### Installation of GrblGru under Linux using wine Used was Linux Mint 20, Cinnamon 64-bit

## **1. Installing PlayOnLinux**

GrblGru can be installed directly from the command line using wine, but it is generally helpful to use a frontend for wine when installing Windows programs, which makes configuration easier. For this I have used **PlayOnLinux**. The version provided in the Linux Mint repository is not the latest version, so 4.3.4 was manually installed, see **https://www.playonlinux.com/de**/



# 2. Installation of GrbIGru using PlayOnLinux

To avoid the following error message during the installation under Ubuntu and its derivatives like Mint, you can enter this command in the terminal: echo 0 | sudo tee /proc/sys/kernel/yama/ptrace\_scope

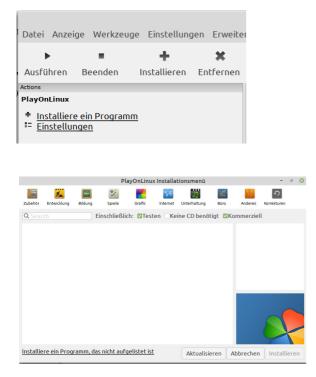
PlayOnLinux	- 8
PlayOnLinux Assistent	
Package installation will fail until you set /proc/sys/kernel/- yama/ptrace_scope to 0 Open http://www.playonlinux.com/en/topic-10534- Regarding_ptrace_scope_fatal_error.html now?	

This is a temporary solution. For the permanent solution, see https://www.playonlinux.com/en/topic-10534-Regarding\_ptrace\_scope\_fatal\_error.html

Ja Nein

#### Installation:

In PlayOnLinux there are 3 places where you can install a Windows program, but they are all the same. Either under File, or like on the picture at the two places where it says "Install". A selection of some preconfigured programs will appear.



Because GrblGru is not listed here yet, select "Install a program that is not listed. Then "Next" and after that you have the choice to install into a new virtual drive, or to update an existing drive or application. We choose "Install a program in a new virtual drive", which we then give a name.

PlayOnLinux		- 8
PlayOnLinux Assistent		
Manuelle Installation		
Wie möchten Sie fortfahren?		
Installiere ein Programm in einem ne		ellen Laufv
Editiere oder aktualisiere eine beste	hende App	likation
	Weiter	Abbrechen

At the next page set the two checkboxes, because we have to reinstall something and configure Wine.



As Wine I used the system version 4.0, but it should work with other versions as well. If not, you can still change it afterwards.

In the next step we choose the 32 bit installation, with 64bit it does not work.

	PlayOnLinux	- (8)
PlayOnLinux Assistent Manuelle Installation	<u>.</u>	
Welche Art von virtuellen Laufwerk wolle 32 bits windows installation 64 bits windows installation	en Sie erstellen	
	Weiter	Abbrechen

As Windows version you can choose Windows 7, which I think is a good choice. Since GrblGru also runs under XP, you could also choose XP. I have not tried higher Windows versions.



On the graphics page it is important to uncheck the 2 checkboxes. As screen resolution I have chosen 120dpi. Depending on your screen resolution it is also useful to leave it at 96dpi, which you can try if GrblGru is installed. The Wine configuration can also be changed afterwards.

Wine-Konfiguratio	-			Wine-Kor	nfiguratio	on
wine-Konriguratio	on y		Laufwerke	1	Audio	Über
fwerke Audio	Über	1	Anwendungen	Bibliotheken	Grafik	Desktop-Integrati
endungen Bibliotheken Grafik studinistellungen Im Volvildmodus automatisch die Maus einfan Erlaube dem Enstermanager die Fenster zu die Erlaube dem Instermanager die Fenster zu die Enuliere einen vinzellen Bidschirm sktop-geöße: Die X 22 schirmauflösung as ist ein Beispieltrukt in 10-Punkh Tahon	Desktop-Interstuon		Fenstereinstellung Fenstereinstellung Fenstereinstellung Fraube dem f Fraube dem f	gen dus automatisch Fenstermanager n virtuellen Bilds 800 Beispiertes	die Maus einfn die Fenster zu die Fenster zu chirm X 600 xt ju 10-Pt	angen dekorieren kontrolljeren 

If you leave the checkboxes checked, you will have problems with the menus in GrblGru. But there is also a conflict: If you leave the checkbox checked at "Allow the window manager to control the windows", the menus will close as soon as you stay a little bit longer on a menu entry with the mouse. If you remove the check, the menus will work, but a flag will be set internally and GrblGru will always stay in the foreground and hide the windows from other programs.

