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Motorola Mobility, Inc.

Beyond English



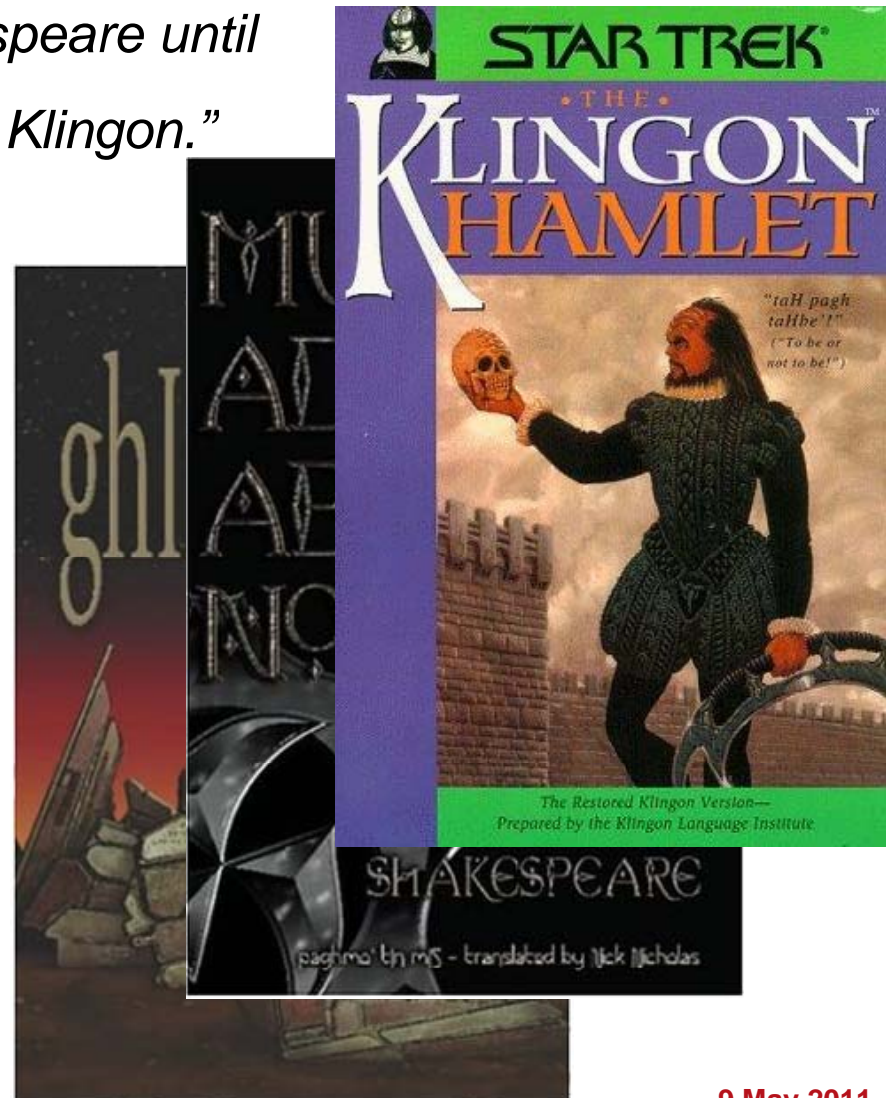
<http://moto.ly/svaio11>

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*“You have not experienced Shakespeare until
you have read him in the original Klingon.”*



“You have not experienced Shakespeare until you have read him in the original Klingon.”

