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http://www.accegal.org

User's Guide
v2.0

1 Introduction

PictoDroid Lite is an application for Android devices that allows users to communicate through the use of pictograms or picts (signs that represent schematically a symbol, a real object or a figure). This Lite version only allows you to express very specific actions in the punctual mode, creating sentences starting with:

- let's go to...
- I want to play...
- I want to go to the bathroom...
- I want to drink...
- I want to eat....
- I am...

Upon the selection of each Pict, the system proceeds to read the pict selected.

In accumulative mode, it allows the creation of simple sentences, by the selection of subjects, verbs, objects, adverbs and adjectives. Upon the completion of the whole sentence created by picts, the system reads the complete sentence.

All picts may be modified or deleted and you may add as many as needed. The process is explained in this user's guide available in http://www.accegal.org. If you have questions or difficulty in setting PictoDroid Lite you can contact us by email at contacto@accegal.org and we will try to help you.

The Accegal group is currently working in PictoDroid, its older brother, that allows the creation of much elaborated messages and a beta-testers' version can be tested (see webage of PictoDroid in Accegal).

The application uses the picts of ARASAAC (http://arasaac.org/), created by Sergio Palao and distributed with Creative Commons license (BY-NC-SA), but you can configure it to use other Picts and even real images.

2 Application Main Screen

The first time you run the application, it will install the default set of picts in the device SDCARD or the external memory to work properly. Once that process is done and in subsequent executions of the program the default main screen will appear (Figure 1). The main screen of the accumulative mode can be seen in Figure 2

All screens can be displayed either vertically or horizontally, just turning the device. The main screen consists of different elements which are used to communicate throught the speech synthesizer with other people. Each of these elements, consisting of a pict and its corresponding text, may be pressed and different actions will occur depending on the pict defining a category, i.e. is part of a folder that will contain other picts itself, or the pict not defining a category, i.e. not related to any folder.

In case the pict is not related to any other folder with picts, once pressed the speech synthesizer will play the assignated text and after a few seconds it will automatically return to the main screen. In case the pict defines a category (contains a folder with other picts), the speech synthesizer will play the assignated text as the picts contained are loaded.

Figure 1: Application default main screen

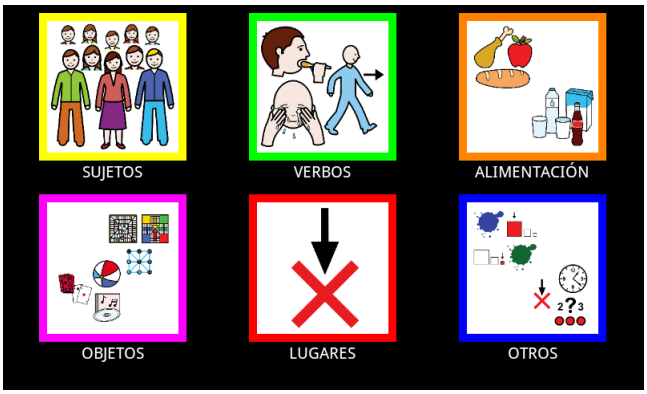

Figure 2: Application main screen in accumulative mode

When you click on one of the Picts, the text is reproduced automatically by the speech synthesizer and it is shown at the top of the screen, concatenating the successive texts of the different picts pressed. In figure 3 we can see the text related with the action "drink", as well as the Picts category/folder associated with drinking.

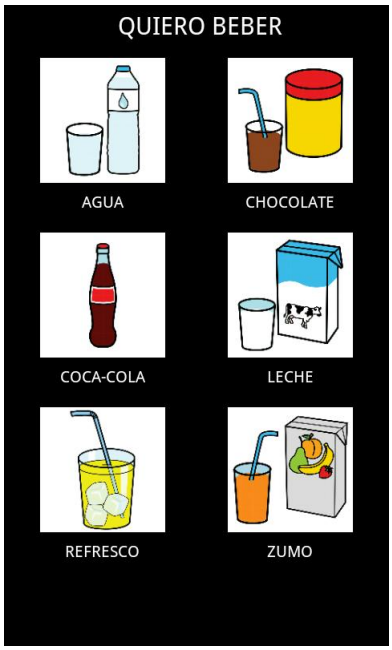

Figure 3: Text in the top of the main screen

It should be noted that if the user selects a pict by mistake, simply by pressing the BACK button of the device the application will go back to the main screen.

In the case of the accumulative mode, in figure 4 we can see the sentece formed for now in the text in the top of the screen, and the possible picts in the current category.

2.1 Application Menu

The application has a menu with three items. You can access it by pressing the MENU key on the device in which the application is installed. Figure 5 shows the area of the menu displayed.

In the menu item "Configuration", you can access to various applications settings, such as:

- Audio and language.
- Columns and rows.
- Upper/lowercase and framework.
- Colors and sizes.

In the following section, each setting will be explained in detail.

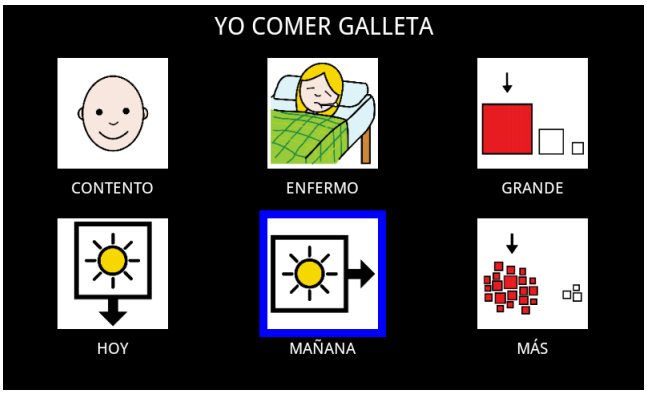

Figure 4: Application in accumulative mode creating a simple sentence

Figure 5: Application menu

The next menu item is "About", where you can access a small description of the application as well as contact information, this guide itself or acknowledgments.

