Presentation of Emmabuntüs Debian Edition 4



Produced by the Emmabuntüs Collective

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Debian 11 Bullseye

Updated : Jul 07, 2021

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Lead author: Emmabuntüs Collective

The goal of this document is to inform the new users of the Emmabuntüs Debian Edition about the specifics of this GNU/Linux distribution.

1 - Emmabuntüs Debian Edition 4 Distribution

The various <u>GNU/Linux</u> <u>Emmabuntüs</u> distributions were first designed to ease the refurbishing of computers given to humanitarian associations in general, and to the <u>Emmaüs</u> communities in particular (hence the name of this distribution). The second goal of the project was to help the beginners in the discovery of the GNU/Linux world, and the third one was to extend the lifetime of these aging pieces of hardware in order to limit the over-consumption of raw materials (see Note 1).

The Emmabuntüs Debian Edition distribution 4 is based on <u>Debian 11 XFCE</u>, which allows to install it on rather old computers (running under Windows XP, Vista or Seven) with under-performing hardware. This distribution also includes the complementary <u>LXQt</u> environment to extend even further its computer refurbishing capabilities.

- Emmabuntüs site main page
- Wikipedia
- Newspaper articles
- Forum

2 - Project goals

The action of the <u>Emmabuntüs Collective</u> goes beyond the simple assembly of a GNU/Linux distribution. What we also aim at is to put in place structures able to support efficiently humanitarian associations in their computer reconditioning tasks and encourage other persons to follow our steps in order to fight against the three following scourges:

- The poverty among certain segments of the population, by providing new revenue sources to the humanitarian associations, thanks to the sales of these machines.
- The "digital gap" in France and in the World, and more specifically in Africa, through the release of a distribution enriched with a lot of Free Data.
- The waste induced by the over-consumption of raw materials, by increasing the lifetime of electronic components.

3 - Cooperation

Emmabuntüs is not only a GNU/Linux distribution, but also a collective of people working within some Emmaüs communities for the reuse of computers donated to them (see <u>How to recondition old boxes with Emmabuntüs</u>). Hence the collaboration with associations like <u>Les Amis de la Terre</u>, <u>Les PC de L'Espoir</u>, <u>Trira (TRI Rhône-Alpes)</u>, <u>THOT (c.i.s)</u> (With THOT for a 2.0 solidarity), <u>Eisenia</u>.

The collective cooperates also with associations promoting the Free Software, like Montpel'libre, Infothema, and the History Society Saint-George & Dalayrac for the Free Culture advancement.

Since August 2012, a close cooperation exists between the two projects <u>Jerry - Do It</u> <u>Together</u> and Emmabuntüs. Jerry is an open source computer assembled inside a plastic can with recycled electronic components. It gives a new life to computer components which otherwise will end up in the trash. This cooperation was extended when <u>JerryClan Ivory Coast</u> started to use the Emmabuntüs distribution as their reference system to develop a set of services based on Jerry.



The Jerry Clan Ivory Coast in Bouaké city put in place a system for monitoring tuberculosis patient using a Jerry computer under Emmabuntüs and SMS sent by portable phones.

Photo credit: CC-BY-SA Jerry Clan Ivory Coast

These services are intended either as medical aids: JerryTub for the monitoring of tuberculosis patient, m-Pregancy for monitoring the pregnant woman, or as production of collaborative information like the OpenDjeliba and GBATA projects. OpenDjeliba is a cooperative platform for sharing citizen information through the usage of basic portable phones. This project received in 2014 the first price of the Forum International francophone Jeunesse & emplois verts in Nigeria.

The project <u>GBATA</u> is a mobile platform for sharing real estate information using SMS communications. In July 2015 this project was the winner of the mobile application category during the « <u>Jeunes Talents TIC et Contenu local 2015</u> » contest in Ivory Coast.



