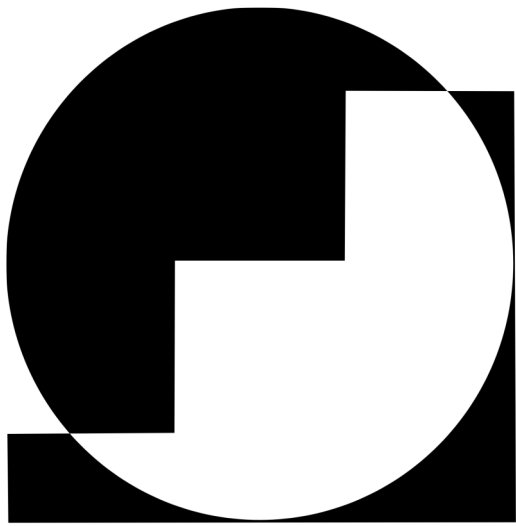


**GNUSTEP**



**GNU**  
**step**

**The Ultimate  
Development  
Environment**

<http://www.gnustep.org>

## What's GNUstep?

GNUstep is a free, standard, **object-oriented**, cross-platform development environment that is meant to provide generalized visual interface design, a cohesive user interface, and look good as well. GNUstep is based on, and completely compatible with, the **OpenStep specification** developed by **NeXT** (now Apple Computer Inc.) and Sun. We also plan to track future changes to the **MacOS X** System in order to remain compatible.

Because it provides most of the framework for writing good applications. There is a lot of anecdotal evidence that **OpenStep**

developers have written very complex commercial applications in weeks or months, rather than years (or often never) in the case of other development environments. Using the **visual interface modelling** application, you can construct a decent user interface skeleton in a day with no coding.

## Why bother?

<http://www.gnustep.org/information/statement.html>

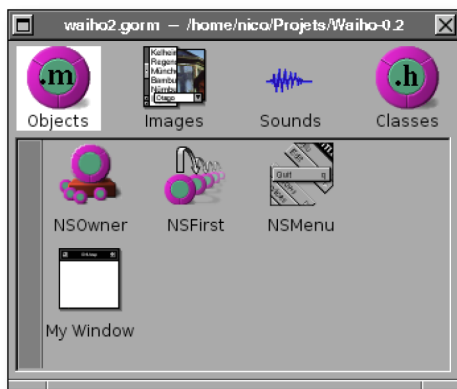
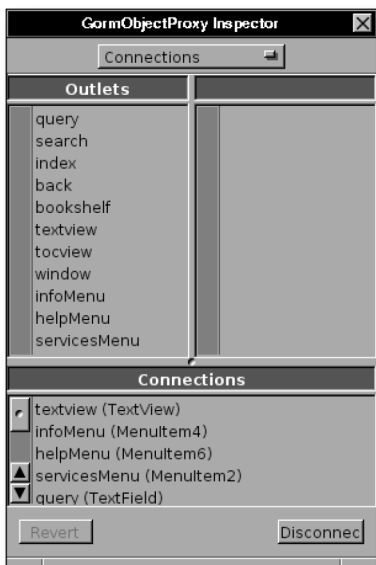
## Objective-C?

GNUstep is written in the object-oriented language **Objective-C**, which is based on C, with a few additions to make it object-oriented. Objective-C is a very simple language (a day or so to learn) and yet it is very powerful. Don't like Objective-C ? GNUstep also provides **Java**, **Guile** and **Ruby** bindings.

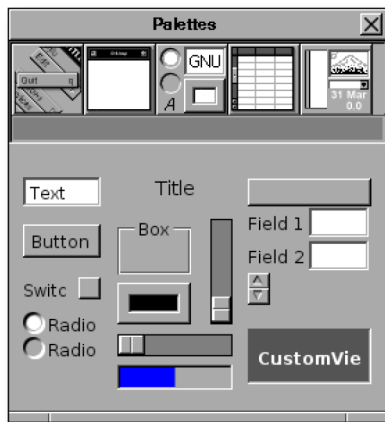
# Rapid Application Development

GNUstep provides two excellent applications for creating your programs: **GORM** and **ProjectCenter**

Create your user interfaces with drag and drop



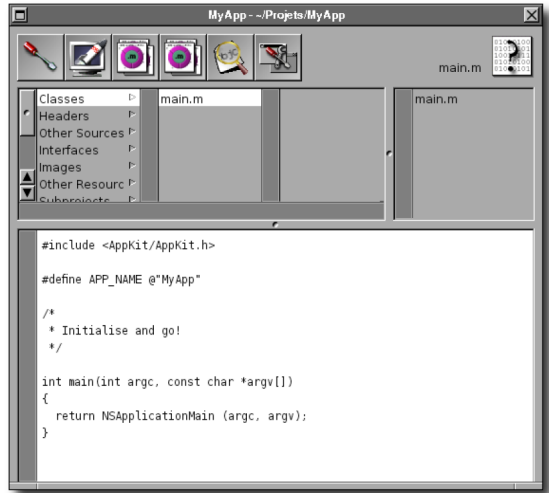
## GORM: Graphical Object Relationship Modeller



Connect your objects!

# ProjectCenter: create and manage your projects

automatic Makefile  
creation, build, test,  
install packages...



---

## GNUstep makefiles: Easy and Powerful!

All you need to compile (debug, cross-platform), install and package  
as an rpm in 7 lines:

```
include $(GNUSTEP_MAKEFILES)/common.make

PACKAGE_NAME=Bob
APP_NAME=Bob
Bob_MAIN_MODEL_FILE=Bob.gorm
Bob_RESOURCE_FILES=Bob.gorm BobInfo.plist
Bob_OBJC_FILES=main.m DissolveView.m

include $(GNUSTEP_MAKEFILES)/application.make
```

## Distributed Objects and Distributed Notifications

Provides built-in multiplatform communication across **threads**, across **programs**, across **machines** (endianness, type sizes). Objective-C naturally handles remote calls, so it's not different than calling a normal object. With the notification server, you could send notifications to any/all applications that request it.

