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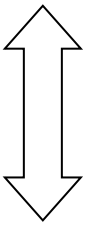
DE WIJS
THE ART OF VIEWING

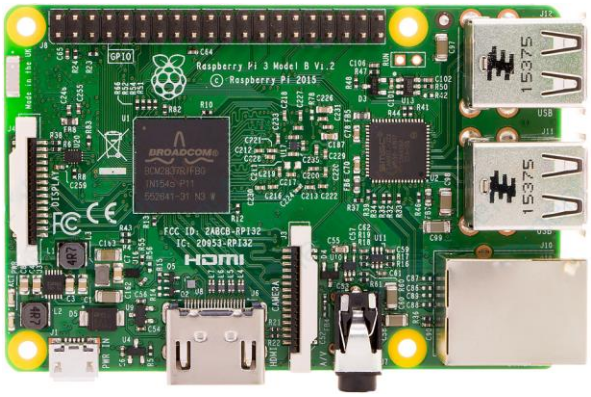
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User manual for:

Raspberry pi configuration for the Digital 3D viewer 18-04-D55-x







April, 2019, version 1.0

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1. Introduction

This document describes a basic way to configure the Raspberry pi as media source for the 3D digital viewer 18-04-D55-x. De Wijs provides a pre- configured SD card with Linux Raspbian operating system installed. Besides that, the open source application Pipresents is installed as well.

Installed versions: Raspbian Jessie 2017
Pipresents 1.35-c gapless

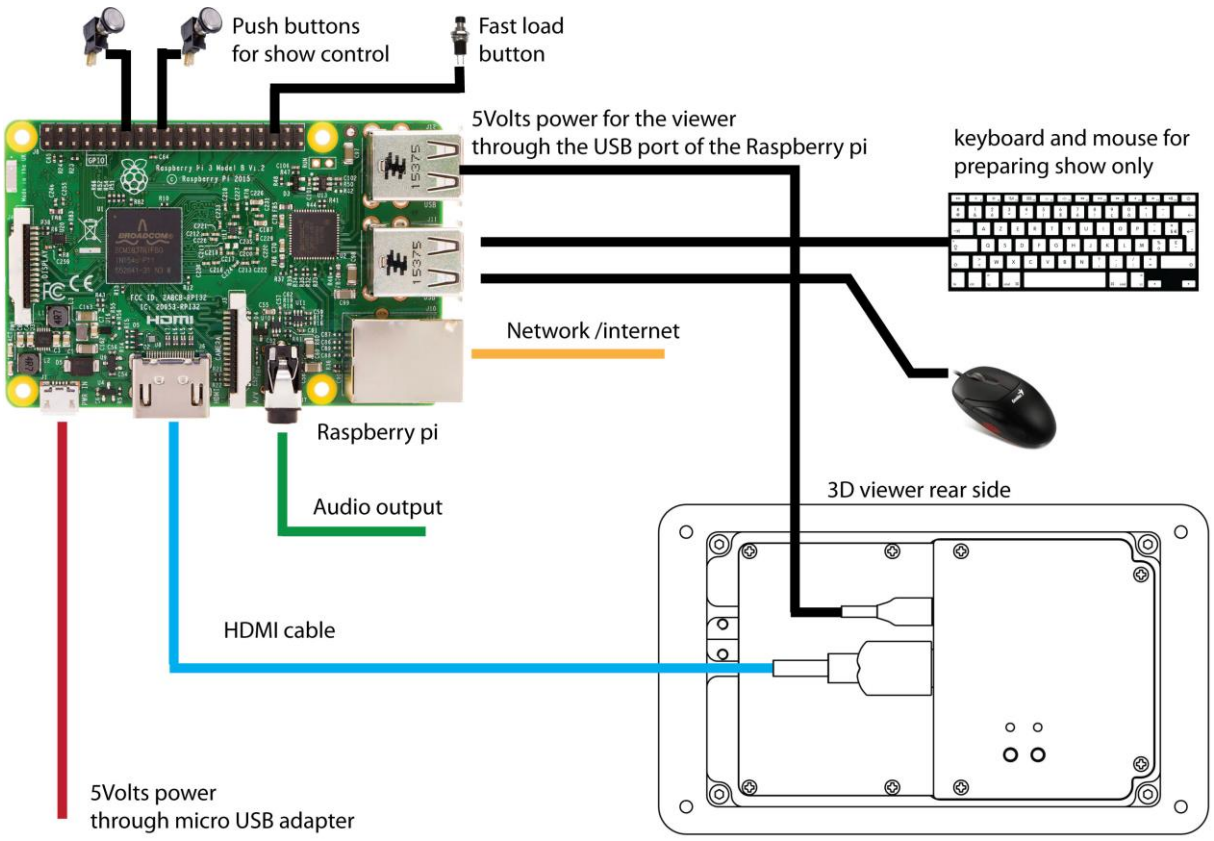
Although Pipresents is able to present more complicated shows. This document focuses on a basic slide show, controlled with 2 buttons.