The Ayiyikoh Incubator team during the Africa Web Festival 2015

Emmabuntüs is also used in the frame of the <u>JerryCyber</u> project developed by the <u>Ayiyikoh Incubator</u> (<u>Jerry and the women</u>). This project consists in giving the Fablab members and all the public an easy access to information technology and Internet. The Ayiyikoh Incubator team won the best application prize during the <u>Africa Web Festival</u> 2015 for the GBAME project which was realized with a Jerry under Emmabuntüs

All this different projects in Africa generated numerous collaboration with the JerryClan in Ivory Coast: JMSI, Allô Docteur PC, <u>BabyLab</u>, as well as with the JerryClan in Chad, Benin, and the <u>SenFabLab</u> of <u>Senegal</u>, to be continued ...



3rd Edition of the Jerry Valentine under Emmabuntüs in Ivory Coast
organized by Allô Docteur PC, JerryClanCI, Ovillage, JMSI committee, Ubunteam (Ivory Coast),
Montpel'libre (France) and SenFabLab (Senegal)



3rd Edition of the Jerry Valentine under Emmabuntüs in Ivory Coast
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Montpel'libre (France) and SenFabLab (Senegal)

Since summer 2013, the <u>Montpel'libre</u> (<u>The dragonfly of Liberty, from Equality to Fraternity</u>) association helps the Montpellier Emmaüs community by proposing presales presentations. The aim of this activity is to present the Emmabuntüs system to the potential customers who want to buy a computer and to help them making up their mind. But the Montpel'libre support does not stop there. The customer not only takes the computer with him, but also the coordinate of the association in order to contact them in case of problems. As of today the team is composed by <u>Pascal</u>, <u>Quentin</u>, <u>Cellou</u>, and <u>Nicolas</u> who assume a permanence the second Saturday of each month.



Presentation of Emmabuntüs and the free software by Montpel'libre, on December 19 2015, in the Emmaüs community premises of Saint-Aunès (Montpellier)

Photo credit: Montpel'libre

Since the end of year 2015, we were working with a couple of associations in Normandy: Ailleurs-Solidaires (Emmabuntüs, the Linux for "Elsewhere in solidarity") and CaLviX. Emmabuntüs has been installed on used laptops, which were then given in the Nepal country to the Akashganga International Academy (school based in Kathmandu, for disadvantaged children), and to the DSA Disabled Service Association (a center for disabled – blind, deaf and dumb, physically impaired – children, all of them being extremely poor, and this way, relieving their families and offering them hope for a better life). The results are really outstanding and Emmabuntüs was enthusiastically adopted by all the children.



Training session at the Akashganga Intl Academy in January 2016.

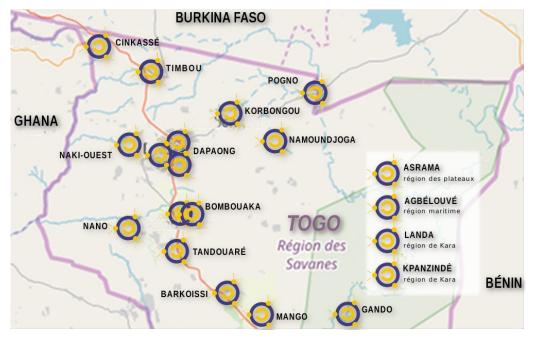
Laptop were donated by Ailleurs-Solidaires and CaLviX

Since March 2016, we partner with the <u>YovoTogo</u> and <u>JUMP Lab'Orione</u> (<u>The march of the YovoTogo children toward the digital age</u>) associations to help them to install and use Emmabuntüs in various computer rooms deployed in the Savannah region of North Togo.



Opening of the Bombouaka college computer room, fitted with 20 computers running Emmabuntüs, and equipped by YovoTogo, JUMP Lab'Orione and the Emmabuntüs Collective.

Since December 2020, the Savannah region of the North and other regions in Togo are equipped with 20 computer rooms and a total of 480 machines running under Emmabuntüs, and complemented with some Free Culture data: free books in ePub format, Vikidia, and a snapshot of the full Wikipedia encyclopedia.



Map of the Togo with the locations of the computer rooms fitted with refurbished hardware running under Emmabuntüs and equipped by YovoTogo, JUMP Lab'Orione and the Emmabuntüs Collective, from year 2015 upto 2020

We have also important projects in Africa with the <u>BloLab</u> in Benin and the <u>SenFabLab</u> in Senegal for the refurbishing of old computers, to distribute them in disadvantaged area, and train the students to use free software tools.