The last menu item is "Exit", which as its name suggests is used to stop running the application.

3 Configuration

When the configuration menu is accessed from the main screen of the application, a number of configurable fields will appear.

3.1 Audio and language

Figure 6 shows this configuration which is used to enable or disable the speech synthesizer and to set the language used in the application (the texts of the picts are not part of this configuration). The two languages avaliable are Spanish and English, which also adjust the voice of the speech synthesizer.

Please note that if you want PictoDroid Lite to produce messages in English you have to manually change the text following the configuration procedure explained in this manual or subtitute "PictoDroidLite" and "PictoDroid_AC" folders downloaded by default in Spanish for those en English provided in ACCEGAL webpage.

You can also select a play mode. PictoDroid Lite includes two play modes: accumulative and punctual. By selecting punctual mode the phrases will be read aloud as they are selected by the user, whereas the accumulative mode performes a complete sentence when the user decides it is a complete message. The accumulative play mode is intended for users with a rough syntactic structure. The input type to play a sentence in the accu-

mulative mode may be set as well: it can be played by clicking on a "Play" pictogram in the main screen or by longpress clicking on the last item of the sentence.

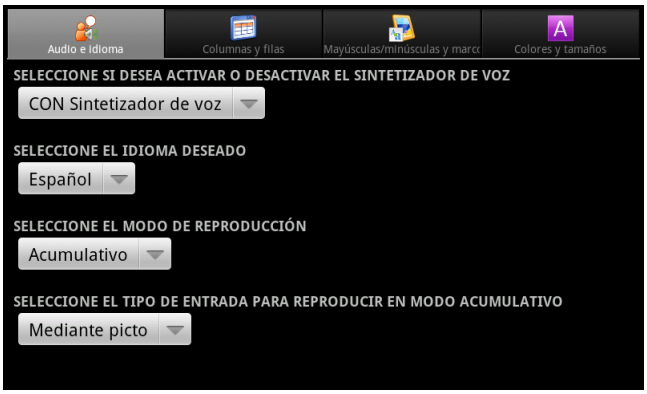

Figure 6: Audio and language configuration

3.2 Columns and rows

Figure 7 shows the configuration of this fields. This configuration takes as reference the vertical screen (for the horizontal screen, the columns become rows and viceversa). In the main screen, the picts appear in columns and rows. The selectable number of columns range from 2 to 4. The number of rows selectable also range from 2 to 4. This makes the application compatible with a great number of devices, taking advantage of screen space and can be configured for different resolutions.

Figure 7: Columns and rows configuration

For example, if the number of columns selected is 2 and the number of rows selected is 3, the total number of picts that will appear on the screen will be 6. When the number of

pictograms contained in a category/folder is less than or equal to the number of columns per row configured, all picts will be shown. If this number is larger, when showing the picts, the last one will be the pict "More (Más)", as shown in Figure 8. If you click on the pict "More" the application will autotomatically show the rest of the picts in the folder. This is done cyclically, i.e. when it reaches the last pict in a folder, if you click on the pict "More", it goes back again to the beginning of the list of picts.

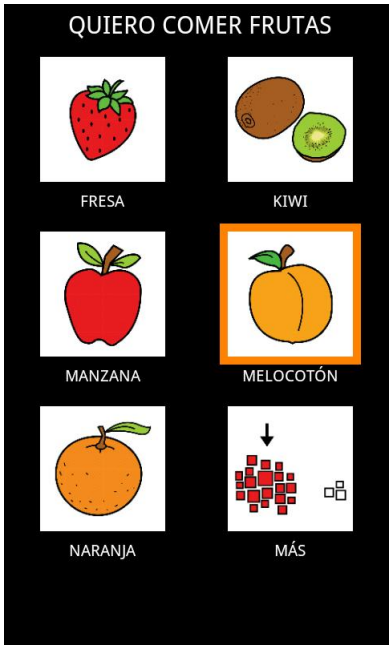

Figure 8: Showing the Pict "More (Más)" as the last element

3.3 Uppercase/Lowercase and frame

Figure 9 shows this configuration. In the case of the upper and lowercase, the picts texts and the one at the top of the screen will be shown as selected.

In addition, the picts may have a colored frame around that can be displayed or not depending on the setting. The default color selected for that frame is black, but it is configurable in the. xml file (if created) of each pict as explained later.

3.4 Colors ans sizes

Figure 10 shows this configuration. Regarding color, both, the background color of the screen, and the texts picts text color and the text that will appear at the top of the screen as you enter the Picts) can be set. The selectable colors are yellow, blue, white, orange, black, red, pink and green. By default, the background is black and text color is white.