Then you can already confirm this dialog with OK.

In the installation window you are asked if you still want to install libraries. GrblGru needs at least DotNet4.0, so it is sufficient to select POL\_Install\_dotnet40, or higher. Dependencies from older versions are automatically installed.

I could not install higher than DotNet4.5, but it is not necessary. When installing .Net 3.5 an error message appears, but you can confirm it.

	- 🙁
Weiter	Abbrechen
	Weiter

That takes time. So it is time to get a coffee :).

But keep looking at the screen, because you have to press "Next" more often. If you are asked if mono should be removed, confirm again and again with "Yes".

These steps usually have to be taken only once. New versions of GrblGru can be installed into the same partition and have all necessary dependencies.

Next you will be asked for the installation file, select GrblGruInstallerVxy.exe here.

	PlayOnLinux		- 8
PlayOnLinux Assistent Manuelle Installation			
Bitte wähle die Install	ationsdatei zum	n Ausführer	۱.
	Durchsuchen		
		Weiter	Abbrechen

I have confirmed all the necessary queries for GrblGru. After that you can display a shortcut on the desktop.

PlayOnLinux	-	8
PlayOnLinux Assistent		
Manuelle Installation		
Please choose a file for PlayOnLinux to make a s	shortcut	
🖌 Ich möchte keinen anderen Starter erzeuge	n	
S Durchsuchen		
🐼 GrblGru.exe		
🕲 uninstall.exe		
🛟 wmplayer.exe		
🔤 wordpad.exe		
🚱 GrblGru.lnk		
	r	
Weiter	Abbrech	en

And already you are almost finished, but only almost :).



In order for GrblGru's tool menu to display the images correctly, the 32bit version of libjpeg62 must be installed. This can be done with: *sudo apt-get install libjpeg62:i386* 

That's it for now with the installation and you can start GrblGru either via PlayOnLinux, or via the created link on the desktop. Up to this point you can already work with the software and get familiar with the simulation.

Next, we get the serial port up and running so that you can run a machine.

## 3. Set up serial interface

If you are using a Wine version < 2.8, it is probably enough to place a symbolic link to the device the Arduino is connected to. In my case it is /dev/ttyUSB0 and you have to change to the directory where PlayOnLinux has stored the wine version and then change to dosdevices, e.g. cd  $\sim$ /.PlayOnLinux/wineprefix/NameDerPartition/dosdevices

Then you make the link to a com interface, for example ln -s /dev/ttyUSB0 com1

For wine versions >= 2.8 you have to open the registry and set a key. But here I did not try if you have to set the link additionally. It was already set at that time, but it is very likely not needed.

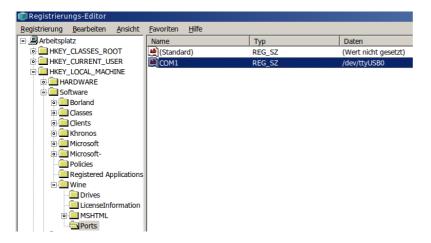
In order to open the Registry, one can select the point "Configure" in the put on partition and call there in the tab "Wine" the Registry editor (registry).





Then create a "string" (with the right mouse button) for each interface in

HKEY\_LOCAL\_MACHINE\Software\Wine\Ports that has the name of the desired interface, e.g. COM1 and as value the device, including directory, e.g. /dev/ttyUSB0



Now you should be able to address the Arduino Uno, when it is connected to ttyUSB0 under Linux, in GrblGru with the Com1 interface.

Before you try this, you can use a terminal program to make sure that you can connect to the Arduino directly under Linux.

As serial terminal program I used "Cutecom", because I had no success with "Putty".

The settings were:

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Flo <u>w</u> Control	None	Parity	None	~	🔽 Shov	/ <u>T</u> imestamp
Open <u>M</u> ode	Read/Write	Stop Bits	1	$\sim$	Logfile:	/home/albert/cutecom.log