A training session in the mobile class room of the BloLab

Since 2015, the Emmabuntüs collective also equipped 19 nursery and elementary schools in the Paris area.

In August 2020, with our friends from <u>Debian-Facile</u>, <u>Blabla Linux</u>, and <u>Tugaleres.com</u>, we initiated a <u>Reuse campaign for all</u>.



4 - Requirements

For a comfortable usage of Emmabuntüs Debian Edition, the reconditioning workshops install it on computers featuring Intel Pentium D @3.00 GHz or Dual Core processors, with at least 1 GB of RAM and 80 GB on hard disk.

The machines originally running under Windows 95, 98, 2000 or NT do not have the performance required to run the software currently available, and thus it is better to use the SliTaz distribution.

Emmabuntüs Debian Edition 4 can also run on **LXQt** with a RAM footprint of 430 MB at startup time. See the utilization of LXQt under Emmabuntüs DE 4.

5 - Features

This list summarizes the Emmabuntüs key features:

- Distributions originally based on Ubuntu LTS variants, and now directly on Debian since the Jessie 8 version
- Fast installation mode through automated scripts usage
- Live mode on DVD and USB key (<u>Multisystem</u>, <u>Etcher</u>, <u>Rufus</u>)
- Autonomous installation without the need for an Internet connection, everything is included in the distribution.
- Choice is given to the end user to install or not the non free software packages (codecs, no-free fonts, etc.)
- More than 60 additional applications
- Configurations of the Internet browser
- A dock giving an easy access to the complete set of applications
- Seven supported languages (English, French, Spanish, Portuguese, Italian, German, Danish)

6 - Emmabuntüs overview

The goal of this presentation is not to describe the full set of **software included within the Emmabuntüs distribution**, but rather to present an overview of this specific GNU/Linux distribution and to show that it can be used in the frame of "Digital Public Spaces" as well as nursery and elementary schools.



15th nursery school around Paris equipped with 5 computers running Emmabuntüs

Photo credit: <u>CC-BY-SA Emmabuntus 15 eme Ecole maternelle Ile de France</u>

6.1 - Installation

Emmabuntüs is installed like any other Debian distributions, except the facts that you need at least 40 GB of free space on your hard disk space, and that you don't need an Internet connection to complete its installation.

For more information about the different ways to install this distribution, you can read this installation tutorial, which will help you to avoid some of the installation pitfalls.



The full set of our tutorials is available on line at this address **tutos.emmabuntus.org**.

6.1.1 - Launching the installation from a DVD

When you start the installation from a DVD, you will be given the opportunity to chose your preferred language, either for a Live-Mode session or for the full system installation.



The next screen ask you which type of installation you want to select





For more details see our tutorial on Installing Emmabuntüs DE 4, chapter « <u>Classic Debian installation</u> ».

6.1.2 - Launching the installation from the desktop via Calamares

Once the live session is running, double-click on the Calamares icon located on the desktop, and then provide your data to the 6 configuration screens of this installer:



The next screen displays the summary of the upcoming operations, and possibly allows you to step back, or even completely cancel the Calamares installation and return to the live session.





For more details see our tutorial on Installing Emmabuntüs DE 4, chapter « <u>Calamares installer</u> ».

6.1.3 - First restart after installation

Please authenticate yourself in order to open a new session:



The desktop environment LXQt is natively embedded in the distribution and you can easily switch to this environment within the first welcome screen:





Down the road, if you want to switch from the Xfce desktop environment to the LXQt one, or vice-versa, you need to logout from one and reconnect to the other. For more information please look at the **Install Emmabuntüs DE4 Tutorial**.

The advantage of LXQt is that it is less memory resource hungry than Xfce.





In the remaining of this chapter, we continue the post-installation process under the Xfce environment, but would you decide to switch immediately to LXQt, the same post-installation screens will be presented to you under this new environment.

A second customization menu let you configure your desktop environment. It gives you the opportunity to select :

- for the Xfce menu: Classic (more suitable for old computers) or Whisker (more modern, but with a bigger memory footprint);
- the background images when in suspend mode;
- the desktop background image;
- the activation or not of the speech synthesis at startup;
- the automatic opening of the session at startup, or a password protected one.