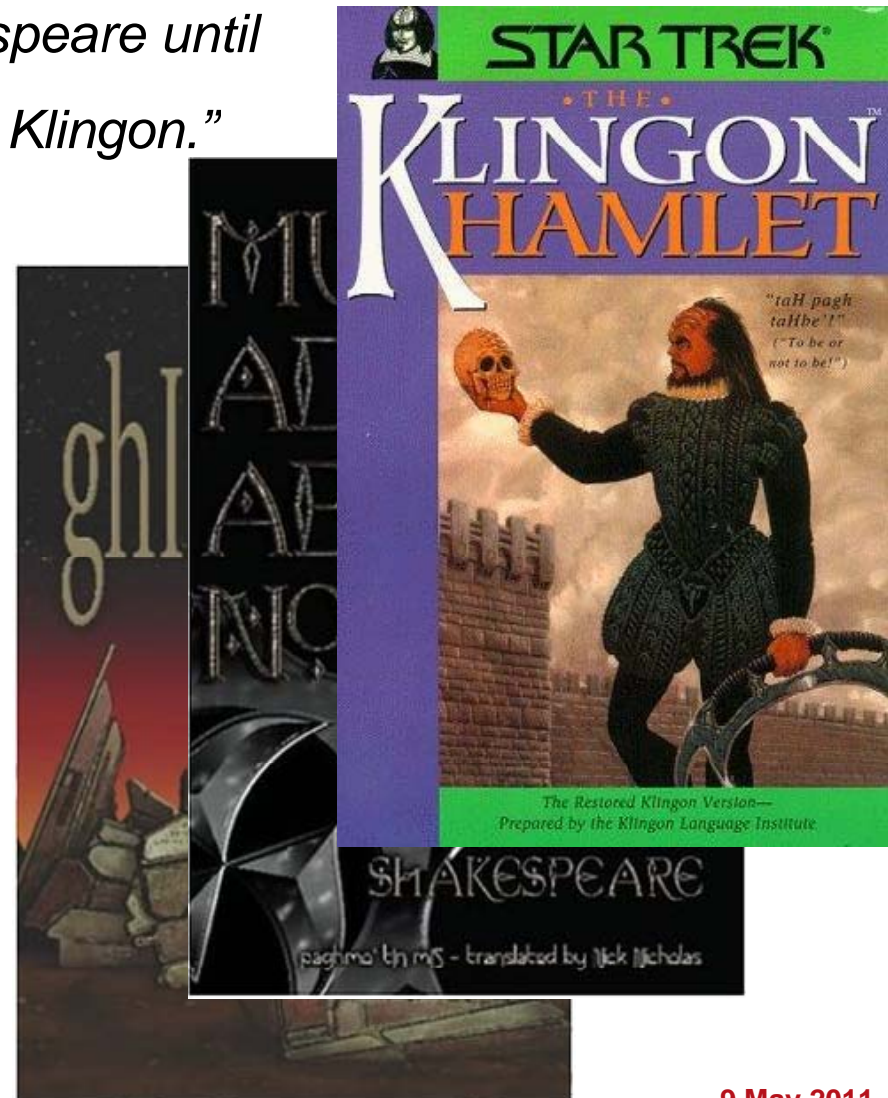


“You have not experienced Shakespeare until you have read him in the original Klingon.”



ISO 639-2 code for Klingon is 'tlh'

<http://www.kli.org/>





@Arubin
Andy Rubin

There are over 300,000 Android phones activated each day.

8 Dec via web [☆ Favorite](#) [↻ Retweet](#) [↩ Reply](#)



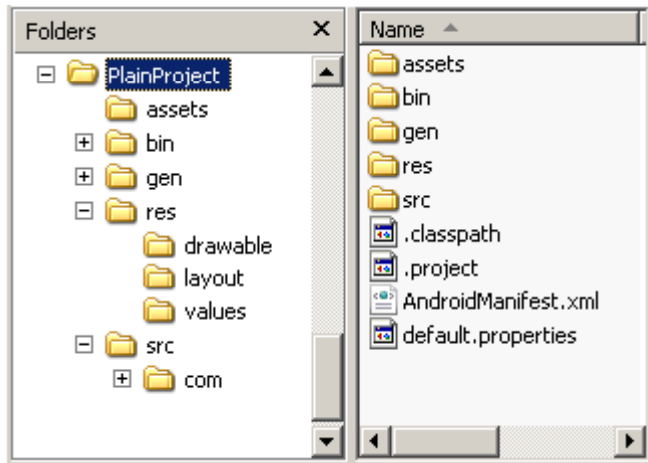
Terms

- Internationalization (i18n)
 - Should be designed into the product during development
- Localization (l10n)
 - Translating user interface elements, inputs and outputs so that your customer can use your application in their language of choice
 - Mostly done after development is complete (or in final phases)



