CURRICULUM VITAE

Gaston VERELST

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Confidential

Microsoft Azure Certified

Microsoft CERTIFIED Trainer

Web Development
Enterprise Application Development
Database Administration
Database Development

Microsoft CERTIFIED Technology Specialist

SQL Server 2008, Implementation and Maintenance
SQL Server 2008, Database Development

Microsoft CERTIFIED Solution Developer

Microsoft CERTIFIED Database Administrator

Microsoft CERTIFIED Systems Engineer

CURRICULUM VITAE

Gaston VERELST

Personal data

Name

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http://www.codeproject.com/Articles/1072575/Is-Testing-A-Waste-Of-Time

Best "Everything Else" Article of January 2016 (Second Prize)

Date of birth

9th of July 1967

Education

Professional Bachelor of IT

Open University certificates:

- Discrete Mathematics A & B
- Continuous Mathematics
- Inner workings of computer systems
- Model-driven development
- OO programming in Java
- Programming of web applications – client-side
- Human-computer interaction
- Computer internals
- Object-oriented analysis and design
- Development
- Web culture
- Data structures and algorithms
- Functional Programming (Haskell)
- Artificial Intelligence
- Software Engineering
- XML
- Logic for IT
- Formal Languages and Automata
- Concepts of Programming Languages
- Programming Practicum

Thomas More:

- Innovatief ondernemen

Microsoft certificates:

- Designing and Implementing Cloud-Native Applications Using Microsoft Azure Cosmos DB
- Microsoft Azure Data Fundamentals
- Azure AI Fundamentals
- Microsoft Certified: Azure Administrator Associate
- Microsoft Specialist: Developing Microsoft Azure Solutions
- MCTS .Net 2.0 Framework
- Windows Applications
- Web Applications
- Distributed Applications
- MCTS SQL Server 2008. Implementation and Maintenance
- MCTS SQL Server 2008. Database Development
- Installing, Configuring, and Administering Microsoft® Windows® XP Professional
- Developing XML Web Services and Server Components with Microsoft .Net.
- Microsoft Visual C# .NET and the Microsoft .NET Framework
- Analyzing Requirements and Defining Microsoft .NET Solution Architectures
- Commerce Server 2000
- ASP.Net
- C# Windows forms
- Networking Essentials
- MS Windows NT 4.0 Workstation
- MS Windows NT 4.0 Server
- MS Windows NT 3.51 Workstation
- Visual C++
- Certified Solution Developer
- WOSA I + II
- MS Access (&Basic)
- MS Excel (&VBA)
- MS Windows Architecture I
- MS Windows Architecture II

See https://learn.microsoft.com/en-us/users/gverelst/transcript/v2003hoprr3x4y0 for the complete transcript.

Languages

	Speaking	Under-standing	Writing
Dutch	*****	*****	*****
French	****	****	****
English	*****	*****	*****
German	***	****	***

Programming languages

C#
F# (good notions)
JavaScript
Visual C++

Databases

MS SQL Server (MCDBA)
Azure CosmosDb

MS Specialties

Azure architecture & development
.NET
SQL Server

Project overview

Here is a list of the projects that I have participated in during my career. All the projects are described in more detail later in this CV.

