

Tovarishcheskiy prospekt 32 k 1  
Saint Petersburg  
Russia

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# Alberto Mardegan

## Work profile

- **Luxoft**, remote working (Saint Petersburg, Russia), 2017-present

Lead developer in the Platform team, building middleware components for a Linux-based platform for automotive devices. Duties ranged from architecture design, dependencies analysis and selection, to implementation (using C++14, boost, glibmm) and finally integration of the solution into the flashable image. To this goal, Yocto recipes were created for a couple of layers, one for the hardware-agnostic parts of the platform and another for the BSP parts.

Ran a performance study on several embedded database engines, using the ioarena<sup>1</sup> tool: drivers for a couple of databases were written, submitted and accepted into the upstream project.

Improved a Python tool for generating C++ binding from D-Bus interfaces<sup>2</sup>, by adding support for new data types, bringing several performance improvements and becoming the *de facto* maintainer of the project.

- **Canonical Ltd.**, remote working (Saint Petersburg, Russia), 2011-2017

Lead developer of the Online Accounts project<sup>3</sup>, used in Ubuntu Unity (all form factors) and also adopted by other platforms, such as KDE and Sailfish OS. Evolved the Online Accounts system initially developed for Nokia into a portable, UI agnostic framework. Implemented several UI components in Qt/QML for Ubuntu phones and tablets. Optimized the architecture for embedded systems, with on-demand loading of components and resource savings on inactivity. Implemented a security module for checking client's credentials against an ACL. Designed and implemented APIs for C, C++ and Python clients, along with documentation and example code.

Designed a plugin-based architecture for the new Ubuntu System Settings application, and delivered its implementation in C++ with a QML-based UI. The design has proved itself working across different architectures and device form-factors, with most plugins being contributed by other people.

Transformed a monolithic event polling service into a lightweight, modularized service which loads and starts subprocesses on-demand, where each subprocess communicates with the parent service through JSON messages transmitted via stdin/stdout, allowing them to be written in any programming language and making the service easily extendable by third parties.

Contributed to a wide range of software projects, ranging from geolocation to PIM, from webapps to company-sponsored projects and upstream ones, using the most diverse programming languages and technologies<sup>4</sup>.

Languages and technologies used: C, C++/Qt, Go, Javascript, Python, glib, D-Bus, sqlite.

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1 <https://github.com/pmwkaa/ioarena>

2 <https://github.com/Pelagicore/gdbus-codegen-glibmm>

3 <https://launchpad.net/online-accounts>

4 Look for contributions by user `mardy` on launchpad.net, github.com and gitlab.com

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● **NOKIA Oy, Helsinki, 2009-2011**

Lead developer in the MeeGo Accounts & SingleSignOn project<sup>5</sup>. The project consisted of developing from scratch a new framework providing unified storage for account settings, supporting different services under the same account, and Single Sign On functionality with a major stress on security, extensibility and usability. This was an acclaimed feature of the Nokia N9 phone.

Languages and technologies used: C, C++/Qt, glib, D-Bus, sqlite, XML, LUKS.

● **NOKIA Oy, Helsinki, 2008-2009**

Main developer of several UI/middleware components for the Maemo platform: from Hildon/Gtk+ UI components (instant messaging presence, accounts), to the design of the IM/VoIP account framework, while still actively developing the middleware of the Telepathy IM/VoIP framework<sup>6</sup>. All these components were successfully deployed in the Nokia N900 phone.

Languages and technologies used: C, glib, Telepathy, Hildon, Gtk+, D-Bus, XML.

● **NOKIA Oy, Helsinki, 2006-2008**

Main developer and designer of the middleware in the Telepathy IM/VoIP framework for the OSSO/Maemo platform. The outcome of this work, besides being available in the Gnome desktop, was also a key feature for the Nokia N800 and N810 internet tablets.

Languages and technologies used: C, glib, Telepathy, D-Bus.

● **SOGEA Srl., Treviso (Italy), 2002-2006**

Analyst and developer of a wide range of enterprise applications, from accounting software to reporting tools, software for embedded terminals and interfacing with logistics and production chain actors; on Unix (SCO) and Linux (SUSE) OS.

Languages and technologies used: C, C++/Qt, glib, PostgreSQL, C-isam.

● **University of Padua, faculty of Pure and Applied Mathematics, Padova, 2002**

Collaboration for publishing a paper on Computational Mathematics

● **Own projects / Open source collaborations, 1997-present**

- PhotoTeleport, a cross-platform photo uploader (Qt/QML)<sup>7</sup>.
- Ubports, a mobile OS based on Ubuntu and Qt<sup>8</sup>.
- Imaginario, a cross-platform photo manager application (Qt/QML), work in progress<sup>9</sup>.
- A cross-platform (Linux, Windows, OSX) graphical geotagging application (Qt/QML)<sup>10</sup>.
- Linux kernel driver for the Terratec Cinergy T XS DVB-T receiver.
- Mappero map/navigation application for the Maemo N900/Nokia N9<sup>11</sup>
- Linux kernel framebuffer hardware-accelerated operations for the ATI w100 graphics chipset, obtained by reverse-engineering of a closed-source driver.

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5 <https://gitlab.com/accounts-ss0/>

6 <https://telepathy.freedesktop.org/components/telepathy-mission-control/>

7 <https://phototeleport.com>

8 <https://ubports.com>

9 <http://blog.mardy.it/2016/05/imaginario-for-your-desktop.html>

10 <https://www.mardy.it/mappero-geotagger/>

11 <https://www.mardy.it/mappero/>

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- Minor contributions to many open source projects.
- Music player/editor for MOD files written for Windows 95.

## Education

- University of Padua, faculty of Pure and Applied Mathematics, Padova, 1997-2002
- Concentration on Computational Mathematics.
- Thesis on a new algorithm for approximation of bivariate functions.
- Scientific high-school “Leonardo da Vinci”, Treviso, 1992-1997
- Mathematics Olympiads, 1995: awarded sixth place among all Treviso high-school students.
- Mathematics Olympiads, 1997: awarded first place for Veneto region; among the best 30 students in the national classification.
- Various awards in the “Giochi matematici” competitions held at Bocconi University, Milano.

## Computer skills

- Operating systems: Linux (Debian, Ubuntu, embedded), Windows, OS X
- Programming languages: C, C++, QML, Go, C#, Python, Vala, Java, PHP, Bash scripting
- Other computer languages: SQL, XML, LaTeX, HTML
- Libraries, toolkits and APIs: Qt, GTK+, MeeGoTouch, Clutter, Telepathy, D-Bus, OpenGL, DirectX, Microsoft Windows API
- Embedded development: Sharp Zaurus using the OpenEmbedded platform (2005-2006), Maemo, MeeGo, Ubuntu phones
- Package building and maintenance: working with upstream, creating .snap, .deb, .rpm, manually or working with CI systems.
- Data processing and analysis
- API design and software architecture

## Languages

- |   |  |
|---|--|
| ● Italian (native)                        | ● Spanish (reading: good; listening: fair)     |
| ● English (fluent)                        | ● Latin (reading: intermediate; writing: poor) |
| ● Russian (intermediate, improving)       | ● Interlingua (fluent)                         |
| ● French (reading: good; listening: fair) | ● Bulgarian (fair)                             |

## Selected activities

- Administrator of the “Union Mundial pro Interlingua”
- Active participation in international conferences about Interlingua

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## Interests

- Photography
- Blogging
- Practising sports: gym, kung-fu, tai-chi, biking, jogging.
- Reading: scientific articles, news about technology, international news.
- Exploring different cultures (Slavic, Japanese, Chinese, Korean)