csv2wav documentation

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1   Description

csv2wav is a stand-alone application that can be run from the command window (terminal). It converts the time and amplitude data stored in Comma Separated Value (CSV) text files into a WAV file by performing a rescaling of the data and an optional resampling.

2   Copyright

This code is Copyright (c) 2010-2011 Mathieu Barthet, Queen Mary University of London.

3   About this release

This is release 1.

4   License

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5   Pre-requisites: exportation of the data into CSV files

In order to use the *csv2wav* application, the data first need to be exported into Comma Separated Value (CSV) text files. Two CSV files are required, one for the time labels (times associated to the measures) and one for the actual data associated to the time labels.

In the CSV files, the data need to be presented as follows:

0
0.386
0.772
1.158
...

The values must be presented without quotes, on separate lines. The decimal point must be written as a point (not a comma). When exporting the data with Excel or OpenOffice, care has to be taken regarding the number of digits after the decimal point which are written in the files (the numbers shown in the spreadsheets might contain less digits than the actual data for display purposes). The number of digits to consider when exporting the data can usually be set in the Preferences option of Excel or OpenOffice.

6 Installation

To install the application on a Apple OS/X operating system, copy the files:

    csv2wav

into the desired folder.

To install the application on a Win32 system (Windows XP, Vista), copy the files:

    csv2wav
    libsndfile-1.dll (dynamic library file for the libsndfile library)

into the desired folder.

7 Usage

The *csv2wav* application can be launched from a terminal window in the directory where it is stored, by typing the following command line:

csv2wav <time file> <data file> <output file> <(optional) output sample rate>[1]
where, <time file> is the path of the CSV file with the time labels,
<data file> is the path of the CSV file with the data, <output file> is the path of the output WAV file, and <(optional) output sample rate> is the optional output sample rate at which the signal is resampled. The sample rate is supposed to be an integer

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[1]Note: ./cs2wav is used on UNIX-based systems.

value. If it is not, it will be rounded to the nearest integer value.

For example, the following command line:

./csv2wav ./examples/time.csv ./examples/data.csv ./examples/output.wav

converts the data contained in the CSV file "data.csv" measured at the times given in the CSV file "time.csv" into the WAV file "output.wav" without resampling.

The following command line:

./csv2wav ./examples/time.csv ./examples/data.csv ./examples/output3Hz.wav 3

converts the same data into a WAV file and resample it to a sample rate of 3 Hz.

8   Credits and references

csv2wav has been developed within a Queen Mary University of London Bridging the Gap project between the School of Biological and Chemical Sciences (Dr Rachel Ashworth) and the School of Electronic Engineering and Computer Science (Dr Katy Noland, Dr William Marsh, Dr Mathieu Barthet).