1.1 Acknowledgements

Ken Thompson for creating the open source presentation tool Pi-presents.
http://pipresents.wordpress.com
The Raspberry pi foundation for creating such a small and very useful source for the viewer: http://www.raspberrypi.org

1.2 Default configuration.

By default the SD card is configured to control the 3D digital viewer 18-04-D55-x.
Pipresents is configured to play an example slide show and video with sound.
The show progress can be controlled by keyboard or the push buttons (if supplied).
In Pipresents, a show profile '3dviewer' is made. It is recommended to adapt this profile to your show. By default it holds the example show.
When booting / restarting the Raspberry pi, it automatically starts the '3dviewer' profile show.
By default, all the screensaver functions are turned off.



FAQ: are push buttons able to wake the Raspberry up, out of the screensaver when it is enabled; NO. the push buttons do not act like a keyboard or mouse. The display would stay off.

3. Preparing a show

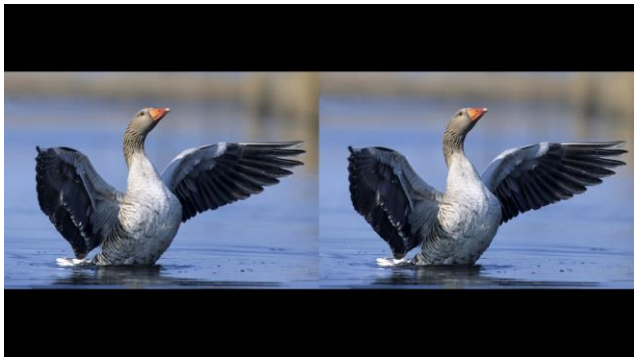
The images to be presented on the viewer have to be prepared in the format that is supported by the resolution and orientation of that particular LCD. The following examples refer to the Full HD LCD although the procedure is equal to the other LCD's
The stereo pair has to be prepared side by side in one file with the dimensions of maximum1920x1080 pixels (horizontal x vertical).

Examples original:



Total size 1920x665 pixels

shown in viewer as:





Total size 1920x1080, no resizing needed, is presented the same





Total size 1624x1080
This one needs to be adjusted because the image is more narrow then the maximum width; 812 is the image, the half LCD is 960 pixels. The image needs to be centred for each eye so you need a black border between the images.

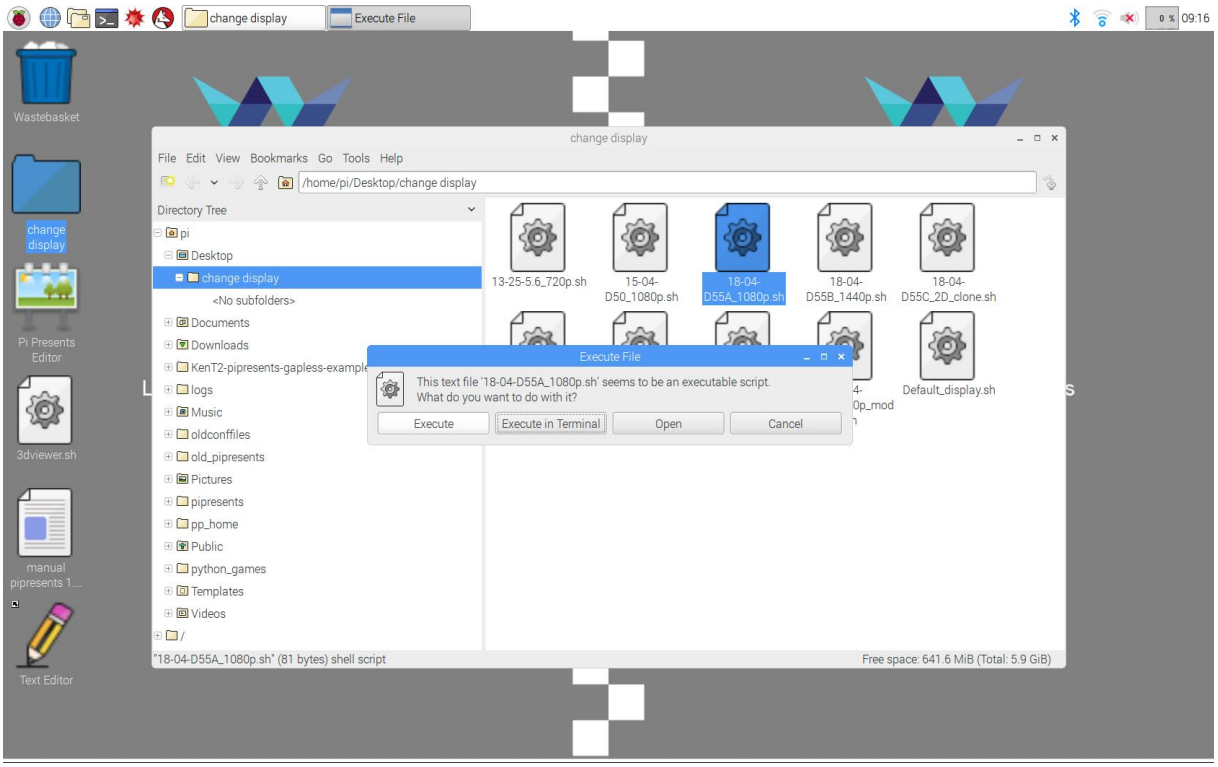
The presentation program Pipresents is able to present images supported by the Python Imaging Library. But basically it supports; JPG, PNG, BMP, TIFF, etc.
For fast switching between images during the presentation, compressed file formats are recommended.
Pipresents works with OMX player for video media. So all video formats supported by OMX player are fine to use with Pipresents such as; MP4, MKV, etc.

