

# Felipe Kellermann @felipek

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- E-mail: [me@felipek.com](mailto:me@felipek.com)
- Web: [felipek.com](http://felipek.com)
- Skype: [felipekellermann](https://www.skype.com/people/felipekellermann)
- LinkedIn: [linkedin.com/in/felipek](https://www.linkedin.com/in/felipek)
- Resume: [PDF](#) | [HTML](#) | [Markdown](#)
- Networks: [felipek almost everywhere](#)

## Summary

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Started mobile consulting and created products when the original iPhone SDK was released, focusing on native (UIKit, Foundation, Objective-C) and backend (Django, Linux, AWS). Currently supporting a SaaS product that already transacted tens of millions in orders. Before that, worked as a C developer for embedded systems and controllers, security and proxying solutions, and created a pluggable proxy framework (SOCKS and HTTP) while also supporting Linux deployments and embedded (BusyBox). Graduated in computer science while working as a researcher and TA.

- **Areas:** Mobile (iOS), Operating systems, Networking, Distributed systems
- **Systems:** Darwin (macOS, iOS), GNU/Linux, BusyBox and OpenBSD in the past
- **Languages:** Python / Django, Objective-C / Swift, C, POSIX shell scripting
- **Researching:** OpenTelemetry, Ansible, Golang and Rust, SwiftUI

## History

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### [Negotti](#): November 2012 - present

Started as a product of my previous company that offered development services. Focused on creating a subscription-based product (SaaS) for a common ask of our customers at the time the iPad launched (2010). The product is a *"digital catalog with dynamic sales force automation, fast, simple and offline for smartphones and tablets, combining products with marketing and sales."*

### Founder

- Created a new company to focus on a single subscription-based generic product
- Converted an app/library of the previous company (Nyvra) to a complete product
- Worked on the infrastructure (AWS, Linux), backend (Python, Django), app (iOS)

- Supported the multi-tenant solution serving both small and large customers
- Scaled to support thousands of daily devices and tens of millions of orders
- Automated several tasks from business (billing) to monitoring (alerts, events)

## Backend

- Infrastructure: AWS (EC2 CloudWatch S3 CF Route53 Glue Athena EBS SNS SQS)
- Systems: GNU/Linux (Ubuntu), Fabric (deploys, automations), MySQL (database)
- API: Django (from the early days of 1.2 to 4.0) and Python (moved from 2 to 3)
- Caching: Custom Django ORM caching with Redis (models), Nginx/Memcache (HTTP)
- Observability: Prometheus/statsd/Grafana (metrics), CloudWatch/Athena (logs)
- Other: Jupyter (scripts, analysis), Celery (queueing, workers) and Supervisor

## App (iOS)

- Reliable iOS app that started in the early days of 4.3 and 5.0 to modern 15+
- Support for a wide range of models / devices (universal) and system versions
- Completely generic app supporting custom targets and several "feature flags"
- Scripting engine (JavaScriptCore) for writing complex custom business rules
- Templates engine supporting custom print (HTML, PDF) and others (CSV, XLSX)
- Targets for [branded apps](#) using a common [core](#) and automations using Fastlane

## Other

- Integrations in Python for several systems/customers (SQL, WS/REST/JSON, CSV)
- Abstracted integrations (SQLAlchemy, Requests) mapping to Python/Django (ORM)
- Structured logging and ETL pipeline with automations to auto alert customers

## [Nyvra](#): November 2009 - June 2016

Started a company to offer consulting and development services for projects and startups related to mobile. Even though I started developing for the iPhone when the SDK was first released in 2008, only after publishing the first apps in 2009 that I decided it was time to create *indie apps* while supporting and helping other companies. Later on, started a new company (Negotti) in parallel to consulting jobs to create a product-based business (SaaS). The idea of running my own business was so strange I called the company *Nyvra* as it is ROT13 for *Alien*.

## Founder

- Created a consulting company focusing on iPhoneOS/UIKit development services
- Hired and managed 4 other people organizing remote work using early SaaS tools

- Organized work using initial versions of GitHub, Basecamp, Highrise, Freshdesk
- Created tools and engines for supporting commonly requested apps and projects
- Consulted for customers large and small in time-based and project-based jobs
- Trained experienced developers getting started on Objective-C/Foundation/UIKit

### Consulting: 2009 - 2014

- [Zenvia](#): Worked on many consulting jobs for the leading mobile company in Brazil
- [Mobo](#): Created the iOS app for the pioneering mobile coupons company in Brazil
- Zynk: Created the iOS app for the startup that was later acquired by Zenvia
- Other: [NDrive](#) (Portugal), [Jornal NH](#), Guia Folia, Contabilizee, CPB, Zee, others