Period	Customer	Role
9/2019 – 12/2022	HealthOne	Solution and Azure architect + development
3/2020 – now	PLS Transport	Full stack development + architecture of Contract Management system
10/2022 – 11/2022	Dennemeyer	SQL Server optimization
5/2019 – 7/2019	Ypto	Azure architect for eDrive project
2/2019 – 4/2019	Telenet	Azure architect for IoT project
6/2017 – 1/2019	Testaankoop	Team lead + architect for the Market Data Management project
1/2017 – 5/2017	Univeg	Review + improve the architecture of their WMS
5/2016 – 1/2017	Testaankoop	Solution architect + implementation of the Testaankoop calculators
6/2015 – 3/2016	Digipolis	Solution architect for A-Welzijn project
10/2012 – 12/2014	Euroclear	Solution architect + development of Easy way project
9/2009 – 10/2012	Toyota	Solution architect + lead developer
11/2006 – 8/2008	Trane	Solution architect + lead developer fulfillment application
9/2005 – 12/2005	American Standard	Conversion and consolidation of several SQL Server databases
2/2005 – 5/2005	Vlaamse Gemeenschap	Development of budget application
8/2004 – 12/2004	Nacosa (NATO, Shape)	Implementation of a secure installation program
4/2004 – 5/2004	Nuon	Implementation of a web application to compose e-mail responses from a knowledge database
2/2004 – 4/2004	Claerhout	Analysis and code review for their common library in VC++
9/2003 – 10/2003	Virtuology	Implementation of an Asp.Net website
7/99 – 1/2002	SCA	Implementation of a front-end to run scripts on an Ansys calculation engine in ASP
7/99 – 8/99	NATO	Implementation of an Exchange Client Extension in VC++
3/99 - 6/99	Verzekeringen Van Breda	Implementation of components in an insurance project in VB6
7/98 - 2/99	Globe Continental	Implementation of a stock management application in VC++
11/97-6/98	Antilope	Cost calculation project in VC++
2/97 – 11/97	Generale bank (the biggest bank in Belgium – now Fortis)	Implementation of several parts of a Common System Layer in VC++
1/96 – 1/97	Gemeentekrediet (2nd biggest bank in Belgium, now Belfius)	Implementation of several components in VC++
6/95 - 1/96	Siemens - VDAB	Full implementation of a client for an OCR application in VC++
2/95 - 6/95	ATEA	Analysis, design and implementation of a PABX interfact on Windows in C++
7/91 - 2/95	HBK Spaarbank	Development of multiple projects in C
4/90 - 7/91	Fuji Control Center	Development of multiple POS systems in Clipper

Projects

Remarks:

In between projects I have been teaching many courses from the Microsoft Official Curriculum and some self-designed courses. Part of the list of courses that I am teaching is at the end of this resume.
End-dates are approximate. Some projects carry on with some consultancy days.

9/2019 – 12/2022

Customer: HealthOne

Projects:

General

Set up of a DevOps environment to make all the software deployments traceable and repeatable.
This includes adding tests to many of the projects during the stabilization.

Role:

We are working in a small team, where I am the architect on Azure, the solution architect and the implementer, together with a coworker who mainly handles the system side.

eFact

See https://msdev.pro/2021/04/18/using-an-f-dsl-to-generate-c-code/.
Integration with the eHealth services of the Belgian government. Managing the flow of electronic invoices to be sent to eHealth (MyCareNet) and handling the possible responses.
To manage the (complex) data format of the eFact files I created a Domain Specific Language (DSL) in F#, which generates the necessary C# classes.

Technology:

- Microsoft Azure
  - Storage Blobs, Queues, Tables
  - K8S
- .NET core 6
- C#
- DSL in F# to manage the eFact format

Cloud Synchro

Refactoring of a complex project to synchronize data asynchronously between multiple clients. The application consists of a server side service that consolidates all the data to be distributed over the clients in an efficient way; and a DLL being called from Delphi to interact with the services. Underlying we mainly use ASB Topics for the communication, and of course a REST client. **As a result this application is now running with many thousands of lines less, and more stable.**

Technology:

- Microsoft Azure
  - Storage
  - API Management
  - Azure SQL
  - Azure Service Bus
  - AKS
- VS 2022
- .NET core
- C#
- Docker

HDMP Notifier

See https://msdev.pro/2020/05/01/sending-notifications-with-corona-updates-to-thousands-of-doctors/.
A UWP application, used to notify our clients (doctors) of Corona updates. When we publish an update, a toast message pops up on the client PCs. The application code is not very complicated thanks to the use of the MS Azure Notification hub.

Technology:

- Microsoft Azure
  - Notification Hub
- VS 2019 + UWP
- .NET core
- C#

HealthOne back-end

MS Azure architecture for the back end of the application. Web services are called from the front-end (Delphi) as a bridge between the front-end and various eHealth services.

The same services will later be used by the new web application, called HealthOne Nova.

