

Felipe C. da S. Sanches

juca@members.fsf.org

<http://github.com/felipesanches/>



Summary

Software developer / hardware designer.

I'm a hacker committed to the values of the software freedom movement.

Skills: *libre software development and advocacy, pcb design, digital electronics, reverse engineering, device driver development, digital fabrication, open standards, public speaking, graphic design, IT training & education.*

Professional experience



Hardware Engineering at Musical Operating Devices

<http://portalmod.com/>

November 2014 - March 2015

Hardware engineering for the MOD Duo project

<<https://www.kickstarter.com/projects/modduo/mod-duo-the-limitless-multi-effects-pedal>>

Main attributions:

- * Schematic design with Eeschema (KiCAD)
- * PCB layout with pcbnew (KiCAD)
- * Iterative PCB prototyping at the company's electronics lab (proof-of-concepts / validation of Release Candidate hardware revisions)
- * Embedded Linux device driver development (ALSA System on Chip drivers)
- * Daily Open Hardware contributions to the project files on GitHub (<https://github.com/portalmod/>)



Co-Founder / R&D Director at Metamáquina

October 2011 - October 2014

We're a 3D printing business focused on popularizing rapid prototyping machines in Brazil. We're fully committed to free software and open hardware design.

- * Company's lead role in R&D
- * Hardware design and software/firmware development for an open hardware 3D printer (Metamáquina 2)
- * Regular contributions to upstream free software projects such as OpenSCAD and Repetier-Firmware.
- * Management of the Metamáquina 2 production line.
- * Lecturer in several educational workshops covering topics such as 3D modelling, 3D printers maintenance and operation, free software development tools, hacker ethics and open innovation. Workshops also included guided assembly and educational exploration of DIY hardware kits such as the SpokePOV and the Uzebox 8-bit video-game, reverse engineering techniques and learning by tinkering in general.
- * Tutorship at extra-curricular STEM classes at the Saint Paul's british school in São Paulo, Brazil.

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Professional experience



Member of the Executive Secretariat at NETmundial - Global Multistakeholder Meeting on the Future of Internet Governance

February 2014 - April 2014 (3 months)

<http://netmundial.br/>

- * Analysis and preparation of a summary of the 188 content contributions sent from all over the world as input to the meeting agenda.
- * Support to the Executive Multistakeholder Committee when drafting the proposed Outcome Document for the meeting
- * Analysis and preparation of a summary of the comments made on the online public consultation of the proposed Outcome Document
- * Coordination of a team of 7 translators and of 33 Remote Participation Hubs (10 of which had live video feed to present comments to the local meeting)



Volunteer free software developer - GNU Project (LibreDWG) at GNU Project

Since September 2009

Co-creator and developer of the GNU LibreDWG library for handling DWG files - a secret file format used by AutoCAD - as part of the GNU Project.

This library is one of the projects in FSF's High Priority Projects List.

The purpose of this library is to enable free software CAD tools to compete in the computer aided design market. The development of the library is done based on an unofficial technical documentation published by Autodesk competitors who have worked on reverse engineering of the file format.



INKSCAPE

Volunteer free software developer at Inkscape development team

Since July 2007

Developed several features in Inkscape, including the initial implementation of SVG Filters rendering according to the W3C's Scalable Vector Graphics 1.1 spec.



President and co-founder at Garoa Hacker Clube

September 2010 - March 2012 (1 year 7 months)

Garoa Hacker Clube is the first brazilian hackerspace, a community laboratory for open learning and tinkering with art and technology. We provide infrastructure for DIY-minded people.

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Professional experience



Free Software developer at Understanding Limited

March 2011 - December 2011 (10 months)

- * Presented speeches about typography features in Inkscape, the Google Webfonts project, and the software freedom movement to graphics design students in several design schools across Argentina (Buenos Aires, Cordoba and Rosário) together with Dave Crossland and Pablo Impallari.
- * Patches to improve GNOME3's Shell Recorder and prototyping of a screencasting application for GNOME.
- * Development of typography related features in Inkscape such as the new Measurement Tool introduced in Inkscape 0.49 (<http://libregraphicsworld.org/blog/entry/inkscape-measure-tool-gets-an-update>) and released in Inkscape 0.91.
- * Prototyping of a Firefox add-on for downloading WebFonts
(<https://code.google.com/p/web-font-downloader/>)



Mentor for Inkscape project at Google's Summer of Code program

May 2011 - August 2011 (4 months)

Acted as mentor during the 2011 edition of the Google Summer of Code program helping a student to develop his improvements in Inkscape related to SVG interactivity and embedded javascript editing.



Free Software developer - UniversalSubtitles.org at Participatory Culture Foundation

October 2009 - March 2010 (6 months)

Co-creator and initial developer of UniversalSubtitles.org, a collaborative subtitling tool for online video. The website is known as Amara.org nowadays. Amara is a featured project of Mozilla Drumbeat, and the Mozilla Foundation has provided development support.

<http://amara.org/>



Research on brazilian copyright law and peer2peer networks at GPOPAI - University of São Paulo

March 2009 - September 2009 (7 months)

Copyright research developed at GPOPAI-USP, "Research Group for Public Policies Towards Access to Knowledge" at the University of São Paulo.

It involved the development of python scripts to monitor anonymous bittorrent users in order to better understand the relations between economics of the entertainment industry and unauthorized sharing of copyrighted works.

