**OTHER SERVER-SIDE WEB SCRIPTING TECHNOLOGIES**

**1. Active Server Pages (ASP)**

**Definition**

* ASP stands for ‘active server pages’
* it was first evolved within the mid 90’s (version 1.0) to create net content which that may alternate upon interacting with the client, as its call suggests.
* very beneficial when displaying contemporary time or weekday as an example (i.e. setting your own time-zone), or while gaining access to a database which has stored exceptional records.

**Early Origins of ASP**

The very first actual model of ASP, version 1.0, was first developed in December 1996 by Microsoft. Before its full implementation, developers used a combination of programming languages (such as Perl and C++) or scripts in order to create applications which could then be loaded to create dynamic web sites.

**Growing into ASP.NET**

With the development of the .NET framework for Windows, a more modern programming environment with easier linkable libraries and optimised code, the original version of ASP grew into ASP.NET. Its new version came as IIS 4.0 was developed in 1997, a year or so after IIS 3.0.

The original developers for the next version of ASP were Mark Anders and Scott Guthrie (source http://en.wikipedia.org/wiki/ASP.NET), who developed a prototype called XSP (cross-site printing) in Christmas of 1997, which was then substituted to ASP. The new project was codenamed ‘cool’ by the Microsoft team and used Common Language Runtime, which resulted in being simpler and ‘cleaner’ than the previous ActiveX and COM based versions. CLR is still an integral part of the .NET framework and allows for cross-compatibility, by being able to import and run applications to be built in the many supported programming languages.

**The use of ‘Event Handlers’**

With static web it becomes impossible to write code which executes when something specific occurs. Using CGI scripts this is possible but is lengthy and slow to build. However with event handlers in ASP it can work flawlessly, such as the ‘Page\_Load’ event, which is triggered once a page is loaded, or ‘Unload’ which works the opposite way or when the page is closed.

Complete compatibility (the ‘runat’ command)

**2. Common Gateway Interface (CGI)**

* It is a strategy utilized by web server to run outer projects, frequently to create web content powerfully.
* At whatever point a site page inquiries a database, or a client presents a frame, a CGI content is typically called upon to do work.

**CGI PROCESSING:**

At the point when a HTTP server gets a demand for a CGI content, the server conveys to the content the subtle elements of the demand. The HTTP server and a CGI content convey in four noteworthy ways:

1. **Environment Variables:** The HTTP server utilizes condition factors to pass data about the demand to the CGI content. Contingent upon the kind of demand, nature factors could possibly contain all the data required by the content to work legitimately.
2. **Command Line:** The charge line is utilized for isindex questions. For the most part, isindex inquiries ought not be utilized; since the summon line is utilized straightforwardly, they show numerous potential security dangers.
3. **Standard Input:** For HTTP POST or PUT inquiries, the HTTP server imparts data to the CGI content through standard info. The measure of data kept in touch with standard information is put away in the CONTENT\_LENGTH condition variable.
4. **Standard Output:** A content profits its yield for standard yield. The yield can be a report produced by the content, or guidelines to the server for recovering the coveted yield.

**USING CGI SCRIPTS:**

* A web server enables its proprietor to design which URLs should be taken care of by which CGI contents. This is typically done by denoting a catalog inside the record gathering as containing CGI contents — its name is frequently cgi-container.

**Ruby on Rails**

* Server-side internet application structure written in Ruby
* Model-view-controller (MVC) framework
* Offering default structures for a database, administrations and web sites
* Empowers and helps utilizing internet prerequisites such:

1. JSON or XML for data transfer
2. HTML, CSS and JavaScript for display and user interfacing

* Emphasizes the utilization of different popular programming designing styles and standards

**History:**

* David Heinemeier Hansson expelled Ruby on Rails from his works on the project management tool Basecamp at the web application

*JULY 2004 and FEBRUARY 2005*

* He discharges Rails as an open source however did not share devote rights to the mission until the year of 2005 in February.

*AUGUST 2006 and OCTOBER 2007*

* Ruby on Rails achieved a development when Apple declared that it would convey this structure with Mac OS X v10.5 “Leopard”, which transformed into in October 2007.

