Pandroid user's manual

SOPA project

January 25, 2013

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1 Introduction

Pandroid (panoramic audio player for Android) is an application for the Android tablet. By using Pandroid, you can decode and reproduce a SOPA (Stream Of Panoramic Audio) file.

In this manual, how to reproduce SOPA files on Pandroid is briefly presented. SOPA that stands for 'Stream Of Panoramic Audio' is a custom audio data format. By using SOPA format, spatial audio information can be easily transmitted online. Please visit the following Web site for more information about SOPA.

http://staff.aist.go.jp/ashihara-k/pan_top.html

Stereo headphones or earphones are necessary for reproducing sounds on the Pandroid application.

2 Play and stop reproduction

2.1 Main view

When the application is launched, the screen looks like Fig.1. In this figure, ①, ②, ③, and ④ are the spinner, text field, set button, and the imageview, respectively.

When the textfield is empty, the application shows a message 'Enter URL of a SOPA file' in the text field as shown in Fig.2. The user can enter the url of a SOPA file by using the virtual keyboard.

If the virtual keyboard does not appear on the screen, tap on the text field to put focus on it. The virtual keyboard automatically appears when focas is on the text field.

2.2 Reproduction

To reproduce a SOPA file, the user has to input the URL of the file into the text field. Please enter the following url, for example, in the text field (Fig.3).

http://staff.aist.go.jp/ashihara-k/resource/mhs22k.sopa

If you enter the url in the text field and press the set button, the application shows a corresponding image on the imageview as can be seen in Fig.1. If the image is different from the figure, the URL might contain a typo.

The url can be also selected by using the spinner if the spinner contains items. By tapping the spinner button, the spinner appears on the screen (Fig.4) on which the urls of the SOPA files will be displayed.
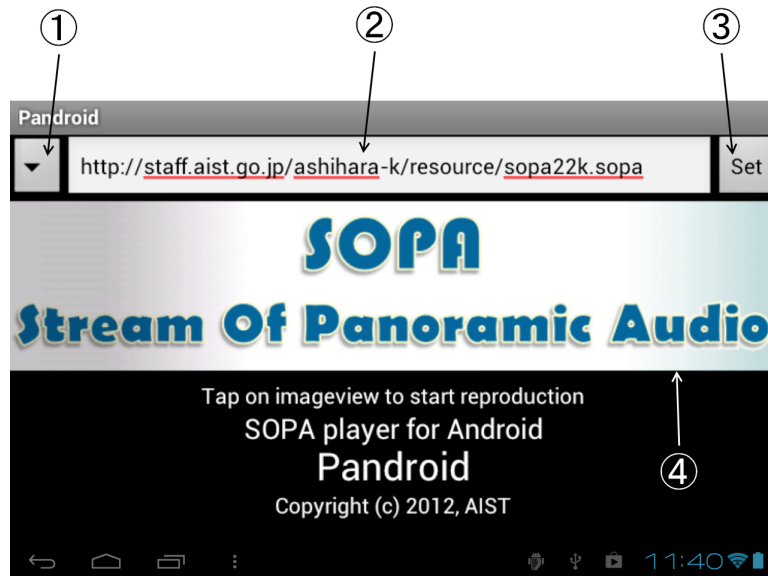
Fig. 1: Main view of Pandroid
①, ②, ③, and ④are the spinner button, text field, set button, and the imageview, respectively.
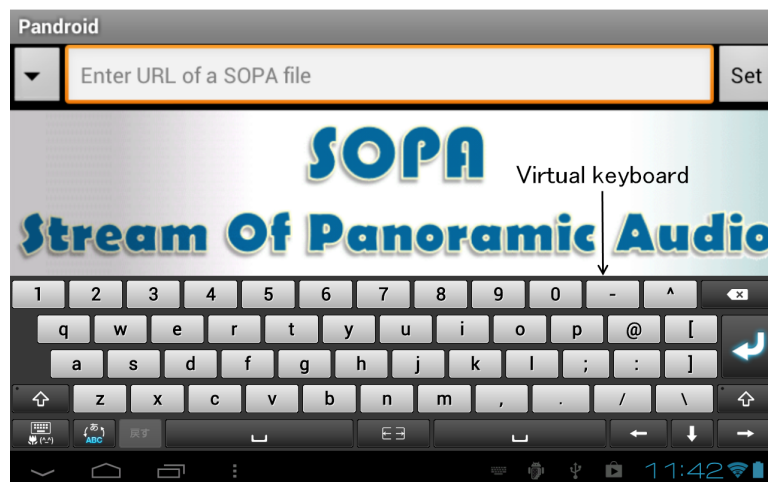

