Alessandro Balzano

Software Developer

email | wintermade.it | Linkedin | Download (English, PDF)

Experience

06-2021 - Present

Consultant at Capgemini S.A

MBDA S.p.A

This project revolves around creating new battle scenarios' generators and animators, in order to feed synthetic data to radars and combat Command&Control systems. This task is achieved by customizing an existing Computer-Generated Forces software system, in order to generate enemy tracks' data.

- Maintained and developed new plugins for the CGF software system, using **C++11** on **Linux**

11-2018 - 06-2021

Analyst Consultant at Capgemini S.A

Leonardo S.p.A

During this timeframe, I had to support and perform development activities related to a subsystem of a weapon system (running on an internally-developed board) and an in-house logging system I helped design and develop some years before. The experience gained by running software on the custom embedded board made me land the task of porting the internal framework to the newest iteration of the internally-developed board, helping the client get a working implementation of the RTOS and the internal framework on the new board.

- Used **C++03** on PCs (using **Linux**) and **ThreadX** Real-time Operating System (on **Texas Instruments C6000**-based custom boards)
- Supported the development of a remote logging system, complete with real-time visualization tools, based on **Qt4, Qt5, ZeroMQ, POCO**
- Maintained (new features development, bugfixes) one of the subsystems of the weapon system
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09-2017 - 11-2018

Analyst Consultant at Capgemini S.A

Capgemini S.A. (internal project)

The tool developed in this project helps organizations to track their teams' maturity about a certain topic (agile, cybersecurity...) through periodic questionnaires. If the team's maturity is not good enough, the tool is able to suggest actionable tips to improve and fix the team's processes.

- Used **react, react-flux, typescript** to build the frontend site of the web application

07-2016 - 09-2017

Analyst Consultant at Capgemini S.A

General Electric Nuovo Pignone (GE Oil & Gas)

The initial project started with the creation of an application, running on the Predix cloud platform, for real-time monitoring and historical work data analysis of CNC machines. From that initial core, the webapp was expanded to become the center of the whole plant's activities, such as work shifts management and raw data exports for offline analysis.

- Developed the first core of the web application, creating **Google Polymer.js** web components in **javascript** and **CSS3**
- Mentored new developers about Polymer and the **GE Predix** platform
- Introduced **unit/integration testing** using jasmine, web-component-tester and Selenium
- Created small microservices in **Python** to support **Java** and **data analysis** teams

04-2015 - 07-2016

Analyst Consultant at Capgemini S.A

Leonardo S.p.A (previously Finmeccanica, OTO Melara)

Support and development activities for main development team of a client's weapon system, that resulted in the creation of simulators and debugging tools. These activities enabled the groups to **cut the debugging time** - due to a new remote logging system and an ad-hoc porting of a control system from an RTOS to Linux-, **and the integration time between different systems**, both internal and built by third parties (weapon system reference simulator, HCI panels simulator)

- Created custom remote logging system and real-time visualization tools with **Qt4, Qt5, ZeroMQ, POCO**
- Proposed and implement unit/integration testing using **C++ (googletest, suzuha) and Python (pyserial, pytest)**
- Supported the implementation of the weapon system's reference simulator using **Qt5**

06-2014 - 04-2015

Analyst Consultant at Capgemini S.A

Leonardo S.p.A (previously Finmeccanica, OTO Melara)

The project is about the prototype of a weapon system designed to be rapidly deployed on cargo military aircraft (such as C27J and C130), to be used to counter asymmetric threats and to support infantry troops, known as OTO GUNSHIP. The weapon system has its own Electro-Optic FCS (fire control systems) that interfaces itself with a GPS, a 360-degrees camera and a 20mm Gatling Gun.

- Developed the fire control system -running on a x86-based PC104- in **C++ (Qt4, easyloggingpp)** on Linux Gentoo
- Implemented tools to extract and analyze logs data in **Python (xlwt)**

05-2013 - 06-2014

Analyst Consultant at Capgemini S.A

European Space Agency (ESA)

The project revolves around maintaining and developing new features for the travel management system (MAS) and payment (MOS) and the documentation system for storaging and sharing Word/PDF documents across departments (ROCADE)

- Maintenance and new features development on the travel and payment management systems, on both frontend (**Javascript**) and backend (**PL/SQL for Oracle 10g**)
- Porting of documentation sharing application (**Perl** CGI scripts served by Apache) from Solaris to Suse Linux 11

Education and Training

09-2007 - 07-2012

Industrial Informatics Engineer at ITIS Capellini Sauro

European Qualification Framework Level 5 - final result: 98/100

- Achieved 5th place at the National Turing Machines Tournament in February 2012, organized by University of Pisa, winning one year of free attendance to CS courses
- Collaborated to the reverse engineering and design of a barometric sensors' launcher for ENEA as a school project

Personal Skills

Language

Mother tongue: **Italian**

Other languages: **English**, certified **Cambridge English Preliminary (PET)** - CEFR B1

Understanding		Speaking		Writing
Listening	Reading	Spoken Interaction	Spoken Production	
B2	C1	B2	B2	B2