

# FELIPE MAGNO DE ALMEIDA

## EXPERTISE SOLUTIONS



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### Social

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- Github: <https://github.com/expertisesolutions>
- EFL Git: <https://git.enlightenment.org>

### Specialization

- Linux Embedded Systems development with C, C++, Assembly and other higher-level languages
- IoT in Linux, RTOS or bare metal with C, C++ and Assembly
- GUI development in C, C++, JavaScript, Python and C#
- Contiki, FreeRTOS, Zephyr and Linux driver development
- Mobile application development
- IPTV and ISDB-T/DVB-S development for Set-Top-Boxes

### Presentations

- **Native Floripa 2018**—Florianopolis - Brazil  
*C++ value-based programming*
- **Native Floripa 2017**—Florianopolis - Brazil  
*Integrating generators EDSL's for Spirit X3*
- **Enlightenment Developer Days 2016**—Paris - France  
*Promises and EFL Data Model*  
*EFL JavaScript & C++ bindings*
- **CppCon 2015**—Bellevue - WA - USA  
*Integrating generators EDSL's for Spirit X3*
- **12<sup>o</sup> National C++ Meeting 2015**—Rio de Janeiro - Brazil  
*Developing Graphical Interfaces in C++ using EFL C++ bindings*
- **C++Now 2015**—Aspen - CO - USA  
*Integrating generators EDSL's for Spirit X3*
- **Enlightenment Developer Day 2014**—Dusseldorf -Germany  
*EFL bindings for C++ and JavaScript*
- **10<sup>o</sup> National C++ Meeting 2013**—Rio de Janeiro - Brazil  
*Interoperating C++ and Java using C++ metaprogramming*
- **5<sup>o</sup> National C++ Meeting 2008**—São Paulo - Brazil  
*Creating Embedded Domain Specific Languages for Performance*

# Projects

- **Gstreamer—**
  - C and C++ development of sources and demuxers for proprietary IP camera protocol
  - Development of sinks for AWS S3 upload
  - Integration of gstreamer pipelines with AWS Rekognition service
  - Android applications with Gstreamer
- **Window Compositor and GUI library—**
  - Modern C++ development with goal in performance and battery usage
  - Compositor implements Wayland Server protocol and composites Wayland clients
  - GUI library uses Vulkan as backend for lower-level graphics API with better performance optimization opportunities
  - GUI library and compositor uses multithreading allowed by Vulkan API for lower latency and better usage of CPU resources
- **EFL GUI-library—**
  - Development of a code generator that generates C++ code that integrates the V8 library with the EFL C API
  - Development of a code generator that generates C++ code that integrates modern C++11 with the EFL C API
  - Development of a code generator that generates C# code that integrates modern C++11 with the EFL C API
- **Digital TV Interactivity Middleware—**
  - Development of a C++ Middleware to run interactivity systems in Digital TV standards for embedded systems
  - Development of high performance filters in C++ for Transport Streams, DSM-CC implementation and other Digital TV related technologies
- **Mail System—**
  - Development of SMTP libraries for high-performance in C++ using Boost and Asynchronous I/O
  - Development of parsers using EBNF format in Embedded Domain Specific Language in Spirit
  - Actively participated in Boost.Spirit community for years
- **CORBA—**
  - Development of experimental C++ ORB for high performance while leveraging on Template meta-programming
  - Meta-programming was able to move information from runtime to compile-time, avoiding unnecessary indirections and memory reads for parsing
  - Involvement in development of Authentication and Security System for CORBA standard
  - Protocol for authentication used in Brazilian oil companies