Dossier
129.éléments:
130.Charge la langue
131.Charger localisation
132.Charger .loc
133.Charger .lan
134.Changer de langue
135.Changer localisation
136.Changer .loc
137.Changer .lan
138.Pas de dossier local
139.Pas de fichier local
140.Connexion Ok
141.Connexion erreur
142.Connexion impossible
143.Récupération erreur
144.Protection SD oui
145.Protection SD non
146.Codage:
147.Codage: ANSI
148.Codage: Unicode le
149.Codage: Unicode be
150.Codage: UTF-8
151.F rechercher
152.Erreur marqueur
153.Appairage annulé
154.Appairage réussi
155.Appairage refusé
156.Appairage accepté
157.RAZ historique PIN

158.Message tronqué
159.Réinitialisé l'usine

10 Appendix 2

Example of the table file ".OR20-xx-YY.lan"
0000.
0001.1234678
0002.1258
0003.123468
0004.14578
0005.158

« Total 255 lines»

00fb.156
00fc.1256
00fd.13456
00fe.245
00ff.256
0600.
0601.123467
0602.125
0603.12346
0604.1457
0605.15

« Total 255 lines»

06fb.156
06fc.1256
06fd.13456
06fe.245
06ff.25
*****
061C-064D-091E.156
0615-064D-0937.12345
0615-064D.4-13
0616-064D.4-46
0617-064D.4-1245

« Total 255 lines»

0660.6-1235

0661.6-123
0662.5-123
0663.6-123
0665.256-256
*****