*MARCH 15, 2009*

* They’ve released a new edition of Rails (Rails version 2.3) with principal new patterns in formats, engines, rack and settled model structures.

*DECEMBER 23, 2008*

* Merb is another web utility system and reported it might work with the Merb task to convey its considerable considerations into Rails 3 completing the unnecessary duplication throughout the two communities and this structure wind up converged with rails.

*Rails 3.1:* Launched on August 31, 2011, proposing Reversible Database Migrations, Asset Pipeline, Streaming, jQuery as default JavaScript library and recently brought CoffeeScript and Sass into the stack.

*Rails 3.2:* Launched on January 20, 2012 with a quicker advancement mode and routing engine (also known as Journey engine), Automatic Query Explain and Tagged Logging. Rails 3.2.x is the remaining version that supports Ruby 1.8.7. Rails 3.2.12 supports Ruby 2.0.

*Rails 4.0:* Launched on June 25, 2013, introducing Russian Doll Caching, Turbolinks, Live Streaming in addition to making Active Resource, Active Record Observer and other components non-compulsory by means of spitting them as gem stones.

*Rails 4.1:* Launched on April 8, 2014, introducing Spring, Variants, Enums, Mailer previews, and secrets.yml.

*Rails 4.2:* Introducing Active Job, asynchronous emails, Adequate Record, Web Console, and foreign keys which was launched on December 19, 2014.

*Rails 5.0:* Launched on June 30, 2016, introducing Action Cable, API mode, and Turbolinks 5.

*Rails 5.0.0.1:* Launched on August 10, 2016, with extraordinary use of rails CLI over rake and helps Ruby 2.2.2+ variations

*Rails 5.1:* Launched on April 27, 2017, introducing JavaScript integration changes (control of JavaScript dependencies from NPM via Yarn, non-obligatory compilation of JavaScript - the usage of Webpack, and a rewrite of Rails UJS to utilize vanilla JavaScript in preference of relying on jQuery), gadget assessments using Capybara, encrypted secrets, parameterized mailers, direct & resolved routes, and a unified form\_with helper replacing the form\_tag/form\_for helpers.

**Why Ruby?**

Ruby originated in Japan and now it is gaining recognition in US as well as Europe. The following elements contribute in the direction of its popularity:

* Easy to study
* Open source (very liberal license)
* Wealthy libraries
* Easier to extend
* Definitely object-oriented
* Lesser coding with fewer bugs
* Beneficial community

Although we’ve many reasons to utilize Ruby, there are a few drawbacks as nicely that you could ought to keep in mind before enforcing Ruby:

1. **Performance Problems** − Even though it rivals Perl and Python, it’s far nevertheless an interpreted language and we can’t compare it with high-level programming languages such as C or C++.
2. **Threading version** − Ruby does no longer utilize native threads. Ruby threads are simulated inside the VM in preference to strolling as native OS threads.

**Frameworks:**

A framework is a software, set of programs, as well as code library written in the vast majority of your application. While utilizing a framework, your assignment is to record the components of the product that influence it to do the particular things you need.

* **Describe and model your application's area**

1. universe of your product

2. music store

3. a university

4. dating administration

5. an address book

6. Equipment stock

* **Specify what can happen in this area**

1. The domain model is static; you need to make it dynamic.
2. Addresses can be delivered to an address book.
3. Musical scores can be purchased from tune stores.
4. Users can log in to a courting service.
5. Students can sign up for classes at a university.
6. You need to identify all the possible scenarios or actions that the elements of your domain can participate in.

* **Choose and layout the publicly available views of the domain**

1. You can start wondering in Web-browser phrases. Once you've decided that your domain has students, and that they can register for classes;
2. You can envision a welcome page, a registration page, and a confirmation page, and so on. Every of these pages, or perspectives, suggests the user how matters stand at a certain point.

**Ruby on Rails MVC Framework**

The Model View Controller partitions crafted by an application into three independent however firmly helpful subsystems.

1. **Model (ActiveRecord )**

It proceeds with the association among the items and the database and handles approval, association, exchanges, and so on.

1. **View ( ActionView )**

It is an introduction of information in a specific organization, activated by a controller’s choice to exhibit the information. They are content-based layout frameworks like JSP, ASP, PHP, and simple to coordinate with AJAX innovation.

