

Resume Geert Premereur

Personal data

1971/01/26

Belgian, Single

1989 – 1994: Master in Computer Science Engineering, University of Ghent

1983 – 1989: Mathematics, Koninklijk Atheneum Zottegem

Languages

Dutch: Mother tongue, English: Excellent, French: Moderate

German: Basic, Spanish & Portuguese: Beginner

Industry sectors

- 2017-current: public sector, road infrastructure (Agentschap Wegen & Verkeer)
- 2011-2017: 6 year Research, consumer electronics (Sony TechSoft)
- 2007-2011: 4 year experience public/private sector (De Post/La Poste, now bpost)
- 1999-2007: 6 year experience automotive sector (Toyota Motor Europe).
- 1999-2002: 1 year experience public sector (VIZO).
- 1997-2001: 2 year experience e-commerce/fresh food (PEFA).
- 1994-1998: 4 year experience education (UGent)

Project management & coaching

- Management of project execution of a small team.
- Coordination with other technical teams and compliance departments.
- Effort estimates, planning, follow-up, budget management and reporting.
- Follow-up of help desk, business representative & end-user feedback, error reporting and quality control.
- Project release management.
- Presentations & demonstrations to end-users & steering committees.
- Experience with off-shore & near-shore outsourcing.
- Coaching, teaching & supporting developers
- Writing patent proposals

Analysis

- Gathering, refining and describing user requirements (use cases) with UML
- Documenting business processes.

Architecture & development

- Server platforms: UNIX (AIX, Solaris), Linux (Ubuntu, Debian, Redhat, CoreOS), Microsoft Windows (up to Windows 2003), IBM z/OS mainframe.
- Programming languages: Java, Scala, Ruby, Javascript, Typescript, C, C++, Perl, Python, Haskell, Clojure, Pascal, Smalltalk, Shell scripting, C#, Visual basic, Visual Basic for applications, JCL.
- XML related: XML, XSLT, XPath, XML DTD & Schema, SOAP web services, XMLSpy, SoapUI.
- Database technologies: Apache Cassandra, Elasticsearch, SQL, SQLJ, Oracle, DB2 (Windows, Linux, z/OS), MS SQL Server, MySQL, Derby, SQLite, PostgreSQL, Google BigTable, Hive, MS Access, ER Modelling, Tuning database access.
- Middleware technologies: RMI, JMS, WebSphere MQ, ESB (Sonic) , Apache Camel, Actors, Prometheus, Kubernetes
- Internet & intranet technologies: creation and set up of web servers (Apache, IIS), application servers (WebSphere, Tomcat, JBoss), firewalls (Firewall-1, Watchguard, IPChains, IPTables), Routers (Cisco), Proxies (Squid, Apache), HTML, XHTML, JSON, CSS, Sass, AJAX, jQuery, REST, S3.
- Frameworks, API's & tools: Android, RxJava/RxAndroid, Cats, Struts 1.x, Rails, Spring MVC, Vaadin, Angular, Play, Spring, JUnit, JDBC, Hibernate, Slick, Doobie, Eclipse, Netbeans, IntelliJ IDEA, VS Code, Ant, Graddle, Ivy, Maven, Gradle, Sbt, Github, Docker
- UML and design patterns.
- Version control as user: ClearCase, subversion, git, cvs, rcs. Version control as administrator: git, subversion, cvs.
- Paradigms: Object Orientation, Functional (reactive) programming, Aspect Orientation, Service Oriented Architecture, Agile Development & Scrum, Test Driven Development, Domain Driven Development, Cloud computing (AWS, GAE, Heroku), Map-reduce, Spark, Machine learning, GIS.