3.1 Configuring the Raspberry pi for a normal desktop monitor.

Due to the special graphical configuration to control the viewer's display inside, a normal desktop monitor will not recognize the signals when the default Raspberry pi configuration is connected.

It makes working / preparation of the show easier when the Raspberry pi is connected to a normal desktop monitor. For this reason, a small script is made to be executed and change the graphical output of the Raspberry pi. Do as following;

1. start up the Raspberry pi with the 3D viewer, USB keyboard, USB mouse connected.
2. Press Ctrl-Break (Pause) to quit the show.
3. Look through the lenses and you see the Desktop environment. Double click 'change display'
4. Three script files appear. Double click 'Default_display.sh' A dialogue window pops up.
5. Press Execute.



6. The Dialogue disappears, seems like nothing happened. However the start-up of the Raspberries graphical output configuration has changed now. Perform a shut down now.
7. Unplug the HDMI of the 3D viewer and connect it to a normal desktop Monitor.
8. Start up the Raspberry pi and the normal desktop monitor should present everything the 3D viewer should show. Now you can prepare your show.

For turning back to the 3Dviewer graphical configuration, repeat all previous steps, now with the Desktop monitor connected first. At the point of selecting the script, double click 18-04-D55A_1080p.sh for the 3D viewer.

3.2 Adding images or video's to the SD card

After you have prepared your images according to chapter 3.1, you can add them to the SD card of the Raspbery pi. The SD card holds the operating system Raspbian on which the Raspberry pi starts and also acts as 'hard drive' to store images and video's on.

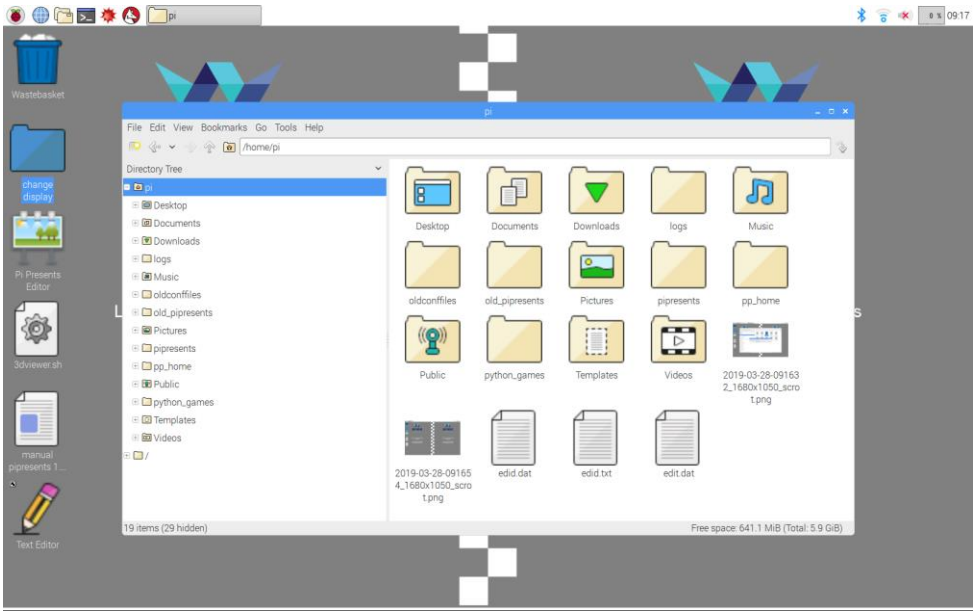
Unless you know what you are doing, do not take the SD card out of the Raspberry pi and try to add images using another computer. It can damage the operating system and the Raspberry pi might fail to start.

