
Code generation



Introductory

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Agenda

- Gencode methodology.
- Demonstration.
- Gencode tools.
- Development trends.
- Q & A.

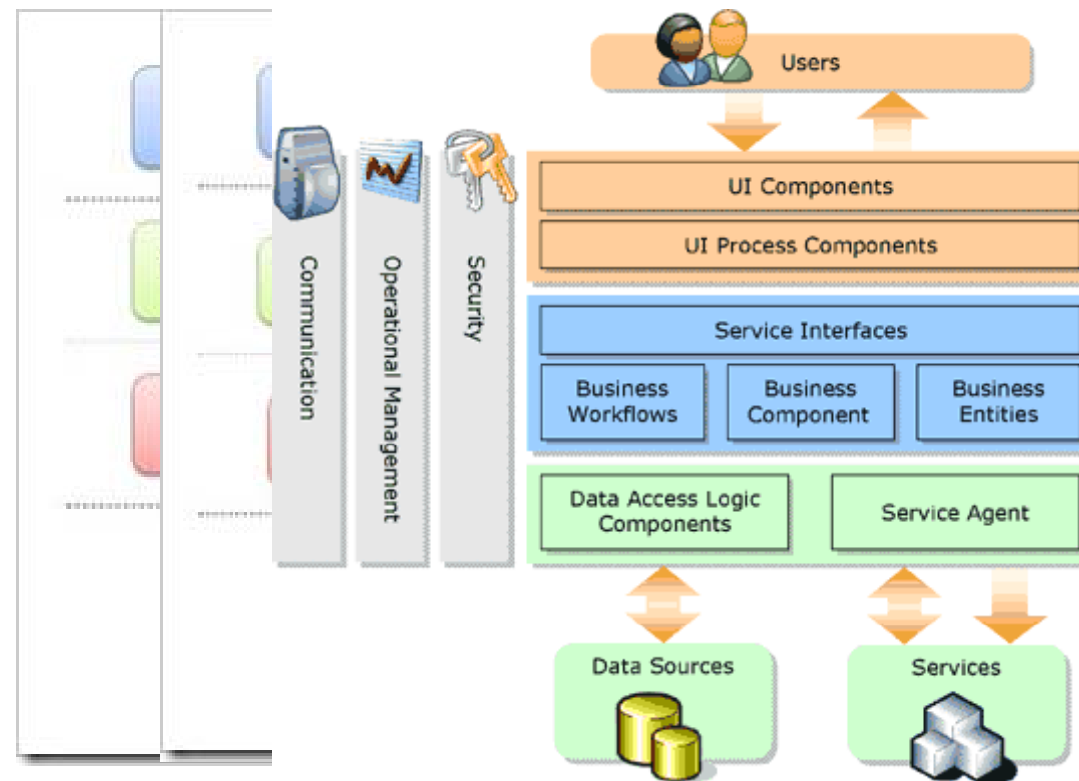
Gencode methodology

- Conventional coding:
 - Requirement -> source code.
 - Reusing of code, using library.



Application architecture

- Multi-tiers: 3 tiers, n tiers



















Application architecture

- Design patterns.
- Open source architecture.
 - Nhibernate, ...
 - Spring, El4net, CSLA, ...
 - Swing, Struts, ...
















Working strategy

- Working follows the app. architecture
 - Implement follows the predefined frame .
 - A task: many relevant details.













Data

 Air_Train.xml	10 KB
 Air_TrainDefinition.cs	12 KB
 Air_TrainSqlTable.cs	1 KB
 AirTrain_Class.xml	5 KB
 AirTrain_ClassDefinition.cs	6 KB
 AirTrain_ClassSqlTable.cs	2 KB
 BaseAir_TrainSqlTable.cs	1 KB
 BaseAirTrain_ClassSqlTable.cs	1 KB
 BaseCurrencySqlTable.cs	1 KB
 BaseCustomerSqlTable.cs	1 KB
 BaseHotelPriceSqlTable.cs	1 KB
 BaseHotelSqlTable.cs	1 KB
 BaseQuoteAirTrainsSqlTable.cs	1 KB
 BaseQuoteDetailsSqlTable.cs	1 KB
 BaseQuoteHotelsSqlTable.cs	1 KB
 BaseQuoteSqlTable.cs	1 KB

Business

 Air_TrainRecord.cs
 Air_TrainTable.cs
 AirTrain_ClassRecord.cs
 AirTrain_ClassTable.cs
 BaseAir_TrainRecord.cs
 BaseAir_TrainTable.cs
 BaseAirTrain_ClassRecord.cs
 BaseAirTrain_ClassTable.cs
 BaseCurrencyRecord.cs
 BaseCurrencyTable.cs
 BaseCustomerRecord.cs
 BaseCustomerTable.cs
 BaseHotelPriceRecord.cs
 BaseHotelPriceTable.cs
 BaseHotelRecord.cs