As for the sizes, you can configure both the size or the text that appears below each pict as well as the text that will appear at the top of the screen while picts are introduced. Configuration interval ranges from 10 to 50 in each of these two fields. By default, 20 and

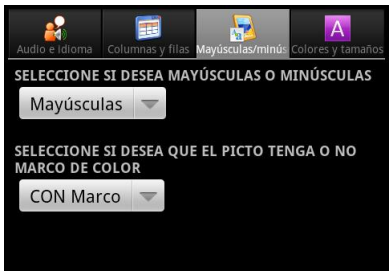

Figure 9: Uppercase/Lowercase and frame configuration

30 are the size selected respectively. This gives the application compatibility with a great number of devices.

Figure 10: Colors ans sizes configuration

4 About

When you access this item from the application menu, the screen can be seen in Figure 11 and 12 respectively. Figure 11 shows a small description of the application. Figure 12 shows more information, such as contact information and the application manual and acknolegments.

5 PictoDroid Lite Customization

Now we will explain how to customize the application to have the picts and categories the user deems appropriate. To complete this process some computer basic knowledge is needed: access to folders, folder and text file creation, copying files and image file management.

1. Install PictoDroid Lite on your cell phone or tablet. If your device has Android Market (Figure 13), search for it and install as any other application.

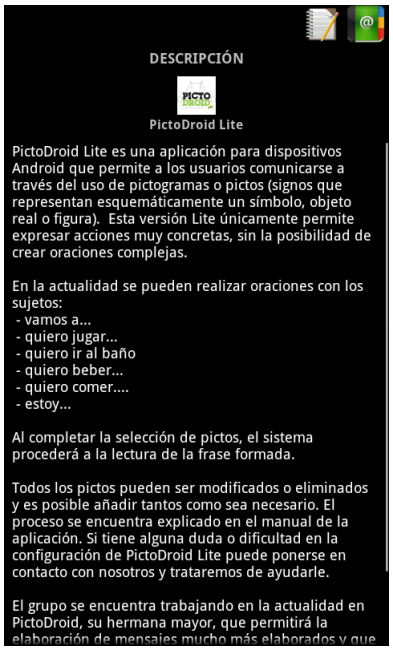

Figure 11: Aplication description

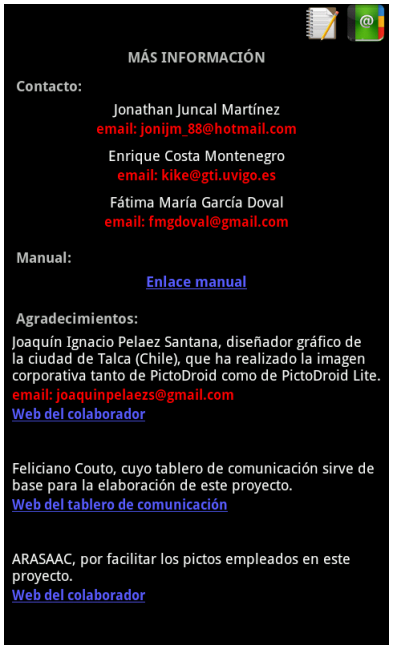

Figure 12: More information

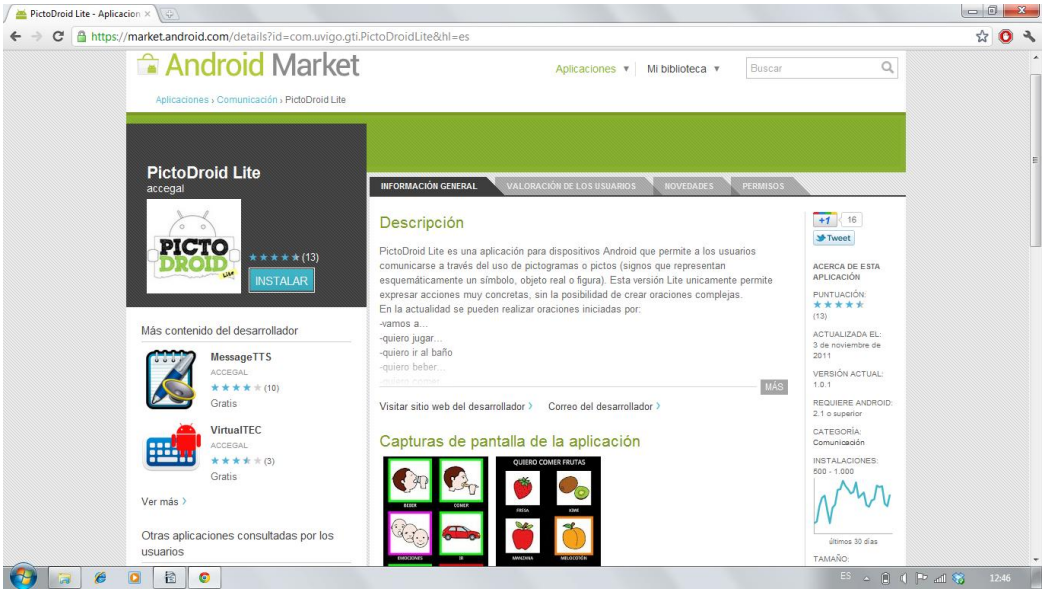

Figure 13: PictoDroid Lite in Android Market

2. If your device does not include Android Market, you can download it directly from ACCEGAL webpage (http://www.accegal.org) (Figure 14).

3. The application is downloaded compressed in a zip file called PictoDroidLite_v2.0.zip. Decompress it to obtain a file called PictoDroidLite.apk

4. If you have downloaded the application directly from the ACCEGAL webpage on your tablet or cell phone, search it with the file browser (if a file browser is not available we recommend installing the file browser ASTRO available at Android Market) and click it (Figure 15). The system will ask if you want to install the application, accept and begin the installation.

