



## **Curriculum Vitae**

### **Nils van Breugel MSc**

Owner / Consultant

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### Profile



Nils van Breugel is an experienced, sharp and solution driven engineer. He defines, analyses, designs and implements state of the art ICT solutions. Nils always delivers a creative solution and concrete results. He focuses on complex systems where technology meets people. Nils is a certified SCRUM Master and Product Owner.

He advises leading organizations to grow their business. He develops innovative ICT solutions supporting their business goals. His experience ranges from strategic ICT advise, business process and information analysis, system architectures, application architectures to the actual implementation.

Nils gives occasional lectures about technical software architecture at The Hague University. He is an artist (painter) and runs PrimeShapes.com and likes to be involved in internet startups.

### Industry Experience

- Defence
- Public order management
- Public sector
- Logistics
- Arts
- Internet
- Health care

### Skills & Competencies

- Business analyst, requirements engineering, bid support
- Certified SCRUM Master, certified SCRUM Product Owner
- System architect, software architect, design reviews
- RUP & UML, functional design, Use Case models, technical design
- Agile, ESB, Service Oriented Architectures, Model Driven Development
- Information led operations, command & control: NCW & NEC, real-time logistics, trainers & simulators, business intelligence (BI)
- Tools: Enterprise Architect, Rational Suite, StarUML, Visio, DOORS, Visual Studio
- Development: C#, ASP.Net, AJAX, jQuery, Web services, XML, XHTML, CSS, ETL, BI, T-SQL, SQL Server Integration / Analysis / Reporting Services

### Roles

#### Strategic ICT consultant

Nils constantly exposes himself to new technologies and methodologies. He has the ability to translate these technologies to concrete innovative solution for customers. His consultancy services are based on actual experience with building actual innovative systems. He closely watches the latest trends and their possible application in current and future systems. He advises customers to define new ICT systems or optimize, adapt and extend current ICT systems to grow their business and keep a competitive edge. His motto: innovate by doing.

#### Information analyst & requirements engineer

Nils has the ability to translate customer requirements to process supporting automated ICT systems. Starting with business process analysis Nils develops a vision for a new system. Based on the vision he develops concepts for user interfaces and corresponding use cases to distil the system requirements. Nils prefers to work in short cycles as a SCRUM Product Owner. He verifies the requirements by communicating the new system in common terms to the future users making sure the system also fulfills their needs.

#### System architect

From his first working day Nils designs systems using model driven development. He designs systems from the contexts of business goals and business processes. He thinks in UML and concepts and loves complexity and abstractions. He designs systems fit for purpose within the given time, personnel and budget constraints to the highest possible quality standard. It complements an Agile approach.

#### Software developer

Nils still develops software every day to stay alert for new developments in software and development methodologies. Either working on his own site or writing articles for his own site. As an architect he needs to know the possibilities of a framework and/or programming language to design a system using the latest technologies. Nils now focuses on UML, C#.Net, Asp.net AJAX, the .Net platform, Azure cloud services, large scale web sites and SQL Server with the Business Intelligence tools.

### Career summary

Period	Company
2006-now	PrimeSkapes / PrimeShapes
1999 till 2006	LogicaCMG Nederland B.V.
1997 till 1999	Telematic Systems & Services B.V.
1996 till 1997	Document Access B.V. (now EDS)

### Education

Master of Science in Applied Physics, Delft University of Technology, 1997

### Business skills

Skill	Experience
Business analyst / ICT advisor	9 years
Information analyst	>10 years
Requirements engineer	9 years
System / Software Architect	>10 years
Software development	>10 years
Project manager / team leader	>10 years

### ICT skills & tools

Skill / tool	Experience
UML / RUP / Design Patterns	>10 years
Service / Bus Oriented Architectures	9 years
Model Driven Development	>10 years
SCRUM	2 years
Enterprise Architect, Rational Suite, StarUML, Visio, DOORS	>10 years
MS Visual Studio	>10 years
C#.Net / ASP.Net / AJAX / jQuery	9 years
XML / web services	9 years
SQL Server with BI Tools	4 years
SQL (T-SQL MSSQL, PL-SQL Oracle)	>10 years

### Languages

Dutch	Native
English	Fluent
German	Proficient

### Screening

Ministry of Defence (NL)	Level B
NATO	NATO SECRET

### Recent projects

may 2010 – now

#### **Bid Support, Analyst, Designer, Architect**

Defence

##### **Bid support - Multinational**

With PrimeSkapes as part of an international consortium, Nils supports a multinational company in writing a bid for a large distributed military system.