Technology:

- Microsoft Azure
  - Storage
  - Key Vault
  - API Management
  - Azure Active Directory
  - Azure SQL
  - Docker + Azure Kubernetes Services
- VS 2019
- .NET core
- C#

3/2020 – now

Customer: PLS Transport

Digital File Manager

The client has an old application that keeps track of all the client files. This is a proprietary database with a lot of functionality. The application is being used for more than 10 years now and has clearly reached its expiration date. I have redeveloped this application as a modern web application. On the back-end I use Azure App services + SQL Azure. On the front-end I use mainly ReactJS.
The current application contains 400 (!) tables of loosely structured tables. Importing this data was a complex task. The new database contains approximately 40 normalized tables, which allows for very fast data access.

Role:

This was a “one man show”, so I was as well the architect on Azure, the solution architect as the implementer.
The project is now in the maintenance phase.

Technology:

- Microsoft Azure
  - App services
  - SQL Azure
  - Storage (blobs)
  - Azure Active Directory
- .NET core
- C#
- JavaScript, ReactJS
- Msal libraries
- Microsoft Graph
- Office 365 integration
- ReactJS

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10/2022 – 11/2022

Customer: Dennemeyer
Project:
Analysis of a SQL Server database with performance problems. The application executes very large and complex queries, with response times of **over 20 minutes**, very often resulting in time outs.
At the end of the project I managed to reduce to query time to a **couple of seconds**, making the application viable again.
Technology:

- SQL Server 2019

5/2019 – 7/2019

Customer: Ypto
Project:
eDrive
Reinforcing the team that writes a tablet app to support the train drivers in Belgium. I worked exclusively on the back-end side helping with the development of new features, and with the architecture of both the Azure side and the development side.
Role:
Azure Architect and solution architect
Technology:

- Microsoft Azure
  - Azure Functions
  - Cosmos Db
  - Storage
  - Key Vault
  - Event grid
  - API Management
  - Azure SQL
- VS 2019
- C#

2/2019 – 4/2019

Customer: Telenet
Project:
IoT Gateway
As an MS Azure architect, I am leading the transition of an IoT project. A 3rd party built an IoT gateway that routes messages from 1 known endpoint (the gateway) to the clients IoT hub for further processing.

The Gateway is built in MS-Azure, using (amongst others) Service Factory, IoT Hub, Cosmos Db, Storage. Everything is deployed using ARM templates and PowerShell scripts (configuration as code).
All the code written for the implementation of the different protocols on the gateway side and the implementation of ingestion services on the tenant side is written in .NET.
Role:
Azure Architect and solution architect

Technology:

- Microsoft Azure
  - Service Fabric
  - Cosmos Db
  - Storage
  - Key Vault
  - IoT Hub
  - DevOps
- VS 2017
- C#

6/2017 – 1/2019

Customer: Testaankoop
Project:
Market Data Management (MDM)
Consolidation of the energy data of 4 different countries. The data is currently maintained in several Excel workbooks. The MDM application moves all this data into 1 common database for the energy market.
For this project I went through different roles:

- Requirements gathering with all the responsible users from each country. During the first 5 months, I also presented the status meeting with all the POs.
- Analysis and design of the application. Also, the first database design and the technology stack was decided by me.
- Managing and coaching a team of developers to implement this application.
- Developing the back-end and big parts of the front-end (using SyncFusion components).
- Contact with the POs.

Role:
Solution architect + implementation

Technology:

- VS 2017
- C#, LINQ, EF 6
- SQL Server 2014
- SpreadsheetGear to interface with Excel
- MVC5, SyncFusion components

Partner Communication Framework.
Architecture and implementation of an Azure application to communicate switch requests to different parties, and receive their feedback.
This project was initially a long-winded C# project, that I changed into an Azure application. It mainly uses Logic Apps, and queues to facilitate the communication between the apps and the calling applications.
I am the team lead of a team of 5 persons, working in Belgium and in Portugal.
See https://msdev.pro/2017/08/04/architecture-of-a-polyglot-azure-application/

Technology:

- VS 2015
- F#, C#,
- MS Azure
  - Cosmos DB
  - Logic Apps
  - Storage queues
  - Azure functions