Renaissance allows you to describe your user interfaces in simple and intuitive **XML** files, using an open, standard format describing the logic of the interface. The connections between the objects created from the **XML** files, and the other objects in the application are done via outlets (as traditionally in OpenStep); a new quick and intuitive syntax has been developed to make creating outlets as easy as possible. Renaissance lets you port your application without a single change on other Operating Systems (for the moment, **MacOS X**).

## Renaissance

<http://www.gnustep.it/nicola/Renaissance>

## GDL2: GNUstep Database Library

GDL2 is the GNUstep Database Library 2 which aims to be compatible with Enterprise Objects Framework 4.5 (**EOF 4.5**). This library lets you map objects to database rows, fields and relations. It is also an abstraction layers for databases, as different adaptors for common databases exist.

StepTalk is the official GNUstep **scripting framework** and allows you to easily add scripting capacities to your application.

## StepTalk

<http://www.gnustep.org>

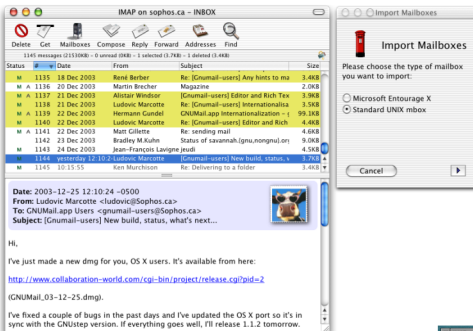
# Cross-Platform and integration

One of GNUstep's goal is to be truly cross-platform. GNUstep is available for many different systems, including BSD, Linux, OS-X and a Microsoft Windows alpha port. In the future, a further goal will be better integration with the host platform (or the host desktop).

As MacOS X's main programming API, **Cocoa**, is a direct descendant of the OpenStep API, it's quite easy to port GNUstep applications to MacOS X and vice versa.

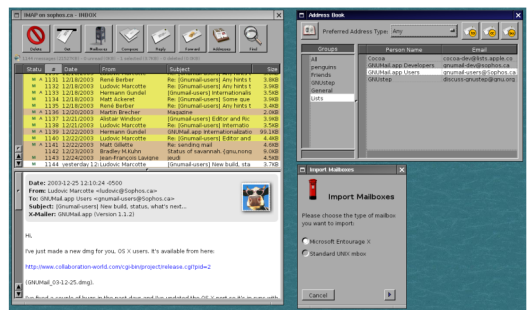
Generally, the most important work in the port is to redo the graphic UI of the application (with InterfaceBuilder or with Gorm). But if you are using **Renaissance**, even that is superfluous!

## MacOS X



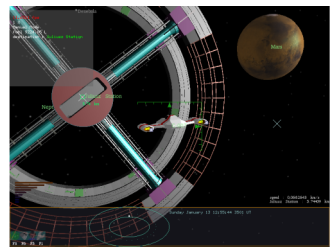
## A portability example...

## GNUMail!



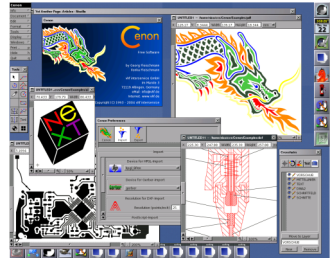
# Projects using GNUstep

Additionally to server applications, a more traditional playfield for GNUstep apps, more and more desktop applications are created: Mail, MP3 and multimedia players, CD Burner, Vector apps, IRC, FTP, SMB clients, games...



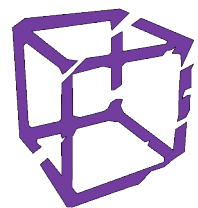
## GNUstepWeb

GNUstepWeb is server side application framework which can be configured to be nearly compatible with **WebObjects 4.5**, and lets you create powerful dynamic websites using GNUstep libraries and Objective-C. You can easily plug in a database (using **GDL2**), and you create and use **Web components** following a Model-View-Controller paradigm, where an object is the model while the view will be an html component.



## Backbone

While GNUstep aims to be a cross-platform and powerful Object-Oriented development system, and not a desktop, many are waiting for a free Unix Desktop based on OpenStep technology. **Backbone**'s goal is to create a powerful and easy to use desktop using GNUstep libraries.

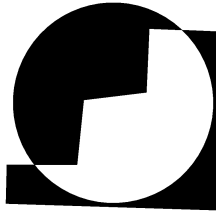


**backbone**  
A GNUSTEP-BASED DESKTOP  
<http://www.nongnu.org/backbone>

**OpenGroupware.org**

OpenGroupware.org is a free **groupware server**, using GNUstep Database Library.

<http://www.gnustep.org>



## Links

### News

<http://www.gnustep.us>  
<http://www.gnustep.de>  
<http://www.gnustep.net>

### Projects

<http://www.gnustep.org>  
<http://wiki.gnustep.org>  
<http://steptalk.agentfarms.net>  
<http://www.gnustepweb.org>  
<http://www.nongnu.org/backbone>  
<http://www.opengroupware.org>  
<http://simplygnustep.sourceforge.net>  
<http://www.linuxstep.org>  
<http://gnustep.made-it.com>

### Developers sites

<http://savannah.gnu.org/projects/gnustep>  
<http://www.gnustep.it>  
<http://www.collaboration-world.com>  
<http://www.roard.com/docs>  
<http://gnustep-apps.org/fabien>  
<http://www.people.virginia.edu/~yc2w/GNUstep/>