5. If you have downloaded the file from the ACCEGAL webpage on your computer, you should move this file (PictoDroidLite.apk) to the tablet or cell phone. Connect it to your computer using the USB. Android will ask you if you wish to activate the storage, accept and use the file browser to view the content of the tablet or cell phone. Move the file from your computer to the device (copying and pasting or dragging and dropping the folder on the device) (Figure 16). Disable the USB storage in the tablet or cell phone disable and remove the hardware safely on the computer. Now we have the application in our Android device, therefore proceed as in step 4.

6. When the application its opened for the first time it will show the following message: "Wait, Copying Picts (Espere, Copiando Pictos)"(both mode folders, accumulative and punctual, should be copied). That process can take several minutes. In some tablets or cell phones the application could freeze here. If this is the case try to insert an external memory card (typically a SD or microSD) and reopen the application. If the problem persists and you are installing the application for the first time, please contact us in contacto@accegal.org and we will try to help you.

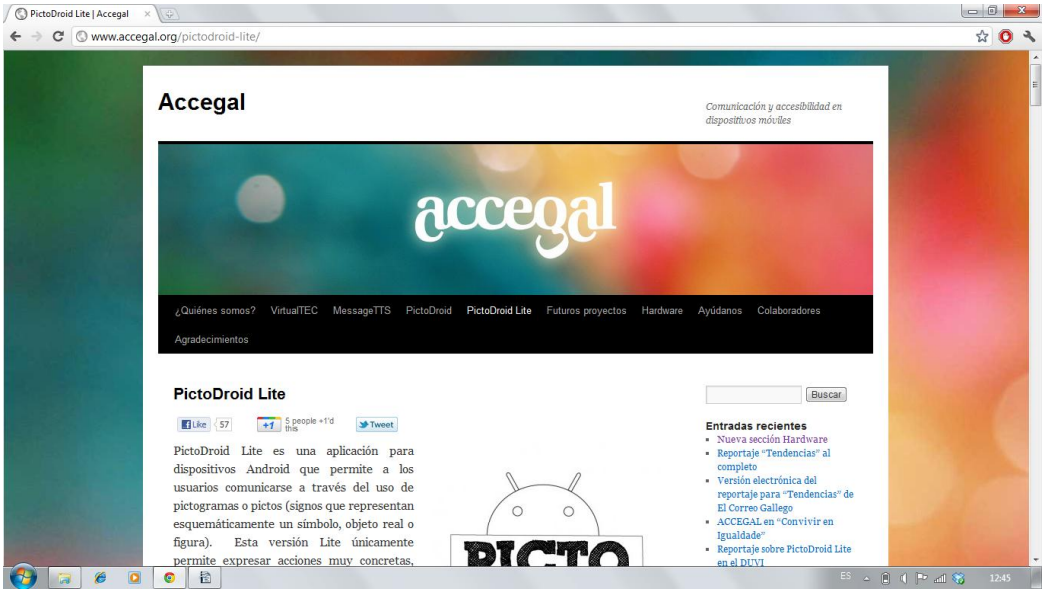

Figure 14: PictoDroid Lite in Accegal

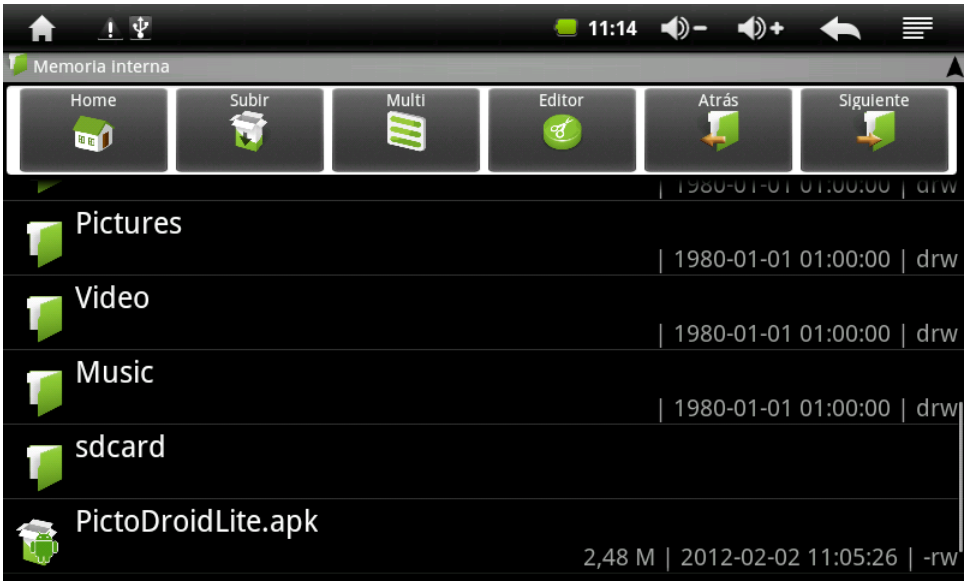

Figure 15: PictoDroid Lite in file browser

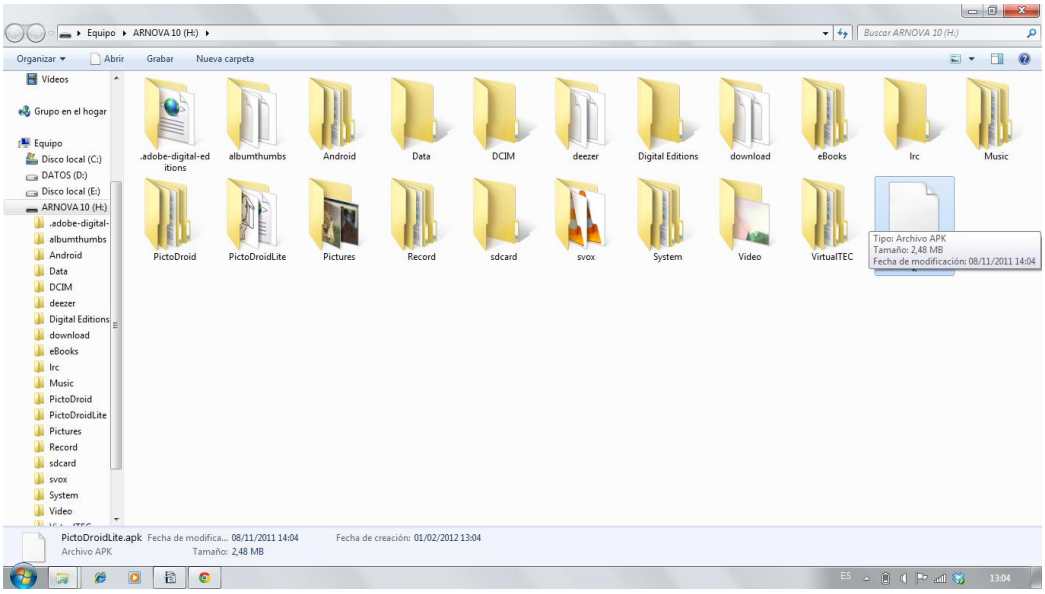

Figure 16: How to copy PictoDroid Lite in the device using Windows folders

7. PictoDroid Lite comes, by default, with some picts intended for simple communication, but to get the best of it, it will be necessary to adapt it to your needs.

8. If PictoDroid Lite produces no audible message and the media volume is on and high enough, perhaps your device has the TTS (Text to Speech) not installed or is not enabled. From Android 2.2 or higher (although not all Android 2.2 or higher devices have this option) go to "Settings" > "Voice input and output" and click on "Settings for voice synthesis" and "Install files for voice