Renaud MARIANA

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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 da
- 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 ou

Environment

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

Motorola Solutions
Glostrup, Denmark 🇩🇰
21 - 22

Key Responsibilities

- Devops for a cloud based telecom product that connects La 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 ba
- 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 Dashboards
- 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 · Rabb 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 m** Made the technical decisions (scikit versus legacy), build th (SQLAlchemy, Rest API);
  This AI fraud detection is used in production and is fully aut *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 E ten of thousands of human interactions stored in Riak;
    - a realtime 3D supertracker to monitor fraudulent chat m
    - benchmark RabbitMQ for messages logging;

- side project: rewrite in erlang a C++ biological follicular/ova ATT/C++ coroutines), this was my first project in Erlang;
- side project: open-source a real-time extension for erlang, 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 library, NIF)

Consultant embedded software
Paris, France
02 - 10

- **Embedded programming - Philips / Sagem mobiles**

    - based on the 18Crypt profile, architect of the NXP mobi access); this multi sites project involved people from the (S3);
    - Feature leader of Puma phone media manager, specify (apollo, js);
    - develop a new video player automaton in C for Sagem
    - build a host based verification system tool to ensure the uses logic programming techniques on a host to drive th
    - 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 Phili Interface); develop a porting layer for PVR services bas
    - as a field engineer at BYTEL for the BBOX IPTV Produ 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 prog
    - customize VLC to decode the rtp h264 ismacryp stream

- **Project leader (2 patents) - Viaccess mobile drm syster**

    - architecture of a poc : server - DVB-H mobile - card , m packaging;
    - participate to the development of some parts of the proj symbian software;
    - manage the relationships with major smart card supplie 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 C 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 scho ("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, tsung Coroutines.
Observability - Prediction :	PromQL - Grafana - Scikit-Learn - High resolution metrics coun
Programming languages :	erlang / elixir, C/C++, Python, JavaScript prototype, java-bytecc
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), I 1.0, Etsi-Tetra.
Embedded :	Linux, Nucleus, RTKI, VME, JavaCard, Android.
Smart Cards :	EMV, SIM Card, B0' Banking Application, E-Purse, OpenPlatfor

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