Nils is responsible for analyzing the requirements and helping create the “solution”. He create a domain model based on the requirements and a he created a Use Case Model. Nils created concept diagrams and prototype user interface screens in Visio. He makes contributions to the system architecture based on an Enterprise Service Bus.

Bid support, requirements analysis, Enterprise Service Bus (ESB), System Architecture, UML / Enterprise Architect, Use Case Model, Visio.

jun 2009 – now

#### **SCRUM Product Owner, Analyst, Designer, Developer**

Internet / Arts

##### **Website PrimeShapes – PrimeShapes.com**

PrimeShapes is one of Nils his companies. This art portal is still in development en will provide services for artists and galleries in the near future.

Nils is responsible for all aspects related to running the website. This includes management of servers, web design (logo’s, layout), website development and deployment, marketing etc. Nils uses SCRUM as development methodology. Parts of the website development are outsourced to Asia.

The website is being developed using ASP.Net 3.5 (C#) with AJAX and using Telerik SiteFinity as CMS. The website conforms to the latest internet standards like CSS and XHTML.

SCRUM, MS Visual Studio 2008, Adobe Illustrator, Adobe Photoshop, ASP.Net 3.5, CSS, C#, Telerik SiteFinity CMS, IIS 7, SQL Server 2008.

jan 2010 – sept 2010

#### **Analyst, Designer, Developer**

Internet / Auctions

##### **Website TroostwijkAuctions.com – Troostwijk**

Troostwijk Auctions is the largest industrial online auctioneer in Europe with a wide offering of machines and assets. The website enables traders and individuals to bid on the offered goods.

The website is developed using ASP.Net 3.5 (C#, AJAX) and a SQL Server database and uses the Octavalent CMS. Nils extended and refactored the online statistics module. The billing module was redesigned and built from scratch using SQL Reporting Services. Nils contributed to refactoring the backend of the CMS to enable it to host several auction sites (like CrashHouse.com) using the same underlying database.

ASP.Net 3.5, C#, Ajax, JSON, T-SQL, SQL Reporting Services

may 2008 – jun 2009

#### **Analyst, ICT architect**

Logistics / Public Sector

##### **DRIFE – Transportation and Support Service (DV&O), Ministry of Justice**

The Transportation and Support Service, the DV&O, is a governmental body responsible for the transportation of suspects, prisoners, aliens etc. support of the judicial process. The DV&O uses 150 vehicles every day for transportation of these persons. Each vehicle drives a certain route through the country to pick up and drop people of at desired locations. The planning of these routes and the related orders (for transportation of a person) is extremely complex as a lot of (sometimes conflicting) criteria have to be met. These criteria are set by politics and change frequently. Furthermore, around 25% of the orders for transportation are received at the day of execution.

DRIFE is the new fully integrated logistics planning system for the DV&O to automate the order intake, planning and execution. Customers like courts can add their own orders using the customer web application. Once orders are verified they are planned by the system. DRIFE supports real-time planning where the planning is calculated during the execution. Each vehicle constantly sends its current location and status back to DRIFE. DRIFE uses this information to update the planning. Relevant changes in the planning are then send back to the vehicles. DRIFE is fully integrated with other systems by using the Justice Service Bus.

Nils was responsible for analyzing the current processes used by DV&O and construct a business object model. Together with the senior management a Vision (RUP) document was written. Together with this document a stakeholder analysis was performed. The key requirements for the system were distilled from several workshops with the management and the planners. This resulted in a detailed Use Case Model (RUP). Nils wrote an architecture document for the new system. Nils made important contributions to other deliverables like the Business Case and the Project Initiation Document (PRINCE2).

PRINCE2, RUP, UML, Workshops, Vision, Business Model, Process analysis, Use Case Model, StarUML, MS Visio, Vehicle Tracking System, SOA, Justice Service Bus (ESB), Oracle Real-Time Scheduler.

sept 2007 - jun 2008

**Analyst, ICT architect, BI developer**

**BI / Horticulture**

**Financial Reporting – Bas van Buuren Substrates B.V.**

The board of directors requires insight in the financial data of all its private companies on a daily basis. This data needs to be viewed from several angles; geographical, products and sales. These reports provide basic filtering.

