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GUI Programming in Python

Python has a huge number of GUI frameworks (or toolkits) available for it, from [TkInter](#) (traditionally bundled with Python, using Tk) to a number of other cross-platform solutions, as well as bindings to platform-specific (also known as "native") technologies.


[GUI Programming in Python](#) is a similar page whose content could arguably complement this page with some editing.











Cross-Browser Frameworks











Package	Target	Latest version	Latest update date	Notes
PyJamas	All major Web Browsers	0.8	2012-06-01	Comprehensive Widget toolkit, Python-to-Javascript compiler and AJAX library. Provides the "V" in MVC. Note PyjamasDesktop was merged into pyjamas.





Cross-Platform Frameworks

The major cross-platform technologies upon which Python frameworks are based include Gtk, Qt, Tk and wxWidgets, although many other technologies provide actively maintained Python bindings.









Package	Target	Latest version	Latest update date	Notes
 appJar	Windows, MacOS, Linux	0.052	2017-03-12	Simple & intuitive wrapper for Tkinter. In active development, designed for educational purposes, heavily documented & feature rich!







 AVC	Linux / many	0.8.3	2011-02-15	Fully automatic, live connection among graphical interface widgets and application variables.
 CEF Python	Windows, MacOS, Linux	56.0	2017-03-11	Python bindings for the  CEF Framework . CEF is based on Google Chromium and focuses on facilitating embedded browser use cases in third-party applications. With CEF you can create a light-weight native “shell” application that hosts a user interface developed primarily using Web technologies. Examples of embedding CEF browser control are available for many popular GUI toolkits such as PyQt , PySide , wxPython, PyGTK, PyGObject, Kivy and PyGame/PyOpenGL.
 Dabo	WxPython	0.9.12	2013-06-12	Dabo is a 3-tier, cross-platform application development framework, written in Python atop the wxPython GUI toolkit
 ENAML	Qt	0.9.12	2017-01-01	Cross platform, declarative user interfaces.
 formlayout	Qt	1.0.15	2013-08-27	A tiny Python module for creating form dialogs/widgets to edit various type of parameters with having to write any GUI code
GnomePython	Gnome	2.28.1	2010-03-31	Gnome Platform bindings: bonobo, bonoboui, gconf, gnome, gnomecanvas, gnomevfs, gnomeui
GnomePythonDesktop	Gnome	2.32.0	2010-09-28	Gnome Desktop bindings: metacity, nautilus, gnomeprint, gtksourceview, gtop, media-profiles, totem, wnck
GnomePythonExtras	Gnome	2.25.3	2009-02-15	Additional Gnome bindings: libegg, gda, gtkmozembed, gtkspell, gksu, gdl, gtkhtml2
 gui2py	WxPython (WxWidgets)	0.9.3	2013-08-26	Both a framework and visual tools: GUI Designer, Inspector and Property Editor. Supports Python 2.5 to Python 3.2; wxPython 2.8 "stable", 2.9 "classic" and "phoenix" (py3k). Features advanced pythonic MVC controls (ListView, GridView, TreeView) using list- and dict-like objects; masked and date picker controls; common dialogs; fluid layout using sizers & basic HTML; simplified event model (similar to JavaScript). Can include wxPython code in apps. Modern PythonCard "fork" hugely enhanced.
 guidata	Qt	1.7.4	2015-12-10	Based on the Qt Python binding module PyQt4 , guidata is a Python library generating graphical user interfaces for easy dataset editing and display. It also provides helpers and application development tools for PyQt4 .
 IronPython	.NET/Mono	2.7.4	2013-09-07	Python for (originally MS') .NET platform. See IronPython for more info.
 Jython	Java	2.5.4rc1	2013-02-10	Jython is an implementation of the high-level, dynamic, object-oriented language Python seamlessly integrated with the Java platform. See Jython
 Kivy	Windows, MacOSX, Linux, Android, iOS	1.9.1	2016-01-02	OpenGL ES accelerated framework for creating new user interfaces. Kivy have a native multitouch support for every platform, mouse simulator, widgets multitouch ready, integrated virtual keyboard, rst renderer...
 libavg	Windows, MacOS, Linux	1.8.0	2014-02-15	Not strictly a GUI toolkit, but a high-level multimedia framework that allows construction of media-rich guis.
 PyFltk	FLTK	1.3.1	2012-02-19	supports Windows/Unix/Mac and provides access to OpenGL features. Stands for Fast, Light Toolkit.(Python 2 & 3)