MOOC's

- Learning from Data, Caltech, 2012
- Principles of Reactive Programming, Coursera, 2013
- Computing for Data Analysis, Coursera, 2013
- Game Theory, Coursera, 2013
- Programming Mobile Applications for Android Handheld Systems, Coursera, 2013
- Mining Massive Datasets, Coursera, 2014
- Getting and Cleaning Data, Coursera, 2015
- Exploratory Data Analysis, Coursera, 2015
- Statistical Inference, Coursera, 2015

Teaching

- Master of Enterprise Architecture: 2008-2009: Application Containers
- Master of Enterprise Architecture: 2009-2010: Application Frameworks & Cloud Computing
- Master of Enterprise Architecture: 2011-2012: Application Frameworks

Patents

- APPARATUS, SYSTEM AND METHOD FOR CONTROL OF RESOURCE CONSUMPTION AND / OR PRODUCTION, United States 20140228993
- CONTROL SYSTEM AND METHOD FOR CONTROL OF ELECTRICAL DEVICES, Europe WO2013EP50505

Work experience

Agentschap wegen en verkeer

Period	2021/4 – current
Project	Dynamische Schermen/ OTL UI toolkit
Position	Lead software engineer
Activities	Modeling and tooling development for displaying and editing hundreds of different types of assets in a generic, but customisable way. Based on semantic web technologies. This is a library used in several applications based on OTL, the AWV Asset Information Management model. I was the lead designer and implementer.
Technology	TypeScript, fp-ts, Angular, Node, Express, Prometheus, Kubernetes
Period	2020/2 – current
Project	Davie, Postenboek, Elisa, Otl Admin Tool
Position	Senior software engineer
Activities	As part of Scrum Teams Groen and Petrol, I took part in several of the applications the team maintained. Most of the time as a Scala back-end developer, but also to implement functionality in the front end related to the common kaart and dynamische schermen libraries. I did many code reviews of the Angular code and kept an eye on the standards and general design. An example component I made is a library for asynchronous, resilient, scalable and traceable execution of tasks with cats/fs2. This library is now used in most of our team's Scala applications.
Technology	Scala, Angular, NgRx, fp-ts, Nx, Cats, Doobie, fs2
Period	2018/10 – 2020/02
Project	Geoloket & Common kaart
Position	Lead software engineer
Activities	Common kaart is a library used in many applications at AWV. It allows displaying all kinds of geographical data on a map. On the one hand, it frees application developers from the details of how to display and interact with geographical data and on the other hand, it provides end users with a uniform experience when working with maps in various AWV applications. I designed the library and handled most of the implementation. Geoloket is an application managed by Team Rood that provides users access to a wide range of the multitude of geographical datasets available at AWV. It is built on top of Common Kaart. Here I was one of the two main designers and implementers.
Technology	Angular, TypeScript, fp-ts, Scala, Play, OpenLayers

Period	2018/10 – 2020/02
Project	Werf, P&O, Location services
Position	Senior software engineer
Activities	As a part of Scrum Team Rood, I helped implement & maintain various functionality in these applications/services. For the new version of Location Services, I made the initial design and laid the groundwork for the implementation (until switch to other Scrum Team).
Technology	Scala, Angular, Play, Slick, Akka
Period	2017/05 – 2020/02
Project	Wrapp
Position	Senior software engineer
Activities	Using Akka Streams to import and validate new versions of the geographic data associated with the full Flemish roads network to internal systems. My job was to handle this relatively large dataset in a performant way and informing the users of any potential errors in the input data. This was mostly back-end work, but there's also a simple Angular front end involved.
Technology	Scala, Akka, Akka Streams, Play, PostgreSQL, Angular

Sony Technology and Software Centre Europe

Period	2015/04 – 2017/04
Project	Instant communities & Daily assist
Position	Lead software engineer
Activities	These are 2 related confidential R&D projects. However, I was responsible for the implementation of a server that provides REST end points for an Android application and that stores its potentially large dataset in Apache Cassandra. The server is implemented in Scala with Akka actors. I also made the blueprint for the Android client based on functional reactive programming with RxAndroid.
Technology	Scala, Akka, Apache Cassandra, RxAndroid, RxJava, Butterknife, Dagger, Retrofit

Sony Technology and Software Centre Europe

Period	2014/05 – 2015/03
Project	Hotspots
Position	Lead software engineer
Activities	Using location data from pictures taken by Sony's mobile devices we used and tuned a clustering algorithm to determine picture-taking hotspots. Next to the general design of the application, I was heavily involved with the automation of the build and deployment process and the design and implementation of the cloud infrastructure based on CoreOS and Docker.
Technology	Java, Scala, Amazon Web Services (EC2), Elasticsearch, Docker, CoreOS, Spring Web Services

