SEMINAR REPORT ON

ASP .NET

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**INTRODUCTION**

ASP.NET is a web application framework developed and marketed by Microsoft to allow programmers to build dynamic web sites. It allows you to use a full featured programming language such as C# or VB.NET to build web applications easily.

ASP.NET is built on the .NET framework, which provides an application program interface ([API](https://techterms.com/definition/api)) for software programmers. The .NET development tools can be used to create applications for both the Windows operating system and the Web. Programs like Visual Studio .NET provide a visual interface for developers to create their applications, which makes .NET a reasonable choice for designing Web-based interfaces as well.

In order for an ASP.NET website to function correctly, it must be published to a Web server that supports ASP.NET applications. Microsoft's Internet Information Services (IIS) Web server is by far the most common platform for ASP.NET websites. While there are some open-source options available for Linux-based systems, these alternatives often provide less than full support for ASP.NET applications.

**Features Of ASP.NET:-**

**1. Windows and its dependence:-** Unlike most alternatives, ASP.NET will only work on Microsoft Windows based web servers. That means the operating system must be Microsoft internet information services, also known as IIS. ASP.NET specifically requires the following support software.

* Windows 2000 server or windows server 2003
* Internet information services 5.0
* Microsoft.NET Framework 2.0

**2. Object orientation:-** ASP.NET is inherently object oriented. If one is familiar with programming and have worked with object oriental programming language such as C++ or JAVA. One will appreciate the benefits immediately.

A major attraction at ASP.NET object orientation is that it allows you to take advantage of vast library of predefined classes known as the .NET Framework. Many .NET framework classes are designed specifically for working with ASP.NET for example those that represent controls such as text boxes , radio buttons and drop-down list.

**3. Choice of language:-** Most web development platforms tie you to a specific language. For example JAVA-based tools such as JAVA server pages tie you to JAVA Language; other tools, such as Cold fusion, use their own proprietary languages. But ASP.NET gives you the choice of two language to use for web pages.

* C#- C-sharp is a relatively new language designed by Microsoft specifically for .NET. its syntax is similar to JAVA, so if you are an expreienesed JAVA programming learning C#.4
* J#- Microsoft’s version of JAVA.

One practical advantage of ASP.NET is that it work entirely on Microsoft software. ASP.NET lucks you into using the Microsoft platform.

ASP.NET provides three development styles for creating web applications:

1. Web Forms
2. ASP.NET MVC
3. ASP.NET Web Pages

**Web forms**

It is an event driven development framework. It is used to develop application with powerful data access. It provides server side controls and events to create web application.

## ASP.NET MVC

## It gives us a MVC (Model View Controller), patterns-based way to build dynamic websites. It enables a clean separation of concerns and that gives you full control over markup for enjoyable, agile development. It also provides many features that enable fast development for creating outstanding applications.

## ASP.NET Web Pages

It is used to create dynamic web pages. It provides fast and lightweight way to combine server code with HTML. It helps to add video, link to the social sites. It also provides other features like you can create beautiful sites that conform to the latest web standards.

All these are stable and well equipped frameworks. We can create web applications with any of them. These are also based on the .NET Framework and share core functionalities of .NET and ASP.NET.

**Web Server and Web Browsers**

One crucial point to understand about web application is that they work by using both client and server software.

* Client is a web browser that runs on the end user’s computer. In most case the web browser is a Microsoft internet Explorer.
* The server is a software is a software that runs on the server
* computer that host’s web application. For ASP.NET applications the server computer is always Microsoft internet information services also known as IIS.
* The server computer also have Microsoft .NET framework software installed as ASP.NET is a part of the .NET framework. The server computer also typically has data base server installed. In some cases data base may run on a separate computer to improve the main server machine’s performance.

Two other alphabets constantly develop ASP.NET application-

* HTML (Short for Hypertext makeup Language) is a standardized set of makeup togs used to format the web pages displayed by a web browser.
* HTTP (Short for Hypertext Transfer Protocol) is the standardized protocol. That web browser and web server use to communicate with each other.

**MICROSOFT Visual Studio**

Microsoft visual studio is an integrated development enviorement from Microsoft. It is used to develop console and graphical user interface applications, websites, web application and web services. Visual studio includes a code editor supporting intellisense as well as code refactoring. The integrated debugger works both as a source level debugger and a machine level debugger. Visual studio supports different programming language by means of language services which allows the code editor and debugger to support nearly any programming language. Built in language include C/C++, VB.NET, C# etc. It also supports XML, HTML / XHTML JAVA Script and CSS.

**STATICS Web Pages:**

The World Wide Web was originally designed to display statics pages that is pages that are the same every time they are displayed. A typically way to initiate display of a statics web pages is for a user to enter the web address of the page in a browser’s bar. Or for a user to click a link that leads to the pages. Either way the browser sends an HTTP message called an HTTP request to the server specified by the web address. This request message includes the name of the HTML file that define the pages being requested by the user. In addition, the request message includes the address of the browser that’s requesting the file. When The server machine receives the request. It locates the HTML file on its disk and sends the HTML back to the browser by way of an HTTP response message. Then, when the browser receives the response, it decodes the HTML file and displays the webpages.

**DYNAMIC Web Pages:**

Although the World Wide Web was originally designed for statics web pages. Must web page these day display dynamic content that is content that changes each time the page is retrieved. Instead of retrieving HTML data from a file. Dynamics web pages work by running a program that generates the HTML sent back to the browser. But the work goes an at the server is difference instead of locating HTML file on the disk, the server runs a program to generate the HTML for the request page and that is what return to the user via an HTTP response.