There are several ways to add images to the SD card. Only one method is explained over here by using a flash drive as media carrier.

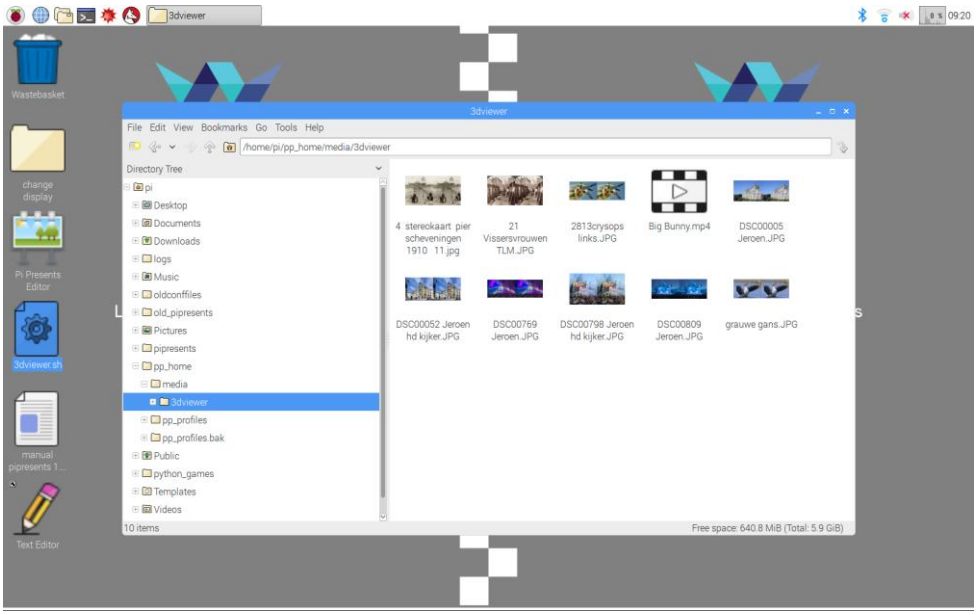
1. Start up the Raspberry pi connected to USB keyboard and USB mouse and your USB flash drive with images.
2. Press Ctrl-Break (Pause) to quit the show.



3. Press the file manager (red arrow)



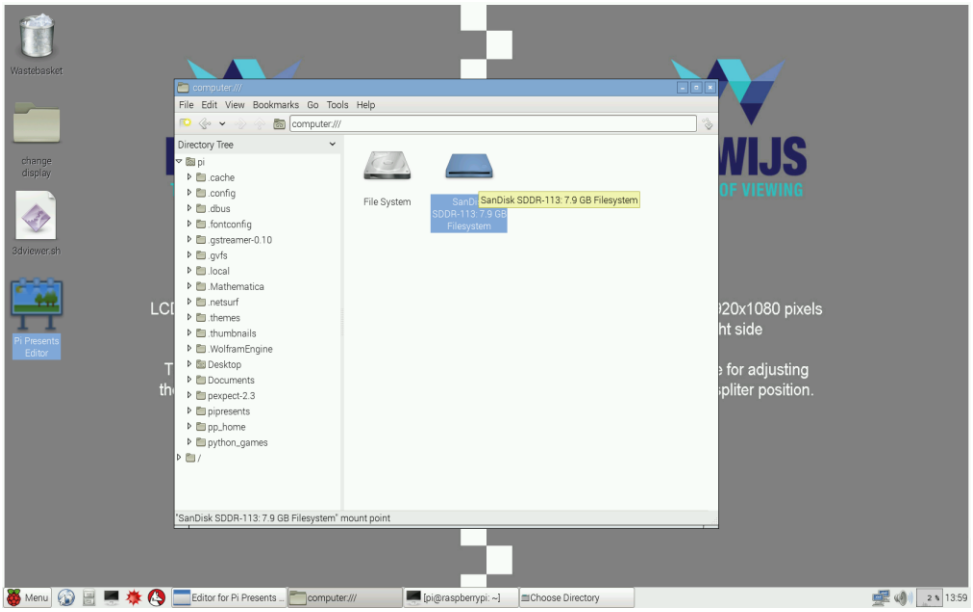
4. In the file manager, browse to /home/pi/pp_home/media/3dviewer



You see the images /videos used in the default show or your previous show. You can choose to leave them there or delete them.

5. Open a second file manager window (see step 3). At this window, press on the pull down menu ‘Go’ and then select ‘Devices’

The file manager should show all available storage sources, including your flash drive.



