

Politecnico Di Torino

Mechatronics Engineering

Master's Degree Thesis



Development of a demonstrator for automatic test execution using LabVIEW and XML-RPC server

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Abstract

Assystem Technologies is an international engineering and innovation consulting group, which assists major industrialists in the various stages of their projects. I realized my thesis in Toulouse, France, with the "automatic test" team. They mainly work for the customer Airbus on the support and validation of a sequencer, performing test procedures on aeronautical systems test benches.

During my time in Assystem Technologies, the aim of my work was to propose innovative solutions for the Assystem Technologies sequencer technology, in order to implement a prototype which can be shown as a demonstrator to the company customers, detaching from the current specific Airbus implementation. The current sequencer was developed under LabVIEW by a team in the company, and the challenge of my internship was the integration of an XML-RPC server to pilot new generic tools, such as a robot arm and an image recognition software.

The benefits of the proposed implementation are the simplicity and effectiveness of the XML-RPC server, handling the communication between the software and the tools.

Final output of the internship was a generic software, which is now Assystem Technologies' property, that allows writing procedures, executing them, and generating a user-readable report.

Keywords: demonstrator, test procedure, sequencer, XML-RPC server, LabVIEW, generic