1/2017 – 5/2017

Customer: Univeg
Project:
Warehouse Management System. The global architecture of the WMS.
Initially improving the database performance, thereby improving the overall performance of the application.
Set up a private NuGet server to start unraveling the application (see also https://msdev.pro/2017/04/07/automating-the-creation-of-nuget-packages-with-different-net-versions/).
Working out an architecture to make the application scalable and future-proof.
Role:
Azure Architect and solution architect + implementation

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5/2016 – 1/2017

Customer: Testaankoop
Project:
Calculation Engine. Development of additional functionalities in the Test Aankoop calculators. These calculators use Excel as a calculation engine. Our applications provide input parameters to the calculators and receive the output parameters. Currently, all the data is contained in the Excel workbooks, which is sub-optimal and not scalable. My assignment was to make this process as performant as possible. Implemented one of the calculators in F# for documentation purposes. See https://msdev.pro/2017/01/04/structuring-your-excel-the-hidden-agenda/ and https://msdev.pro/2017/03/12/implementing-the-excel-simulator-in-f/. Also, code reviews / code refactoring and simplification; and coaching of the other team members are part of my responsibilities.
Role:
Solution architect + implementation
Technology:
- VS 2015
- F#, C#, LINQ, EF 6
- SQL Server 2014
- Enterprise Architect
- SpreadsheetGear to interface with Excel

6/2015 – 3/2016

Customer: Digipolis
Project:
A-Welzijn. The current application has become too complex and is not up to modern standards anymore. Digipolis started rewriting the application as a web-based application a year ago, but this doesn't go as smoothly as they want. As an application architect, my role is to chart the current problems in the project and to tackle them in order of priority. I initially created a document describing the high-level architecture of this project. This document reveals a lot of areas where my experience can help to move the project forward. Then I vastly improved one of the services, as an example for the team (the codebase was **reduced by 95%**!) and, I introduced TDD to improve the developer's throughput.
To support the management, I created a C/E diagram, which **visualizes the current project problems**, and how we can break some of the vicious circles in the project.
Role:
Solution architect + tech lead

Technology:
- Stash / Jira
- .Net Core, C# 6
- VS VS2015

10/2012 – 12/2014

Customer: Euroclear
Projects:
1. Easyway. A **key project** for Euroclear. I created the high-level technical design that has been successfully implemented. This contains the server topology, communication between different environments via WMQ and web services, capacity plan, enforcing of all the non-functional requirements that need to be implemented.
2. TF Analysis. I performed a code / design review for the current Technical Framework (> 1.000.000 SLOC). Most of it is written in C++, some in C#. I created a document outlining the weaknesses and designed a strategy to mitigate this and to improve. As a result, the codebase has now been **reduced to 300.000 SLOC, an improvement of 70%**.
3. HIS Phase Out. I created a proxy generator that fulfills all the Non-Functional Requirements imposed by a big bank. I also created a program generator for the migration of HIS to web services, **saving 100s of man-days** to the bank.
4. COM+ Phaseout. I investigated the possible use of replacement technologies for COM+, which is used a lot at Euroclear. The investigation included "Windows Azure Pack" (WAP) and "Windows Process Activation Services" (WAS). The focus was on creating a strategy to implement WAP in the bank and verifying how big the impact would be for several departments.
5. White Label application. An example application implementing all the non-functional requirements in a solid way, to be used by other teams as a starting point for their MVC development.
6. Coaching and knowledge transfer
Technology:
- TFS
- .Net 4.x
- VS 2012, VS 2013
- C#, LINQ, WCF
- ASP.NET MVC, REST API
- WAP, Microsoft Azure

9/2009 – 10/2012

Customer: Toyota
Projects:
1. LMS Tools Suite. Collection of tools for the management of LMS, written in .Net 4.0 with TPL and WPF.
2. LMS Reports. Reports on SSRS 2005. Optimization of the current reports to *increase performance by over 400%*.
3. TESCAR. Follow-up on the Spanish CRM tool. Helping them achieve their performance KPIs.
4. XML Import. Application to import XML data from all the European countries into the Toyota Car database.
5. A2P Bridge. Component to read product data from a Java web service, interpret the data and import it into the CarDB database.
5. DOA Sync. Sync users stored in a DB2 database with CertPoint's LMS tool.
6. Flex CRM. Windows Forms application implementing a simple CRM system for the Toyota dealers. Mainly based on SCSF.
7. UIM Notification. Rewrite of a bridging application between the Toyota in-house user management system (TARS) and a learning system (LMS). Using WCF to create the web service and to call TARS web services. Currently, this service is synchronizing **> 70.000 users and 5.000 organizations** on a regular basis.
8. Viewpoint Sync. Technical design and implementation for the

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synchronization of car data between the master CarDB database and over 1.000 workstations in the UK. Web service written in WSSF, C# 3.0, LINQ.

