

# Pierre Mignot

✉ pmignot@gmail.com

📱 +33 61 77 444 61

🏠 Saint-Alban  
05380 Chateauroux-les-Alpes  
FRANCE

## Digital Designer

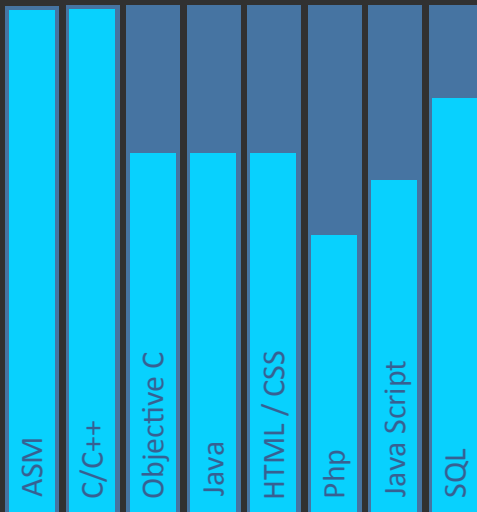
Software - Hardware

### Who

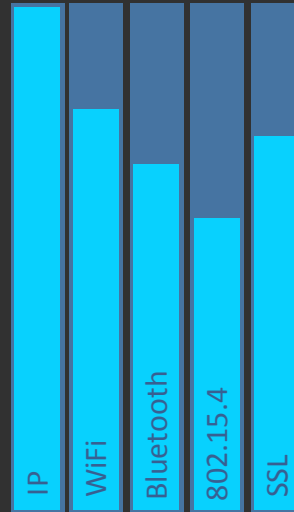
- I am a Software Engineer passionate about the digital world. Starting by studying databases and server applications, I quickly stretched my skills to embedded systems.
- After six years spent in the Somfy's Technical & Expertise Center, I acquired the ability to design and build a complete system from the cloud to an end-product. This includes databases, mobile and web developments, IP networks, wireless communication, low power embedded software and hardware design. Beyond the management of these technical projects, I have been involved in several large scale partnerships, strategic reviews and goodwill analysis.
- Today I would like use my skills on different topics than the home-automation. Aeronautics, naval, sports, health, mountaineering ? Anywhere I can give life to disruptive digital products.

### Technical Skills

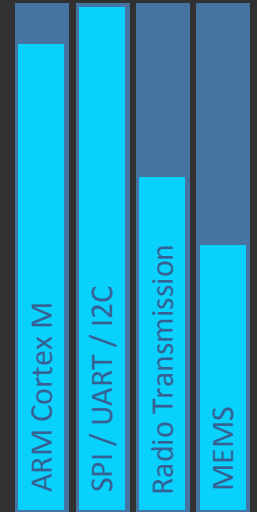
#### Software



#### Network

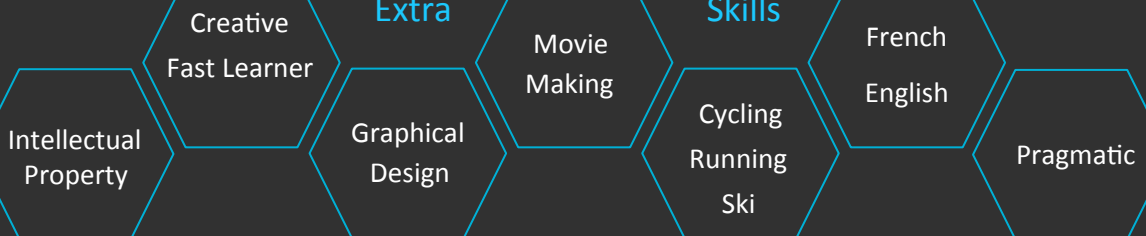


#### Hardware



#### Extra

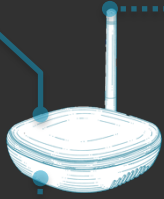
#### Skills



# Experiences

2008 – Today

Somfy



**Software Engineer** at Somfy's Technical & Expertise Center. The TEC is a transverse unit in charge of innovation and technical support. It brings sixteen technical experts together and works for the whole Somfy group including its international brands. Innovation included to work closer with the intellectual property department.

My fields of application were the Machine to Machine Communication and Human Computer Interfaces. I initiated and managed several projects around the internet of things. Teams was built depending to the technical skills involved. This is a resume of main project, in order of matter.

## Meta-language

Meta-language was a four years project. Coordinated with the HOMES European research project, I was in charge of its complete development. I designed a completely new computing language able to merge non-interoperable networks together. Being very modular we can use this language as a network protocol or as an inner software API. It results a quicker way to engineer interoperable products. The central point was to build it light enough to transport it on low throughput networks (20kbps) and rich enough to drive a complete home-automation system.

