Curriculum Vitae of Hendrik Jan van Randen

Personal

H.J. van Randen M.Sc.
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Dutch nationality

Core Competences

Analysis, architecture, innovation, (meta) modeling, design and build (a.o. graphically interactive) software, scrum, serverless, full stack development

Soft Skills

Strong analytical skills, good communication skills, listening, empathy, accurate, switch between teamwork & autonomy, persuasiveness, creative, practical, result oriented, overview, presenting, knowledge sharing

Career (from 2010 till now contracted from FlowFit B.V.)

2023 – now: **Tennet TSO**
solution architect Set up a data architecture with streaming data for a scalable trading platform that balances the Dutch electricity grid during the energy transition through enhanced market facilitation. Design and commission microservices that process these data streams. Research how we can mitigate congestion on the electricity grid though financial stimuli on the electricity markets (local marginal pricing, nodal pricing).
Used technologies & methodologies: Java, Kafka, Axual, SAFe, scrum, Enterprise Architect, UML, ArchiMate, OSB (Oracle Service Bus), Quarkus

2023: **Logius (Ministry of Interior and Kingdom Relations)**
lecturer workshop UML Domain Driven Design Patterns for business analysts. This workshop aims to ensure a good fit between the models created by the business analysts and the systems built by Logius, with a healthy feedback cycle from the developers of these systems to the business analysts and the models.

2022 – 2023: **Topicus Healthcare**
modernization coach of the lead developers the Youth Healthcare team for developing a technical vision & plan for gradual migration of the application to microservices and client side rendering with Angular.
architect, scrum master & **lead developer** of an AWS serverless application with NoSQL database through which very many participants simultaneously can plan their appointments, with overview of all relevant locations and times, extremely scalable for peak load moments.
process analist for the workflow for creating and processing massive amounts of appointments between clients and healthcare professionals.
developer of a flexible healthcare workflow application for infectious diseases.
Used technologies & methodologies: Angular, Spring, AWS, Docker, scrum, Wicket, Java, Hibernate, Jenkins, DynamoDB, AWS Lambda, API Gateway WebSockets & HTTP, CloudFormation, React, Redux, OpenAPI, PlantUML, Datadog, Micrometer, Katalon

2021 – 2022: **Research project AgoixA**
researcher Agenda organizing is extremely Agile. Where planning resources (human resources / space / …) causes a combinatoric explosion of more and less optimal distributions of resources, the most optimal solution is chosen through quantum computing. Goal is to test & productize this when quantum supremacy is there.
Used technologies: QCEngine

2019 – 2022: **Nedap Light Controls**
architect & **developer** of a DSL (Domain Specific Language) for defining user inteface and modbus communication for monitoring and managing UV lamps in water treatment plants.
architect & **developer** of a universal Electron app for different UV lamp driver types. For each driver type the interfaces are described in the mentioned DSL.
developer of an iOS and Android Luxon Switch app to control the lighting inside and outside buildings from an iPhone or Android phone.
architect & **developer** of iOS & Android UV app to monitor UV drivers through Bluetooth & QR code.
Use technology & methodology: TypeScript, Angular, angular-redux, C++, C, modbus, ffi, DSL, CSS, Electron, yaml, npm, Node.js, PlantUML, Bamboo for Continuous Integration (CI), IntelliJ, Visual Studio,

scrum, Git, Jira, Confluence, Code Composer Studio, Ionic Cordova (for lighting app), Ionic Capacitor (for UV app), WebStorm, Android Studio, Xcode, Ionic Bluetooth-LE, Ionic QR-scanner