GUI

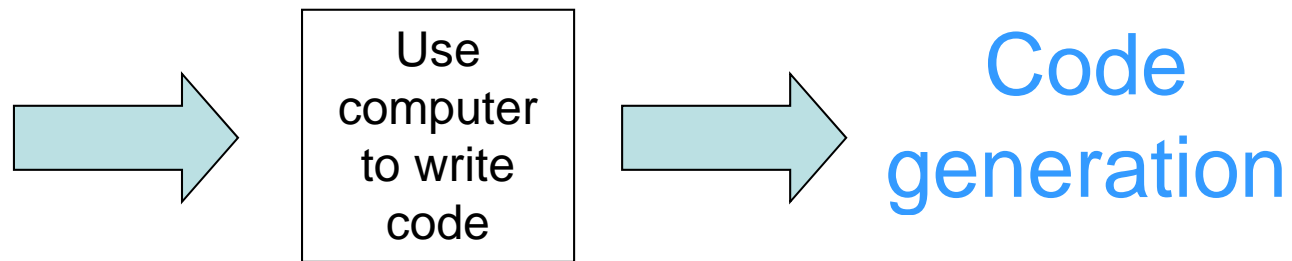
2 KB	 AddAir_TrainPage.Controls.cs	31 KB
4 KB	 EditAir_TrainPage.Controls.cs	32 KB
2 KB	 ShowAir_TrainPage.Controls.cs	21 KB
4 KB	 ShowAir_TrainTablePage.Con...	70 KB
21 KB		
22 KB		
10 KB	 AddAir_TrainPage.aspx	14 KB
19 KB	 EditAir_TrainPage.aspx	14 KB
10 KB	 ShowAir_TrainPage.aspx	9 KB
19 KB	 ShowAir_TrainPage.aspx.cs	6 KB
19 KB	 ShowAir_TrainTablePage.aspx	15 KB
19 KB	 ShowAir_TrainTablePage.asp...	5 KB
22 KB	 AddAir_TrainPage.aspx.cs	7 KB
23 KB	 EditAir_TrainPage.aspx.cs	7 KB
22 KB		
34 KB		

Problems

- Large application.
 - Time.
 - Concentration.
 - Effectiveness.
- Manage, check bugs, defeats.

Problems

- Solve?
 - Imitate servilely jobs.
 - Repeatively job.



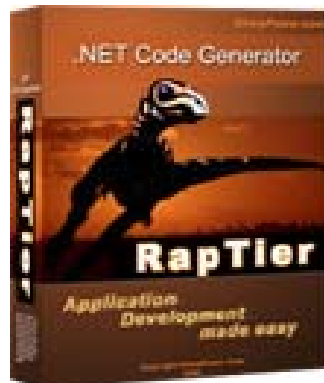
Demonstration

- Demo



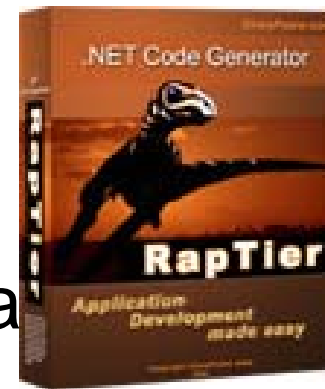
Gencode tools

- Complete application tool
 - .Net: IronSpeed, RapTier, CodeCharge, TierDeveloper, VBeXpress.NET, MyGeneration, ...
 - Java: CodeCharge,, ...
 - PHP: codegen, CodeCharge, ...



Gencode tools

- Raptier
 - Target: **Application** + Web.
 - Framework: .NET Framework.
 - Database support: MSSQL, Ora, mySql, MS Access, OleDb DB,....



Gencode tools

- VBeXpress.Net
 - Target : **Application** + Web.
 - Framework : .NET Framework.
 - Architecture: CSLA.NET.
 - Database support : SQL-Server, MS-Access, Oracle and DB2.



Gencode tools

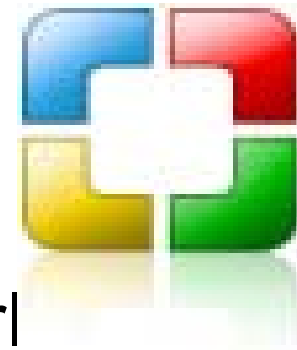
- IronSpeed Designer



- Target: **Web**.
- Framework: .NET Framework.
- Database support : MSSQL, Oracles, mySql, MS Access, OleDb DB,... .

