

# Curriculum Vitae of Johan Paul, M.Sc.



## Contact Information

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## Language skills

Finnish: Fluent / Native  
Swedish: Native  
English: Fluent  
German: Basics

## Personal Information

Date of birth: 16.08.1979  
Place of birth: Loimaa, Finland

## Software Engineering skills

I enjoy and promote good software design practices in software engineering, utilizing unit testing, clean architecture, reactive programming style with influence from functional programming. I am very familiar with the most important design patterns from computer science. As outlined below, I have a strong experience in several software languages, tools and platforms.

### Android

Languages: Kotlin, Java  
Relevant technologies: Rx, Jetpack, AndroidX, MVVM

I have a strong background in object-oriented programming and have used Java for numerous years before I took on Android, hence I have no problems working with Android. Currently I lean more towards the reactive programming style and heavily utilizing functional programming concepts that are now also possible with Android. I have used most, if not all, of the important Android libraries that are necessary in a modern, high quality Android application.

Currently I am very intrigued by the possibilities that the Kotlin language can provide for the Android development community.

### Windows Phone

Language: C#  
Relevant technologies: Microsoft Visual Studio, .NET, XAML, LINQ

I've written the podcast client called Podcatcher for Windows Phone. Podcatcher is written in C# and XAML with a stylish Metro UI. It utilizes many of the Windows Phone platform features such as LINQ for XML parsing and SQL storage, background data transfer and background audio playback. Podcatcher is available in the Windows Phone Marketplace at <http://www.windowsphone.com/s?appid=5d5cebe9-420a-4566-a468-04c94aa34d93>.

I've also written my own comic browser application for Windows Phone in C# and XAML. The application utilizes Metro UI built in XAML, it populates the UI dynamically from C# based on JSON that is served from my own Python based REST web server. The UI utilizes LINQ to store user settings. The comic browser application is available in Windows Phone Marketplace at <http://www.windowsphone.com/fi-FI/apps/c0d9a840-8463-4c5d-b881-f2022552f9c4>.

Please refer to the open source repositories at the end to find the source code for both applications.

## **iOS**

Language: Objective-C

Relevant technologies: Objective-C, Cocoa Touch, Foundation Framework, Core Data

I've ported the comic browser mentioned in the Windows Phone section for the iPhone. The UI is built with Cocoa Touch and utilizing Core Data for local data storage. Therefore iOS development with Objective-C, Xcode and Interface Builder are familiar to me. Please refer to the source code repository location mentioned below in the section for my open source projects.

## **Web Backends**

Languages: Scala, Python

Relevant technologies: Play 2 framework, Pyramid, Django, Heroku, AWS, Azure

I've created a web services in Play 2 written in Scala that provides a set of REST APIs for my mobile client to show comic from around the web. The server will fetch, parse and maintain information about these comics directly from the comic's web site. The server is deployed at Heroku.

I am also familiar with AWS and Azure and I have a keen interest in robust integration pipelines using some form of CI machinery.

## **Qt**

Language: C++

Platforms: Linux, MeeGo, Symbian, OS X, Windows

Relevant technologies: Qt Quick, QML, Qt Mobility, Qt Components

I have used Qt for more than 5 years and I have a deep knowledge and understanding in the core Qt classes. I've developed Qt applications in both desktop environments and for mobile Linux platforms. But I've also worked on Qt integration for mobile environments. Furthermore, I am a Nokia Certified Qt Specialist and a Qt Ambassador.

I've written the podcast client called Podcatcher for the Nokia N9 smartphone in C++, Qt and Qt Quick. Please refer to the open source repository at the end to find the source code. The application is available for Nokia N9 and Symbian mobile phone in the Nokia Store at <http://store.ovi.com/content/179410> and <http://store.ovi.com/content/229714> respectively.

## **Linux system programming**

Languages: C, Python, Shell scripting

Relevant technologies: glibc, glib, Gtk+, POSIX system calls  
Key tools: Valgrind, GDB, autotools

The Linux programming environment is where I started to learn programming. Thus, I am very familiar with the Linux programming tools and debugging and linking applications in Linux. I've used POSIX system calls and the C glibc APIs together with high-level UI APIs like Gtk+. I am able to debug them with GDB and find memory leaks with Valgrind. I have also a broad experience in development for mobile Linux platforms thus I am familiar with core technologies in mobile platforms such as MeeGo and Tizen.

### **Windows driver development**

Language: C  
Technologies: WDF, WDM

I developed a composite PC USB driver for a mobile phone manufacturer in where passing the WHQL tests and supporting tens of devices was mandatory. I wrote the WDF version of a existing WDM driver and maintained the WDM driver at the same time. This required Windows driver debugging and USB debugging.

### **Agile development**

Agile development practices are very familiar to me in which I have more than three years of experience in being a Scrum master for a distributed team and also substituting in the Product Owner role. I am a certified ScrumAlliance Scrum master and I wrote my Master's Thesis on agile development process assessment.