### Training: 2010 - 2012

- Created a short lived company *treinamentos.mobi* to offer courses on mobile
- Created a new iOS/Objective-C course at a [well-established trainings company](#)
- Created custom course on [iOS Security](#) (portuguese) for a large local bank
- Gave talks on [iPhone/iOS](#) development at local mobile events and communities

### Project - [NearCinema](#) (iPhone): [2008 - 2009](#)

- Used the initial versions of the iPhone OS SDK when it was released
- Used early versions of CoreData, CoreLocation, CoreGraphics, MapKit and others
- Created an engine for on-device requesting/scraping HTTP movie/theater data
- Released the app in 2009 as a side-project before deciding to leave HP Brasil

### Project - [FoodBrasil](#) (iPhone): [2009 - 2010](#)

- Created and released the app in 2009 using the then-improved SDK features
- Used newly released technologies in the SDK like MapKit, APNS, and 2x assets
- Maintained the app as it stayed at the [top](#) of the App Store charts for months
- Adapted a paid (before IAP) app version from a free-with-ads using targets

### Project - *MobileGuides* (iPhone, Android): 2011

- Managed the creation of a framework/tools/backend for conference apps
- Developed apps for some conferences using these tools and technologies

### Project - *Catalog* (iPhone, iPad) - 2010 - 2012

- Managed the creation of a framework/tools/backend for catalog/sales apps
- Decided to start a brand new product-based SaaS company based on this app

## Hewlett-Packard Brasil: July 2008 - October 2009

Worked as a software developer using low-level C in a project that involved porting the architecture of a large NAS controller operating system firmware. This is exactly the same job position as the previous job but hired by Hewlett-Packard Brasil.

### **Software Developer**

- Researched and developed (ANSI C) systems programming for a storage controller
- Worked on RAID subsystem developing and researching features and testing tasks

## T&T Engenheiros: February 2008 - June 2008

Worked as a contractor for Hewlett-Packard Brasil as a software developer using C in a project that involved porting the architecture of a large NAS controller operating system firmware.

### **Software Developer**

- Researched and developed (ANSI C) systems programming for a storage controller
- Worked on RAID subsystem developing and researching features and testing tasks

## Interage Informática: April 2005 - January 2008

Worked on Linux deployments/automations for security (Squid, Netfilter, Snort), e-mail (Sendmail, Procmal, SpamAssassin), and storage/authentication (SSH, Samba, Apache), and created from scratch a SOCKS4/5 (ANSI C / POSIX / pthreads) supporting pluggable modules (shared objects) with hooks to log and control custom protocols (e.g.: MSNP, Jabber, HTTP1).

### **Software engineer (C)**

- Created a daemon from scratch (ANSI C / POSIX) for SOCKS4/5 proxy with plugins
- Created an engine for pluggins using shared objects (dlopen) for events/hooks
- Created plugins for protocols both proprietary (MSNP) and RFC based (XMPP)
- Created build and configuration support using GNU autoconf and automake tools
- Created custom event-based protocol using XML and asynchronous TCP responses
- Created support for transparent proxying for Linux (netfilter) and BSD (ipfw)

### **Sysadmin (Linux)**

- Created shell scripts for automating Linux settings (daemons, networking)
- Created console interface (ncurses, dialog) to automate Linux deployment tasks
- Security: Netfilter rules, Snort settings, Nagios monitoring, IPSec for VPN

- E-mail: Sendmail for MTA, Procmail for rules/automations, SpamAssassin for spam
- HTTP: Apache and CGIs using Perl for automations of standard commands and files
- Proxy: Squid for HTTP filters and caching, dnsmasq for DNS, custom TCP balancer

## Unisinos: February 2003 - March 2005

**Researcher:** Researching and creating artifacts based on experiments (PoC) by writing software related areas of mobile & pervasive and distributed computing, networking (ZeroConf) and language/frameworks implementation. Contributed to papers (internal and published). Used Linux, C++, shell scripting and *make*, *gnuplot* for plotting, and *TeX/LaTeX* for papers and reports.

**TA:** Programming and algorithms.

## Writing

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- Paper: [Continuum: A service-based software infrastructure for ubiquitous computing - IEEE International Conference on Pervasive Computing and Communications](#)
- Blog: [Artigos para Blog do iPhone](#)

## Education

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- Bachelor degree
  - Computer science, [Universidade do Vale do Rio dos Sinos](#) (2008)

## Open Source

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- Before Git/GitHub existed contributed to projects like [BusyBox](#), [pcap/tcpdump](#)
- All my career and hobby involving computers is based on FOSS since the [mid 90s](#)
- More than a decade ago: [open sourced an app](#) to teach others UIKit/Objective-C

## Languages

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- Portuguese
- English