2017 – 2019: **Topicus Healthcare**
scrum coach & **developer** BK2020 project: Development of the application for the workflow of the Dutch governmental cervical, breast & colon cancer screening of the RIVM (Dutch National Institute for Public Health and the Environment) in DevOps team.
architect & **developer** of graphical editors for parts of it.
architect & **developer** of the application landscape and information security in the screening units for the detection of breast cancer. Infrastructure for our SaaS (Software as a Service) solution. Set up AWS cloud environment. Advise on improvement of the internal processes.
Start a DevOps team for a Java application for youth healthcare.
Use technology & methodology: Java, React, JSX, JavaScript (ECMAScript), Flow, Bootstrap (met reactstrap), Redux, HTML SVG (Scalable Vector Graphics), REST services, npm, yarn, Docker, Wicket, Hibernate, Spring, PostgreSQL, Jenkins Bamboo for Continuous Integration (CI) and Continuous Delivery (CD) to our acceptance environment, jQuery, Maven, IntelliJ, Jira, scrum, Agile, kanban, AWS CloudFormation, Selenium, Cucumber

2018: **Space time diagram railway material planning**
architect & **developer** of a Proof of Concept for the railway material planning, to enable railway planners to plan railway material through drag & drop along the space-time lines of the railway schedule.
Use technology: Java, React, JSX, JavaScript (ECMAScript), Flow, Bootstrap (met reactstrap), Redux, HTML SVG (Scalable Vector Graphics), REST services, npm, Yarn, Hibernate, Spring Boot, PostgreSQL, Maven, IntelliJ

2013 – 2017: **Dutch Railways**
architect & **developer** of a GIS (geographical information system) which shows (based on data from drawings of engineering companies for the railway infrastructure) a railway deployment, with the train traffic planned on these railways. Simulate this train traffic in the course of time.
architect, **developer** & **scrum master** of transforming the train material planning process from character based to graphically interactive.
Used technology & methodology: Java, GEF (Graphical Editing Framework), Draw2D, Eclipse RCP (Rich Client Platform), MyBatis, Oracle, IBM Jazz, Requisite Pro, scrum, Agile, Cucumber, TDD (Test Driven Development), Specification by Example, JUnit, Twist, EasyMock, Guice, Toad, ant, SharePoint, LDAP, Cucumber, Jenkins, Git, Jira, Gradle

2012 – now: **Vijfhart IT Education**
teacher courses Functional Design with UML. In these courses the students apply the learned techniques on software which their employer wants to have made.
Used technology: StarUML, Lucidchart, diagrams.net (draw.io), Enterprise Architect

2015 – 2023: **Research project AmoixA**
architect & **developer** of a SaaS (Software as a Service) RAD (Rapid Application Development) tool, enabling users to draw online a class diagram, activity diagrams, etc. Based on these amoixa immediately creates a working web application, which the users can adapt through drag and drop.
Used technology: Flutter, Dart, Firebase, Firestore, Cloud Functions, full event sourcing, Visual Studio Code
Formerly (in research phase) used technology: Kotlin, Spring Boot, PostgreSQL, REST services, html, JSON, IntelliJ, HTML SVG, Github, React, Redux, Java, JEE, MySQL, JavaScript, HTML canvas, AngularJS, Angular, Scala, XML, Eclipse

2016: **Workshop AngularJS met CiviCRM**
participant With CiviCRM developers workshop to build a user interface in AngularJS on top of CiviRules.
Used technology: AngularJS, JavaScript, CiviRules framework, HTML, Eclipse

2014: **ING bank Arnhem department Branches**
trainer Domain Specific Languages to design and build meta models. Build diagram editors (= graphical DSLs) for modeling software components.
Used technology: EMF (Eclipse Modeling Framework), Emfatic (textual ecore editor with annotations for graphical syntax), Eugenia (GMF generator), GMF (Graphical Modeling Framework)

2014 - now: **Boom education** (formerly **BIM Media** and **Academic Service**)
author of the book “Aan de slag met Scrum”. This book describes scrum theory and many examples of the usage of scrum in my work as a software architect.