The geographical report shows the turnover and margin distributed over continents, countries and postal code areas. The products reports shows the turnover and margin based on product categories and individual products. The sales report displays the turnover and margin realized by sales teams and individual sales persons.

Nils extracted the required data from the Navision database. Stored the normalized data in a warehouse database. Based on this enterprise data model the data is stored and summed in a data mart. The reports were build in ASP.Net and published on the intranet using SharePoint.

RUP, UML, MS Visio, MS Visual Studio, C#, ETL, Navision, SharePoint, SQL Server 2005 Integration and Reporting services, T-SQL

mar 2007 - may 2007

**Requirements engineer, analyst, test coordinator**

**Defence**

**Joint / NATO Common Operational Picture (JCOP / NCOP) – NATO C3 Agency**

The JCOP is being used in a Joint Head Quarter (JHQ) for monitoring a mission on a strategic level ("Situational Awareness"). The system supports the commander in analyzing whether the mission is being executed according to the plan. JCOP is currently one of the most important developments in mission supporting systems in NATO. JCOP is a system of systems. Currently existing systems provide geo-referenced data using standardized protocols (web-services) that can be projected on top of a map background on a screen. These systems include command & control (C2) systems for land, air, maritime and joint. Logistic systems and "live" feeds from e.g. radars. In principle any system that supports the standardized protocol can have its data displayed in the JCOP. All the data from all the systems are combined to form the Joint Common Operational Picture as specified by the Standard Operating Procedures for the Head Quarter.

The JCOP is currently in use by the Joint Force Command Naples for monitoring e.g. the Kosovo mission. The system is used by the NATO Response Force (NRF), in exercises and is deployed in Afghanistan.

Now the system is used operationally new system requirements surface from different perspectives. These include: deployment, training, information management, operational usage (e.g. GUI).

Nils was responsible for adapting the vision and goals for the next increment of the JCOP (v0.5) where needed. He cooperatively developed the definition of the requirements engineering approach including tailoring the requirements management tool (DOORS). He helped define the focus areas for the next increment and supported in developing new & improved concepts for the system architecture of all underlying systems (JWEB, ICC, LC2IS, MCCIS, NIRIS). Nils defined a deployment strategy for rolling out JCOP in JFC Naples. He was responsible for coordinating and defining acceptance tests & communicating the results to the system-leads of the underlying systems. He advised in adapting new concepts. Supporting role in the development of training material with the key-operators in JFC Naples. Nils lead the final acceptance test of the first increment of the JCOP conducted with NATO CIS Services Agency (NCSA) in Mons/SHAPE (Belgium).

RUP, Vision document, concept development, Brainstorming, Requirements engineering approach , tailoring DOORS, process analysis, use-case analysis, test coordination & specification.

aug 2006 – oct 2006

#### **Analyst, ICT consultant, developer**

**Defence**

##### **FSS / MULAN – Defence Telematics Organisation (DTO), Ministry of Defence**

The Ministry of Defence currently executes a big migration (called MULAN) of all workstation and servers to Windows XP and Windows Server 2003. All applications need to be migrated to these platforms with much stricter security settings. The migration is of all the applications is being conducted by DTO. They discovered many applications using DCOM/COM+ as means of communication between the client and the server lead to big communication and security problems.

Nils produced a report with an exact description how applications using DCOM/COM+ can be migrated to the new platforms. He migrated a specific application called Financial System Schiphol (FSS) used by the Royal Netherlands Military Police. The application was written in Visual Basic 6 using DCOM/COM+ (then called Microsoft Transaction Server) and needed to use a newer version of the Oracle DBMS.

ICT consultancy, application migration to Windows XP & Windows Server 2003, DCOM/COM+, Visual Basic, VMWare, Oracle, Migrating FSS to MULAN.

jun 2005 – may 2006

#### **System architect, developer**

**Defence**

##### **TITAAN Team Trainer – Signal Corps, Royal Netherlands Army**

During the use of the Theatre Independent Tactical Army Airforce Network (TITAAN) in the field The Royal Netherlands Army (RNA) concluded that the knowledge for managing the network and the communication between the responsible officers needed to be improved especially in the case of Transfer of Command. The RNA needed a simulation environment to train officers in cases like Transfer of Command, Join en Leave. A new TITAAN Team Trainer was designed to be able to simulate multiple LANs and to train in teams using realistic scenarios.

