FELIPE MAGNO DE ALMEIDA
EXPERTISE SOLUTIONS

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Social

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- Github: `https://github.com/felipealmeida`
- 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 appllication 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
- **12º 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
- **10º National C++ Meeting 2013**—Rio de Janeiro - Brazil
  Interoperating C++ and Java using C++ metaprogramming
- **5º National C++ Meeting 2008**—São Paulo - Brazil
  Creating Embedded Domain Specific Languages for Performance

Projects

- **Experimental GCC backend for VideoCore IV—**
  - Experimental backend for reverse engineered VideoCore IV instruction set
  - Project forked by Mark Marshall (https://github.com/mm120/gcc-vc4)
  - https://github.com/felipealmeida/gcc-vc4

- **AVR libstdc++v3 patches—**
  - Patches upstream for libstdc++v3 that makes STL work for AVR backend with C++14 and C++17

- **Fast Vulkan Toolkit—**
  - Still in early development, a toolkit library based on Vulkan API and optimizations
  - VWM is a Wayland Compositor written using FVTK, also in early development
  - https://github.com/expertisesolutions/fvtk
  - https://github.com/expertisesolutions/vwm

- **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 develeopment of Authentication and Security System for CORBA standard
  - Protocol for authentication used in brazilian oil companies