6. Double click to open the flash drive and browse to the directory where your images are located.

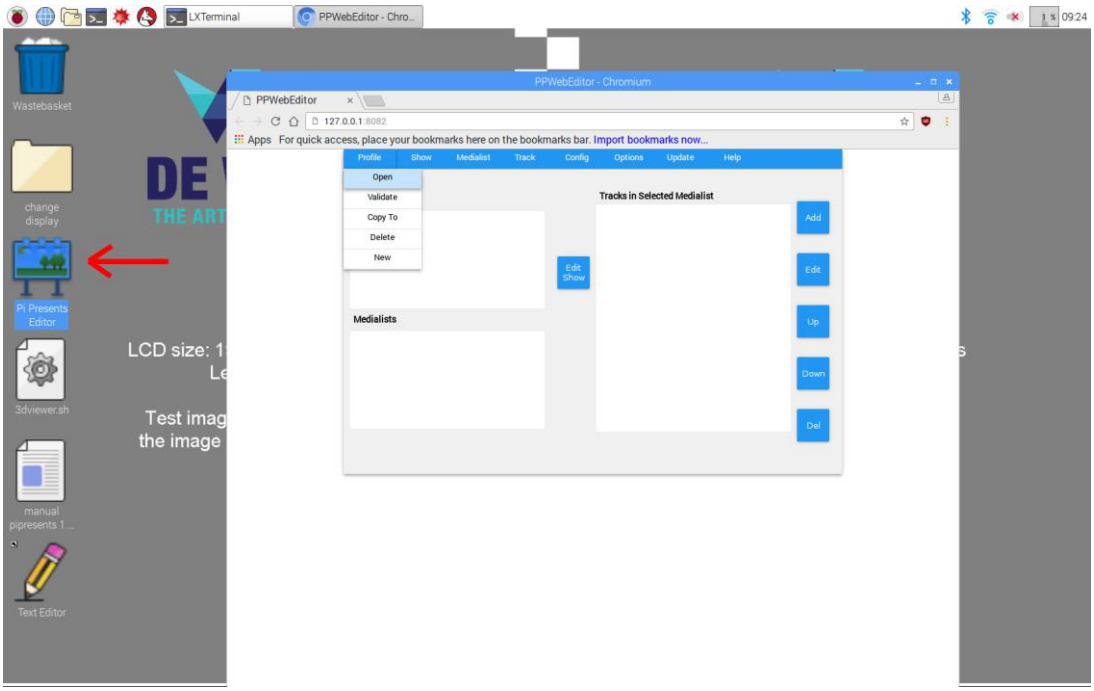
7. With both file managers open, select all your images and drag them to the directory of /home/pi/pp_home/media/3dviewer

The new images are getting visible as thumbnail in the 3dviewer directory. Your images are added to the SD card now. To add your images to the show, go to next step 3.3

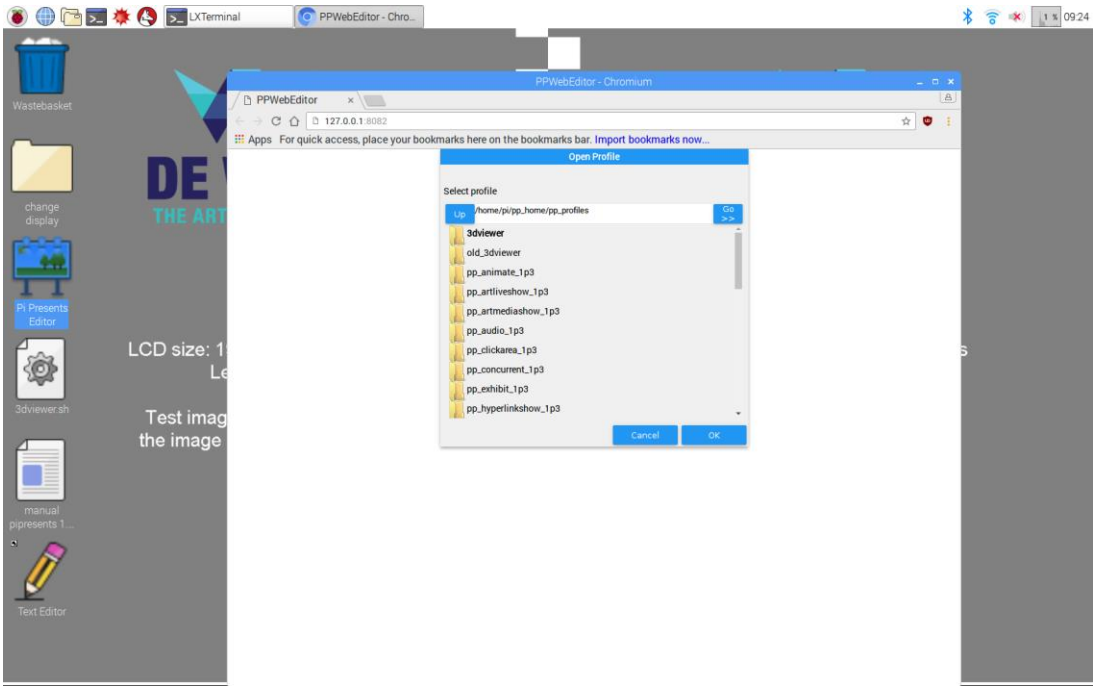
3.3 Adding / deleting images to the show.