Sony Technology and Software Centre Europe

Period	2012/09 – 2014/04
Project	Philatelist
Position	Senior software engineer
Activities	<p>Philatelist is a suite of applications that capture, collect and visualise measurements performed on Sony VAIO machines. This telemetry data is stored on Amazon S3, queried with Apache Hive and displayed in a custom web application. When I joined the project, it was already in production. My main tasks where stabilising it, adding new features and making improvement proposals; mostly in the back end of the application: Karaf & AWS.</p> <p>Later, I designed and implemented a new, more scalable and manageable version of the data collection server and an associated Cascading job for transforming AVRO containers to Hive-ready datastores.</p>
Technology	Java, OSGi (Karaf), Spring DI & MVC, Dagger, Maven, Gradle, Hadoop (map-reduce, Cascading), Hive, Amazon Web Services (EC2, S3, SES), AVRO

Sony Technology and Software Centre Europe

Period	2011/04 – 2012/08
Project	Demand-response research / Linear
Position	Researcher and senior software engineer
Activities	<p>Confidential, research into algorithms in the field of demand-response. Participation in the Linear field trial.</p> <p>Filled 4 patent proposals.</p>
Technology	Java, OSGi (Felix), Guice, OpenWRT, Python, XMPP, JSON, git

bpost (formerly De Post/La Poste)

Period	2007/08 – 2011/04
Project	Application architecture
Position	Enterprise application architect
Activities	<p>As member of the application architecture team, I started focussing on front-end technologies, a standards catalogue and enterprise content management. Later on, this expanded to general maintenance and elaboration of the company component repository, the Java framework and build process. Specific topics of interest where integration with JPA, web service and test support.</p> <p>All team members were responsible for supporting and following-up on a number of projects and applications. My responsibility was towards all applications in the mail operations group. This meant ensuring that new developments were in line with corporate standards and architectural best practices were adhered to. Another goal was proposing evolution paths for existing applications.</p> <p>Later assignments included designing the architecture for exposing services related to various e-commerce initiatives of bpost.</p> <p>As bpost was working with near-shore teams from Latvia and Romania, I was</p>

involved with their recruitment, training and project-based support and guidance.

Technology JBoss AS, Oracle DB, WebSphere MQ, Ant, Linux, Struts, Java EE 5, XHTML/CSS/AJAX, Hudson, Artifactory, Camel, Vaadin

Kind & Gezin

Period 2007/05 – 2007/07

Project Mirage

Position Project architect

Activities Kind & Gezin wanted a new tool to support their nursing staff in contact with new-born babies and mothers-to-be. They had developed a concept in which the kinds of data they captured and how this should be displayed on screen was very dynamic. My task was making a proof of concept implementation of the back-end logic in Java that could handle the dynamic nature of the data in a flexible and maintainable way. Further, I bootstrapped the technical part of the project by setting up automated builds, project structure and best practices.

Technology JBoss AS, Oracle, Spring (back-end), Adobe Flex (front-end), Maven, Continuum

Toyota Motor Europe (formerly Toyota Motor Marketing Europe)

Period 2007/01 – 2007/01

Project Toyota Brand Protection

Position Designer / developer

Activities The Internet and cheap production in the East have lead to a growing problem of counterfeit Toyota brand-diluting parts & accessories. I have developed a functioning prototype of an application for tracking legal activities combating this problem.

Technology Ruby, Ruby on Rails, Eclipse, MySql

Toyota Motor Marketing Europe

Period 2006/01 – 2006/04

Project End-of-Life of Vehicles (ELV)

Position Senior developer

Activities European regulation requires that cars and car components are recycled and disposed of as efficiently as possible. All vehicle disposal is done by external parties, but tracked and possibly subsidised by Toyota. ELV is an application that manages the central and verified storage of the related data allowing to detect fraud.

