INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING AND MANAGEMENT (IJSREM)
VOLUME: 07 ISSUE: 05 | MAY - 2023 SJIF 2023: 8.176 ISSN: 2582-3930

Design of Web Application using .Net and MVC Framework

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***Abstract*—An application model representing the elements of an MVC app is defined by ASP.NET Core MVC. For the purpose of changing how MVC elements behave, read and alter this model. To determine which classes are considered controllers, which methods on those classes are actions, and how parameters and routing behave, MVC by default adheres to a set of conventions. Create unique conventions and apply them globally or as attributes to adapt this behavior to the requirements of an app.**

1.2 Background information on .NET 6 Core MVC

Microsoft's ASP.NET web development framework enables programmers to create dynamic and responsive web applications. Since its initial release in 2002, it has undergone a number of iterations, including the introduction of ASP.NET Core in 2016.

Model-View-Controller (MVC) architecture is used by ASP.NET, which is based on the.NET framework. The Model, which represents the data and business logic, the View, which manages the user interface, and the Controller, which controls user input and orchestrates communication between the Model and View, are all separated into three interconnected parts by this design pattern.

A. *Key Advantages:*

1) Versatility: The versatility of ASP.NET is one of its main benefits. It can be used to create a wide range of web applications, from straightforward static websites to intricate enterprise-level programs. It also supports a number of programming languages, such as C#, Visual Basic, and F#, and provides built-in security features, such as authentication and authorization.

2) Easy-to-use: A number of features in.NET 6 Core MVC make it a potent tool for web development. It offers developers an intuitive model-view-controller (MVC) architecture that makes it simple to divide concerns and create applications with a defined structure. The ability to manage dependencies and write testable code is also supported, thanks to dependency injection.

3) Cross-Platform Development: The support for cross-platform development that.NET 6 Core MVC offers is another important feature. Applications for Windows, Linux, and macOS, as well as for mobile devices and the web, can be created by developers using.NET 6 Core MVC. Because of this, it can be used to create applications that work on a variety of platforms.

4) All things considered,.NET 6 Core MVC is a strong and adaptable framework for creating web applications. Developers who need to create scalable and high-performance applications frequently choose it because of its modular architecture, support for dependency injection, and cross-platform capabilities.

Model View Controller (MVC)

Model-View-Controller, or MVC, is a design pattern frequently used when creating web applications. By clearly separating the various web development components' concerns, it improves the organization and manageability of the development process.

1) Model: This component represents the data and business logic of the application. It includes database models, data access logic, and validation rules.

2) View: This component represents the user interface of the application. It includes HTML, CSS, and JavaScript files that render the data to the user.

3) Controller: This component manages the interaction between the model and the view. It receives user input, performs necessary operations on the model, and updates the view accordingly.

.NET 6 Core MVC purpose and applications.

With.NET 6 Core MVC, developers will have access to a robust and adaptable framework for creating web applications on the Microsoft.NET platform. The framework has a number of features, including a modular architecture, support for dependency injection, and cross-platform development capabilities, that make it simple to create scalable and high-performance applications.

The creation of enterprise-level web applications is one of.NET 6 Core MVC's key applications. Support for caching, performance monitoring, and distributed tracing are among the many tools and features the framework offers for creating large-scale applications. This makes it the perfect option for companies that need to create intricate, scalable applications that can manage a lot of traffic.

ACKNOWLEDGMENTS

I extend my profound thanks to Sri. Y V Prasad Rao Sir, Programmer, Rail Wheel Factory, Bangalore. Special thanks to Sri. Buddha Appa Rao Sir, Rail Wheel Factory, Bangalore, for his valuable suggestions.

Finally, I thank my parents and friends for their moral support throughout my project. Their unwavering encouragement and understanding helped me to stay motivated and focused.

I acknowledge that any achievement does not depend solely on my individual efforts but also on the guidance, encouragement, and cooperation of intellectuals, elders, and friends.

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