Gencode tools

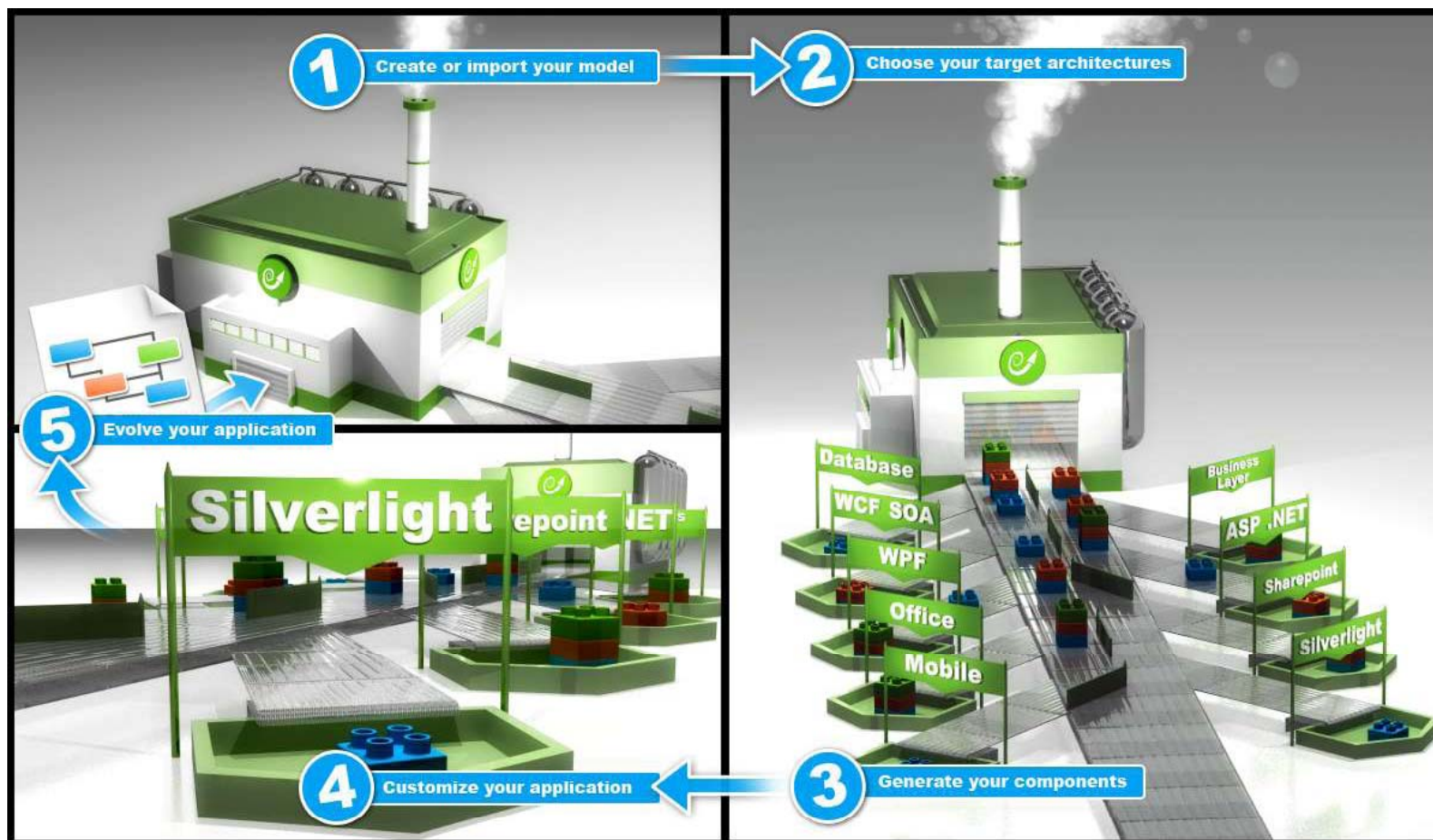
- CodeCharge
 - Target: **Web**.
 - Framework: PHP, ASP, JSP, Perl ColdFusion, ASP.NET .
 - Database: MySQL, MS SQL Server, MS Access, PostgreSQL ,... .
 - Advance utilities: Ajax, reporting, Charting.



Gencode tools (cont)

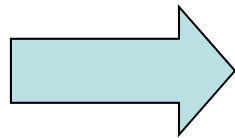
- Partial code: only part of an application – (definition of ORM)
 - Codecharge
 - TierDeveloper
 - LLBL
 - **Codefluent**
 - ...

Codefluent



Discussion

- Disadvantages:
 - Provider architectures.
 - Hard to modify.



Tool to
create
custom
generator

Codesmith

- Custom code generator engine.
- Template driven source code generator.
- *A generator engine that generate other engine*



Development trends

- O/R mapping tools
- Model driven development (MDD)

Q & A



Thank you

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