Technology WebSphere AS, J2EE, Struts, Spring, WebSphere Studio, Eclipse, ClearCase, DB2, SQLJ

Toyota Motor Marketing Europe

Period 2004/10 – 2004/10

Project Local Parts

Position Project architect

Activities	In this smaller project, TMME wished to provide authorised and independent repairers with a searchable, easily maintainable and fully multi-lingual off-line electronic catalogue of replacement parts requiring zero installation. As a quick but robust solution, I designed a system based on DHTML to provide a responsive and user-friendly cross-browser solution.
Technology	DHTML, JavaScript, XML, XSLT, XMLHttpRequest, Sarissa, Excel, VBA

Toyota Motor Marketing Europe

Period	2004/08 – 2007/05
Project	Service Products Portal (SPP)
Position	Project architect & Project manager
Activities	SPP is the successor to RSAE (see below). It's the generalisation of this application for different offerings, additional functionalities and integration. Other offerings are maintenance services and insurance. For this we use integration to external companies and national Toyota companies based on web services. For this broader scope I was the technical project lead, responsible for budget, planning, deployment, architecture and (part of) development.
Technology	WebSphere AS, J2EE, Servlets, Struts, XFB, JCL, Java on z/OS, WebSphere RAD, Eclipse, ClearCase, DB2, SQLJ, Sybase Power Designer, AXIS & .Net web services, SAML, JavaScript, AJAX (RICO, Behaviour, Prototype), XMLSpy, AIX

Toyota Motor Marketing Europe

Period	2003/04 – 2007/05
Project	NMSC Parts Pricing System (NPPS)
Position	Project architect, analyst
Activities	TME, being the European head quarters of Toyota, wants to centralise and homogenise the business critical operations of its national distributors. One facet of this is the pricing for spare parts & accessories. The NPPS application offers participating distributors a web interface for simulating and setting up pricing parameters for all (100,000 to 300,000) parts sold in their territory. On the back-end, purchase, dealer and end-user prices are provided both synchronously and asynchronously to central and local systems. The project was initially outsourced to an Indian company at which time I had an architectural and coordinating role. Afterwards, the application was insourced and my responsibilities shifted towards maintenance, operational support and providing new features and integration with the corporate Parts system. Still later, I was the technical lead of a step-wise replacement by a new, more flexible implementation.
Technology	WebSphere AS, J2EE, Servlets, Spring MVC, Spring, XFB, JCL, Java on z/OS, DB2, SQLJ, WebSphere RAD, Eclipse, ClearCase, Sybase Power Designer, AIX, Perl

Toyota Motor Marketing Europe

Period	2002/11 – 2003/03
Project	Toyota Corporate Data (TCO)

Position	Designer
Activities	Like many large companies TMME has several data sources containing essentially the same data. The goal of TCO is to consolidate this data so that it can be used as source for different applications, including TSM, ELV, SPP & NPPS.
Technology	WebSphere AS, Java, WebSphere Studio, Eclipse, ClearCase, DB2, SQLJ

Toyota Motor Marketing Europe

Period	2002/09 – 2004/07
Project	Roadside Assistance Extensions (RSAE)
Position	Project architect
Activities	By default Toyota cars come with a 3 year roadside assistance service. After this period, a customer had to look for a local provider himself. With the RSAE application TME, through the local dealer, can now offer this as a service to the customer. Contracts are submitted to the European RSA providers' main offices. For this initially small but enduring project I held the roles of designer, part-time implementer and roll-out responsible.
Technology	WebSphere AS, J2EE, Struts, Extreme components, JCL, Java on z/OS, WebSphere Studio Application Developer, Eclipse, ClearCase, XMLSpy, WizTom, AIX

Toyota Motor Marketing Europe

Period	2002/08 – 2004/07
Project	Toyota Customer Service Management Kaizen Evaluation Tool (TSM Kaizen)
Position	Project architect
Activities	Confronted with new European regulation that forbid exclusive dealership contracts, TMME needs a tool for assessing prospective and current dealers. At the same occasion, TMME wants to promote Kaizen (continuous improvement) at the dealership level. The design and implementation of the tool is, as a first for TMME, outsourced to an Indian subcontractor. As architects (2 person team) we were responsible for deploying on the Toyota infrastructure and ensuring that the system operates within the architectural boundaries and quality criteria set by TMME. After the first phase software release, we took over the application. We've been implementing prototype solutions for new technical features and improvements. We helped the business users scope the specifications for the next phases of the tool.
Technology	WebSphere AS, J2EE, Servlets, Applets, Swing, JCL, Java on z/OS, DB2, SQLJ, Eclipse, ClearCase, Ant, Install Anywhere, AIX