Layout of an Android project

Non-Localized
project with default
folder names

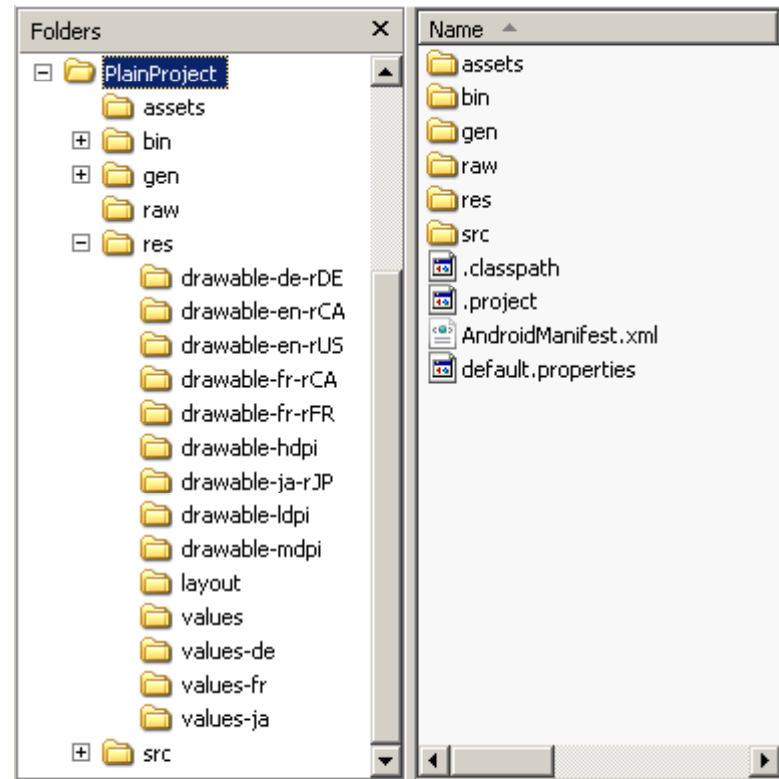


Layout of an Android project

Non-Localized
project with default
folder names



Localized project with
language- and locale-
specific folder names



Folder naming

- If no localization folders are found, folders contain files with default values
 - As a rule, your projects should always have defaults
 - **values/strings.xml**
- When adding a translation, append a hyphen and the 2 digit ISO 639 code for the translated language to the folder name
 - **values-de/strings.xml**
- When adding a country, append a hyphen, lower case 'r' and the 2 digit ISO 3166 code for the country to the folder name
 - **values-de-rDE/strings.xml**
 - **values-de-rAT/strings.xml**



Folder naming 'gotchas'

- There is no way to add a country modifier by itself. You must specify all the languages and duplicate contents. ☹
 - If you want **values-rCA** for “*all of Canada*”, you must specify **values-en-rCA** and **values-fr-rCA**
- Some notable code and language code variations
 - Japan: Language is **ja**, country is **JP** (**ja-rJP**)
 - Korea (ROK): Language is **ko**, country is **KR** (**ko-rKR**)
 - China (PRC) is **zh-rCH** (Simplified Chinese)
 - Taiwan (ROC) is **zh-rTW** (Traditional Chinese)



Locating localized resources <http://bit.ly/g9d5hl>

- Android searches for a ‘best match’, based on precedence
- Locale *almost* always takes precedence
 - User settings override what the carrier or manufacturer configure
 - Only exception involves mobile country and network code
- Logic of search
 - Eliminate resource files that contradict the device configuration
 - Pick the next highest-precedence qualifier. If no matches, continue searching until one is found. If no matches, use default.
 - If there are qualifiers based on pixel density, Android will choose the value that’s closest to the value for the users’ device