 PyForms	Qt & OpenGL		2015-07-10	PyForms is a Python framework to develop GUI application, which promotes modular software design and code reusability with minimal effort.
 PyGame	PyGame	1.9.1	2009-08-06	Primarily an introduction to game programming. Only supports one window.(Python 2 & 3)
 Pyglet	Windows, MacOS, Linux	1.2alpha1	2012-07-13	Alpha stage cross-platform windowing and multimedia library that heavily uses OpenGL.
 PyGObject	Gtk?	3.10.2	2013-11-1	PyGObject (aka PyGI). Python Bindings for GLib/GObject/GIO/GTK+. Replacement for PyGtk . See PyGObject
 PyGtk	Gtk	2.24.0	2011-04-01	See PyGtk . Bindings for pango, atk, gtk and libglade. Good documentation from the Gtk Project . Wrapper uses some C programming style Note: New users are encouraged to use GTK+3 through the PyGObject bindings instead of using PyGTK with GTK+2. Windows users may still want to keep using PyGTK until more convenient installers are published.
 pygir-ctypes	GObject Introspection	0.1.1	2011-03-29	Pure Python GObject Introspection Repository (GIR) wrapper using ctypes. Supported CPython >= 2.6, CPython 3.x, PyPy >= 1.4.0, and on all platforms where gobject introspection is supported.
 PyGtk2Tk	TkInter	0.2.0	2008-09-19	PyGtk to TkInter Wrapper runs PyGtk based code unchanged using TkInter (Tk). Python 2 only
 PyGUI	Cocoa / Gtk / Win32	2.5.3	2011-07-16	Abstract, pythonic API encapsulating different platforms.
PyjamasDesktop	Many			Comprehensive Widget toolkit that uses PyWebkitGtk to do the heavy lifting. Provides the "V" in MVC. Note PyjamasDesktop was merged into Pyjamas.
 PyKDE	Qt / KDE			Python wrappers for the KDE libraries. See PyKDE
 PyQt	Qt	5.5.1	2015-10-25	Python bindings for the Qt application development framework (Python 2 & 3)
 PySide	Qt	1.2.1	2013-08-16	The PySide project provides licensed Python bindings for the Qt cross-platform application and UI framework.
PyWebkitGtk	Web Browsers	1.1.8	2010-08-07	PyWebkitGtk is a Python Binding to webkit , including DOM model manipulation, Javascript execution, plugin support (e.g. Flash) and (on the TODO list) SVG Canvas support, for extremely powerful and comprehensive applications development. See PyjamasDesktop for an easy-to-use API.
 pywebview	Cocoa / Win32 / Qt / GTK	0.8.2	2015-10-08	Pywebview is a lightweight cross-platform native wrapper around a webview component that allows to display HTML content in its own dedicated window.
 Sugar	OLPC XO with Linux	0.98.5	2013-03-08	User interface for collaborative educational software
 Toga	OSX, GTK+, iOS	0.2.4	2016-10-13	Cross platform, Python native GUI toolkit that uses native system widgets. Under development as part of the BeeWare project . (Latest releases)
TkInter	Tk	TK version varies by		Python's "standard" GUI library (Python 2 Docs , Python 3 Docs) A version of Tk 8.5 or greater, is required to use ttk (Also see Issue20565)








		Python release and platform		
 Traits/TraitsUI	Qt or Wx on Windows, MacOS, Linux	4.0.0	2013-12-03	The Traits/TraitsUI package offers the ability to build scalable and cross-platforms GUIs simply by focusing on the model being viewed, and offering default widgets for various types of objects. It abstracts away the implementation, which can currently use PyQt , Pyside or WxPython . In the simplest case, it can automatically generate a user interface for editing a (Traits-based) object, with no additional coding on the part of the programmer-user. In more sophisticated uses, it can implement a Model-View-Controller (MVC) design pattern for Traits-based objects.
 VTK	many	6.1.0	2014-01-22	The Visualization ToolKit (VTK) is an open source, freely available software system for 3D computer graphics, image processing, and visualization.
 Wax	WxWidgets	0.3.33	2006-03-17	A wrapper to WxPython , easier and more "pythonic"
 WxPython	WxWidgets	3.0.0.0	2013-12-25	Supports Windows/Unix/Mac. See WxPython . Currently does not support Python 3.x. A project to bring this to Python 3.x, ProjectPhoenix is under way but is not currently (as of August 2014) production ready.