data" (or similar messages). If you can not find this "Settings" option or something similar, or for systems Android 2.1, go to webpage http://code.google.com/p/eyes-free/downloads/list and download the packages "tts_3.1_market.apk" and "com.svox.langpack.installer_1.0.1.apk" and install them in your device using the same procedure used to install PictoDroid Lite.

9. Become familiar with the structure of PictoDroid Lite with the default communicator (as it is downloaded) and then analyze the real communication needs of the person who will use PictoDroid Lite as a communicator. For some people, the communicator needs a lot more vocabulary and a much more complex structure, while others need it extremely simple. Please notice that some people will require training to navigate through folders.

10. PictoDroid Lite punctual mode is based on the production of sentences by accumulation. By selecting the pict "Eat (Comer)" the application says the locution "I want to eat (Quiero Comer)" and also the written message appears on the screen, while accessing the content of "Eat (Comer)" category, in these case: "Peck Food (De Picar)", "Fruits (Frutas)" and "Vegetables (Verduras)". It is essentially a structure of folders and subfolders as those normally used in the computer to store information (Figures 17 and 18).

11. Picto Droid Lite accumulative mode is based on the construction of a sentence (althought no concordance in number or gender is provided, neither in Spanish nor in English). By selecting the folder people and inside it the pict "Mum" the corresponding text gets displayed at the top of the screen and the application goes back to the main screen, then you can select a doing word following the same procedure and subsequently a thing or a how-word. When you reach the last word of your sentence, simply longpress that list pict or click "Play" on the main screen (according to the input type of play selected on the configuration panel). Please notice that you can just say "mum" or "eat" so sentences may have as many elemments as needed.