Fig. 2: When the text field is empty
The text field says "Enter URL of a SOPA file" when it is empty.
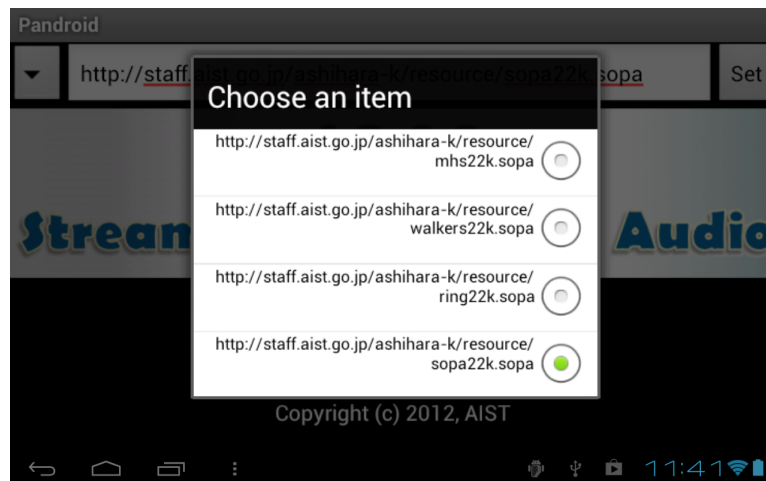
Fig. 3: URL of a SOPA file is entered
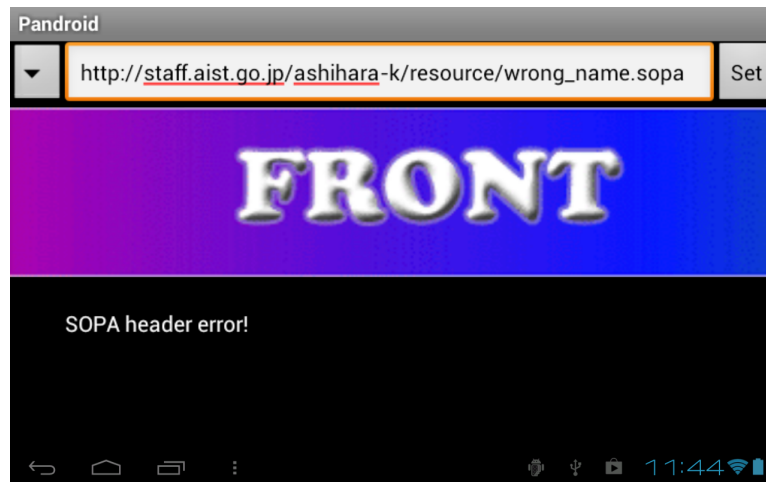

Fig. 4: Select a url from the spinner

Fig. 5: When the application fails to open the SOPA file
      If Pandroid cannot find, open, or read data from the specified
      SOPA file, an error message appears below the imageview.

If the main view looks like Fig.3, Pandroid is ready to start reproducing the SOPA file. By tapping on the imageview, the user can start reproduction of the corresponding SOPA file (mhs22k.sopa in this case).

Once the SOPA file was reproduced, its url is automatically added to the spinner.

When the application fails to open the connection to the specified URL, an error message will be displayed as can be seen in Fig.5. There may be typos in the URL. After correcting them, try again.

When the reproduction comes to the end of the audio data stream, the reproduction is finished and the number of the bytes reproduced is informed as shown in Fig.6. While the sound is played, you can terminate the reproduction by tapping on the imageview. Pause and rewind functionalities are not provided in this version.

