

Gabriel Pettier

Experience

2014-present Tangible Display

Technologies: Python, Kivy, R, Docker, Docker-compose, Debian, Gentoo, Arduino, PyInstaller, Innosetup, Buildozer, Windows, Linux, OSX, BLE, JNI, Cython, Bash, Bourn Shell, Makefile. GLSL, Electron, ELK, LIDAR, GitLab

- Interaction/Multimedia development with Kivy:
 - Design, implementation, integration of multitouch & tangible UX for multiple clients, and products.
 - Development of a patented method to detect and classify phygital markers, allowing customers to configure their objects, and send detection info to third party application, into a product (ObjectViz).
 - Design and implementation of a Tangible application framework, with a plugin discovery system, and ability to define interaction with external applications, with custom UI to physical objects on multitouch tables.
 - Design and development of a data exploration solution, Tangible Data, delegating computations to R, and displaying the result both natively in Kivy and Electron using web technologies.
 - Design and development of a drag and drop CMS for tangible applications, allowing users to attach multimedia content to physical objects.
 - Design and implementation of a cryptographic license system, to tie distributed software to customer's computers. Implementation of a dongle based license solution to allow for license portability.
 - Development of a 3D point cloud visualisation system for LIDAR data, with multitouch navigation, level of detail loading by proximity to camera, working smoothly with dozens of millions of points.
 - Implement Arduino based applications to drive boards managing LEDs and RFID readers.
 - Implement usage data collection and presentation using the ELK stack.
 - Real time display of twitter search results and SMS messages and

physical interaction associated to them.

- And a lot of custom multimedia applications for clients...
- DevOps
 - Deployment and maintenance of multiple critical infrastructure software, (`Gitlab`, `Jenkins`, `Sentry`, `Wordpress`, `Zulip` and others).
 - Continuous delivery of packages of multiple projects, using `Gitlab-CI` and custom docker images.
 - Packaging for `Windows`, `OSX`, `Linux`, using `PyInstaller`, `InnoSetup`, and custom scripts.
 - Packaging and internal hosting of `Python` and `Cython` packages, that other internal applications depends on.

Projects for: Paco Rabanne, Armani, SNCF, EDF, Glenmorangie, ATS, WNE, Bottega-Veneta, CEA Tech, BCG, Métropole of Marseille, Candriam, JCDécaux, Yves Saint Laurent, ServicePlan, Orange, Dior.

2013-2014 Cloudwatt

- OpenStack development: UI implementation in horizon (`python` / `django` / `javascript` / `angularjs`)

2013 Gihux.com (self-employed)

- Infrastructure research and administration for Majerti
 - `Proftpd`, `ldap`, `ajaxplorer` solution deployment
 - Integration of services with `saltstack`
- UI design and development for `Android` / `iOS` applications with `Kivy`

2013 Majerti

- `Pyramid` web development for an in-flight content management system for commercial aircrafts.
 - `Jinja` templating
 - System conception and development
 - `Jquery` frontend development
- Mobile application development using `Kivy`, for alert management.

- Interface conception and development
- **Android** service and UI implementation
- Connection and communication with alert server
- **Android** build and deployment.

2011-2012 Tabtou

- **BPMN** 2.0 solution development using **Kivy** / **Python-for-android**
 - Implementation of **BPMN** 2.0 specification
 - User Interface/interaction design and implementation using **Kivy**
 - **UnitTest** system
- **Kivy** core-dev
 - Bezier curves/dashed lines implementation
 - Documentation work/lots of various fixes
 - Extension of recording module for better testing possibilities
- **Python-for-android** (**Kivy**)
 - Add intent-filters support to packages
 - Development of **PyJNIus** as a better way to use **Android** API