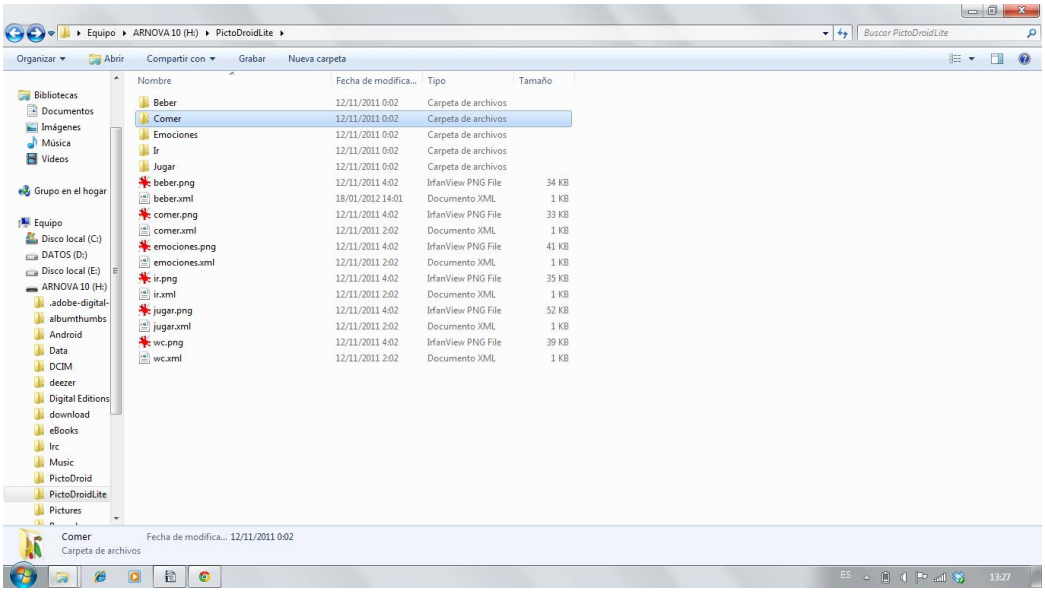

Figure 17: Example of folder structure of PictoDroid Lite

12. To adapt PictoDroid Lite to our needs we simply have to rearrange, modify and/or change the contents of those folders or subfolders. If we want to modify PictoDroid Lite folders with confidence we must connect the tablet or phone to computer via USB (as described above) and copy PictoDroidLite or PictoDroidLite_AC folder (note: not PictoDroidLite.apk) to our computer and do the changes we deem appropriate.

13. To make these changes we must consider a number of important issues:

    (a) PictoDroid Lite punctual works by associating each image with text and audio. If I have a picture called cookie.png the application will understand that this image is associated with the text "cookie" and the audio "cookie". However, if I want PictoDroid Lite to say "I want a Cookie" whenever I pulse the Pict cookie I need to associate this new audio or text using a .xml file. This is a very simple process for which we only need the Windows NotePad.

    (b) Decide what Picts or pictures you want to appear on the main screen. If you want a Pict or photo to contain more options (as in "Eat (Comer)"), plan in advance the structure and choose the images. These subfolders may contain

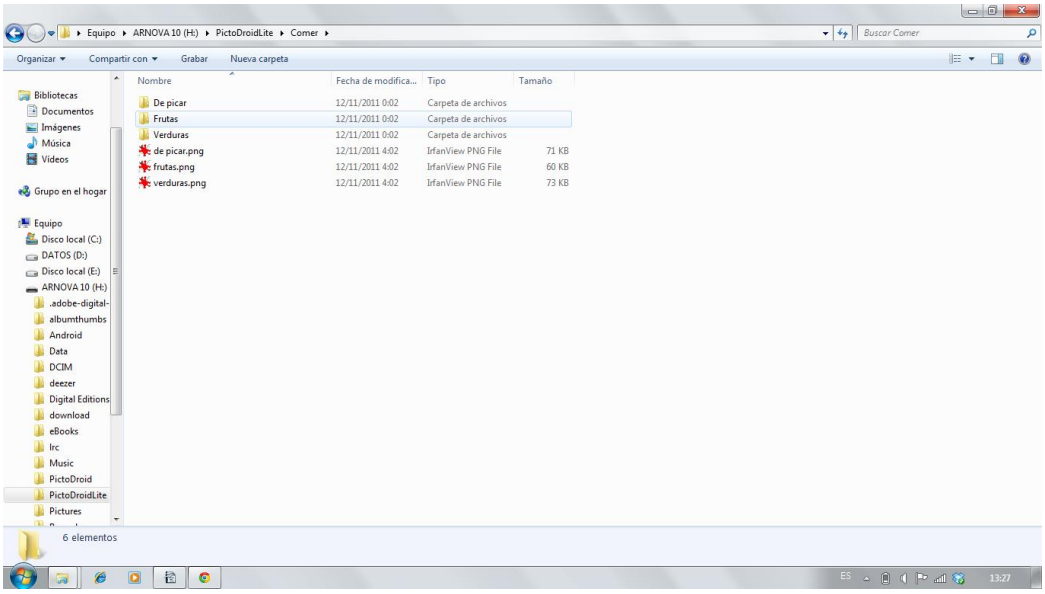

Figure 18: Example of folder structure of PictoDroid Lite

information or other subfolders and so on. When we want an image to be a category and lead to a lower level we need to create a folder with the same name of the image file to put everything in it.

(c) The different picts/pictures will appear in alphabetical order. If we want a special order we can do it by adding a number before the name and in configuring in the .xml file the text and audio not to have that number.

(d) When we have more Picts that those that will fit on the screen, the application automatically adds the pict "More (Más)" which can not be changed. In the accumulative mode the pict "Play" is automatically added when the first word is uploaded to the upper area of the screen.

14. In Figure 19, we can see an example of a completely reworked PictoDroidLite (punctual mode).

15. On this example in the main screen appears first (since it begins with 01) a photo of the user. Clicking on this image a new screen will appear where we can provide different personal information (name, birthday, home address...). So, besides the photo 01eu.jpg, we need a folder called 01eu and a configuration file 01eu.xml. It is VERY IMPORTANT that the image, the folder and the .xml file have EXACTLY the same name.

