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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	Notes
 appJar	Windows, MacOS, Linux	0.82.1	2017-10-31	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	57.0	2017-04-21	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 .
 guizero	Windows, MacOS, Linux (Tkinter based)	0.3.3	2017-06-07	The aim of guizero is to make the process of creating simple GUIs quick, accessible and understandable for children. It is a Python 3 library based on Tkinter, for creating simple GUIs.
 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,	1.10.0	2017-05-07	OpenGL ES accelerated framework for creating new user interfaces. Kivy have a native multitouch support

	Linux, Android , iOS			for every platform, mouse simulator, widgets multitouch ready, integrated virtual keyboard, rst renderer...
 libav	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.
 PyFItk	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	1.9.3	2017-02-16	Primarily an introduction to game programming. Only supports one window.(Python 2 & 3)
 Pyglet	Windows, MacOS, Linux	1.3.0b1	2017-06-12	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 release and platform		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)
 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.


Platform-specific Frameworks

Package	Target	Latest version	Latest update	Notes
 Chaquopy	Android	1.1.0	2017-12-22	A plugin for Android Studio's Gradle-based build system. Supports embedding Python code within a regular Java/Kotlin app, or writing an app entirely in Python with full access to the Android API.
 IronPython Studio	Windows	1.0	2007-12-10	A free GUI implementation of IronPython with the same interface as Visual Studio.
 MacPython	MacOS	2.3.3	2004-04-02	Supports both OSX and OS9. See MacPython

 Ocean	Windows	0.2.3-r97	2007-04-02	GUI library. Python only "pythonic javax.swing". Model/View/Controller, skinning.
 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)
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)




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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