Inactive/Unmaintained




Package	Target	Latest version	Latest update date	Notes
 AnyGui	many	0.1.1	2002-02-08	(AnyGui is no longer being actively developed or supported.) single source code runs on many GUI back-ends, including many in this table, plus ncurses
 FxPy	FOX	1.0.5	2002-04-02	FXPy is a Python extension module that provides an interface to the cross-platform FOX GUI library. It is no longer under development, but the last release is compatible with FOX 1.0 and Python 2.2.
 Lucid	Windows, GTK, MacOS	0.1	SVN only	(Original website gone) An abstraction layer and clever layout engine that uses the native GUI widgets of each operating system. Previously known as " Claro Framework ." / Copy on Github  https://github.com/theojulienne/lucid/tree/master/trunk
 EasyGui	Tk	0.96	2010-08-29	(Effective March 6, 2013 EasyGui project is now closed) EasyGUI is a module for very simple, very easy GUI programming in Python.
TkZinc	Tk extension	3.2.2	2005-06-18	TkZinc is a extension of the Tk Canvas, with transparency, gradient, transformations (Inactive website gone)
 PySWT	SWT	0.0.3	2005-06-28	PySWT is a Python Binding to the IBM Eclipse SWT library, to provide Python with a cross platform native looking GUI. (Python 2.4) (Not active: last update for page was 2005)
 OcempGUI(Ocean Empire GUI)	Pygame	0.2.9	2008-05-10	A small GUI toolkit written in Python based on Pygame. Provides accessibility support.  Website (Not active: last updated 2008)

 Nufox	XUL (many)	0.1.0	2005-10-13	Nufox is a python, XUL toolkit written on top of the Twisted Networking Framework and Nevow. The idea is that you should be able to write server-side cross platform XUL applications without writing XUL markup, with little javascript, all from the comfort of Python. (Python 2.3 or 2.4) (Not active: last update 2005)
PyUi	OpenGL	1.0	2003-08-17	Specialized GUI Toolkit for generating GUIs for OpenGL programs. (Python 2.2) (Not active: last update 2003)
 PythonCard	WxWidgets	0.8.2	2006-05-22	Easy to use framework and GUI builder. Can include wxPython code in PythonCard apps  PythonCard tutorial videos at ShowMeDo (Not active: last update 2006)
 PyMT	OpenGL, all platform	0.5.1	2010-09-06	Python framework for doing multitouch GUI / Application (Deprecated, in favor of Kivy)
 XGui	XGui	?SVN?	2008-03-02	XGui is a cross-platform widget set with C,C++ and Python bindings. Actually supports *nix over Gtk and Windows over Win32 (Code not touched since 2008)
PyPicoGUI	 PicoGUI	0.46	2003-11-18	python library is included in the main PicoGUI release (Website doesn't indicate activity since 2004)





Platform-specific Frameworks

Package	Target	Latest version	Latest update date	Notes
BeThon	BeOS	0.5.4	?	Port of Python 2.6 to BeOS, as well as the Bethon BeOS API interface library. See  http://bebits.com/app/1564
 MacPython	MacOS	2.3.3	2004-04-02	Supports both OSX and OS9. See MacPython
 PyObjC	MacOSX			Supports Cocoa Aqua GUIs on the Mac
 PyMUI	MorphOS	0.7.0	2013-12-27	LGPL MagicUserInterface wrapper for Python. Support for MorphOS 2.x. (Python 2.7)
 IronPython Studio	Windows	1.0	2007-12-10	A free GUI implementation of IronPython with the same interface as Visual Studio.
 venster	Windows	0.72	2004-12-25	Venster is a highly native Windows GUI toolkit for Python based on the ctypes ffi library. The aim of Venster is to be a very lightweight wrapper around the standard Win32 API, making it easy to write slick windows applications in pure Python.
Win32All	Windows			Also known by the names of its components: PythonWin (for the UI), Win32Com (for COM/ActiveX), Win32 (for some other parts of the API)
 Ocean	Windows	0.2.3-r97	2007-04-02	GUI library. Python only "pythonic javax.swing". Model/View/Controller, skinning.

GUI Design Tools and IDEs




IDE	Target	Latest version	Latest update date	Notes
 Autoglade	PyGtk	0.5	2009-07-27	Automagically creates GUI applications from  Glade GUI definition, GPL
 BlackAdder	PyQt	1.0	2003-09-11	Commercial (Inactive Website, Demo copy can be

