

Renaud MARIANA


rmariana@gmail.com



Objective: With more than 15 years experience starting designing middleware smartcards to large scale systems, I'm keen to exploit my knowled further in building, testing, operate concurrent, energy efficient sy:

WORK EXPERIENCE

Santevet | Online Bookings

France - remote 

23 - till present

Key Responsibilities

- Reliability: enforce software robustness of Santevet Online
- Fix several critical bugs like this [one](#) found in our depender instances size, etc...) to achieve a better reliability;
- Observability: add metrics / monitoring with prometheus / p
- Stripe: add a card payment method to Santevet products, r
- work on implementing a garbage collector for our CQRS d
- Solving front bugs;

Github

- Commanded (CQRS/ES): fix an [OOM bug](#) present for year
- Prometheus [high resolution metric](#) : create a small memory to track millions of different counters, used intensively by o

Environment

- AWS - Postgres - Phoenix - CQRS/ES - EventStore - Comi
- promQL - Broadway - Rust

Motorola Solutions

Glostrup, Denmark 

21 - 22

Key Responsibilities

- Devops for a cloud based telecom product that connects L: internet;
- Reliable software programming - devops (kubernetes);
- Software: write new kubernetes microservices (service-leve in all regions; the role included tasks like writing / running the deploymen templates, helm chart, monitoring, logging;
- SRE tasks : implement a SLA measurement microservice, improve reliability;

Environment

- Kubernetes - Helm - Docker - Elixir - Elk - Azure Pipelines · Prometheus - Continuous Integration - Rabbitmq - Grafana

Kuantic | Lead

Sofia-Antipolis, France

18 - 21

Key Responsibilities

- Distributed fleet management - backend devops;
- Responsibilities: technical interface for Stellantis (customer

- Development process: full refactoring of our existing stack, development process and deployments, add Elixir to our b
- Reliability: improve the reliability and extensibility of the sta robustness;
- Big-data: inject our vehicles traffic in elixir pipelines for data backend) and third-party data export pipelines;
- Tooling: add tools like Elastic Search and Elixir Dashboard;
- Troubleshoot some issues;
- Performance: improve overall performance with some of m
- Side project: develop and maintain a SaaS based on Phoe

Github

- A local key-value cache
- A nif cache for openstreetmap

Environment

- NoSQL · MapReduce · Erlang · Distributed Systems · Rabi Docker · Kubernetes · Phoenix · Elastic Search

Online SAS | R&D

Paris, France

13 - 17

Key Responsibilities

- Distributed cloud storage - R&D - Devops
- Architecture: define the basis for a fault tolerant storage (e.
- Implement a flexible, lightweight protocol layer (nbd) in erla example to move geographically a customer storage while *topics*: live release upgrade, app profiling, riak LRU cache, volume live relocation, riak node crash recovery, data flow rest api;
- Implement a fraud detection system based on **emergent n** Made the technical decisions (scikit versus legacy), build th (SQLAlchemy, Rest API); This AI fraud detection is used in production and is fully au *topics*: scikit-learn, python, SQLAlchemy, postgresql
- Online SAS san servers as IOT (POC) for live snapshots a *topics*: qemu-nbd, iot;
- erlang distributed testing of aws s3 storage backend *topics*: basho_bench, tsung;

Github

- a spatio-temporal logger

Environment

- Scikit-Learn · PostgreSQL · NoSQL · Storage Area Networ Erlang · Python - SQLAlchemy - Distributed Systems · Qui Kernel

Meetic, +500 people

Paris, France

10 - 13

Key Responsibilities

- Distributed chat system - main backend developer;
- maintainer of the messaging stack (Erlang/Ejabberd +200k
- architect and code new requirements for the Meetic chat sy
- adding the js xmpp protocol (bosh) extension to the backer
- package, benchmark, experiment new ideas in erlang;

- develop a jabberd roster (contact) cloud storage (Riak);
- develop a game framework as a cluster extension for Erlang, storing ten of thousands of human interactions in Riak;
- a realtime 3D supertracker to monitor fraudulent chat messages;
- benchmark RabbitMQ for messages logging;
- side project: rewrite in Erlang a C++ biological follicular/ovarian activity (ATT/C++ coroutines), this was my first project in Erlang;
- side project: open-source a real-time extension for Erlang, allowing to schedule hard real-time messages with the C libasound library (NIF) illustrated with
 - an Erlang multi players midi sequencer;
 - an interactive physics simulator.