2 patents delivered

## Internet Gateway

Internet gateway are used to bridge home-automation radio systems with the IP networks and external servers (cloud). Usually these gateways are based on Linux systems due to the simplicity of development. My aim was to drastically reduce their cost by using lighter hardware architecture. Modify hardware had a dramatic impact on software performance. After 2 years I have been able to decrease the hardware cost by 40% with the same level of service.

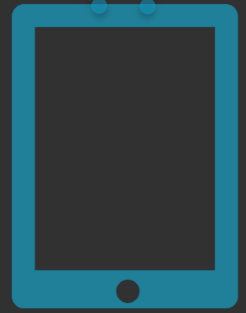
Details confidential

## Confluens

Confluens is a French consortium bringing many industries together to develop a fully interoperable home-automation solution (Schneider-Electric, Legrand, Hager, Delta Dore, Somfy). I took part of this project as the Somfy technical referent. Studies included networking, applicative protocols, security, web services, cloud connection and distributed computing.

## Internet Security

I manage a team of three engineer to develop a totally secured solution to communicate and update products through IP networks. Based on internet gateways this solution had to work on tiny systems. This includes no dynamic memory allocation and static threading while all IP systems are based on dynamic implementations.



# 15

patents

## Time Sharing



40% development

25% architecture

25% management

10% self-learning

## Operating systems

Windows | Mac OS X | Linux  
Android | iOS  
uCOS | FreeRTOS  
CMX-tiny

## Artificial Intelligence

Fuzzy logic  
neural network  
genetic programming

## Wireless and low power display

I designed and managed the development of a new interface dedicated to the home automation. It was a kind of display, totally wireless, able to work several years without any charge. This concept included a new radio communication and specific services hosted on cloud. Work under progress.

3 patents pending – Details confidential

## Motion Control

I used different MEMS to elaborate new way to interact with products (accelerometer, gyroscope, magnetometer). This work includes the selection of components, the power management, acquisition, treatment and analysis until the application development.

2 patents delivered - Details confidential

## Indoor localization

Home-automation communication use sub-Ghz radio. I reused it to build a complete localization system making controls able to know their position in an house. To balance the reflectivity of sub-Ghz radio I developed an auto learning software using classification based on statistical analyses.

1 patents delivered - Details confidential

## Wi-Fi

Integration and validation of Wi-Fi chip driven by tiny microcontrollers only. Project starts by testing and sectioning components. Qualification included a new way of commissioning with Access Points using smartphones. Finally, the prototypes included SSL/TCP/IP/WIFI communication on a low-cost and tiny board. Work is in progress to include this solution in a final product.

## Graphic Framework

A new product line pushed the graphical user interface one step further. To did this I had to bench different solutions. I tested flash, several Java frameworks and Qt. Qt has been chosen for its low CPU charge.

Summer 2007

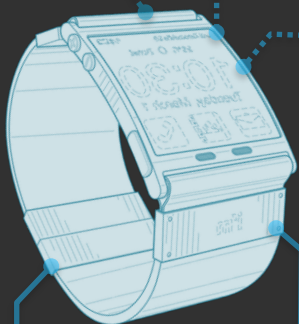
Schneider-Electric

**Schneider Electric** (internship), test and validation of a software designed for mechanical tolerance management. Work done in collaboration with **China** and **Mexico** offices.

Summer 2006

Logilys

**Software developer** (internship) for 10 weeks at Logilys, **Canada**. Development of graphic user interface. Delphi code.



## Extra

**2012 – 2013**

### PixiRocks

Press editor, web site designer, movie and photo making. Several news, pictures and movies used by TV channels (equipe21 and beINSport), news papers (Dauphiné, L'équipe) and sports brands (Montura, SkiTrab, Overstim's). [www.pixirocks.com](http://www.pixirocks.com)

**2012**

### MB Race

Finisher of MB Race, the hardest mountain bike race in the world. 600 departing, 25 arriving, I ranked 16<sup>th</sup>.

**2007 - 2008**

### Polytech'Savoie

Co-founder of PMD and PEP'S

PMD : Polytech Mountain Discovery. We organized several activities to discover mountain through the sport (mountaineering, biking, rafting, paragliding).

PEP'S : the Junior Enterprise. We was the professional interface between our university and the enterprises.

Both was based in University of Savoie, Annecy site.

## Education

**2009**

Master's Degree in Embedded Systems at the engineering school Polytech'Annecy-Chambery, University of Savoie, France.

Specialized in automation and industrial computing.

**2006**

Technical University Degree in Computer Sciences at the University of Mediterranean, France.

Specialized in database modeling and data mining.

**2004**

Distinction High school diploma. Specialized in engineering sciences

## Published Patents

HC Interaction  
**WO 2013017681**

Networking  
**WO 2011055240**

HC Interaction  
**EP 2492884**

GUI  
**EP 2555177**

Networking  
**EP 2320401**

HC Interaction  
**EP 2337051**