2009-2012 AlterWay Solutions

- **Redmine** Plugins development and customization to build custom client solutions (**Ruby** / **Rails**)
 - Human Ressources Management interface for Olympus, based on **Redmine**
 - **Redmine** Project Management plugin for Alterway.
 - Prepaid Ticket service for French Ministry contractors, based on **Redmine**
- R&D work on **Kivy**, with contributions, prototype solutions development
 - **GridLayout** port from **PyMT**
 - Various intern showcases for kivy technology
- Website Devolpment using **Python** / **Pyramid**
 - Showroom: application deployment from a web interface
- **AdminProxy**, bastion software, for centralized access management to resources
 - Work on Web interface, lot of fixes
 - Network discovery improvements/fixes
 - Documentation of usage
- Co-authored White Paper "Python: le développement autrement"

- <http://www.alterway.fr/publication/python-le-developpement-autrement>
- Wikinov.org: online index of french business incubators (not on line anymore)
 - Integration fixes

2008-2009 Linterweb SARL

- **PHP** developpement for French electricity company (EDF) works concil.
 - Maintenance and evolution of various custom based **PHP** websites and infrastructure solutions.
- **Joomla** Development
 - New features for ABCvert.com (site have been redone since)

2006-2007 Equaly SARL

- Work on **ERP** implementation based on ERP5 (**Zope** / **Python**) for the cwdsellier company
 - Implementation of company workflows
 - Creation of invoice production system (pdf)
- Various **PHP** web development

Degrees

2009-2012

Information System Engineering Master at l'EFREI, Paris (France)

2004-2006

Information System BSc (two years) at the University Technology Institute (IUT) of Valence (France)

Personnal Projects / Open source contributions

Kivy

I'm a contributor and a core developer to the Kivy project since the early days, and I've contributed a few important things to it, and a lot of less important ones: - The OscPy project to replace its shipped aging OSC implementation - Numerous improvements to its SVG implementation - PageLayout widget - Garden Widgets: - Modernmenu (<https://github.com/kivy-garden/garden.modernmenu>) - Magnet (<https://github.com/kivy-garden/garden.magnet>) - DDD (<https://github.com/kivy-garden/garden.ddd>) - AnimLabel (<https://github.com/kivy-garden/garden.animlabel>) - AnimLabelbezier (<https://github.com/kivy-garden/garden.animlabelbezier>) - KViewer tool to rapidly iterate design - RoundedRectangle instruction - A better vim syntax file - A lot of examples, bugfixes, documentation, mentorship and advocacy for the community.

OscPy

A fast and modern implementation, of the OSC protocol, supporting python2 and python3, with a good test coverage, and good separation of concerns. <https://github.com/kivy/oscpy>

Mailsync

A daemon to wrap various email/imap tools to keep local copies of my mails, and have notifications on new mails, and other benefits, while using NeoMutt.

PythonAR

Python Auto Reloader, can be used for all sort of projects, not just Python, allow to start and restart jobs based on FileSystem events, with a lot of filters to restart only on the right events. under the Kivy organisation <https://github.com/kivy/pythonar>

PyJNIus

A Cython lib to use Java classes directly from Python, using JNI. Allow to instantiate classes, call their methods, and to implement Java interfaces directly from Python Classes. In collaboration with Mathieu Virbel, with the Kivy organisation <https://github.com/kivy/pyjnius>

Ultimate-Smash-Friends (2008-2012)

A platform fight game, in Python, i moved on to other things now, but to date, my biggest personal project. Got a few contributors, now hosted on Github: <https://github.com/tshirtman/ultimate-smash-friends>

Technical Skills

Expert

- Kivy
- Python

Advanced

- Cython
- Git
- Linux
- Vim
- shell (sh / bash / zsh / fish / xonsh)
- Docker (docker-compose)

Moderate

- C
- Arduino
- HTML / CSS / Javascript (Vue, JQuery)
- Ruby / Rails
- Networks
- Java / JNI
- GLSL

Begginer/Curious

- Haskell
- Lisp
- Go
- Erlang

- R

Other Qualifications

Languages

- French: native
- English: fluent (TOEIC 990)
- Portuguese: beginner

Various interests

- Science!
 - History
 - Politics
 - Economics
 - Typography
 - Did i mention Science? well, the other stuff are science too, obviously.
 - Silly stuff that are not Science but that makes life fun too.
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