1. **Controller ( ActionController )**

The office inside the application that coordinates movement from one viewpoint, questioning the models for particular information, and then again, arranging that information (seeking, arrangement, informing it) into a shape that fits the requirements of a given view.

**Migrations**

Rails Migration enables you to utilize Ruby to characterize changes to your databse diagram, making it conceivable to utilize an adaption control framework to keep things synchronized with the real code.

Numerous utilizations of Migrations:

* Group of developers − If an individual rolls out a schema change, the other designers just need to update, and run "rake migrate".
* Production servers − Run "rake migrate" when you reveal another discharge to convey the database up and coming too.
* Multiple machines − if you create on both a work area and a workstation, or in excess of one area, movements can enable you to keep them all synchronized.

## What Can Rails Migration Do?

* create\_table(name, options)
* drop\_table(name)
* rename\_table(old\_name, new\_name)
* add\_column(table\_name, column\_name, type, options)
* rename\_column(table\_name, column\_name, new\_column\_name)
* change\_column(table\_name, column\_name, type, options)
* remove\_column(table\_name, column\_name)
* add\_index(table\_name, column\_name, index\_type)
* remove\_index(table\_name, column\_name)

Migrations support all the basic data types − The following is the list of data types that migration supports −

* string − small data types like titles
* text − longer bits of printed information like depiction.
* integer − whole digits
* float − decimals
* datetime and timestamp − store the date and time into a section.
* date and time − store either the date or time only
* binary − putting away information like pictures, sounds or films
* Boolean − accompanying is the rundown of legitimate section choices.

Substantial segment alternatives are − The following is the rundown of legitimate sections options.

* limit ( :limit => “50” )
* default (:default => “blah” )
* null (:null => false implies NOT NULL)

**Other Server-Side Web Scripting Technologies**

* [**ASP.NET**](https://www.upwork.com/hiring/development/asp-net-framework/): This Microsoft framework is the most popular enterprise-degree framework—it helps multiple programming languages concurrently for one mission. So, the identical application can be constructed with both C# and C++, through CLI (common language interface). It’s most latest iteration, ASP.NET 5, is now open to non-Windows structures for the primary time.

**Code Behind Model:** Microsoft recommends dealing with dynamic program code by using the code-behind model, which places this code in a separate file or in a specially designated script tag. Code-behind files typically have names like "MyPage.aspx.cs" or "MyPage.aspx.vb" while the page file is MyPage.aspx (same filename as the page file (ASPX), but with the final extension denoting the page language). This practice is automatic in Visual Studio and other IDEs, though the user can change the code-behind page. Also, in the web application format, the pagename.aspx.cs is a partial class that is linked to the pagename.designer.cs file. The designer file is a file that is autogenerated from the ASPX page and allows the programmer to reference components in the ASPX page from the CS page without having to declare them manually, as was necessary in ASP.NET versions before version 2.[8] When using this style of programming, the developer writes code to respond to different events, such as the page being loaded, or a control being clicked, rather than a procedural walkthrough of the document.

* [**Django**](https://www.upwork.com/hiring/development/django-programming/): This Python framework changed to fulfill the needs of development in a fast-paced surroundings and have web sites such as  *Pinterest, Nasa, Pitchfork*
* Designed to help developers take applications from concept to completion as quickly as possible
* Takes security seriously and helps developers avoid many common security mistakes
* Some of the busiest sites on the Web leverage Django’s ability to quickly and flexibility scale

[Express.js](https://www.upwork.com/hiring/development/express-js-a-server-side-javascript-framework/) **&** [Koa](https://www.upwork.com/hiring/development/koa-js-a-future-proof-javascript-middleware-framework/): These JavaScript-powered middleware frameworks work on top of the Node.js improvement environment and control the float of records on the back end of a site.

* In June 2014, rights to manage the project were acquired by [StrongLoop](https://en.wikipedia.org/wiki/StrongLoop).
* StrongLoop was acquired by [IBM](https://en.wikipedia.org/wiki/IBM) in September 2015
* In January 2016, IBM announced that it would place Express.js under the stewardship of the Node.js Foundation incubator.