16. All PictoDroid Lite .xml have the following structure::

<datosPicto><texto>text I want to display</texto><voz>what I want to say </voz><color>frame color</color></datosPicto>

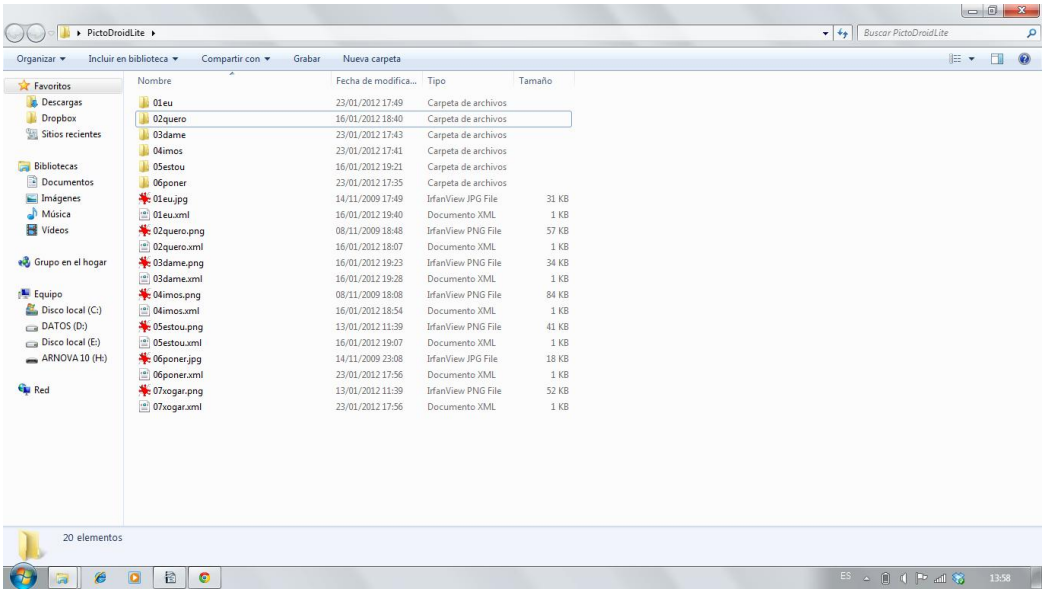

Figure 19: Example of PictoDroid Lite configuration reworked

Only "text I want to display", "what I want to say" and "frame color" can be modified.

"text I want to display" and "what I want to say" can include special characters such as accents, blanks, and others. It's better if everything goes in one line and no returns. We recommend to use Windows Notepad to work with these .xml files. You can create new .xml by changing those that PictoDroid Lite already brings. To create a new .xml file without losing the previous option use the option "Save As...".

The option "frame color" can select the color of the PCS frame you want the image surrounded by, or leave a blank for not having a frame. The accepted colors are yellow (amarillo), blue (azul), white (blanco), orange (naranja), black (negro), red (rojo), pink (rosa) and green (verde). You should write down the colors in Spanish according to the previous equivalences.

17. To modify an .xml file click it with the right mouse button and select "Open with" > "NotePad" (Figure 20).

    Now we can modify the text without touching the labels that go between the symbols of smaller (<) and higher (>). If we want an image with not associated text or audio, we just have to leave a blank, if we don't do it the application will show an error.

18. With this procedure we add, alter or remove as many phrases as considered appropriate.

19. When we save the .xml file in the Notepad it is VERY IMPORTANT to check that the encoding it is saved with is UTF-8 (because Windows, by default, usually stores with ANSI). To do this select "Save As..." always (Figure 21).

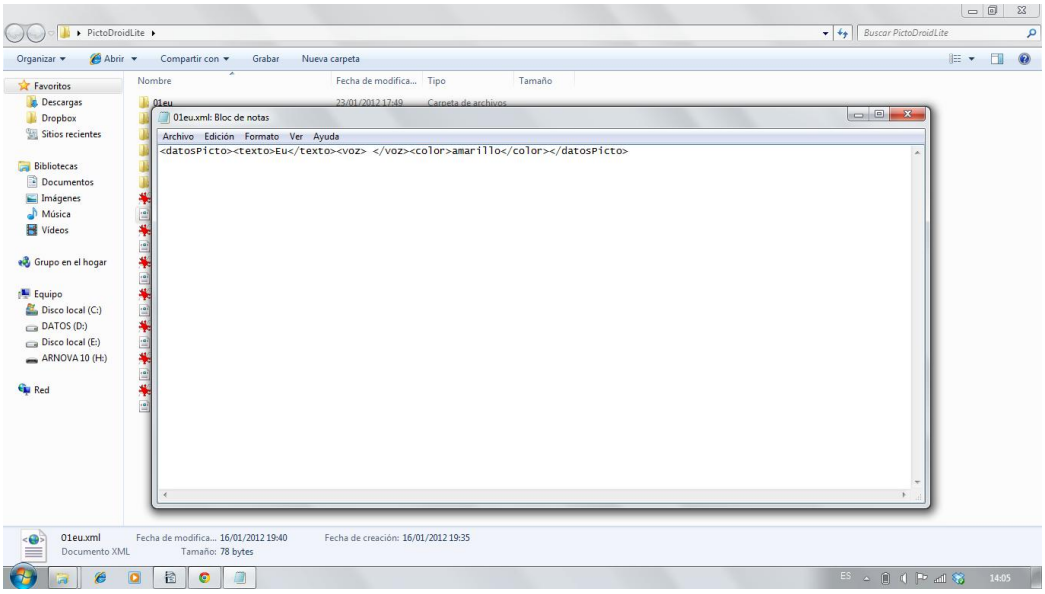

Figure 20: Example of .xml file open with NotePad

If we keep the same name, it will ask us if we really want to replace the file, say yes (Figure 22).

20. We must not forget that the image, folder and .xml file defining a locution MUST BE IN THE SAME FOLDER.

21. Once all the modifications that we deem appropriate are done, we disable the mass storage (if we were working on the tablet or cell phone folder) or replace the folder "PictoDroidLite" or "PictoDroidLite_AC" in the tablet or phone with the folder we just modified. Finally we open the application normally.

22. If the application fails to open or does not work, check again in the folder that you changed that the .xml files have been saved with UTF-8 encoding.