Configuration qualifier precedence <http://bit.ly/i1rDij>

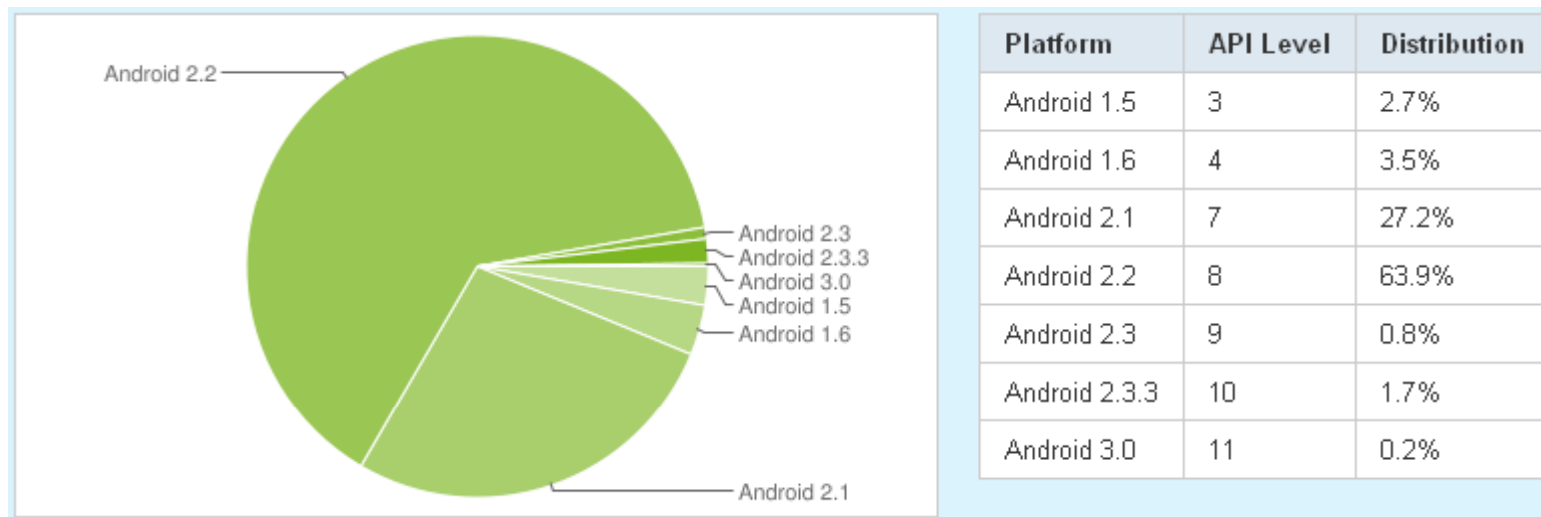
- Full precedence table is provided at developer.android.com
- *Hello, L10n* example <http://bit.ly/dJq4nf>

Qualifier	Values/Examples
MCC and MNC	mcc310, mcc310-mnc004, mcc208-mnc00, etc.
Language and region	en, fr, en-rUS, fr-rFR, fr-rCA , etc.
Screen size	small, normal, large, xlarge
Screen aspect	long, notlong
Screen orientation	port, land
Dock mode	car, desk
Night mode	night, notnight
Screen pixel density (dpi)	<i>ldpi, mdpi, hdpi, xhdpi, nodpi</i>
<i>... more online ...</i>	



minSDKVersion

- There are localization improvements in platform 1.6 and later, so consider this when choosing minSDKVersion
 - From the Android dashboard <http://bit.ly/fxFY7P>