2013 – 2016: **Tafeltrainer**
coach of a developer of artithmetic exercising software for primary school children.
Used technology: GWT (Google Web Toolkit), HTML, Google App Engine, Google BigTable

2012 – 2013: **Pearson Education**
author of the book “Inleiding UML”. Target audience of this book is everyone who is involved in designing software: from future users who tell what they want to do with the software, up to analists and programmers. These people need a common language to communicate with each other. This book describes this language, the Unified Modeling Language (UML)

2011 – 2013: **Innovation department inMotiv of the RDC (RAI Data Center)**
analist & **designer** of extensions of SaaS-solution OBS.
analist for the migration of carfocus for all Dutch Peugeot dealers to OBS.
analist, **designer** & **developer** of ROB-Net (a SaaS solution) for the ROB association. Members of this association are most Dutch car lease companies and automotive companies. Perform the role of product owner for the system for electronic invoicing for ROB-Net. Transition to SEPA (IBAN and BIC).
Used technology & methodology: SQL Server, C# .NET, ASP.NET, Visual Studio, Professional, SQL Server Management Studio, html, LLBLGen, autofac, MassTransit, RabbitMQ, SignalR, Gherkin, SpecFlow, scrum

2011 – 2015: **Research project App4G (Apps for Google Web Toolkit)**
architect & **developer** of runtime interpretation of an application model, by code built in Google App Engine. Communicates mutations by event sourcing, stores data in NoSQL database.
Gebruikte technologie & methoden: GWT (Google Web Toolkit), UML (Unified Modeling Language), html en Google App Engine, Google BigTable

2010 – 2011: **Essent energy company**
scrum master & **developer** of a module of the system through which small electricity producers and electricity consumers can trade on the electricity market. Here, pricing acts as a means to match supply and demand.
Used technology & methodology: Oracle, Ibatis, Java, Spring, JSF (Java Server Faces), html, PL/SQL

2009 – 2011: **Research project ESRAD**
architect & **developer** of a RAD (Rapid Application Development) tool with event sourcing on both meta levels (application model & end user data), and code generation of the end user applications.
Gebruikte technologie & methoden: GWT (Google Web Toolkit), UML (Unified Modeling Language), html en Google App Engine, Google BigTable NoSQL database, Xtext, Xpand, iBATIS en Oracle

2008 – 2017: **Hogeschool van Amsterdam**
teacher & **graduate consultant**. In my lessons students learned and exercised making a functional design with UML models. These were based on business requirements from their daily work. Their work was structured using scrum, so that they got scrum experience as well. Further I was consultant for students during their graduation.
Taught methodology & used technology: UML (Unified Modeling Language), BPMN, Business Process Modeling Notation), scrum, SharePoint

2009 – 2010: **Mendix**
architect & **developer** of functionality in the Mendix model driven web application development suite. Functionality in the modeler I wrote in C# .NET (among other a 2D graphical modeler for screen flow diagrams), and in the runtime environment in Java.
For maintaining the meta model I wrote a modeling language in Xtext. From this I generated, through Xpand, C# code for in the modeler, and Java code for in the runtime environment. This automatically synchronizes the code of the modeler and the runtime with each other.
Further I integrated this development environment with SAP through IDocs and BAPIs.

Used technology: C#, .NET, Java, Xtext, Xpand, Webservices, JCo (Java Connector van SAP), IDocs (Intermediate Documents of SAP), BAPIs (Business APIs van SAP), JSON (JavaScript Object Notation), Mendix platform

2007 – 2008: **Atos Origin**

solution architect. Establish model driven development factory. Educate business analysts and requirement engineers to use this factory, to generate quickly a first version of a business application for different technologies. Develop the UML based language to define the model, and the ability to generate custom made Java applications from it. In first version we used the graphical UML diagram editor RSM. Later, because of the limitations of RSM, I developed a graphical editor based on Eclipse and GEF. In both versions we generated code from the EMF models that were created through the graphical editors.
Used technology: MDSD (Model Driven Software Development), DSLs (Domain Specific Languages), Meta Modeling, Java, openArchitectureWare (Xtext en Xpand), RSM (Rational Software Modeler), Enterprise Architect (of SparxSystems), Eclipse, EMF (Eclipse Modeling Framework), GEF (Graphical Editing Framework), Draw2D, JPA (Java Persistence API), html, J2EE, JSF, Spring, JavaScript, JBoss, Webservices, ActionScript (Adobe Flash, Adobe Flex)

2008: **Bureau Jeugdzorg Utrecht**

information analyst / business analyst. Analyzing needs and possibilities for client registration and indication management automation.