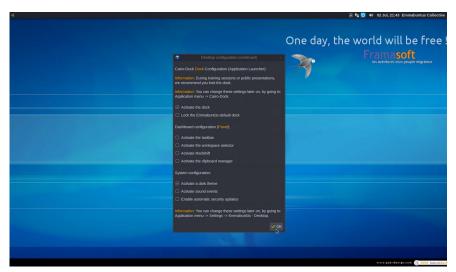


The menu choice concerns the application launcher located at the left of the top banner. You will be able to change it later on, thanks to the Xfce banner manager utility.



The speech synthesis used under Emmabuntüs is not automatic. You should first select the text, then click on the read button located in the application menu, at the right of the top banner, if the speech synthesis was activated at start-up, otherwise you need first to manually launch the gSpeech application.

Then you can select the dock activation and its protection, as well as the task bar and workspace activation at system start-up:



The Dock locking option is very useful in the contexts of teaching to groups of students or doing some public presentation. In these cases we suggest you lock the dock to prevent handling mistakes.



Within Emmabuntüs DE 4, there are other opportunities to manage the dock, like reinitialize it, or protect it against handling errors, see the utilities in the Xfce menu → Cairo-Dock.

These utilities are password protected to prevent unauthorized changes to your configuration.

By default the dark theme is selected, but you can go back to the classic light mode by deselecting this option.



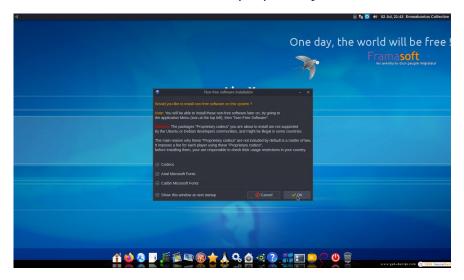
We opted here for the light mode in order to produce clearer images in the reminder of this tutorial.

Later on, you will be able to change this mode by going to Application Menu -> Settings -> Emmabuntus-Desktop.

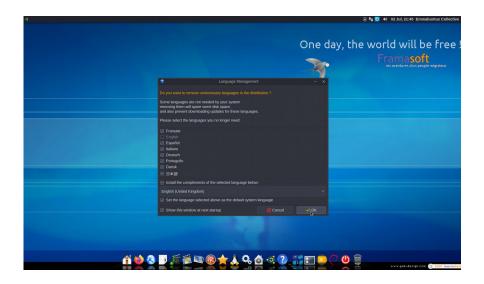
Now, the configuration of the Cairo-Dock, which is the flexible launch bar located at the bottom of your screen. You can pick one of the three types: "All", "Simple", "Basic" or even choose Cancel if you want to remove the automatic launch of the dock at system start-up.



The information and selection screen for the non-free software: you are given the choice to install, or not, some non-free software like proprietary codecs or <u>Microsoft fonts</u>, etc.



The information and selection screen to remove some of the languages which are included in the distribution. This will prevent the future heavy downloads and updates of the unused languages. You should select the unused languages you want to remove (here we keep the English language only)



6.2 - Dock

The Dock or application launcher is the Emmabuntüs key stone, and provides to the distribution its independence from the other Ubuntu or Debian distributions it is derived from. This is the **Cairo-Dock** which is used since the very first release of Emmabuntüs, which was based, at that time, on Ubuntu 10.04.



Its usage evolved between its first inception in Emmabuntüs 10.4, and the Debian Edition 4 current version: the Dock is now multi-language, it comes with 3 different usage levels, and, depending on the screen format, is retractable or not. In addition we have included in the Debian Edition some functionality to protect it or restore it to its initial state, see the screen capture below:



The selection of the Dock level you prefer:



See below an example of the 3 Dock levels in what concerns the Office category :



"All" level, suitable for persons who want to reach the full set of applications.



"Simple" level, suitable for beginners.