Technology:

- .Net 4.0, VS 2010
- .Net 3.5, VS 2008
- C#, LINQ, TPL
- SCSF / WCF / WSSF / WPF
- Enterprise Library
- SQL Server 2005/2008
- XML, XSLT
- Subversion

11/2006 – 8/2008

Customer: Trane (formerly American Standard)

Project:

Creating the architecture for a fulfillment application.
I analyzed the initial needs for the application and selected the frameworks to develop with (SCSF with WSSF).
I created the **framework** for the application, which has been further implemented by an Indian development team. I also created the hardest modules for the user interface and for the web services.
I was the **lead developer** for the framework to be used. I also **managed and coached the development team** so that they could learn the technology.
I managed the daily SCRUM meetings to measure the progress of the project and reported directly to the program manager and to the Steering Committee.
I trained and coached people for using WCF, SCSF, WSSF, and XSLT.

Technology:

- .Net 3.0, VS 2005, C#
- VSS 2005
- Infragistics NetAdvantage for .Net
- SQL Server 2005
- WCF (Windows Communication Foundation)
- SCSF (Smart Client Software Factory)
- WSSF (Web Service Software Factory)
- Initially MSF, later moved to SCRUM.

9/2005 – 12/2005

Customer: American Standard

Project:

Top consultancy for the conversion of several SQL Server 2000 databases, and consolidating everything to 1 server. Some 30.000 views and hundreds of DTS packages had to be migrated into another environment. This required a lot of programmatic changes. I also coached the DBA for the database consolidation.

Technology:

- SQL Server 2000
- DTS
- .Net, C#, regular expressions, advanced parsing.

2/2005 – 5/2005

Customer: Vlaamse Gemeenschap

Project:

Application to manage budgets, with complex logic to maintain.

Technology:

- MS Access 2003, VBA

8/2004 – 12/2004

Customer: Nacosa (NATO, Shape)

Project:

Installation program. The program contains some libraries for encrypting / decrypting activation string, and on the server-side, these strings are checked to see if the application can be installed or not.

Technology:

- InstallShield DevStudio 9 and X
- Visual C++ 6.0
- Visual Interdev
- DNA

4/2004 – 5/2004

Customer: Nuon

Project:

Mailer program. The user can enter a search expression to search in a FAQ database. All the relevant articles are then presented, and by selecting them a mail body is created. The same web-interface then sends the mail to the customer.

Technology:

- .Net framework
- C#
- ASP.Net
- SQL Server 2000
- SMTP components

2/2004 – 4/2004

Customer: Claerhout

Project:

Top-consultancy for building a framework in Asp.Net. I helped them with the use of UML, .Net, and performed the code reviews for the end product.

Technology:

- MSF
- Rational Rose
- .Net framework for POC
- Visual Studio .Net
- C#
- ASP.Net
- SQL Server 2000
- Guidance in the use of UML (Visio) and DNA.

9/2003 – 10/2003

Customer: Virtuology

Project:

Finishing a website in ASP.NET to enable coworkers to enter questionnaires. This was an existing product that required debugging and finishing.

Technology:

- .Net framework
- Visual Studio .Net
- C#
- ASP.Net
- SQL Server 2000
- JavaScript - XML

7/99 – 1/2002

Customer: SCA

Project:

FEM. This project calculates the strength of boxes. The parameters of the box are entered on a web page. Each time the parameters change the picture of the box is adjusted. This is done in VRML. Then they are sent to a server that calculates the box and sends back the results.

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The preview of the box is shown in a separate frame in VRML. The results are sent back in VRML as well.
On the server, a COM service runs to get the parameters of new boxes and send results back (queuing).

