

independent variable

FRAMEWORK

WIN UI	JAVA 2D	TKINTER	PYGAME
WIN API	JAVA SWING	WXPYTHON	PYGLET
GDI+	QT5	WXPYTHON (DIRECT2D)	GTK
DIRECT2D	QT6	SDL2 (DIRECT3D)	GLUT
DIRECT3D	PYQT5	SDL2 (OPENGLES)	GLEW
BLEND2D	PYQT6	SDL2 (OPENGL)	SFML
CAIRO	PYQT6 (QUICK)	SDL2 (SOFTWARE)	SKIA
FLTK			
UNITY	GODOT	UNREAL ENGINE 5	
E-PRIME	PSYCHOPY	OPEN SESAME	

independent variable

MEASUREMENT PROGRAM

GETPIXEL	BITBLT	GETDBITS	WINDUP
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independent variable

REFRESH RATE

60 Hz
500 Hz

independent variable

VSYNC

VSYNC
NO VSYNC

independent variable

SIZE

SMALL
LARGE
FULL-SCREEN

dependent variables

framework latency
end-to-end latency