				found at  https://archive.org/details/tucows_332773_BlackAdder)
 BoaConstructor	WxPython	0.6.1	2007-07-05	GPL A RAD GUI Building IDE for wxPython. See BoaConstructor
 The Eric Python IDE	PyQt	5.4.2	2014-03-09	GPL. a full featured Python and Ruby editor and IDE, integrating the highly flexible Scintilla editor control. (Python 2 & 3 versions)
 FarPy GUIE	WxPython	0.5.5	2007-04-14	GPL. Supports wxPython, wxRuby, wxPerl & IronPython !
 gui2py	WxPython			Visual GUI Designer, Inspector and Property Editor (embeddable). PythonCard "fork". LGPL3.
 Gazpacho	PyGtk	0.7.2	2007-07-29	GPL. Create a Graphical User Interface (GUI) for your GTK+ program in a visual way.
 Glade	PyGtk	3.16.1	2013-12-18	GPL. Glade is a RAD tool to enable quick & easy development of user interfaces for the GTK+ toolkit and the GNOME desktop environment.
GWiz	Tix			GUI engine with integrated GUI builder. File gone was on Iwickjr's python wiki page
 IronPython Studio	Windows Application			A free GUI implementation of IronPython with the same interface as Visual Studio.
 Komodo	TkInter			Commercial
 NodeBox	MacOSX, Win, Linux	3.0.38	2014-01-24	App to creating 2D visuals using Python programming code.
 PAGE	TkInter , Tix	4.2.1	2014-02-21	GUI editor for Windows, Mac and Linux.
 pygubu	TkInter	0.9.2	2013-11-05	GPL TkInter GUI builder (exports XML ".ui" files) and RAD tool inspired by Glade.
 PyScripter	Windows	2.5.1	20120319	MIT Open Source IDE developed using Python and Delphi. See PyScripter . (Python 2 & 3)
 PythonCard	WxWidgets	0.8.2	2006-05-22	Easy to use framework and GUI builder. Can include wxPython code in PythonCard apps  PythonCard tutorial videos at ShowMeDo
 PythonToolkit (PTK)	Windows/Linux/Mac	13.01	2013-03-07	An interactive environment for python, suitable for interactive GUI programming with different GUI toolkits (wxPython, TkInter , pyGTK, pyQT4 and PySide)
 PythonWorks	TkInter	1.3	2002/11/25	PythonWorks is no longer being developed. Existing customers still supported, but no new licenses are available to new customers.
 rad2py	 gui2py & WxPython			Rapid Application Development platform for python (including editor, debugger, visual designer, unit tests, etc.). GPLv3. Alpha.
 Qt Designer	PyQt			A form design tool, available with both Commercial and GPL editions of Qt. Can be used with Eric3 and Eric4.
WxDesigner	WxPython			Commercial Student EUR 29, Single user EUR 129
 WxFormBuilder	WxPython			GPL cross-platform WYSIWYG GUI builder. Can produce XRC/XML, wxWidgets/C++, or wxPython/python.

 WxGlade	WxPython	0.6.8	2013-07-13	MIT License, wxGlade is a GUI designer written in Python with the popular GUI toolkit wxPython, that helps you create wxWidgets/wxPython user interfaces.. See WxGlade
 xRope	TkInter	1.4.4	2008-07-29	GPL. GUI, class browser, file manager, with code completion.
 Visual Tkinter IDE	TkInter	1.28	2010-04-18	Visual Tkinter IDE for Python 2.6
 Visual Python IDE	TkInter	0.12.2554	2010-11-02	Visual Python IDE for Python 2.6

Links

[CameronLaird](#)'s personal notes on Python GUIs  http://phaseit.net/claird/comp.lang.python/python_GUI.html includes over 25 links to toolkits and techniques for connecting python with a GUI.

Opendocs previously had some material on Qt programming with Python for on-line reading, but ownership of the domain appears to have lapsed. An online version of Boudewijn Rempt's book about [PyQt](#) for Qt 3,  [GUI Programming with Python: QT Edition](#), is still available. An up-to-date book covering [PyQt4](#),  [Rapid GUI Programming with Python and Qt](#) by Mark Summerfield, is now available in print and as an online "rough cut". More details can be found on the  [PyQt Wiki](#).

 http://en.wikipedia.org/wiki/Comparison_of_integrated_development_environments#Python - Wikipedia article describing several IDE's and GUI Builders.

Editorial Notes

The above lists should be arranged in ascending alphabetical order - please respect this when adding new frameworks or tools.

Currently, this section is rather incomplete. Don't be too disappointed if you can't find the information you need, but please add any information you can contribute. It might be useful to have information about the GUIs and development tools in a fixed format to make them more easily comparable (see [WebProgrammingTemplate](#) and [WebProgrammingTemplateHelp](#)). Some categories: directly supported widgets, add-on widgets, layout managers, etc. Maybe it could answer the questions in [ChoosingGuiToolkits](#) for each toolkit.

[CategoryPyGUI](#)

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