23. If the application fails to open or does not work, check again that you followed this instructions correctly. If the problem persists, please contact us at contacto@accegal.org and we will try to help you fix it. Quite possibly we will need the PictoDroid Lite folder you've modified (either "PictoDroidLite" or "PictoDroidLite_AC", you can send it compressed via email, as well as the exact text of error reported by Android and a clear explanation of what it does or does not (and should). Please include the Android device name that you are using.

6 Acknowledgements

This project would have not been possible without the support and inspiration of Feliciano Couto, whose board of communication (http://chiscos.net/f1/comunicador/comunicador.html) served as a basis for the elaboration of this project.

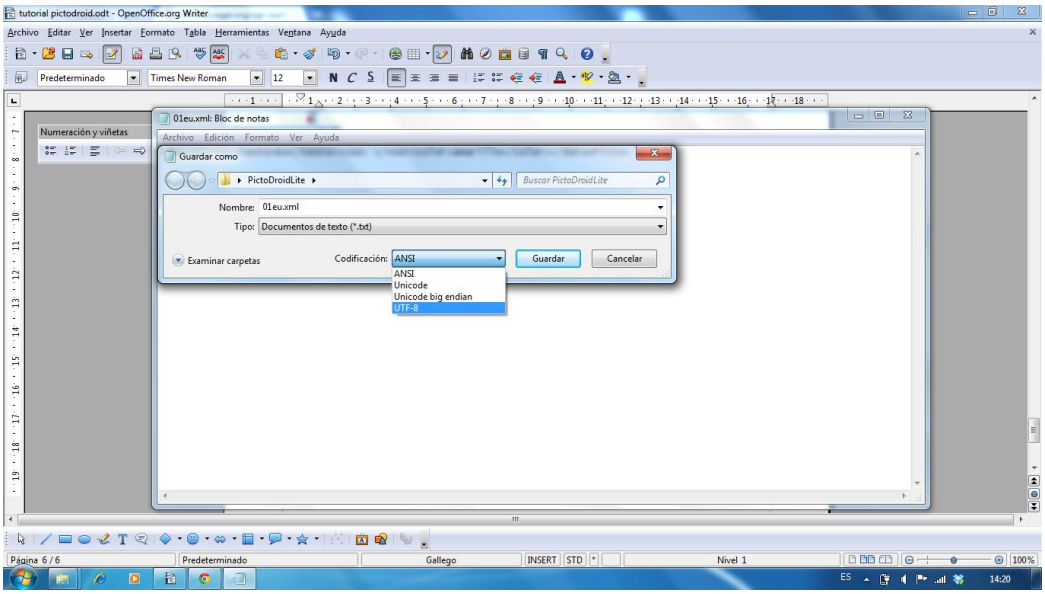

Figure 21: How to save a .xml file with NotePad

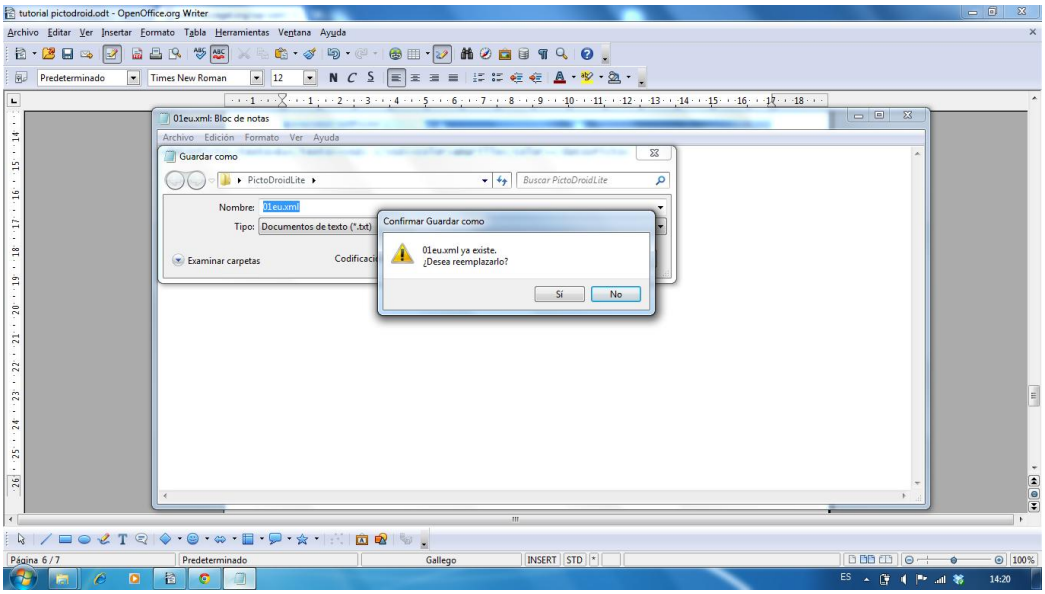

Figure 22: How to replace a .xml file with NotePad

We also thank ARASAAC (http://arasaac.org/) for the use of their Picts and José Manuel Marcos and David Romero, ARASAAC team, for their suggestions in developing of the application.

We will like to recognize and acknowledge the work of Joaquín Ignacio Pelaez Santana, graphic designer from the city of Talca, Chile (joaquinpelaezs@gmail.com - http://www.wix.com/joaquinpelaezs/dgsrpelaez) who unselfishly has made both the corporate image of PictoDroid and PictoDroid Lite.