Vlaams Instituut voor Zelfstandig Ondernemen

Period	2002/05 – 2002/07
Project	Beleidsinformatiesysteem (Management Information System)
Position	Technical specialist
Activities	VIZO needs a system for easy generation of reports used for making management decisions. SQL Server DTS is used to transform existing data from a transaction

processing schema to one suited for data warehousing.

Responsibilities were the technical aspects related to using multiple databases, synchronization, integration of DTS transformations, optimisation and deployment.

Technology SQL Server 2000, DTS (Data Transformation Services), Business Objects

Gudrun

Period 2002/04 – 2002/05

Project GDP3000

Position Developer

Activities Gudrun offers a web-based platform for insurance brokers, agents and experts. Reports of real estate insurance experts are documented with pictures. For reasons of lower latency and higher performance these pictures are scaled asynchronously from the upload.

Responsibilities were the design and implementation of the software as components ready for integrating in the platform.

Technology J2EE, JAI (SUN's Java image library), Struts, commons-upload, JSP Tag libraries

Vlaams Instituut voor Zelfstandig Ondernemen

Period 2001/12 – 2002/02

Project Leertijd II

Position Architect / developer

Activities Integrating two software systems from different vendors. One, written in J++, is responsible for managing People and another for managing Learning Centres, is written in VB. The VB application needs to call the J++ application components in a transactionally safe way.

Responsibilities were designing, prototyping and implementing an MTS component to enable communication between the VB application and the business logic of the J++ application.

Technology MTS, DCOM, XML, J++, Java, Visual Basic

Mediamine

Period 2001/11 – 2001/11

Project Mediamine Audit

Position Auditor

Activities Mediamine makes a pre-press application for digital content management.

Responsibilities were performing an audit of the existing code. The targets were performance bottlenecks and general code and architectural quality.

Technology Java, Swing, RMI, eXchelon(XML database), Sun Solaris

Gudrun

Period 2001/09 – 2001/11

Project GDP3000

Position	Technical specialist
Activities	<p>Gudrun delivers a platform for electronic claim settlement over the Internet in the insurance business.</p> <p>Both the insurance back-office workers and the insurance agents use this application in a strict workflow model. Integration with the back-end mainframe systems is done through message queuing.</p> <p>Responsibilities were designing and implementing a high-availability solution for the web servers and the firewall.</p>
Technology	Redhat Linux, LVS (Linux virtual server), Heartbeat, FreeSWan, IPSec, SSL, Apache, Cisco

Toyota Motor Marketing Europe

Period	2001/04 – 2001/07
Project	Europricing
Position	Analyst / Designer
Activities	<p>Design of a system for managing the pricing of all cars sold in Europe.</p> <p>TMME buys cars from factories in Europe and Japan and sells them to local distributors in Europe. To guarantee a positive gain local and foreign taxes, shipping costs, package discounts and individual pricing must be taken into account.</p> <p>The project was conducted according to RUP (a first for TMME). Implementation was mainly in NatStar/NatWeb.</p> <p>Responsibilities were creating a domain and design model in UML, making a DB Design, making a deployment design. Also, creation and distribution of large amounts of detailed and interactive reports.</p>
Technology	Rational Rose, Visual C++, Excel

Pan-European Fish Auction

Period	2000/02 – 2001/08
Project	Fish Market
Position	Architect / Project manager
Activities	<p>PEFA organises a network of electronic fish auctions spread over Europe. These auctions are linked together and accessible to registered buyers via the Internet, thus creating a virtual marketplace on a "business-to-business" level. One of these market places is the fresh fish market, which has a catalogue component and a seller-driven auction component.</p> <p>This system is implemented on RedHat Linux based on Akopia Interchange. It has views for administrators, buyers and sellers. It is integrated with a back-end on W2K and SQL Server 2K, logistical and financial partners over HTTP.</p> <p>Responsibilities were architecture, analysis, design and implementation of the system in an extensible and OO way using the previously mentioned tools with XML storage. Also, hardening the OS and the web server.</p>
Technology	Redhat Linux, Akopia Interchange, Perl, Apache::ASP, XML, MySQL, SQLServer,

