

# THE STATE OF THE ART ON .NET

12 MONTHS OF THINGS TO LEARN

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# (OVERVIEW)

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- Negative connotations about the ecosystem
- A lot of innovation from other platforms being applied
- Very smart people using the platform as it's the best choice for their circumstance
- Not just the "alt" .NET community

# (OVERVIEW)

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- Languages
  - F#
  - M
  - Boo
- Tools
  - NUnit
  - RhinoMocks
  - Moq
- NHibernate
- Castle
  - Windsor
  - NVelocity
- Infrastructure
  - Guerilla WCF
  - Azure
  - MEF

# 1. F#

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- What it is
  - Microsoft's official functional language on the CLR
  - Static type inference, multi-paradigm: FP + OO
  - OCaml-esque
- Geeks
  - Don Syme (MSR)

# 1. F#

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- Why look at it?
  - Business asking for “faster”, “concurrent”, “parallel”?
  - Different way of thinking
  - Helps you understand LINQ and functional abstractions in C#
  - Functional languages “buzz”
    - Real World Functional Programming (Petricek, Skeet)

# 1. F#

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- Resources
  - Matt Podwysocki <http://weblogs.asp.net/podwysocki/>
  - Planet F# [http://feeds.feedburner.com/planet\\_fsharp](http://feeds.feedburner.com/planet_fsharp)
  - Hub FS <http://cs.hubfs.net>
  - Phillip Trelford <http://www.trelford.com/blog/>
  - Books:
    - Programming F# (Smith)
    - Expert F# (Syme, Granicz, Cisternino)
    - Beginning F# (Pickering)
    - F# In Action (Laucher)
    - F# for Scientists (Harrop)

## 2. M

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- What it is
  - Declaratively build data models
  - Declaratively and interactively build external DSLs
- Geeks
  - Don Box (MS)
  - Clemens Szyperski (MSR)

## 2. M

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- Why look at it?
  - Higher abstraction for schemata
  - Easier grammar creation
  - DSL “buzz”
- Resources
  - MSDN Library [http://msdn.microsoft.com/en-us/library/dd129519\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/dd129519(VS.85).aspx)
  - Creating DSLs in Oslo video <http://www.infoq.com/presentations/Creating-DSLs-in-Oslo-Amanda-Laucher>
  - InfoQ <http://www.infoq.com/articles/natural-language-date-dsl-oslo>
  - Oslo Team <http://blogs.msdn.com/mlanguage/>



# 3. BOO

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- What it is
  - Python syntax
  - Static, inferred, duck, macros, functional
- Geeks
  - Rodrigo B. De Oliveira (Unity Technologies)
- Why look at it?
  - Language extensibility
  - DSLs: bake, UnityScript
- Resources
  - Website <http://boo.codehaus.org/>

# 4. NUNIT

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- What it is
  - State-based automated unit testing
  - Idiomatic C#, constraint-based assertion DSL
- Geeks
  - Charlie Poole, Jamie Cansdale, Gary Feldman
  - Jim Newkirk, Alexei Vorontsov, Mike Two, Philip Craig

# 4. NUNIT

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- Why look at it?
  - It's *the* tool to use for this style of testing on .NET
  - Standalone, VS integrated, 3rd-party builds
- Resources
  - Website <http://nunit.org/>
  - Books
    - Test-Driven Development in Microsoft .NET (Newkirk, Vorontsov)
    - Pragmatic Unit Testing in C# with NUnit (Hunt, Thomas)

# 5. RHINOMOCKS

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- What it is
  - Automated unit testing
  - Verify interactions amongst collaborators
- Geeks
  - Oren Eini (Ayende Rahien)
- Why look at it?
  - Working with legacy code
  - Driving out DI-based designs
- Resources
  - Website <http://www.ayende.com/projects/rhino-mocks.aspx>
  - Book [http://en.wikibooks.org/wiki/How\\_to\\_Use\\_Rhino\\_Mocks](http://en.wikibooks.org/wiki/How_to_Use_Rhino_Mocks)

# 6. Moq

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- What it is
  - Automated unit testing
  - Linq expression trees and lambdas
  - Mocks interfaces and classes
- Geeks
  - Daniel Cazzulino (kzu)
- Why look at it?
  - A fresh approach to mocks and stubs on .NET
  - Simple testing DSL
- Resources
  - Website <http://code.google.com/p/moq/>
  - kzu's blog (<http://www.clariusconsulting.net/blogs/kzu/>)

# 7. NHIBERNATE

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- What it is
  - O/RM persistence framework
- Geeks
  - Fabio Maulo, Ayende Rahien, Sergey Koshcheyev
- Why look at it?
  - Complex object domain model mapping to complex relational model
  - Reduce persistence abstractions leaking into business logic layer
- Resources
  - Website <https://www.hibernate.org/>
  - <http://www.fischer.org/tips/Languages/NHibernate.shtml>
  - NHibernate in Action (Kuaté, Bauer, King, Harris)

# 8. WINDSOR

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- What it is
  - IOC Container for .NET
  - Part of the castle project
- Geeks
  - Ayende Rahien, Jonathon Rossi, et al
- Why look at it?
  - Dependency Injection
  - Helps to decouple project dependencies
  - External configuration
  - Interceptors
  - Non-intrusive logging, transaction management and auditing
- Resources
  - Website <http://www.castleproject.org/container>
  - <http://dotnetslackers.com/community/members/simoneb.aspx>

# 9. NVELOCITY

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- What it is
  - Template engine
- Geeks
  - Cort Schaefer, Hamilton Verissimo, Mike Bridge
- Why look at it?
  - Abstract views away from other architectural layers
  - Web designers can work in parallel with .NET programmers to develop web sites according to the Model-View-Controller (MVC) model
- Resources
  - Website <http://sourceforge.net/projects/nvelocity/>



# 10. GUERRILLA SOA

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- What it is
- Geeks
  - Jim Webber (ThoughtWorks)
- Why look at it?
  - Lightweight, iterative, incremental SOA
  - Avoid bloated middleware
  - Messages
- Resources
  - Patric Fornasier's SOYA <http://soya.sourceforge.net>
  - Jim Webber's blog <http://jim.webber.name/>
  - Savas Parastatidis
  - Ian "Consumer-driven Contracts" Robinson's blog <http://iansrobinson.com/>

# 11. AZURE

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- What it is
  - Microsoft's cloud service
  - Platform for development
- Geeks
  - David Cutler (MS)
- Why look at it?
  - Platform to more simply manage scalability and reduce startup costs
  - Loads of facilities for .NET devs to get into the cloud
- Resources
  - Azure in Action (Hay, Prince)
  - Team blogs <http://blogs.msdn.com/windowsazure>
  - Brian Prince <http://brianhprince.com/>

# 12. MEF

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- What it is
  - Managed Extensibility Framework
  - Component and plugin architecture
  - DI as a strategy for composing the different extensions
- Geeks
  - Glenn Block
  - Wes Haggard
- Why look at it?
  - Application extensibility
  - Avoiding monolithic software
  - Dynamically composing an application's feature set at runtime
- Resources
  - Website <http://www.codeplex.com/MEF>
  - Bill Kratochvil <http://www.global-webnet.net/BlogEngine/>
  - Jason Olson <http://www.managed-world.com/>
  - Magnus Mårtensson <http://blog.noop.se/>

# NOTABLE MENTIONS

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- MassTransit
- MSpec
- NBehave
- NServiceBus
- RavenDB
- RhinoESB
- RhinoPHT / DHT
- Testlint
- Typemock

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