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Professional experience



Escola Viva

Digital Culture lectures at Escola Viva - Vila Olímpia, São Paulo

2012 (1st semester) / 2013 (2nd semester) / 2014 (2nd semester)

Extracurricular classes for teenagers during 3 semesters covering Digital Culture topics such as:

- * Peer-to-Peer networks
- * Copyright Law and free licenses such as the GNU GPL and the licenses of the Creative Commons project.
- * Collaborative wiki editing
- * GNU/Linux and the history of the Free Software movement.
- * Digital Fabrication techniques (overview of 3d printers, laser cutters and other CNC machines)
- * Parametric 3D modelling classes using OpenSCAD



Scholarship - Inkscape (ICC colors / CMYK) at Google's Summer of Code program

May 2009 - August 2009 (4 months)

Worked on improvements in Inkscape's support for CMYK color space using ICC color profiles.



Scholarship - Inkscape (SVG Fonts) at Google's Summer of Code program

May 2008 - August 2008 (4 months)

Implementing typography-related features (SVGFonts) in Inkscape.



Software Developer at Rede Colibri

February 2008 - June 2008 (5 months)

Software development in python, javascript and HTML/CSS using the Django framework.

Product: A realstate-related social network.

Honors and Awards



Awarded in "Extend Firefox 3.5" contest

Mozilla

November 2009

Development of the awarded WikiSubs Firefox extension for collaborative subtitling of online video. This extension inspired the early prototypes of the UniversalSubtitles website that I developed during my work at the Participatory Culture Foundation.

<https://blog.mozilla.com/extendfirefox/>

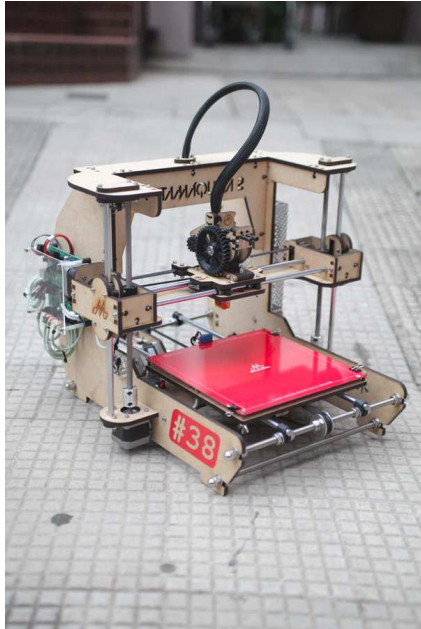
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Projects



Metamáquina 2

August 2012

Members: Felipe C. da S. Sanches, Rodrigo Rodrigues da Silva

A fully parametric, low cost, free software compatible and open hardware 3D printer.

The mechanical structure of the printer is produced by laser-cutting wood based on vector curves generated from the sources written in the OpenSCAD geometry description language. The design is fully parametric, meaning that by tweaking the parameters and rebuilding the sources one can manufacture a variant of this machine with an arbitrary build volume.

Approximately 130 units of this printer have been manufactured up to now in Brazil and the design is showcased in the OpenSCAD website as a notable use of the scripting CAD language.

<https://github.com/Metamaquina/Metamaquina2>

Pense Bem / Smart Start web-based simulator

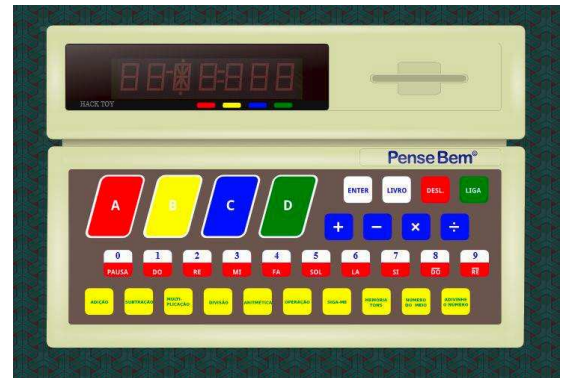
February 2011

Members: Felipe C. da S. Sanches, Leandro Pereira

It began as an experiment in reverse engineering and the desire to write an emulator. Ended up with a simulator written in JavaScript, using SVG and HTML5 audio for a classic 90's toy ("PenseBem" was marketed as "SmartStart" in the USA and Canada).

<http://labs.hardinfo.org/pb/>

<https://github.com/lpereira/Pense-Bem>



Free Software Contributions



<https://github.com/felipesanches>

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Skills & Expertise

Math

Electronics

Reverse Engineering

Version Control Systems

(Git / SVN / etc.)

Assembly language

(x86 / z80 / m68k / avr8 / etc.)

Scalable Vector Graphics (W3C SVG)

C/C++, Python, Javascript

HTML / CSS

Public Speaking / Teaching Skills

Software Freedom Activism

Embedded Systems

Digital Fabrication

(3d printers, laser cutters, etc.)

Languages

English Professional working proficiency / Regular speaker at conferences

Portuguese Native speaker

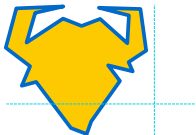
Education



**ESCOLA
POLITÉCNICA
DA USP**

Escola Politécnica da Universidade de São Paulo

dropout, electrical engineering with emphasis on telecommunications, 2003 - 2009



PoliGNU

Activities and Societies:

Co-founder of PoliGNU, a free software studies & advocacy group at the engineering school of the University of São Paulo, Brazil