You need to configure the show which images are to be presented. Pipresents has a show editor called Pi Presents Editor (pp_editor).

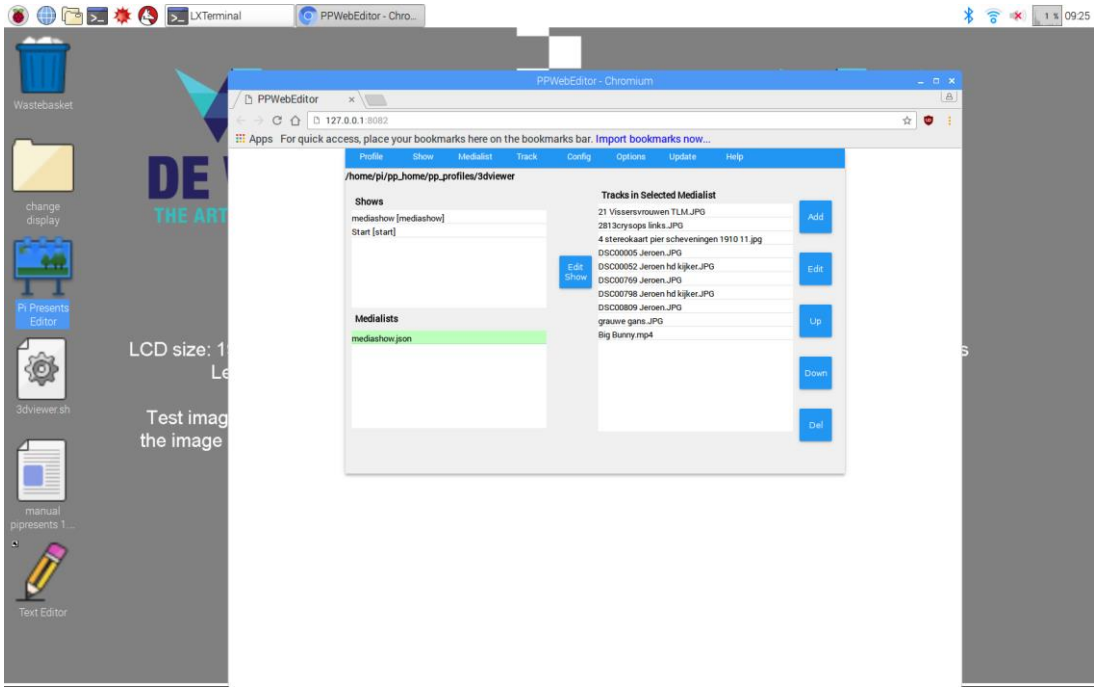
1. Start up the Raspberry pi connected to USB keyboard and USB mouse
2. Press Ctrl-Break (Pause) to quit the show.
3. Double click on the Icon on the Desktop (red arrow):



4. Click on the pull down menu ‘Profile’ and select ‘open’. A dialog appears to choose the Directory.
5. Click on the word ‘3dviewer’, it turns into bold.



6. Click on ‘OK’.



7. In the upper left window click on ‘mediashow’, it turns green.
8. In the lower left window click on ‘mediashow.json’ it turns green and on the right window a list of images / videos in the show appear.