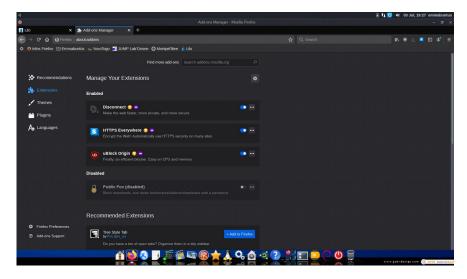


"Basic" level, suitable for children.

6.3 - Communication

This category includes Internet browsers, email clients, instant messaging clients, Internet data sharing tools and cooperative working.

In this category, emphasis was put on the <u>Firefox</u> Internet browser to protect the end user against <u>advertising</u> and <u>Phishing</u> (or Fishing).



In order to allow you to run this distribution on computer hosting only 768 MB of RAM, we included the Falkon web navigator.



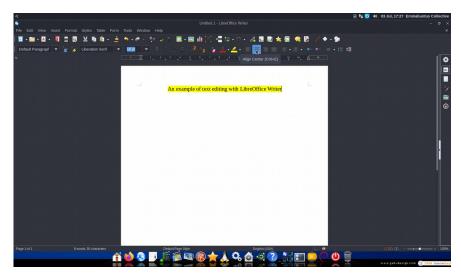


This navigator supports all the Firefox capabilities, but has a reduced set of available extensions.

6.4 - Office suite

The Office category has been particularly designed to offer the right tools for each of the 3 user's level types: <u>LibreOffice</u> for the experts, <u>AbiWord/Gnumeric</u> for the beginners or for computers with limited hardware resources, and LibreOffice for Schools, intended for kids learning their mother tongue.

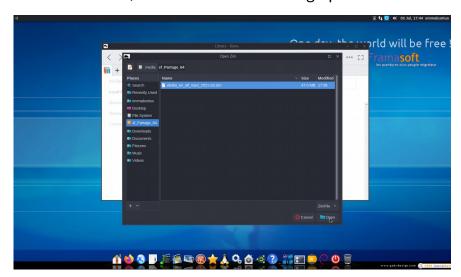
Hereafter Writer, the text editor of the **LibreOffice** suite:

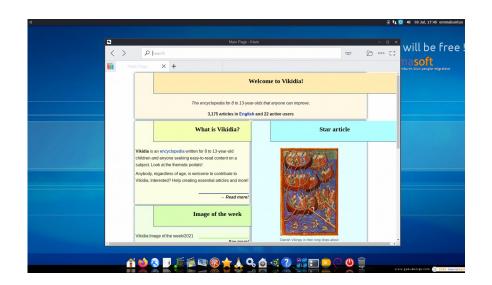


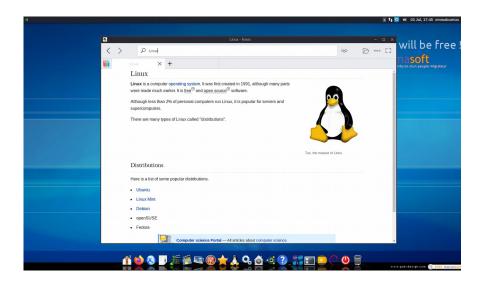
This category was also enriched with software allowing us to share culture and knowledge, without the need for an Internet connection.

Thanks to **Kiwix** a reader which let you take <u>Wikipedia</u> with you, even in the middle of the desert ;)

But first you need to load the data on your machine, for example a subset of Wikipedia (for more information see <u>Installing Culture Free Data on Emmabuntüs</u>), and to open the downloaded *zim* file via **Kiwix**, but without the indexing option:

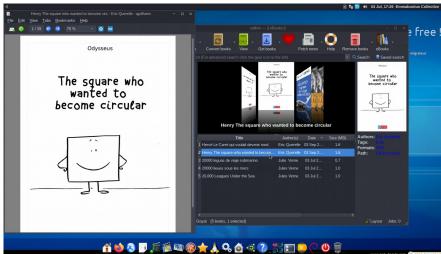






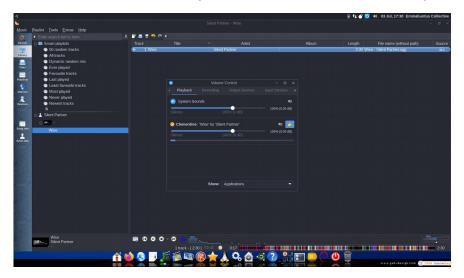
Thanks also to **Calibre** which let you read your preferred bedside books once they have fallen in the public domain. In order to demonstrate how easy it is to use this reader, Emmabuntüs, by default, embeds the book "20,000 Leagues Under the Sea" [French link] in three different languages, as well as the cartoon "The square who wanted to become circular" [French link], in order to demonstrate the ease of use of this reader:





6.5 - Audio

One music track is also embedded together with the <u>Clementine</u> and <u>Quod Libet</u>, applications, in order to test immediately the audio devices included in your computer.



6.6 - Video

In the video category you can find two classic media players : Kaffeine (by KDE)



and the **VLC media player** (by the **VideoLAN** project)





Please note that unfortunately the automatic mounting of protected DVDs does not function. Therefore, if you want to play a DVD, you need to launch first either Kaffeine or VLC, and then open the disk before you can watch it.

This category also includes the <u>KdenLive</u> video editor, associated with the <u>HandBrake</u> format converters. Finally the <u>Guvcview</u> application supplements this set of video tools, and let you test your web-cam easily.

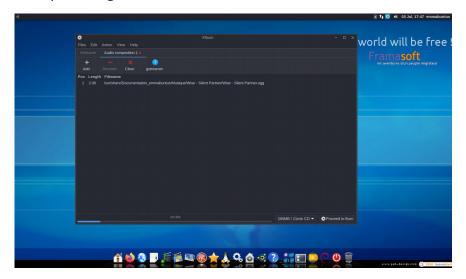
6.7 - Photo

This category contains the classic image viewer tools, like <u>gThumb</u>, as well as graphic editors like <u>GIMP</u>, <u>Inkscape</u>, and <u>Darktable</u> in the 64 bits version.



6.8 - Burning

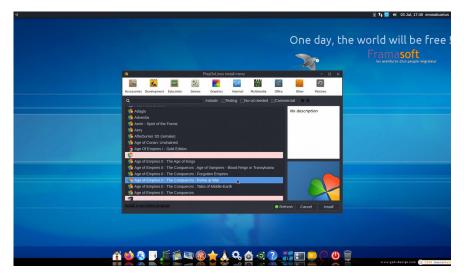
Here after an example using the Xfburn software:



6.9 - Entertainment

The entertainment category contains a set of games for adults (<u>Ancestris</u>, <u>Stellarium</u>, <u>SweetHome3D</u>), but also little games for children (<u>SuperTux</u>, <u>TuxGuitar</u>).

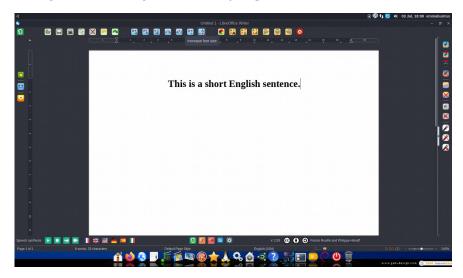
This category also contains the application <u>PlayOnLinux</u>, which allows some Windowsbased programs to run on top of GNU/Linux systems, in particular in the video game area, but you must have on hand the original CD or DVD of the games.



6.10 - Education

This category includes a set of educational software (<u>TuxPaint</u>, <u>TuxMath</u>, <u>Gcompris</u>, etc) geared towards young children between 5 and 12 years old.

In addition the writer of the "LibreOffice for Schools" (<u>LibreOffice des écoles</u> [Site in French only: sorry]) allows 3 levels of learning experience (beginners, average, expert), giving the possibility to monitor your child's progress.



"LibreOffice for Schools" includes the <u>PicoSvoxOOo</u> [French link] speech synthesis tools in order to allow the "writer" to listen to its own production, as well as some extensions for breaking down the syllables, coloring phonemes, and for spell and syntax checking.