Technology:

- Visual C++ 6.0
- DCOM services using ATL 3.0
- VRML (Virtual Reality Markup Language)
- OCX for HTML
- Visual Interdev 6.0
- ASP, DHTML, IIS
- UML, DNA

7/99 – 8/99

Customer: NATO
Project:

Exchange Client Extension. An extension to force that when sending a message the user is always forced to add a notification to it. This is currently used at NATO, **worldwide**.

Technology:

- Visual C++ 6.0
- COM using ATL 3.0
- Exchange Client Extensions

3/99 – 6/99

Customer: Verzekeringen Van Breda
Project:

Components in an insurance project. Several components that do data access to a SQL Server 7.0 database. We were working in a team with the internal people and consultants to get the project working.

Technology:

- Visual Basic 6.0
- SQL Server 7.0
- MTS, COM programming
- ADO

7/98 – 2/99

Customer: Globe Continental
Projects:

1. Stock management application in Windows NT, using SQL Server 6.5. The stock is updated immediately in the database. The GUI conforms to what one expects from a modern interface (splitter windows, toolbars, trees …).

Technology:

- Visual C++ 6.0, COM
- SQL Server 6.5
- OOAD
- Crystal Reports 6.5, using User Function Libraries

2. Fax Notifier. SBS does not send a notification when a fax has arrived at the destination. This little NT service checks the Event log and when a 'Fax sent' event comes in, it sends an e-mail message to the sender.

Technology:

- NT Event log
- MAPI.

3. Fax Client. SBS does not allow faxing files together with a message using Outlook. This Faxclient is based on the Wordpad example and expands it in several ways:

- Page breaks are now supported. Wordpad is based on the RTF control that doesn't support page breaks, FaxClient does.
- Files can be inserted in a protected area of the document, and in a fixed font (Courier). Like that ASCII files retain their columns.
- Added a File | Fax menu item that actually sends the fax.

Technology:

- MFC CRichEditCtrl.
- Small Business Server 4.0

11/97 – 6/98

Customer: Antilope
Project:

Project performing the pre-calculation of all the expenses in a printing company. The user needs to be able to simulate several scenarios, so the application is a really open tool that permits all options to be changed. The application has been built up from the beginning, using OO techniques for the analysis and the design (Select Enterprise). I did the whole trajectory: from the first discussions with the customer until the implementation of the final application, and the acceptance from the users. I did the analysis and I led the development team to a successful implementation.

Technology:

- UML, document / View architecture (pre-DNA)
- MS Visual C++ 5.0 and MFC.
- COM programming to build an interface with Excel and Word documents.
- MS SQL Server 6.5. Stored procedures, triggers, SQL, BLOBs.

Skills:

- OOAD
- Leading a team of developers.
- Functional analysis, design.

2/97 – 11/97

Customer: Generale bank (the biggest bank in Belgium – now Fortis)
Project:

All the projects have been done using Visual C++ 5.0. Some have been ported from VC++ 4.2 to VC++ 5.0. These projects were done as a member of a team of developers.

1. WriteReg. A Windows NT service allowing a user to apply a REG4-file to the registry, impersonated as an administrator, and to launch a command impersonated as an administrator. This allows installing software without being logged on as an administrator. The service is accepting commands through a named pipe.

Technology:

- Windows NT 4.0. Service. Writing + debugging.
- Named pipes for the inter-process communication.
- Registry APIs. As well updating the registry data, as changing the security on registry keys.

2. CreateSC. A tool to create shortcuts from the command line. Solves all kinds of problems we had copying a shortcut from one workstation to another.

Technology:

- Com interfaces, IShellLink.

3. Policies. In order to make sure that users can't mess things up on their workstations, we use policies (poledit). Not only we used the existing NT 4.0 policies, but we also created new policy template files for the specific needs.

Technology:

- Editing .adm-files (+ specific syntax)
- Using poledit

- MSDN and Technet to find the correct registry values.

4. PrintPol. Using MFC we display a policy file in a tree control. The user can open one or more policy files in the applications. The policy files can then be printed.