3 Available SOPA files

The following URLs of SOPA files are available as of January 25, 2013.
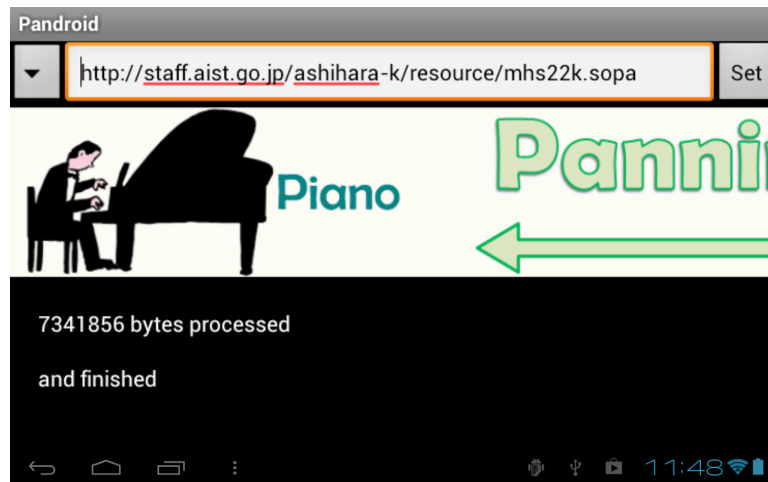

http://staff.aist.go.jp/ashihara-k/resource/kusa22k.sopa

http://staff.aist.go.jp/ashihara-k/resource/knock22k.sopa

http://staff.aist.go.jp/ashihara-k/resource/synth_box22k.sopa

Fig. 6: Screen after the reproduction
When the reproduction of the file is finished, the number of the bytes reproduced is informed.

http://staff.aist.go.jp/ashihara-k/resource/rhythm22k.sopa

http://staff.aist.go.jp/ashihara-k/resource/car22k.sopa

http://staff.aist.go.jp/ashihara-k/resource/walkers22k.sopa

http://staff.aist.go.jp/ashihara-k/resource/panther22k.sopa

http://staff.aist.go.jp/ashihara-k/resource/sopa22k.sopa

http://staff.aist.go.jp/ashihara-k/resource/mhs22k.sopa

4 Panning on demand

During the reproduction, the listener can interactively control the panning of the sound by scrolling the imageview (Fig.7). The image on the main view is a part of the panoramic image. It can be scrolled seamlessly. You may hear how the sounds move arround your head by controling the panning.

By using the SOPA format and Pandroid, the listener can experience not only the online transmittion of the spatial audio but also the interactive manipulation of the sound space.

For more information about SOPA, see the following Web site.

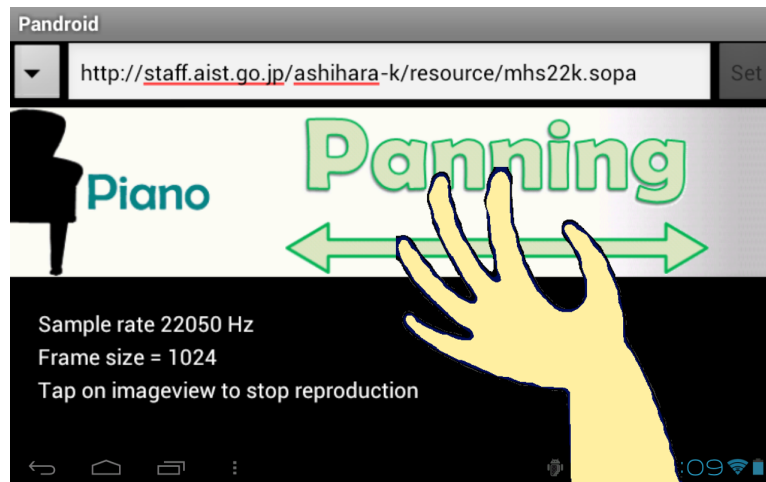http://staff.aist.go.jp/ashihara-k/pan_top.html

Fig. 7: Control panning by scrolling the imageview
You can control the panning by scrolling imageview.

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