An example of sentence reading with the speech synthesis **PicoSvoxOOo**:



6.11 - Accessibility

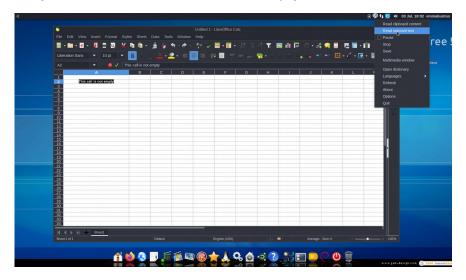
Emmabuntüs Debian Edition 4 includes an accessibility category containing a screen glass magnifier :



The speech synthesizer <u>gSpeech</u> which reads (in several available languages) any text selected in a window :



The system will say loud and clear : "This cell is empty"



And finally the capability to modify the size and shape of the cursor :



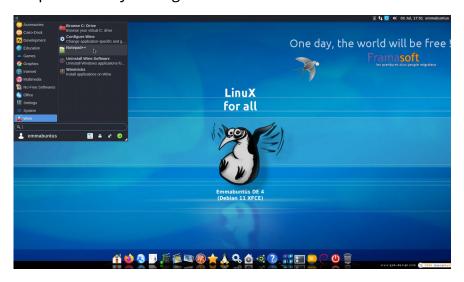
6.12 - Utilities

In order to provide a better compatibility with programs running only on Windows platforms, **Wine** is – by default – a built-in part of Emmabuntüs. For example it allows you to run the outstanding **Notepad++** text editor.

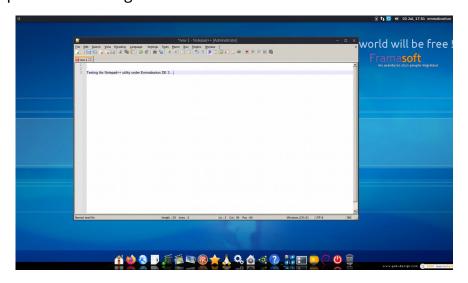


To install an Windows application on the Emmabuntüs system, we strongly suggest that, after having downloaded it, you use the <u>Thunar</u> file manager (included in Emmabuntüs), then right-click on the .exe file and select the "Open with Wine" option.

Opening the Notepad++ utility through Wine:



And an example of text editing:



6.13 - Maintenance

This category contains a set of software used for the system maintenance, like <u>BleachBit</u> (system cleaner/optimizer), <u>Htop</u> (system monitor process viewer) and inxi-GUI (hardware and software information).

In addition, by creating Live-USB multi-boot media, <u>Multisystem</u> allows you to easily deploy Linux distributions on USB keys.



For more information, you can read this <u>tutorial</u> explaining how to easily create an autonomous multi-boot Live USB with Multisystem.

This category gives also access to a set of installation scripts for few non-free software, like some proprietary codecs. In that matter, we prefer not to stay on an pure ideological position, and integrate them in the system, rather than taking the risk to disappoint people accustomed to these proprietary applications. They will not understand that the Free Software world is more restrictive than the private/proprietary world.

These non-free software are included in the ISO media, and can be installed by the enduser either during the first reboot after the system installation (post-install process), or later on by using its proper icon in the Dock.



6.13.1 - Remote Control

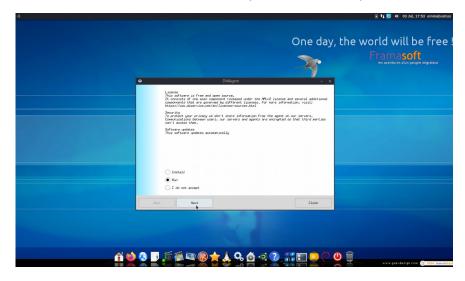
In the previous Emmabuntüs versions, we were using the TeamViewer software, which is gratis but not free, allowing the remote control between two computers. Starting with the Emmabuntüs 1.04 version, we replaced it by the **DWService** free software, which is as powerful and as easy to use as TeamViewer.

