# Tiago Maluta

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## Experience

*2013 -*    *Freelance*                                             *Consultant*

I take a short "sabbatical" period to work an evaluate possibilities of embedded platforms (such as RaspberryPi) and Web frameworks focusing on the "Internet of Things". In the meantime I'm only accepting small part-time jobs. But I never closed the door for good companies with interesting projects to work as a full-time employee.

*2010 - 2013*    *MXT Industrial (www.maxtrack.com.br)*                  *Systems Analyst*

Working with project and manufacturing of industrial Android tablet and other embedded devices. My work consisted to adapt pieces of Android framework and kernel to fit on company's own hardware, based on Freescale's ARM Cortex-A8, to attend customer demand. Process involves taking care of software integration: develop small apps as a proof-of-concept to customers, apply patches, integration, benchmark, production, hardware debugging, test development and validation. I've got a lot of experience with "mass production" issues: production line, customer demand, tough schedule and work with regulatory agency (as technical staff) to prepare our equipment for electrical certification. All this work involves coding with Java, Python, C and C++, using embedded techniques and tools.

*2008 - 2010*    *Superior Technologies in Broadcasting, Inc. (www.stb.ind.br)*         *Internship*

My responsibility is support GNU/Linux on hardware developed. Work includes customizing kernel, C programming, cross compiling, debugging, file systems adaptation, frame buffer (directfb), tests and system update.

*2005 - 2010*    *Federal University of Itajuba (www.unifei.edu.br)*                  *Student*

Graduated in computer engineering (June 2010). At university I worked with academic research and worked with programming languages support to disciplines such as Java and C++. I taught a course (40 hours) in 2009 to undergrad students about Linux focused on engineering, talked about GCC/GDB, control version, bash scripting, etc;

**Skills**

- Excited with mobile technologies, mostly Android related.

- Able to program in Python, Shell Script, C, C++ and Java (Android).

- Algorithms (don't reinvent the wheel)

- Basic assembly language on ARM and SH4 processors

- Android UI development with standard SDK and others (Kivy, SL4A, etc)

- Experienced using GNU tools: GCC, Autoconf, GDB, etc

- Linux Device Drivers

- Control version systems: mostly git (but also: bzr, hg and svn)

- Embedded tools: U-boot, busybox, buildroot, qemu, tftp, scratchbox, multistrap

- Distribution packaging: portage (source), RPM and APT

- File systems to embedded development: JFFS2, CramFS, NFS and UBIFS

- Virtualization (x86): lguest and KVM

- GUI: PyQt4/PySide and Qt4 (C++) and QML

- IPC: thrift

- Harwdware open source: Arduino + shields

- Twelve years GNU/Linux experience on systems ranging from Gentoo to Ubuntu.

- Five years experience with many levels at embedded systems using different machine archs:
    * BeagleBoard, Pandaboard and Raspberry Pi
    * "dinosaurs" like: internet gateway (ATNGW100) and Evaluator-7T (ARM)
    * set-top boxes (Brazilian ISDB-T)

- Basic knowledge of reverse engineering (data analyzing, memory dump, patterns).

**Education**

*2013*  *Scrum Alliance*                                                                      *Course*

I take for 2 days a course about SCRUM methodology provided by Scrum Alliance (MEMBER: 000234233)

At *high level* background in software engineering, distributed systems and database.

At *low level* backgroud in assembly language (Motorola HC11) and x86 (Intel syntax) and electronic design with CMOS and TTL.

Overview of VHDL to use in FPGAs. Including MyHDL (a Python library to generate VHDL or Verilog code)

Coordinator at student organization (CACOMP) during 2007/2008 responsible to Computer Engineer course. We bring many technical events to university, since seminars to install-fest of GNU/Linux.

Responsible to made a partnership with ARM to present the ARM Universiy Program to students.

I conduct a debate about *Technologies in education* with two specialists: Irene Karaguilla Ficheman (NATE/USP) working on OLPC project implementation in São Paulo - Brazil and Edson do Prado Pfützenreuter (UNICAMP) a game specialist.

Many extracurricular activities that involves cultural exchanging and social responsibility, such as "Cine Club" and solidarity, especially combating anafalbetism.

Notions of venture capital market (One of the 20 finalists of a contest about Venture Capital supported by Intel and Fundação Getúlio Vargas in 2007).

## Articles

*Kernel and services overview of Symbian OS* , as part of one-year (2006) scientific initiation program supported by Brazilian government foundation FAPEMIG oriented by Prof. Otávio Augusto S. Carpinteiro, D.Phil.

## Lectures

*Embedded Systems Market: an overview* talk to students of Federal University of Itajuba about my work with embedded systems and recommendations for future, jobs, and trends, 2012

*Hardware Open Source* at Encontro Mineiro dos Estudantes de Computação, UNIFEI, 2009 [http://www.slideshare.net/maluta/hardware-open-source]

*Free Software and The Matrix* at Calourada Livre, UNIFEI, 2009

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*Running GNU/Linux on ARM processors thought QEMU,* Seminário em Computação, SECOMP, UNIFEI, 2007 [http://linuxabordo.com.br/download/artigos/executando_linux_proc_arn_via_qemu.pdf]

*Object-oriented programming in GNU/Linux: An overview of Qt4,* Encontro Mineiro dos Estudantes de Computação, EMECOMP, 2006

**Misc**

I blog at http://maluta.github.io about my learnings on technological fields and manage a maillist about BeagleBoard (and other open source hardware) for Brazilian users (http://beagleboard.org/discuss). You can follow me @maluta on twitter, check my github at http://github.com/maluta or irc-talk to "maluta" on freenode.

Also I'd like to experiment with video, some proof-of-concepts, as example to:

- PyObjC - https://www.youtube.com/watch?v=GZ1du3x07JI

- Kernel module - https://www.youtube.com/watch?v=bzuwxrdvhn8

- Python + Latex https://www.youtube.com/watch?v=e0SSxA1xbaA

I can relocate and travel.

**Objectives**

Work with embedded systems, learning and share knowledge by building great products.