

# Curriculum Vitae

## Daniel d'Andrada

### Personal Data

Nationality: Brazilian  
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Place of Residence: Munich - Germany

### Summary

Since I started my professional career I've been working with software for linux based mobile devices (phones and tablets). From the Nokia 770 Internet Tablet (Nokia's first linux-based device), back in 2005, to its last one, the N9 in 2011, and at Canonical Ltd. with the Ubuntu Phone and Unity 8 (A single shell for phone, tablet and desktop scenarios). And now with multi-process user interfaces in the automotive sector. Always involved in graphics and/or multitouch processing (eg. toolkits, window managers) and open source projects.

Specialties: Linux, C, C++, Multitouch graphical user interfaces, Qt toolkit, Computer Graphics

### Work Experience

<b>September 2017 to present day</b>	<p>Luxoft (former Pelagicore)</p> <p>Senior Software Engineer</p> <p>Working on the Qt Automotive Suite. More specifically on the Qt Application Manager project, which enables the easy creation of multi-process user interfaces leveraging Wayland for communication between the System UI (ie, the compositing window manager) and client applications. Also worked on the implementation of the Neptune 3 Reference UI which shows the capabilities of Qt Application Manager and how to use it to create a modern, multi-process, automotive HMI.</p> <p>Technologies involved: C++, Linux, Qt, QML, Javascript</p>
<b>January 2012 to April 2017</b>	<p>Canonical</p> <p>Software Engineer</p> <p>Working on the Unity 8 shell and compositing window manager. Unity 8 was used on Ubuntu Phone (phones and tablets) and would cover all other use cases and form factors (desktops and laptops), adapting to the device where it was run and the connected peripherals (external monitor, mouse, keyboard). The project was cancelled on April 2017 as Canonical decided to focus on Cloud and IOT.</p> <p>Technologies involved: C++, Linux, Qt, QML, Javascript</p>
<b>March, 2011 to December 2011</b>	<p>Nokia</p> <p>MeeGo Software</p> <p>Architect, MeeGo Touch UI Framework<sup>[1]</sup></p> <p>Leading libmeegotouch to a successful release of Nokia N9 and its software updates.</p>

<p><b>September, 2008 to February, 2011</b></p>	<p>Nokia MeeGo Software (former Maemo Software)</p> <p>Lead Developer at MeeGo Touch UI Framework<sup>[1]</sup>.</p> <p>Technical lead of a part of the library: scene management and scene windows (i.e. dialogs, application pages, status bar, navigation bar, etc).</p> <p>Devised the architecture and did the implementation of MeegoTouch Feedback Framework</p> <p>Technologies involved: Qt, C++, Embedded Linux</p>
<p><b>April, 2005 to July 2008</b></p>	<p>INdT <sup>[2]</sup> – Instituto Nokia de Tecnologia (Nokia Institute of Technology) Working with Linux technologies (free and open source software) for desktop and mobile devices (Maemo platform) such as Nokia Internet Tablets (770, N800, N810). Some activities done:</p> <ul style="list-style-type: none"> <li>• Made an OpenDocument <sup>[3]</sup> import/export plugin (in C++) for AbiWord <sup>[4]</sup>.</li> <li>• Concept work on an OpenDocument viewer using Pango and Cairo Graphics libraries.</li> <li>• Work on several Python bindings for the Maemo platform (including major refactoring on Hildon bindings) and wrote tutorial documentations on Maemo development with Python.</li> <li>• Conceived and developed Telepathy Inspector <sup>[5]</sup> and some small contributions to the Telepathy D-Bus API specification <sup>[6]</sup>.</li> <li>• Elaboration of Tapioca framework <sup>[7]</sup>. Wrote its design document <sup>[8]</sup> (still pretty much a work in progress).</li> <li>• Implemented a FM Radio plugin for Canola <sup>[9]</sup> Media Center.</li> <li>• Nokia Internet Tablet Video Converter <ul style="list-style-type: none"> <li>• Mozilla XUL Runner (XUL/Javascript) used for the multiplatform UI with some XPCOM components written in C++</li> <li>• Developed its backend architecture (TCP server)</li> <li>• Developed its Python plugin system (dropped later on)</li> <li>• Worked on its media conversion library (C++) for both DirectShow (Windows) and QuickTime (MacOS X)</li> </ul> </li> </ul>
<p><b>August, 2004 to December, 2004</b></p>	<p>Work as a Software Engineer during the whole development of the project called "Brazil Alien Card Registration System", for the Brazil's Federal Police. In this project the following activities were developed:</p> <ul style="list-style-type: none"> <li>• UML modeling using Rational Rose.</li> <li>• C++ programming using Visual Studio .NET e MFC (Microsoft Foundation Classes).</li> <li>• Communication with scanners using TWAIN (C API).</li> <li>• Image editing and graphical user interface for image manipulation using GDI+.</li> <li>• Database communication (MS SQL) using ADO (through COM objects).</li> </ul>
<p><b>June, 2004 to August, 2004</b></p>	<p>Development of a relationship portal for travel agencies (including a fare system) for Nannai Beach Resort. Technology used:</p> <ul style="list-style-type: none"> <li>• Java tomcat server with JSP accessing a Postgres database through JDBC.</li> </ul>
<p><b>July, 2002 to November, 2003</b></p>	<p>Internship at Jynx Playware <sup>[10]</sup>, where I participated in the following projects:</p> <ul style="list-style-type: none"> <li>• Futsim, a massive online multiplayer soccer management game <ul style="list-style-type: none"> <li>• Java Tomcat server communicating with delphi clients through servlets.</li> <li>• Server accessing a relational database (Postgres SQL).</li> <li>• Servlets building HTML pages from templates using FreeMarker.</li> <li>• Analysis and administration tools written in Delphi for the backend.</li> <li>• Flash interface (ActionScript) embedded on the Delphi client.</li> </ul> </li> <li>• 3D game prototype and a 3D game using the multiplatform engine RenderWare. <ul style="list-style-type: none"> <li>• Developed using C/C++ (Visual Studio 6.0)</li> </ul> </li> </ul>