During the DWService launch process, select one of the options in the window shown below, either "Authorize the control" or "Control a computer"

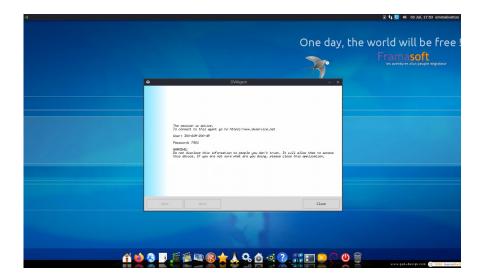


6.13.2 - Authorize a remote control

In the window shown below, select the "Run" option and then press the "Next" button:

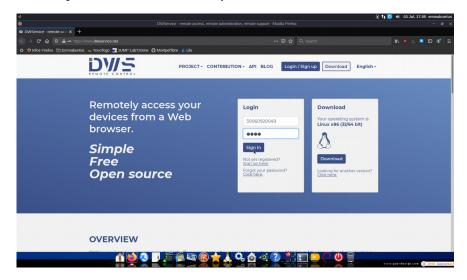


Then give the user ID and the password, like shown in the following window, to the person who wants to take the control of your computer.

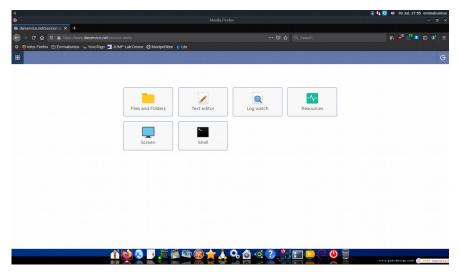


6.13.3 - Take control of a remote computer

In the Login panel, enter the user ID and the password given to you by the person who wants you to remotely control his/her computer.



Then, click on the "Sign in" button, in order to access the <u>applications</u> platform allowing you to remotely control a computer.

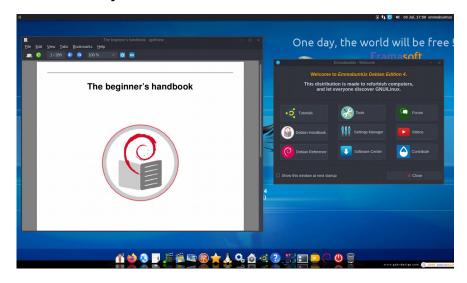


7 - Help

Emmabuntüs includes an off-line help directly accessible from the Dock, or through the Xfce application menu (click on **Emmabuntüs - Welcome**):



Emmabuntüs Debian Edition also includes <u>The Beginner's Handbook</u> (or Debian *without headaches*), which is directly accessible from the Emmabuntüs Welcome window:



If you still face a problem with no apparent solution, please have a look at:

- the Emmabuntüs Forum
- The Debian User Forums

8 - Conclusion

This distribution and all its applications, which could sometimes look redundant, have been designed to allow the usage of GNU/Linux for all the members of one family.

Writing about Emmabuntüs Debian Edition, some independent bloggers conveyed the whole idea in their articles: « FullCircleMagazine: Emmabuntüs DE2 – Stretch 1.0.» (English), « Emmabuntüs DE2 1.03: Linux für Gebrauchtcomputer » (German), and DistroWatch: Emmabuntüs DE3- Buster1.00 » (English).

9 - Acknowledgments

Thanks to you for having taken the time to read this presentation. Please remember that all the information about Emmabuntüs are available for you on the site **emmabuntus.org**. To continue your journey with the Emmabuntüs Debian Edition 4 we suggest you read "The beginner's handbook" made by our friend arpinux;)

Thanks to <u>zoom61</u> for his help during the publication and to <u>f-leb</u> for the spell and syntax checking before the initial release of Emmabuntüs DE on the <u>Developpez.com</u> site.



According to the **ADEME** agency, each step of the hardware equipment during its lifetime, from fabrication to disposal and during its utilization, can be quantified in terms of environmental impact: manufacturing a computer and its screen require 1.8 tons of resources (240 kg of fossil energy, 22 kg of chemical products, 1,500 liter of water).

For the **Ecoinfo group**, action is the priority. Each member of the group acts at its own level (purchasing, maintenance, network development) but each of us can also contribute by his/her behavior. Their conclusion: "if it is already possible to intervene at every stages of the computer hardware cycle, the most efficient action you can accomplish to limit the environmental impact of these materials, is to

reduce the amount of their purchases and increase their lifetime !"



• Environmental Issues



- Environmental cost of computer boom
- The growing amount of e-waste is becoming a problem

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