**WEB Server Controls**

Controls are the building block of ASP.NET pages. There are some basic web server controls.

1. Label

2. Text Box

3. Button

4. Check Box

5. Radio Button

6. Image

LABEL Controls:-

A label control displays text to identify a fature on web page. For Example – The page shows four label controls. The first provides instruction for the user. The next two identify input the field the user should enter data into the fourth label displays the result of the calculation.

TEXT BOX Control-

A text box control provides a way for users to enter text data. The user can use these text box to enter a username and password.

USING BUTTON Control-

ASP.NET provides three district types of button controls button,Link button and image button. The three type of button have the same behavior but they each have a different appearance. A standard button control looks like a hyperlink and an image button displays an image file.

CHEAK BOX Control-

A check box is a control that the user can click to either check or uncheck normally check boxes are used to let the user specify Yes or No.

RADIO BUTTON Controls-

Radio button are similar to check boxes, but with a crucial difference. Radio button travel in group and a user can select only radio button in each group at a time.

IMAGE Control-

An image control is simply a control that displays an image file; the user click the images to use the control. The two most common types of image files used. In web application are JPEG and GIF files. JPEG files are used typically for larger more detailed images, while GIF files are the standard choice for small icons.

**VALIDATION CONTROLS:**

Validation is one of the most important parts of any types of computer programming. The moment you expose your program to the outside world by asking a user to input some data. The possibility arises that the user will enter the wrong data or that the user will forget to enter any data at all. To get any real work done, ASP.NET programs need to protect themselves from such error.

There are Six different validation controls are used-

(a) Required field validator:- This is most popular of the validation controls. Its requires the user to enter to enter some value in a field. Any enter something.

(b) Compare validator:- The validator compares the vale entered by the user with some predetermined value. One of the most common uses of this validator is to ensure that the user enters data of the correct type.

For example- If a text box requires numerical input. You can use a compare validator to make sure the user enters a valid number.

(c) Range validator:- This validator makes sure that the value entered by the user falls with in a given range.

(d) Regular Expression validator:- This validator makes sure that the user enter a value that matches a pattern. For example One can use this validator for Zipcodes telephone Numbers etc.

(e) Custom validator:- This validator lets you write your own code to determine whether the user entered correct input data.

(f) Validation summary:- This control is used along with other validation controls to displays a summary message that lists all errors discovered on the page.

**ADVANTAGES:**

* **Object Oriented**

Everything that you see in the .NET framework is an object. It is the same for what you write within the framework. This means that you get a powerful tool to not just access but also control your apps. This also makes it simpler for you to respond to recurring events.

* **Caching**

The caching system that .NET includes is extremely robust and easy-to-use.

* **Easy Maintenance**

Pages, with .NET, are extremely simple to write and maintain. This is because the source code and HTML are both together. In addition to that, the source code executes on the server. What does this mean? This makes your web pages more powerful and flexible.

* **Time-Saving**

Time is money, and .NET helps you save a lot of that. The way it is developed, .NET removes a large part of the coding requirement. This means that the developers save time, and the app’s time-to-market can be shortened considerably.

* **Simplicity**

Performing common tasks with .NET is extremely simple and straight forward. Submission of forms is a breeze and so is site configuration, deployment, and client authentication.

* **Feature-Rich**

There are a range of features that can be explored by the developers in order to create powerful apps. Consider the case of its rich toolbox as also the designer in the visual studio. They let you access such features as automatic deployment, WYSIWYG editing, and drag-and-drop controls.

* **Consistency**

The management and monitoring of all the processes is performed by the framework. If one of the processes is dead, a new process can be created just as easily. This lets your app be consistently available for handling requests.

* **Monitoring**

Finally, .NET also stands for its automatic monitoring. It will promptly notice any problems like infinite loops, memory leaks, etc. Not just this, it will also destroy these activities automatically and restart itself.

**DISADVANTAGES:**

 **Limited Object Relational (OR) support**

It is found to be limited at times, because such support is generally available with entity framework only.

 **Slower than Native Code**

Managed code that you run with .NET can be slower than native code.

 **Vendor lock-in**

The framework involves Vendor lock-in. This can mean that future development will be only dependent on Microsoft.

 **Expensive**

In some cases, migration of apps to .NET can turn out to be expensive.

**CONCLUSION**

The .NET platform has a lot to offer the software developer, including an ecumenical type system, better type information, and an efficient compilation model, all of which truly tighten up the boundaries between components.

The future of computing will undoubtedly involve getting machines to talk to one another over the Internet. The Internet is a ubiquitous network to which scores of people have access. Until now, there has not really been a way to use the Internet as a software platform. However, the technology is now in place to make that happen, and ASP.NET makes it that much easier to manage Web programming. ASP.NET keeps all the good features of classic ASP (in process performance, a well-established syntax, the ability to add executable blocks to your Web page) and improves on them (e.g., by providing a more granular HTTP request handling model, providing a compilation model for Web pages, and organizing the parts of a Web page into classes and making those classes available through the CLR type system). ASP.NET will undoubtedly be the tool of choice for most Web developers for the next five to ten years.

**REFERENCES**

**1. Linkedin**

**2.** [www.studymafia.org](http://www.studymafia.org)

3. www.tutorialspoint.com