Github

- a real-time extension for Erlang, allowing to schedule hard real-time messages with the C libasound library, NIF)

Consultant embedded software

Paris, France

02 - 10

- **Embedded programming - Philips / Sagem mobiles**
 - based on the 18Crypt profile, architect of the NXP mobile phone (S3);
 - Feature leader of Puma phone media manager, specifying (apollo, js);
 - develop a new video player automaton in C for Sagem mobile;
 - build a host based verification system tool to ensure the device uses logic programming techniques on a host to drive the device;
 - android devices: build a verification tool to test low level fields / methods, state machines)
- **Embedded programming - Philips STB**
 - add multi-threading (EMM/ECM and Tuner) for the Philips Interface); develop a porting layer for PVR services based on the Philips;
 - as a field engineer at BYTEL for the BBOX IPTV Product; build the middleware;
 - rewrite in Erlang my massively parallel C++ coroutines : (based on Cox Renewal Theory statistics model).
- **DVB-H Mobile TV - Orange**
 - participates to the development of next generation SIM Orange DVB-H mobiles;
 - semi-formal testing of the sim software using logic programming;
 - customize VLC to decode the rtp h264 ismacryp stream
- **Project leader (2 patents) - Viaccess mobile drm system**
 - architecture of a poc : server - DVB-H mobile - card , mobile packaging;
 - participate to the development of some parts of the project symbian software;
 - manage the relationships with major smart card supplier party software companies.

CP8 Transac
Louveciennes, France
July 97 - June 02

- **Project leader of Inria javacard (3 patents including 2 U**
 - did the coordination between INRIA, the mask and the (included a virtual machine simulator along other tools lil optimization programs and benchmarks suite software;
 - R&D: lot of javabytecode optimizations;
 - replace old proprietary VB tools with the http interface a
 - technical consultancy for a French bank (Caisse d'Epar
- **Secure protocols for e-commerce, carte bleue**
 - port of the french banking protocol (B0') in javacard;
 - add multi-threading for the SimToolkit (3 patents filled);
 - proof of concept of a sms-based E-purse transaction sy server);
 - open-source the prolog PC/SC interface, used to run se programming.

EDUCATION

Groupe Ecoles Centrales
Centrale Méditerranée,
France

- Graduated in Computer Engineering
Minor: Industrial IT and embedded systems
- Competitive classes preparing to the best engineering sch ("Les grandes Ecoles")

Computer Skills

Systems : [kubernetes / helm / docker](#), [azure pipelines](#), [low latency Erlang](#), [ecosystem](#), [phoenix](#), [tailwind-css](#), [github actions](#), [riak \(nosql\)](#), [li \(bloc storage\)](#), [graphql](#), [sqlite](#), [postgresql](#), [SQLAlchemy](#), [tsunc Coroutines](#).

Observability - Prediction : [PromQL](#) - [Grafana](#) - [Scikit-Learn](#) - [High resolution metrics cour](#)

Programming languages : [erlang / elixir](#), [C/C++](#), [Python](#), [JavaScript prototype](#), [java-bytec](#)

Methodology : [jira](#), [git](#), [github](#), [CI/CD](#), [OTP](#), [Rational Unified Process \(RUP\)](#), [UM Project](#).

Protocols : [nbd](#), [aws](#), [xmpp](#), [iptv](#), [TR-069](#), [mpeg-4 streaming \(RFC 3984\)](#), [l 1.0](#), [Etsi-Tetra](#).

Embedded : [Linux](#), [Nucleus](#), [RTKI](#), [VME](#), [JavaCard](#), [Android](#).

Smart Cards : [EMV](#), [SIM Card](#), [B0' Banking Application](#), [E-Purse](#), [OpenPlatfo](#)

Projects

Prometheus : Create a small memory footprint [telemetry_metrics_prometheu](#) counter able to track millions of different counters.

Superls : A multi volumes, files tokenizer, indexer and [search engine](#).

Caching systems : Small libraries on top of a NOSQL database.

Spatio-temporal logger : A tiny library to debug concurrency in distributed systems, both space.

Hardware clock : [ALSA](#) hardware based clock (NIF) for real-time processing.

Ejabberd Game framework : Framework for multi players games on top of Riak and Ejabber