

According to w3techs.com, around 6.5% of all websites that use a server-side programming language uses ASP.NET as their primary framework. Some notable sites that use ASP.NET today include Microsoft.com, Adobe.com, Dell.com, MayoClinic.org, and more (w3techs.com). ASP.NET was a web programming framework developed by Microsoft over two decades ago in January 2002, and despite its age is still being used widely today by a ton of companies around the world (BoTreeTechnologies, 2022). The framework's purpose is to make sure that companies can make their web pages much more dynamic, and the framework is compatible with high-level languages which include C#, F#, and Visual Basic (BoTreeTechnologies, 2022). In terms of competition, ASP.NET sits right in the middle when compared to its main competitors, which include PHP (76.6%), Ruby (5.6%), Java (4.7%), and more (w3techs.com). One of the reasons why ASP.NET is still rather relevant to this day despite PHP overtaking it in terms of adoption is since ASP.NET is still one of the more widely searched topics in terms of web development frameworks. This on top of the fact that ASP.NET is very flexible and secure make it a perfect solution and why it remains so popular even after so long. Microsoft is also constantly making updates and maintaining the great level of security that the framework brings which leads to the next strength which ASP.NET excels at, high security features (BoTreeTechnologies, 2022). Overall, the main reason ASP.NET is still popular today is due to its ease of use, the constant support it receives, as well as the benefits that come with using it in various web development projects.

C# or C sharp is a simple, modern object-oriented programming language developed by Microsoft and is primarily used in their IDE, Visual Studio. The language is based primarily on Java as it was initially created to be used alongside it until the language eventually diverged into

more of its own thing later. The goal with C# initially was to be primarily used in Visual Studio and was intended to be used exclusively by Microsoft (Friedman, 2020). Since then, C# has been improved and now is widely known as an international standard and is the primary language used in Microsoft software. C# is most like other languages in the C family of languages (C++, C) as well as Java and JavaScript. C# is also easy to pick up with the immense number of resources available through Microsoft's documentation as well as if you have any experience with the aforementioned languages, the similarities should help you pick it up quickly. C# is also a compiled language which essentially means that the language is converted into machine code and that means to execute the code, there needs to be a "build" step and you need to rebuild the code with every new iteration (freecodecamp.com, 2020). Compile languages due to this tend to be a lot quicker and the developer has a lot more control over hardware aspects as well.

Visual Studio is a development tool that can be used for the entire development cycle all in one package. This includes features not limited to the following: code, build, debug, test, version control, collaborate, deploy, and more (Microsoft, 2023). On top of that since Visual Studio is a workload-based installer, when getting started, you can install only the parts that you need, and if you end up needing any new features later you can always install them. On top of that, Visual Studio also supports a ton of different languages which include C++, C#, JavaScript, TypeScript, Python, just to name a few (Microsoft, 2023). You can also utilize Visual Studio to build apps for many different platforms as well and the collaboration tools are just icing on the cake. Visual Studio can be used to build pretty much anything, these include apps, games, software, or extensions. Overall, in terms of versatility, Visual Studio is probably the most versatile IDE out there and its extensive feature set and support makes the IDE worthwhile to use and learn in world of programming and software development.

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