Toyota Motor Marketing Europe

Period	1999/12 – 2000/01
Project	Toyota Launch Factory
Position	Architect / Project manager
Activities	Analysis, design, implementation and team lead of an application for managing all documents related to the launch of a vehicle. Developed in cooperation with the Corporate Communications Group application.
Technology	ASP, VB, COM+, SQL Server 7, IIS 4.0, MS Commerce Server

Toyota Motor Marketing Europe

Period	1999/10 – 1999/11
Project	Document management
Position	Coach
Activities	Coaching of developers implementing a web based application using Microsoft component technology (COM+). Also, designing the database layout (SQL-Server) for this and all similar (document management related) future applications.

Toyota Motor Marketing Europe

Period	1999/06 – 1999/09
Project	IT Master Plan
Position	Architect
Activities	Design of an architectural blueprint for a new ICT architecture that concentrates on Enterprise Application Integration and Web enabling. Selection of appropriate tools for the implementation of this architecture and designing and building of an operational pilot application.

Vandeputte Group

Period	1999/04 – 1999/06
Project	ERP
Position	Consultant
Activities	Consultancy for transition of an ERP-application in Informix 4GL to a component-based environment.

Vlaams Instituut voor Zelfstandig Ondernemen (VIZO)

Period	1999/01 – 1999/04
Project	KMO Loket
Position	Technical specialist
Activities	System specialist for the implementation of the Virtual KMO-office of VIZO. (http://www.kmoloket.be) on the Microsoft BackOffice Server. Internet security is

part of the responsibility.

Technology Microsoft BackOffice Server: NT, Active Server Pages (ASP), MS IIS and SQL Server, Firewall-1, Belsign X509 certificates

KBC Bank

Period 1998/12 – 1999/02

Project IT Master plan

Position Technical architect

Activities Participated in the elaboration of an IT master plan for KBC focussed on Network Computing.

Domains in scope: on-line transaction processing, data warehousing, groupware, stand-alone applications and office-suites.

Inno.com

Period 1998/07 – 2007/05

Project Internal IT

Position Technical specialist

Activities Responsible or involved for the set up of the internal IT-infrastructure of Inno.com. Components are for example a Sun server for file-serving, an NT server as server for the intranet (MS IIS), a firewall on Linux, Exim and MS Exchange 2003 for mail, Twiki and MS SharePoint Team Services for collaboration. Also selecting and implementing network related functionality: IPSec, Web Server certificates, web mail, Email server (smtp, pop, imap), LDAP administration, source code revision management, name servers, router, firewall, policy based routing, VPN, etc.

Pan European Fish Auction

Period 1997/06 – 1998/06

Project Internet Auction

Position Assisting Academic Personnel

Activities PEFA.COM (Pan-European Fish Auction) organizes a network of electronic Fish Auctions spread over Europe. These auctions are linked together and accessible to registered buyers via the internet, thus creating a virtual marketplace on a "business-to-business" level.

Through proprietary developed software running in a secure environment, it has become possible to conduct real-time electronic auctions, the most challenging form of "on-line" E-commerce. The system is based on a 4GL application for the administrative part and Visual Basic clients for the actual auction. Buyers can operate from the whole of Europe.

Responsibilities were architecture, implementation, delivery of the prototype Java clients and servers. Also designing the protocol enabling real-time, fair auctioning over Internet, which has unpredictable delivery and latency characteristics, with sub-second precision.

Technology Java, Swing, RMI, TCP, UDP

University of Ghent, Various

Period 1994/09 – 1998/06
Project University of Ghent
Position Assisting Academic Personnel
Activities Assistant to professors G. Hoffman, H. Tromp and R. Boute (Group software engineering, department Information Technology).
Teaching/assisting in following courses to computer science and engineering students:

- Introduction to Information Technology (Pascal);
- Programming II (C, C++);
- Software Development and Object Oriented Languages I (C++);