Nils was responsible for the definition and design of the complete service oriented architecture of the TITAAN Team Trainer to simulate a complete TITAAN network. Nils designed and developed the key elements of the architecture. Nils wrote a development plan for realization of the TITAAN Team Trainer.

Rational Suite was used for documenting the design. Nils wrote the key applications and services using C# and MS Visual Studio. The Microsoft Enterprise library was used for logging, performance monitoring etc.

RUP, Rational Rose, Model driven development, Visual Studio 2005, SourceSafe, MS SQL Server 2005, SOA, .Net v2, generics, C#.Net, MS Enterprise Library, web services, .Net Remoting, ADO.Net, XML.

sep 2005 – mar 2006

### Requirements analyst

Defence

#### Land Command & Control Information Services (LC2IS) - NATO C3 Agency

In the last couple of years a scientific program was conducted to research a new command & control software application for land missions called LC2IS. Based on the results of this research NATO concluded to industrialize LC2IS. To acquire a system from the industry a system requirement specification was specified as a part of the total statement of work.

To specify the requirements Nils attended workshops and held interviews with the users at the NATO land headquarters in Europe (Brunssum, Heidelberg, Madrid, Napels). A vision document was written with the senior representatives of the headquarters to define the scope and purpose of LC2IS. To speed up the requirements capture Nils attended a workshop where all NATO members showed the key features of their command & control system. The best features were selected and added to the SRS after validation by the users. During the requirements phase Nils and NC3A specified the C2 system for the next century. As part of the SRS a user interface model was designed and Nils specified the concepts used in the SRS and documented these concepts in a concept document.

DOORS was used as the requirements management tool. In this tool the relations between requirements, workshop results, NATO processes, use cases and the NATO Target architecture. The user interface was designed in PowerPoint and Visio.

Workshops, interviews, Rational Unified Process (RUP), process-analysis, use-case analysis, DOORS (Telelogic), MS Visio, MS PowerPoint, LC2IS Prototype.

jan 2004 – may 2005

### System architect, lead developer

Public order management

#### @MIGO – TNO and Royal Netherlands Military Police

Since the setting-up of Schengen the Royal Netherlands Military Police has been charged with the implementation of the legal tasks which fall within the task field Mobile Surveillance Aliens with regard to the battle against illegal immigration. The Royal Netherlands Military Police checks people travelling across the border on the basis of random samples and (especially) on good luck. To enable information led policing (@MIGO) cameras have been placed above the highway (A16) to register all vehicles passing the border. With the use of data-mining (BI) deviating traveling patterns can be investigated. Profiles are then determined for vehicles used by target groups like smugglers of humans. These profiles are then used to send a 'hit' signal to a smart phone application. The 'profiled' vehicle could then be stopped for further investigation. Back-office databases are queried in real-time and results are sent to the smart phone as they become available. This innovative project had high coverage in the media (TV and newspapers).

As the lead architect of the project Nils was responsible for the software and hardware architecture. The team of designers and developers consisted of maximally 10 individuals. The project was based on fixed price.

The software architecture consists of a real-time messaging (ESB) part and a distributed service oriented architecture part. The services are fully based on interfaces. Nils designed the innovative concept and architecture. He contributed to the functional and requirements analysis. He designed and realized the key parts of the architecture. Nils presented the system at conferences and to the highest commanders of the Royal Netherlands Military Police.

RUP, Rational Rose, UML, Model driven development, Visual Studio 2003, SourceSafe, MS SQL Server 2000, T-SQL, SOA, Asynchronous messaging, Enterprise bus architecture, Near real-time, C#.Net, multi-threading, Compact framework & PocketPC, Secure web services, Remoting, XML over tcp/ip.

nov 2003 – jan 2004

### Information analyst

Transport sector

#### DIANTA – Transport and Water Management Inspectorate

The inspectorate requires a mobile application to uphold the Working Hours Transport Decree. Inspectors will use this application when the new digital tachometer for busses and coaches is introduced. The digital tachometer in the vehicle stores all the driving movements for each individual driver. Each driver receives a personal (crypto) smartcard on which the driving and rest hours are stored. The mobile application uses a smartcard reader to retrieve the work and resting hours stored on the smartcard. The data received is digitally signed to always be able to prove the integrity and authenticity of the retrieved data. In the back-office all the vehicle and owner information is automatically checked using secure web services over GPRS. All data can be used in a legal report when a violation of the law has been identified.