**2000  
to  
2001**

07 months internship at Radix Group (later called Mobile\*), where the following activities were developed:

- Application development using C++ and DirectX to create interactive 3D environments.
- Development of a WebPage Hosting System using PHP and MySQL.
- 3D objects modeling on 3D Studio Max.

\* This company no longer exists.

## Education

**March, 2005** Bachelor's Degree on Computer Science at UFPE - Universidade Federal de Pernambuco (Pernambuco's Federal University).  
Recife, Pernambuco - Brazil

## Academic Experience

**2001 to 2002** One year of scientific initiation under tutelage of Prof. Francisco de Assis Tenório de Carvalho, where the following activities were developed:

- Development of a software using C++ and MFC (Microsoft Foundation Classes) that generates simulated SAR images (Synthetic Aperture Radar).
- Contributed to the software (written in C++) that tested the concept of symbolic object databases for the international SODAS project.

## Relevant Academic Projects

**2005** A photorealistic renderer with the following characteristics:

- Written in C++ using MFC.
- Implements the classic raytracing algorithm with shadow casting.
- Loads scenes in the 3ds Max ASE (ASCII Scene Export) file format.
- Uses octrees to optimize (minimize) collision tests between a ray and the scene geometry.
- Implements the Photon Mapping technique for the global illumination solution.
- Render images using a direct visualization of the photon map or the two pass algorithm.
- Implements irradiance caching to minimize indirect lighting calculations.

**2004** 3D Studio Max Scene Renderer with the following characteristics:

- Written in C++ using MFC.
- Implements the classic raytracing algorithm with shadow casting and reflections.
- Shows mapped textures.
- Uses octrees to optimize (minimize) collision tests between a ray and the scene geometry.

**2004** An Ant Foraging Behaviour (by pheromones) simulator written in C++ using MFC and DirectX 9.0

**2004** Implementation of a MSN Messenger 6.0 client written in C++ using MFC.

## Trainings Attended

**2008** Certified ScrumMaster class, held by Boris Gloger

## Languages

- Portuguese - Native speaker
- English - Fluent
- Spanish - Basic

## Technical Knowledge

Programming Languages / Script	<ul style="list-style-type: none"> <li>• C / C++ - <i>highly proficient, "mother language"</i></li> <li>• QML – <i>highly proficient</i></li> <li>• Javascript – <i>proficient</i></li> <li>• Python</li> <li>• Java – <i>Been quite a few years since I last used it</i></li> </ul>	<ul style="list-style-type: none"> <li>• SQL, PL/SQL – <i>Been quite a few years since I last used it</i></li> <li>• Pascal / Delphi – <i>Been quite a few years since I last used it</i></li> </ul>
Technologies	<ul style="list-style-type: none"> <li>• Linux</li> <li>• Qt</li> <li>• CMake</li> <li>• gdb, Valgrind</li> <li>• Git (just love it), Bazaar, Subversion*, CVS*, diff files and patches</li> <li>• GNU Make and Makefiles, autotools* (automake, autoconf), libtools*</li> <li>• D-Bus</li> <li>• GTK+, Glib and GObject</li> <li>• Scratchbox*</li> <li>• OpenGL – <i>basic knowledge</i></li> </ul>	<ul style="list-style-type: none"> <li>• chroot environments (building, configuring, using)</li> <li>• Debian packaging</li> <li>• HTML, XML, CSS</li> <li>• UML</li> <li>• XULRunner, XPCOM*</li> <li>• Apache Forrest (using)*</li> <li>• OpenDocument format (parsing, interpreting, writing)*</li> <li>• GStreamer*</li> <li>• AsciiDoc, DocBook*</li> <li>• Scons*</li> <li>• C language Python bindings*</li> </ul> <p>* - Been a while since I last used it</p>

## References

- [1] MeeGo Touch UI Framework - <http://meego.gitorious.org/meegotouch>
- [2] INdT - <http://www.indt.org.br/>
- [3] An open XML-based document file format for office applications. - <http://www.oasis-open.org/committees/office/>
- [4] AbiWord, an open source (freeware) word processing program. - <http://www.abisource.com/>
- [5] Telepathy Inspector - <http://telepathy.freedesktop.org/wiki/Telepathy%20Inspector>
- [6] Telepathy D-Bus Interface Specification - <http://telepathy.freedesktop.org/spec.html>
- [7] Tapioca, a communication framework - <http://tapioca-voip.sourceforge.net/>
- [8] Tapioca Design Document - [http://tapioca-voip.sourceforge.net/wiki/index.php/Design\\_Document](http://tapioca-voip.sourceforge.net/wiki/index.php/Design_Document)
- [9] Canola Media Center - <http://openbossa.indt.org/canola/>
- [10] Jynx Playware - <http://www.jynx.com.br/>