

# State of the Art

Adrian Kosmaczewski

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This article is a copy of a research work I did today, to draw a map of today's development technologies. It is not finished (it will never be, actually) but I think it is rather interesting. Hope you find it interesting too :)

## Technology Chart

Because software development **is** an art... the following table gives a quick overview of available object-oriented application blocks & frameworks, with references. This list is not intensive and will most likely change in the future.

Java	.NET	PHP	JavaScript
<b>Unit Testing</b>	NUnit, NMock, TestDriven.NET	PhpUnit	JSUnit
<b>Code Documentation</b>	XML Code Comments + NDoc	PHPDoctor	JSDoc
<b>Build tools</b>	NAnt	n/a	n/a
<b>Persistence</b>	NHibernate, Olero ORM, iBATIS, NPersist; Article about Solutions for object persistence in the .NET architecture	Propel	n/a
<b>Web Applications</b>	Spring Framework, Struts, Velocity, JavaServerFaces	Spring.NET, ASP.NET, Castle Project	n/a
<b>Small Clients</b>	Windows Forms	PHP-GTK	XUL

Java	.NET	PHP	JavaScript
<b>Aspect Oriented Programming</b>	AspectJ	AspectSharp, SetPoint	aoPHP JavaScript and AOP
<b>AJAX</b>	For Java, JSON-RPC	For .NET	JPSPAN, Flexible AJAX, AjaxAC
<b>Logging</b>	log4j	log4net	log4php
<b>IDEs</b>	Sun Java Studio Creator, Eclipse, Borland JBuilder, IntelliJ IDEA, Apple Xcode, NetBeans, JCreator, BlueJ, NetComputing AnyJ, DrJava	Visual Studio.NET, Macromedia Dreamweaver, Eclipse, Borland Delphi, #develop, Mainsoft Visual MainWin for Linux, ASP.NET WebMatrix, CodeSmithStudio	Eclipse, Macromedia Dreamweaver
<b>Business Rules Engine</b>	JBRE, JxBRE, ILOG	NxBRE, InRule, ILOG	n/a

	Apple Macintosh	Microsoft Alternative	C++	Ruby on Rails
<b>Unit Testing</b>	JUnit	Visual Studio Team System	CppUnit	Test::Unit
<b>Code Documentation</b>	HeaderDoc	n/a	CppDoc	RDoc
<b>Build tools</b>	Ant	MSBuild	GNU Make	Rant
<b>Persistence</b>	Standard, DataCrux	ObjectSpaces	Progress EdgeXtend	Ruby on Rails

	Apple Macin- tosh	Microsoft Alternative	C++	Ruby on Rails
<b>Web Ap- pli- ca- tions</b>	WebObjects	Classic ASP (un- supported & un- portable)	ASP.NET, C++ Server Pages	Ruby on Rails, Comparison of Ruby on Rails against Spring + Hibernate n/a
<b>Smart Clients</b>	Cocoa	Avalon + XAML, MFC	n/a	n/a
<b>Aspect Oriented Pro- gram- ming</b>	AspectCocoa	Native .NET func- tionality	AspectC++	AspectR
<b>AJAX ( Java)</b>	Xdem	Announced	n/a	Ruby on Rails
<b>Logging</b>	log4cocoa	Enterprise Library's Logging Applica- tion Block	log4cpp	log4r
<b>IDE</b>	Apple Xcode, Metrow- erks CodeWar- rior	n/a	Eclipse, Apple Xcode, Metrowerks CodeWarrior, Microsoft Visual C++, Borland C++ Builder, Bloodshed Software Dev-C++	Mondrian, Arachno Ruby, Eclipse
<b>Business Rules En- gine</b>	n/a	n/a	ILOG	n/a

## Global information

Some information about the object-oriented application frameworks above:

Main Programming Languages	Platform	Single In-heri- Late- Open ISO	Inspired from
		Multiplatform binding sourceStandard	
<b>Java</b>	Java		NeXT Open-Step, C++ Java, COM
<b>.NET</b>	C#, Visual Basic.NET, Java, JavaScript, C++	(C#: ISO 23270, CLI: ISO 23271 & 23272)	
<b>PHP</b>	PHP		C
<b>JavaScript</b>	JavaScript	(ISO 16262)	Self, C (NOT from Java!)
<b>Cocoa</b>	Objective-C, Java, C++		NeXT Open-Step, Smalltalk
<b>C++</b>	C++	(ISO 14882)	C
<b>STL</b>			
<b>+</b>			
<b>GCC</b>			
<b>Ruby</b>	Ruby		Eiffel, Ada, Perl
<b>on</b>			
<b>Rails</b>			

### (Useless) Comments

As you can see, there are common patterns appearing in the table above:

- Eclipse can build whatever you want
- .NET-related project names tend to begin with the letter **N**
- PHP-related project names tend to begin with the letter **P**
- JavaScript-related project names tend to begin with **JS**
- Ruby-related project names tend to begin or end with **R**
- Logging frameworks have all the same **log4xxx** name
- Java-related project names tend to... come from Indonesia :)

From an historical point of view, however, the fact that most object-oriented frameworks (that is, those not based on a scripting language) use single inheritance is interesting, and not casual: Objective-C, used for the development of

the software created for the NeXT workstation, introduced the notion of “interfaces” first (originally named “protocols”), and this idea was taken lately to Java and .NET.