2007 – 2008: **Ministry of Justice and National Police Services**

project architect. Analysis, architecture and realization of an application which enables the collection of information through the internet, analyzing and processing this information on intranet and in datawarehouse.
Used technology & methodology: Java, openArchitectureWare (Xtext en Xpand), Rational Software Modeler, Eclipse, JPA, J2EE, JavaScript, JBoss

1999 – 2007: **Compuware**

2007: **Agis health care insurance company**

project architect of new declaration processing system: analyze requirements, set up architecture.
Used technology: OptimalJ, Java, Vektis (standard for information exchange in health insurance), html

2000 – 2007: **OptimalJ**

architect & **developer** of an MDA based Java EE development: from a domain model an applicatiemodel is generated, and from there application code, both incrementally. With the architecture edition users can define their own meta models and transformations, which gives them full control over the generated applications. I have among others built an incremental layout engine for the graphical diagram editor of the domain model, so that in manually drawn diagrams the layout is improved automatically.
Used technology: MDA (Model Driven Architecture), Meta Modeling, Java, Eclipse, NetBeans, J2EE, Hibernate, MOF (Meta Object Facility), XMI (XML Metadata Interchange), XML (eXtensible Markup Language), html

1999 – 2000: **Uniface**

arcitect & **developer** of the workflow system of Uniface.
Used technology: Uniface, Proc (programmeertaal van Uniface), C++, Java

1994 – 1999**: Cimax International B.V.**

technical manager, **architect** & **developer** of DComp, a graphical business model editor.
Used technology: C, C++, MFC (Microsoft Foundation Classes) and Visual Studio.

1993 – 1994, 2004 – 2010 **Several smaller projects**
consultant for outsourcing development of a webapplication for the Emergo foundation.
consultant for creating a multi-year budgetting system for real estate.
architect & **developer** of report generator for motivational patterns.
researcher for development of 3D CAD software. Quality check specialized CAD software.
Used technology: Symantec C++, THINK Pascal, Perl, html, Microsoft Access, Visual Basic for Applications in Word, Excel

1992 – 1993: **AB3D (own company)**
teacher Custom-made education, training and support in computer use and exact sciences.

1990 – 1992: **Hospital Gooi-Noord**
staff for designing and implementing new business processes due to a merger of three hospitals.

1987 – 1989: **Infill Systems B.V.**
working student: System administration, CAD-drawing and development of administrative software.
Used technology: HyperCard, HyperTalk

Conferences

Google Cloud Summit 2023 Amsterdam: participant artificial intelligence
Kafka Summit 2023 London: participant
TopiConf 2022 Twello: speaker 'Scalable & Serverless with AWS'
Fort-X 2022 Nieuwegein: participant, among others quantum computing & software security
FOSDEM 2019 Brussels: participant quantum computing
TopiConf 2018 Deventer: speaker 'Face recognition in governmental health screening?'
Model Driven 2008 Bussum: speaker 'Model Driven Architecture or Model Driven Software Development?'
J-Spring, J-Fall several years: participant
JavaOne 2007 San Francisco: participant

Education

2019, 2021: **Presentations & workshops Quantum Computing** in Brussels, Deventer and Reeuwijk
1983 – 1990: **Delft University of Technology, mechanical engineering**
specialized in software development, M.Sc. at section design sciences / CAD on 3D-modelling and integration of these models in business processes.
Used technology: Pascal, Medusa, Delfi 2+
1977 – 1983: **Montessori Lyceum Rotterdam, gymnasium beta**

Hobby projects

1980 – 1983: Design & build a Pacman and several other computer games.
Used technology: 8080 Assembler, Basic

Human languages

Dutch (native)**, English** (fluent)**, German** (reasonable)**, French** (moderate)

Private life

Enjoy nature outside, hobby farm, organic food, raising a family