## Employment History

<p><b>Nordea Bank Oyj</b> Senior Software Developer (02/2018 - Current)</p>	<p>Overall responsibility for the development of the Nordea Wallet Android application.</p> <p>The development is done 100% in Kotlin with high focus on modern software development practices such as functional- and reactive programming, MVVM architecture and utilization of latest Jetpack components.</p>
<p><b>Aktia Finance Ltd</b> Senior Software Developer (05/2017 - 02/2018)</p>	<p>At Aktia Finance, I am also responsible for the overall development of the Aktia Wallet Android application, but more specifically the Wallet Contactless (HCE) functionality of it. I have done the MCBP 1.0+ implementation for the application utilizing the Mastercard MP SDK as well as oversaw the overall integration with Mastercard MDES system. Apart from the HCE integration work, I have also done all the UIs related to the Wallet Contactless functionality.</p> <p>I was also mostly responsible for the project management and communication with Mastercard's stake holders in relation to this project. Also, a part of this includes completing the functional certification of the MCBP 1.0+ HCE functionality in co-operation with the certification lab.</p> <p>In this work I have become very familiar with the overall functionality of the Mastercard payment network as well as with the issuer and the acquirer side of financial transactions.</p>
<p><b>Futurice Oy</b> Senior Software Developer (4.2.2013 - 05/2017)</p>	<p>I worked on numerous projects as a senior software consultant in the fields of mobile and backend development. Software languages and platforms, I worked with include Android, Scala and Windows Phone.</p>
<p><b>Jolla Oy</b> Software Engineer (3.9.2012 - 12.12.2012)</p>	<p>- Qt, QML and Linux middleware development.</p>
<p><b>Cybercom Finland Oy</b> (2.2.2009 - 31.8.2012)</p> <p><b>Plenware Oy</b> (19.12.2005 - 1.2.2009)</p>	<p>- Team Lead, Automotive industry I worked as a team lead in a project for a large automotive client where the target was to create an advanced prototype for a future in-vehicle computing system utilizing Linux, Qt and Android.</p> <p>- Senior Software Specialist As a senior specialist in the MeeGo domain, I am</p>

responsible for developing the MeeGo expertise in Cybercom Plenware. I also work in MeeGo project teams as a technical lead or architect.

- Substituting for Nokia Technical Product Owner to develop the Harmattan MeeGo based Nokia N9 smartphone.
- ScrumMaster for two development teams in the Harmattan MeeGo team that created the Contacts application for the Nokia N9 smartphone.
- Software engineer as part of an agile development team to developed the Contacts application for the MeeGo Harmattan based Nokia N9 smartphone. Project utilized Qt 4.7 and Qt 4.8 (including Graphics View framework), C++ and Linux technologies among other D-Bus, autotools, Debian packaging and shell scripting.
- Windows USB driver development for next generation Nokia PC software using Windows Driver Foundation and Windows Driver Model. Also some PC host side development.
- SIP server software extension and plugin development for the Sofia SIP server in Linux and C programming language.
- Java development for a SOA based interprocess messaging and communication solution.
- Java UI development for a SIP VoIP client.

**Nomovok Oy**  
Software Developer  
(16.8.2004 - 12.12.2004)

- Software design and engineering for the Nokia 770 Internet Tablet.

**TUCS/Software Development Center**  
Researcher  
(19.5.2003-19.9.2003)

- Planning and documentation of a software project together with University of Turku, system design in UML and system prototype implementation in Java with Swing components.

- Server side design, configuration and documentation for a group tool. Additional assignments relating to software process quality.

## Education

**Åbo Akademi University / University of Turku**, 1998 - 2010

M.Sc. in Computer Science

Master's Thesis: "*Quantitative Approach for Lightweight Agile Process Assessment*"

Bachelor's Thesis: "*Käytännön haasteita Scrum mestarin roolissa*" ("*Challenges in Practice when being a Scrum master*")

## Certificates

- MCPS: Microsoft Certified Professional, 2014
- MS: Programming in C#, 2014
- Certified Qt Specialist, 2011
- Certified Qt Developer, 2010
- Certified Scrum Master, 2008

## My open source projects

### Podcatcher

Podcatcher is a podcast managing application for both Windows Phone and the Nokia N9 smartphone. The Nokia N9 version is also ported to Symbian, thanks to Qt. Some of its main focuses are good performance and UX as well as features to keep the podcast feeds up to date automatically without manual interventions.

Both versions are written separately for the respective platforms in C++ or C#. The Nokia N9 version is written in C++ with Qt and Qt Quick utilizing native Qt Components for UI. The version for Windows Phone is written in C# with XAML utilizing platform features such as LINQ XML parsing, LINQ-to-SQL, background audio playback and background data transfer.

There is also a Symbian port available of Podcatcher of the Qt version.

All versions are open sourced. The source code is available at

<https://github.com/kypeli/Podcatcher>

Podcatcher for Windows Phone website:

<http://www.johanpaul.com/blog/podcatcher-for-windows-phone-7/>

Podcatcher for Nokia N9 / MeeGo website:

<http://www.johanpaul.com/blog/podcatcher-for-nokia-n9/>

### Scala Comic Server

The Scala Comic Server is a modern Play 2 based web application written in Scala. It will serve metadata about comics from around the web for a client to show the information. Clients use the server's REST APIs to receive the data in JSON format.

More information along with the source code is available at <https://github.com/kypeli/scala-comic-server>.

## **Daily Comics**

Daily Comics is mobile client application that shows a set of the daily comics from the web in a native and intuitive UI. The set of comics is localized based on your current network location and the user can select from the client which comics to show. The comics are served from my web server and the data is updated hourly.

The client is written for both Windows Phone and iPhone. The application is open source and the source code for both versions is available at <https://github.com/kypeli/DailyComics>

Daily Comics for Windows Phone website:

<http://www.johanpaul.com/blog/daily-comics/>

## **kQOAuth**

A Qt OAuth 1.0 library for easy OAuth authentication and access to protected resource. The library is written in C++ and is open sourced under the LGPL license. The source code is available at <https://github.com/kypeli/kQOAuth> and its website is here:

<http://www.johanpaul.com/blog/kqoauth/>