Technology:

- MFC framework (MDI)
- Printing + print preview in MFC
- Registry APIs

5. RegACL. A tool to change ACLs (Access Control List) in the registry in a very easy and powerful way. Using an INI-file we describe the security settings to be changed in the registry. RegACL interprets this INI-file and sets the ACLs on the concerned keys.

Technology:

- Registry APIs
- Security APIs
- Text / String interpreting
- OOAD

6. G SetDisp. A tool to dynamically change display settings. The settings are saved per user. The user gets an icon in the taskbar that displays the current settings. By clicking right on this icon the user gets a menu with all possible settings.

Technology:

- Tray messages
- APIs for changing screen resolutions.
- MFC framework

7. SFTView. A user interface to a program that does the file transfer from one workstation to another. SFTView is implemented as a Namespace Extension, which is completely integrated into the explorer. I implemented Drag and Drop, Copy / Paste, sort files, different views …

Technology:

- Implementation of the COM interfaces needed to create a namespace extension.
- Encryption API's
- Data Compression Library (PKWare)

8. G Copyhook. This is a COM interface that prevents a user moving directories from or to network drives.

Technology:

- Implementation of COM interface ICopyHook

9. SFT. For performance reasons, SFT (Secure File Transfer) has been re-written in Visual C++ 5.0. In order to get maximum performance, we use all OS features of NT 4.0. SFT is a service handling requests that come in through a named pipe. Each request is handled in a separate thread. To limit the number of concurrent threads, a semaphore is used. The requests are placed in a FIFO queue and then dispatched by a separate thread. To synchronize the access on the FIFO critical sections are used.
The service is implemented using Visual C++.
Files are transported over a WAN, so we first compress them using the Data Compression Library of PKWare (adding our own CRC mechanism) and then we encrypt them using the crypto APIs in Windows NT.

1/96 – 1/97

Customer: Gemeentekrediet (2nd biggest bank in Belgium, now Belfius)

These projects were done as a member of a team of developers.

Project:

1. XFS (Wosa). Study of Extensions for Financial Services, for the implementation of an XA-compliant printer driver, used to print banking transactions.

Technology:

- MSDN
- WOSA

2. GINA. MS-Gina is the DLL doing the security in Windows NT. I replaced the DLL to prevent users from logging on twice in the same domain. For this application, I wrote a pass-through DLL that replaces the original one, but still calls functions in it (hence pass-through DLL).

Technology:

- Net API's
- Registry, also on remote machines
- Pass-through DLL

3. Hardcopy. When the user pushes the 'Print screen' key, the screen is immediately printed, instead of being stored on the clipboard for further use. The output comes on a printer of choice.

Technology:

- Keyboard codes
- Control panel applet (to change the settings of the application)
- Eastern eggs ☺

4. License Control System. We want to check that an application is only opened as many times as is allowed in the license agreement. To do that we let every application before starting to communicate with the server, that checks the licenses.

Technology:

- Registry (remote)
- Service
- Named pipes

5. Tam Tam. Sometimes the self-banking machine needs maintenance. For that, it broadcasts a message that is trapped by this application. The application is always up and running, and waiting for a message.

Technology:

- FSE: an Olivetti product to facilitate the link to the server.
- Threads & Thread synchronization

6. Unattended/Automatic installation. At boot time the WS first checks on the server if there are any new packages or patches. If so, the changes are applied first.

7. Conversion 16-bit Pascal - 32-bit Pascal sources. C++ program to automatically convert these sources. We talk about some 5000 sources in over 400 directories on a server. So it is very important to make the program as performing as possible.

Technology:

- Memory-mapped files + asynchronous file I/O
- Text/String processing functions
- Multi-threading
- MS Windows NT 3.51
- MS Visual C++ 4.x

6/95 - 1/96

Customer: Siemens - VDAB

Project:

Senior Technical Consultant for SIEMENS for creating an optical archiving system. As a member of the development team, I did the complete OO analysis, OO design, development and the audits of this MS Visual C++ application. The application is used to

correct data that have been scanned in and recognized by OCR. In the first phase of the project, the data was stored in an Informix database. The data was then recognized and stored in the database, together with the scanned images. Later we changed the database to an Oracle 7 database on a SINIX machine. The application has been built using VC ++ 1.51 and ODBC 2.0 and MFC 2.51. The first priority was the speed of the program. It must allow users to correct as much data as possible as fast as possible. So the code had to be tuned for speed. We used ODBC-tuning, the Windows Idle Loop (as no multi-threading was available yet), etc.