As information analyst responsible for the functional design of a mobile application and the back-office. The team of specialists (smartcards, security) consisted of maximally 5 individuals. The project was based on fixed price and fixed date.

Key elements of the solution are: security, encryption, smartcards, (web) service based architecture, secure communication over GPRS using web services, mobile applications and the .NET compact framework.

Workshops, GUI design, process analysis, MS Visio, UML, SOA, use-cases, prototyping, PocketPC, secure web-services, GPRS, smartcards, digital signing.

oct 2001 – apr 2003

### Project manager, information analyst, developer

Defence

#### IV&V IFAS architecture – NATO C3 Agency

Within the NATO department Intelligence Functional Area Service a new architectural framework is defined. All future applications developed for the intelligence domain need to adhere to this architectural framework.

The framework is based on the Integrated Architectural Framework (IAF). The framework defines high level component architecture with processes and roles for application realization (based on RUP methodology). A technical application architecture needed to be derived from the high level components.

As a final test for the validation and verification project a web based application was developed. In the final test all the defined roles and deliverables were validated. A web based command and control application was developed using the NATO Target architecture, RUP, UML, C#, ASP.Net, IIS SQL Server and the MapInfo GIS Server. Nils led a team of 3 analyst and developers. The final test was based on fixed price and fixed date.

RUP, IAF, Visual Studio, Rational Rose, UML, C#.Net, ASP.NET, MapInfo GIS server, Internet Information Server, MS SQL Server, T-SQL, SourceSafe.

jun 2002 – sept 2002

### Information analyst, software architect, coach

Health care

#### OSIRIS.2 ASP.NET – Research for man and environment (RIVM), centre for epidemiology of infectious diseases

Since November 2001 every GGD (City Health Service) can register occurrences of infectious diseases using the Internet. This system is called OSIRIS (Online System for notifying Inspection of public health and RIVM within ISIS). OSIRIS is developed by RIVM in cooperation with 3 GGD departments and IGZ, Inspection of Public Health The registration forms could not be easily changed. New questionnaires related to new diseases could not be added to the old system.

To resolve all these issues OSIRIS.2 is developed using Microsoft .Net framework (ASP.NET with C#). Secondly Nils convinced the KNCV, Royal Dutch Tuberculosis Association to participate in this electronic system for registering tuberculoses cases.

Nils conducted the requirements analysis using use-case analysis. Nils designed a new web based system using web forms that can be easily adapted to changing requirements for registering infectious diseases. Nils developed and tested the key elements of the architecture using web services, C# and ASP.Net.

Due to the success and flexibility of the system the World Health Organization wants to introduce it in thousands of hospitals in China. The system was described and published in the Microsoft .Net magazine.

MS Visio, UML, requirements analysis, use cases, model driven development, VB.Net, ASP.NET, SQL-Server 2000, T-SQL.

apr 2001 – apr 2002

#### **Project manager, analyst, software architect, developer** **Defence**

##### **Financial Systems Schiphol (FSS) – Royal Netherlands Military Police**

The financial section of the Schiphol district of the Royal Netherlands Military Police used more than 10 different systems for administering the financial transactions. Due to these different databases a lot of duplicate work was done. The databases were not Euro proof either.

Nils conducted an analysis describing several strategies for designing an integrated system for the financial administration and making it Euro proof. Nils conducted a business process analysis to chart all the processes executed at the section. Based on this analysis Nils wrote a agreed proposal to optimize the business processes were the employees are supported by a newly developed integrated financial system (FSS) that is easy to maintain and extend.

Nils designed and implemented a service oriented architecture using interface based Microsoft Transaction Server (MTS/(D)COM+) components. The exposed services were used by the client tier to collect and store data. The service components used ADO to connect to the Oracle database.

Rational Unified Process (RUP) was used for the development process. All designs were documented using Rational Rose. The design included use-cases, components, interfaces and the data model. All components and the client application were written in Visual Basic. The project was fixed price and Nils led a team of 5 developers.

RUP, Rational Rose, UML, process analysis, use cases, functional design, interface based design, model driven development, Microsoft Project, Visual Basic, Source-Safe, Oracle, PL-SQL, TOAD, SOA, Microsoft Transaction Server (MTS), DCOM, ADO, Word-reporting.