

# Project: Installer Wizard for GuixSD

Name: Thomas Ingram

Email: [taingram@mtu.edu](mailto:taingram@mtu.edu)

Jabber: [delimiters@dukgo.com](mailto:delimiters@dukgo.com)

IRC: [adverb \(freenode\)](#)

## Summary:

Currently GuixSD is not very easy to install, my goal is to create a easy to understand ncurses interface that will walk users through installation. This would be similar to the Debian installer or other Linux/BSD installers providing options for partitioning and setting up new users along with other installation options.

## Benefits:

Make GuixSD more appealing to new users who are accustom to other distributions that come with a friendly graphical installer.

## Deliverables:

An ncurses installer, written in GNU Guile using the guile-ncurses library, that lets users partition disks, add users, configure root/sudo, configure network, select a desktop environment/window manager, and install GuixSD all in a clear and easy to understand way.

Partitioning will allow for custom setups and as well as offer several default "most common" options such as:

- Simple all in one big partition on one disk
- Separate root and home
- LVM/LVM LUKS encrypted (this would be more complicated as GuixSD currently has limited support for LVM)

The installer will also include steps on setting up new user's username, password, root password, and sudo access.

There will also be optional steps for configuring the network settings, both wired and/or wireless.

Another optional step gives users the choice of which desktop environment/window manager they wish to install on their system. This could be done after giving the user the option to connect to the internet while installing and then the chosen desktop environment packages could be downloaded over the network.

In addition the installer should be written in such a way that it could be easily hooked into for automation and for the purpose of writing different UI's (For example fhmgufs on IRC was talking

about perhaps a Gtk+ one). Automation would allow for many GuixSD installs to be done easy and reproducibly.

## **Plan:**

### **Before the summer starts:**

I will be reading up on the guile-ncurses and guile documentation writing small programs to practice and prepare. I've been programming in scheme for six months so I'm still a relatively novice schemer, but will work hard to improve in the following months.

Also I'll become very familiar with the installation process of GuixSD and the current code base in order to better understand how to automate the process with an installer. This project will require an full understanding of GuixSD's configuration system using operating-system.

I'll take a look at installers like debian-installer, Ubiquity, and others in order to understand how the accomplish what they do and what features they offer. This will give me an idea of where to start and what new users will come in expecting.

### **Once the summer has started:**

I will begin by writing the basic tools and the guile-ncurses UI which will walk users through installing GuixSD onto their machine.

To start with I'll writing the section for partitioning then once that is done I will move on to adding and setting up adding new users, setting the root password, and setting up sudo. Language and timezone settings will also need to be implemented.

Once that is completed and working well I will move on to adding more options like configuring the network and picking between different desktop environments/window managers.

Most of this can be done by automating the writing of operating-system config file and then initializing that system with “guix system init /mnt/etc/config.scm /mnt”. This is very convent element of the GuixSD system. Perhaps users could even be shown their generated config.scm when they finish so they can get a little intro into Guix and Guile configuration files.

### **Beyond the Summer/Stretch Goals**

After that is completed, if there is time, I would like to work on reproducibility and making the installer easy to automate. This is less important for new users and more about making this tool more useful to GuixSD power users. If the summer is over I'd still like to work on this feature regardless as it is something I could see being a great benefit to many frequent users of GuixSD such as myself.

## **Communication:**

I am subscribed to the GNU Guix mailing list and frequently am hanging out in the #guix on freenode with the nick adverb. I can also talk over Jabber my username is delimiters@dukgo.com. I'm open to talking over any other platforms, preferably free software ones though.

## **Qualifications:**

I have been using GNU Linux and other Unix-like systems since 2013. I started with Ubuntu and OpenSUSE, then I used Arch Linux for over a year, and have more recently been using Debian. I distro hopped frequently in the past three years so I have a lot of experience with good and bad installers as well as experience with different systems.

I've been programming since 2012 when I started Python programming. Since then I've been programming Java for two years and taken several classes on it in high school and at my University. I have been programming in C for a little over a year and am currently taking an introductory course on it. I became interested in Lisp in the fall of last year and began learning Scheme in my spare time. Since I learned GNU Guix would be participating in GSoC I have been spending much more of my time learning the ins and outs of GNU Guile in the hopes of getting accepted to the project.

Although I have not previously contributed to free software I have always wanted to contribute code back and help out. For years now I have loved free software, I spend most of my time using free software, and do my best to promote free software among my peers. I run GNU Linux exclusively and care deeply about user freedoms.