Data collected during two weeks ending on April 1, 2011



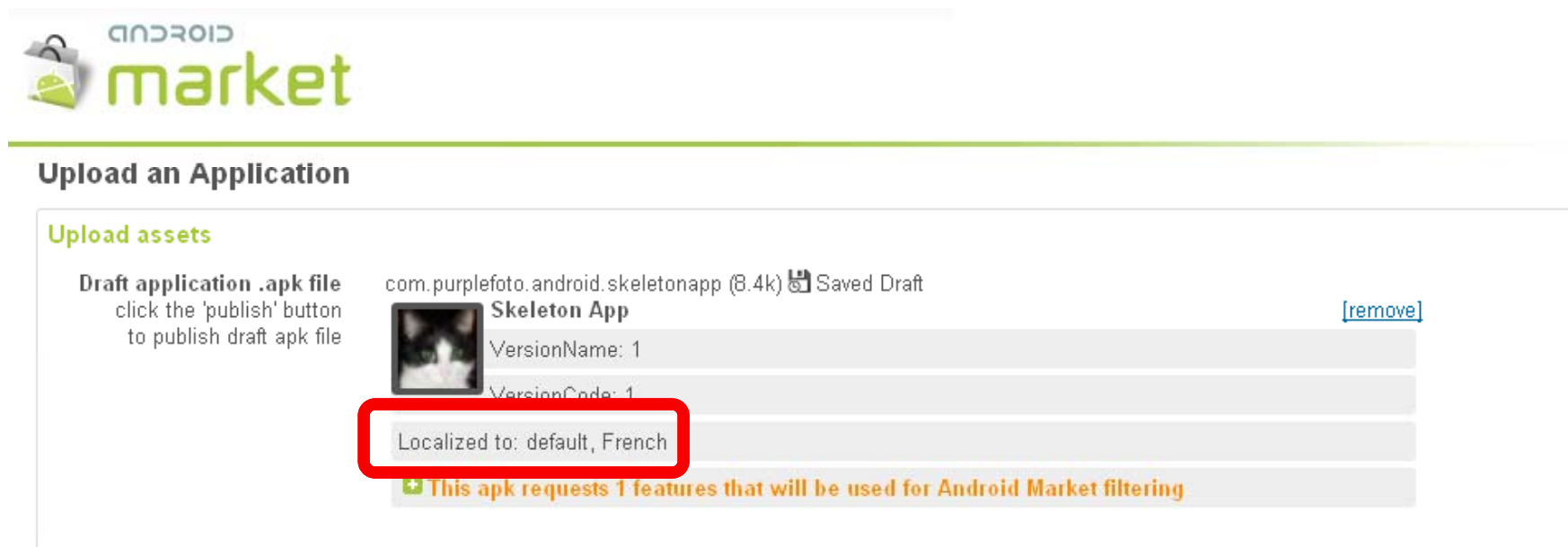
Create and test your localized Android app

- Emulator builds have more locales than device builds
- Custom Locale app in Google platform emulator builds
- Home Screen language settings panel
- MoreLocale2 (in Android Market)
- `adb shell setprop persist.sys.language ll;`
`setprop persist.sys.country CC`



Publishing to Android Market

- Verify your localization efforts when you upload to the Android Market



The screenshot shows the 'Upload an Application' page on the Android Market website. The page title is 'Upload an Application'. Under the 'Upload assets' section, there is a draft application named 'Skeleton App' (package name: com.purplefoto.android.skeletonapp, size: 8.4k, status: Saved Draft). The application details include a version name of '1' and a version code of '1'. A red box highlights the 'Localized to: default, French' field. A warning message at the bottom states: 'This apk requests 1 features that will be used for Android Market filtering'. A '[remove]' link is visible next to the application name.