Technology:

- MS Windows for Workgroups 3.11
- MS Visual C++ 1.5
- ORACLE 7
- INFORMIX
- Native ODBC

2/95 - 6/95

Customer: ATEA
Project:

Senior consultant analysis, technical design, and implementation for a C++ layer for a PABX. The events that happen for the PABX are handled in a C++ DLL.

(The DLL then sends messages to a VB application (front-end). The application has been written using Borland C++ 4.5.

Technology:

- MS Windows for Workgroups 3.11
- MS Access 2.0 (&Basic)
- MS Visual Basic 3.0
- Borland C++ 4.5
- Object Modeling OMT (Rumbaugh)
- Paradigm (case tool)

7/91 - 2/95

Customer: HBK Spaarbank
Project:

Data entry application for the agents of HBK Spaarbank. The agents enter their transactions using this application. Every transaction needs to be checked on several validation criteria. When a valid transaction has been entered, it is printed on a (proprietary) printer. The transactions are kept in a database and at least once a day uploaded to a mainframe.

Technology:

- MS Windows 3.1/3.11
- MS Visual C++ 1.5, MFC 2.5
- MS Access
- OMT Rumbaugh
- Greenleaf Comm++

Project:

Data entry application for HBK agents. This is the same application as mentioned above but in a DOS version. Target platform is an 80286 with 1 MB internal memory.

Technology:

- MS-DOS; MS C++ 7.0
- CScape and Look and feel
- Raima Data Manager
- Greenleaf comm++
- OMT

Project:

Analysis and development of a database layer in a UNIX environment. The purpose is to shield the complexity of Oracle databases from the other developers, so they can concentrate on the functional design of the application. *This development allowed a complex bookkeeping application to be finished on time and on budget.*

Technology:

- RS/6000, HP-9000
- ANSI C/C++
- OMT (Analysis)
- Oracle 5, later 7
- AIX & HP-UX

Project:

Analysis and technical design of a layer to shield the complexity of the combination of Raima Data Manager a network PC database) and Cscape (a library to create C-forms) from the developers, so they can concentrate on the real application.

Technology:

- MS-DOS
- Borland C 2.0

4/90 - 7/91

Customer: Fuji Control Center
Project:

1. POS System. Analysis and development of a commercial application for managing multiple stores.

All the stores are managed from one PC in one point. The PC is connected (either by modem or through a serial cable) with one or more cash registers. The articles that are represented in the cash registers are first put in the PC, with possibly different prices per store. Then the PC can read the data from the cash registers and treat the data from it, so it can be used in accounting software.

The orders of all the stores are treated as one big order and then sent to the suppliers.

2. Rewrite PC – cash register communication. At Fuji Control Center the communication with the cash registers was written in a separate Basic application that had to be modified for every project. This was error-prone and time-consuming. It is now replaced by a C library that only needs to be configured to work correctly.

3. POS for a supermarket. Analysis and design of an application for managing a supermarket with several cash registers. This is a simpler version of the above-mentioned application.

4. POS Backoffice. Finishing an application for managing one store with one cash register. This application was used as a back-office for an electronic cash register.

Technology:

- MS DOS
- CLIPPER (summer '87)

- D / X3
- C

Instructor overview

After having followed courses to acquire the MS Train-the-trainer skills (MCT), the following courses have been taught many times to TOP 100 customers in the Benelux and in France (Paris). Most of the courses are the Microsoft curriculum courses, some of the courses I have created myself.

Cloud

MS Azure Development
MS Azure Infrastructure

Methodology

UML / OOAD
MSF

Development

.NET framework
.NET languages (C#, VB.NET)
ASP.NET and MVC
WPF / Windows Forms
WCF
C / C++ / MFC / ATL
VBA (Microsoft Access, Office)

SQL Server

Programming SQL Server
SQL Server administration
SQL Server Reporting Services

System

Windows NT / XP / Server
Active Directory

Courses are taught in English, Dutch or French, depending on the language of the students.