Windows Presentation Foundation (WPF) is a next-generation presentation system for building Windows client applications with visually stunning user experiences. With WPF, you can create a wide range of both standalone and browser-hosted applications.

The core of WPF is a resolution-independent and vector-based rendering engine that is built to take advantage of modern graphics hardware. WPF extends the core with a comprehensive set of application-development features that include Extensible Application Markup Language (XAML), controls, data binding, layout, 2-D and 3-D graphics, animation, styles, templates, documents, media, text, and typography. WPF is included in the Microsoft .NET Framework, so you can build applications that incorporate other elements of the .NET Framework class library.

XAML is an XML-based markup language that is used to implement an application's appearance declaratively. It is typically used to create windows, dialog boxes, pages, and user controls, and to fill them with controls, shapes, and graphics.

**] Vector graphics can be magnified infinitely without loss of quality, while pixel-based graphics cannot.**

**Vector graphics** is the use of [geometrical primitives](https://en.wikipedia.org/wiki/Geometric_primitive) such as [points](https://en.wikipedia.org/wiki/Point_(spatial)), [lines](https://en.wikipedia.org/wiki/Line_(mathematics)), [curves](https://en.wikipedia.org/wiki/Curve), and [shapes](https://en.wikipedia.org/wiki/Shape) or [polygons](https://en.wikipedia.org/wiki/Polygons)—all of which are based on mathematical expressions—to represent [images](https://en.wikipedia.org/wiki/Image) in [computer graphics](https://en.wikipedia.org/wiki/Computer_graphics). Vector graphics are based on vectors (also called paths), which lead through locations called control points or nodes. Each of these points has a definite position on the x and y axes of the work plane and determines the direction of the path; further, each path may be assigned a stroke color, shape, thickness, and fill. These properties don't increase the size of vector graphics files in a substantial manner, as all information resides in the document's structure, which describes solely how the vector should be drawn.[[*citation needed*](https://en.wikipedia.org/wiki/Wikipedia:Citation_needed)