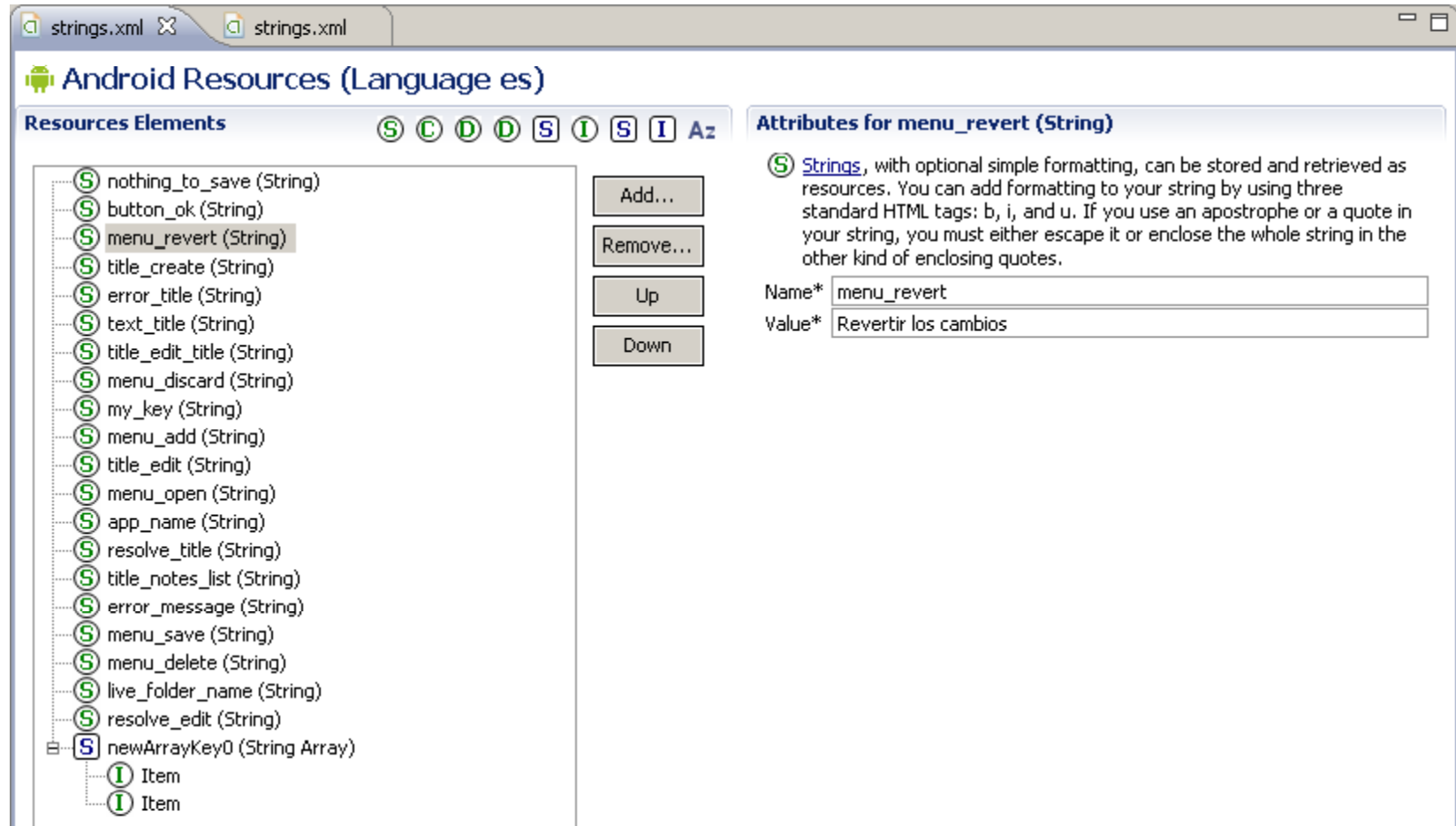
MOTODEV Studio <http://bit.ly/hJW5fm>



- A complete development tools package, with multiple installation use cases (full installer or plugins)
- Built on the most recent version of the Eclipse IDE
- 100% project compatibility with Eclipse and Google ADT
- Designed to work with all Android products
- Free download for registered MOTODEV members
- Supported on MOTODEV discussion boards
- Version 2.2 available today for Windows, Mac OS & Linux



Android SDK String Editor



MOTODEV Studio string editor

Android Localization Files Editor

Options

Editor actions:



Key	values	values-fr	values-es	values-zh-rCN
✓ title_notes_list	Notes	Notes	Notas	注释
✓ title_edit_title	Note title:	Note titre:	Nota título:	注意标题:
✓ title_edit	Edit: \"%1\$s\"	Edit: \ "% 1 \$ s \"	Edición: \ "% 1 \$ s \"	编辑: \"%1 \$ s \"的
✓ title_create	Create note	Créer une note	Crear cuenta	创建便笺
✓ text_title	Title:	Titre:	Título:	标题:
✓ resolve_title	Edit title	Modifier le titre	Editar título	编辑标题
✓ resolve_edit	Edit note	Modifier la note	Editar nota	编辑注意:
✓ nothing_to_save	There is nothing to save	Il n'y a rien à sauver	No hay nada que salvar	没有什么可以拯救
[-] ✓ newArrayKey0				
✓ 000	zero	zéro	cero	零
✓ 001	one	une	uno	一
✓ my_key	This is my string	C'est ma chaîne	Esta es mi cadena	这是我的字符串
✓ menu_save	Save	Enregistrer	Guardar	保存
✓ menu_revert	Revert changes	Annuler les changements	Revertir los cambios	还原更改
✓ menu_open	Open	Open	Abierto	打开
✓ menu_discard	Discard	Jeter	Descartar	丢弃
✓ menu_delete	Delete	Supprimer	Eliminar	删除
✓ menu_add	Add note	Ajouter une remarque	Añadir nota	新增笔记
✓ live_folder_name	Notes	Notes	Notas	注释
✓ error_title	Error	Erreur	Error	错误
✓ error_message	Error loading note	Erreur lors du chargement n	Error al cargar en cuenta	错误加载注意



MOTODEV Studio string editor

Android Localization Files Editor

Options

Editor actions:



Key	values	values-fr	values-es	values-zh-rCN
title_notes_list	Notes	Notes	Notas	注释
title_edit_title	Note title:	Note titre:	Nota título:	注意标题:
title_edit	Edit: \"%1\$s\"	Edit: \"% 1 \$ s \"	Edición: \"% 1 \$ s \"	编辑: \"%1 \$ s \"的
title_create	Create note	Créer une note		
text_title	Title:	Titre:		
resolve_title	Edit title	Modifier le titre		
resolve_edit	Edit note	Modifier la note		
nothing_to_save	There is nothing to save	Il n'y a rien à sauver		
newArrayKey0				
000	zero	zéro		
001	one	une		
my_key	This is my string	C'est ma chaîne		
menu_save	Save	Enregistrer		
menu_revert	Revert changes	Annuler les changements		
menu_open	Open	Open		
menu_discard	Discard	Jeter		
menu_delete	Delete	Supprimer		
menu_add	Add note	Ajouter une remarque		
live_folder_name	Notes	Notes		
error_title	Error	Erreur		
error_message	Error loading note	Erreur lors du chargement no		

New translated column

Enter a valid localization file ID

values-de

Translation details

Translator: Google Translator

Translate from: ENGLISH

Translate into: GERMAN

Automatically add language ID to column name

Click [here](#) to open the network preferences.

OK Cancel






MOTODEV App Validator


- <http://bit.ly/flwhhF>

 **The application declares the permission `android.permission.RECEIVE_SMS` which implies the unsupported feature `android.hardware.telephony`. This may filter the application in Android Market for the following device: Motorola Mobility, Inc. XOOM™ MZ601, MZ603.**
File: `AndroidManifest.xml`
Fix Suggestion: Verify that the permission or feature is actually required by the application. Consider declaring in your Android manifest, and then use the feature only on devices that support it (use `getSystemAvailableFeatures()` to check for the presence of the feature at run time).


[More Information](#)

 **The "keynova" key from the "pt" localization files was not found in the default localization files.**
File: `res`
Fix Suggestion: Add the key to the proper localization file.

[More Information](#)

 **The "hello" key from the default localization files was not found in the "pt" localization files.**
File: `res`
Fix Suggestion: Add the key to the proper localization file.

[More Information](#)

 **Folder "drawable-xhdpi" does not exist.**
File: `res`
Fix Suggestion: Create the "drawable-xhdpi" folder inside the "res" folder and add the appropriate drawables to it.

[More Information](#)





MOTODEV

<http://moto.ly/svaio11>