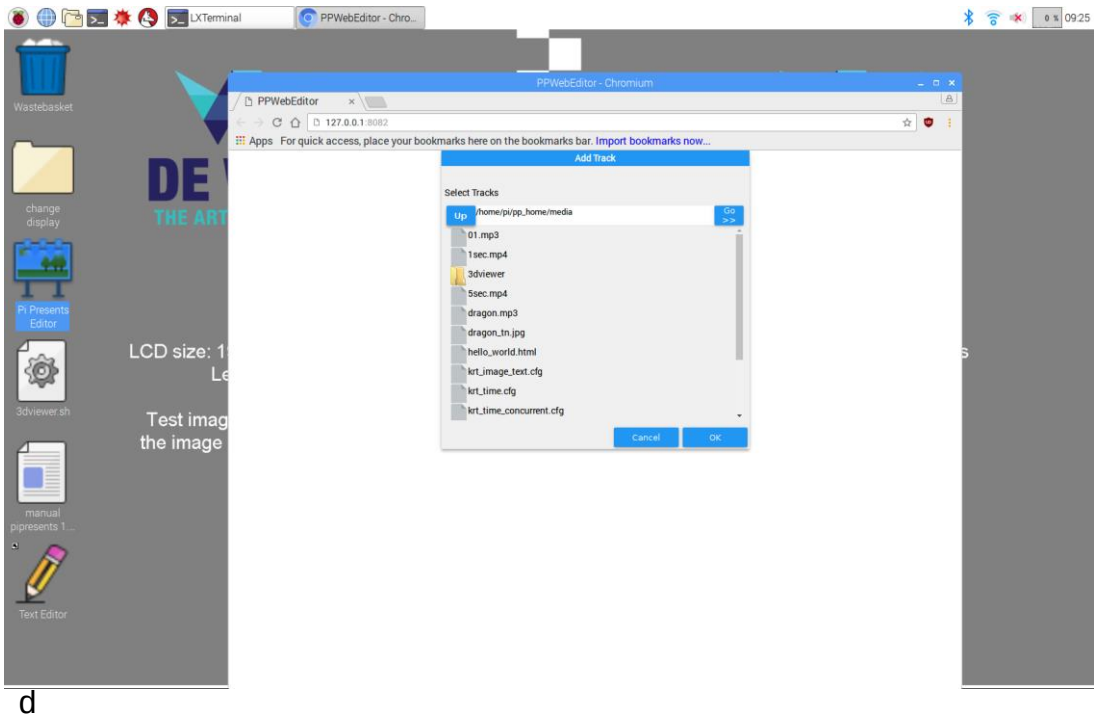
You can delete a video or image one at the time:

1. Select an image or video in the list. It turns green.
2. Press ‘Del’ on bleu right buttons.

You can add images to the list several way’s; one by one

1. On the very right button list press ‘Add’.
2. Brows to the ‘3dviewer’ directory and select the image to be added, etc.

You can add images to the list all at once from a directory:

1. Press ‘Track’ and select ‘Add from Dir’.
2. 

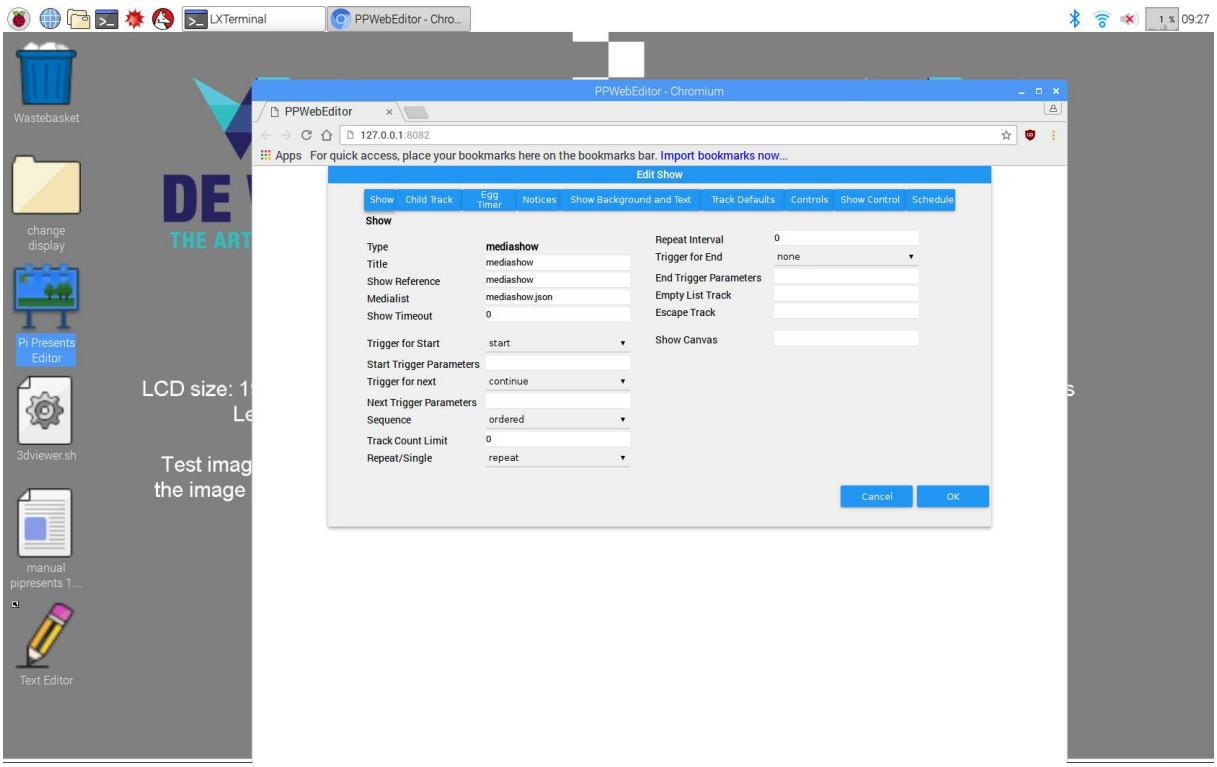
d
viewer’ click on the word to select it, it turns into bold.
3. Press ‘OK’. The images in the directory should now be added to the show list.

3.4 Changing the behaviour of the show.

Pi Presents has a large amount of options and settings available to configure the show. For all details you can look to:
https://github.com/KenT2/pipresents-gapless/raw/master/manual.pdf
In this manual some very limited but often used settings are described.

By default, the 3dviewer profile show is configured as loop show with an image change interval of 5 seconds. However the push buttons allow to speed up the slide advance or return to the previous image.

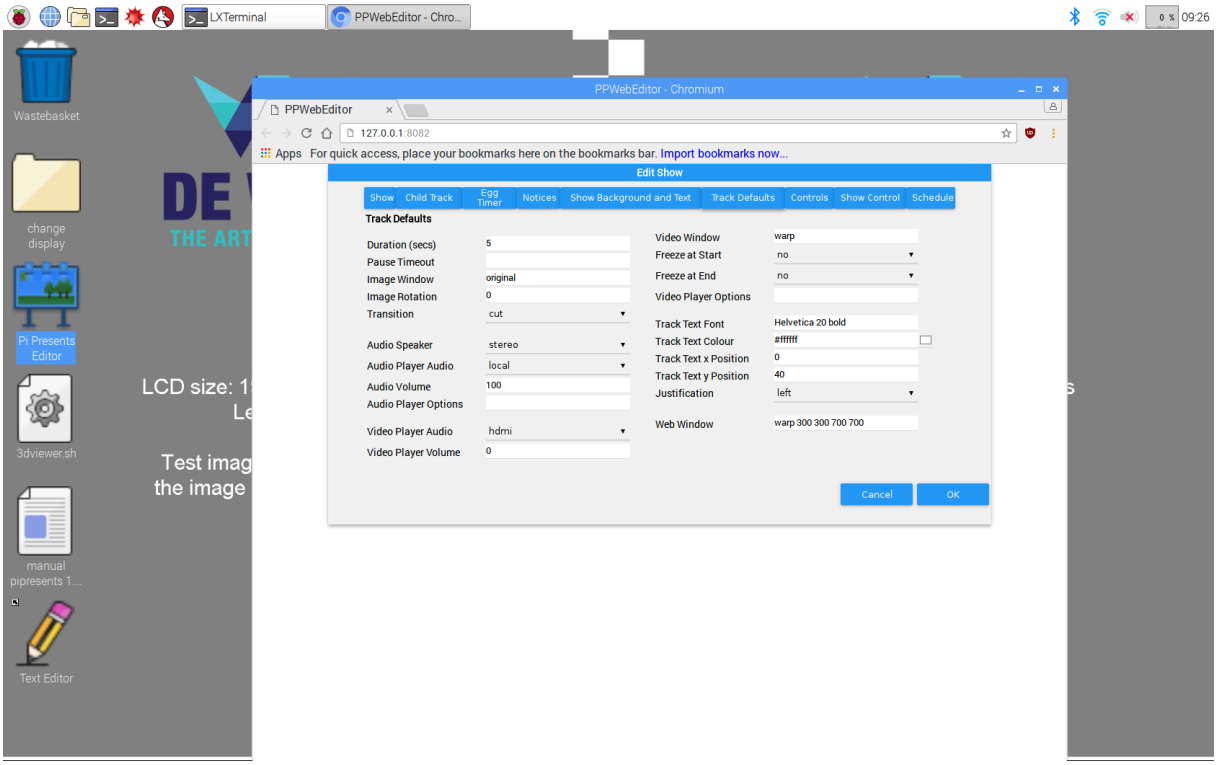
1. Repeat all steps mentioned in 3.3 up to point 8.
2. Click on the pull down menu ‘Show’ and select ‘Edit’. A new dialogue windows pops up with tabs.



By default the tab ‘Show’ is selected. This tab allows the configuration to change the way how the progress of the show is controlled. How it starts, stops, etc. Read the manual of pipresents 1.35how the system works.

How to change the slide change interval

1. Select the tab ‘Track Defaults’.



2. Change at the entry ‘Duration (secs)’ to the right amount of seconds. Or change it to 0 (zero) for no automatic slide change at all. Only the push buttons are able to make the slide change.