

Graduate Engineer (UCE)
MARTIN FUNK
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Automation Engineer – SIMATIC Step7/ BECKHOFF/ Railway Vehicles

Seeking a position in an organization that provides me ample opportunity to explore & excel while carving out the niche for personal, professional as well as organizational goals

PROFILE

- Passionate and committed Software engineer with 7 years' experience in developing industrial automation solutions for every type of machine or electronic systems in railway vehicles
- Associated with BOMBARDIER TRANSPORTATION ZURICH as Software Developer. Recognized proficiency in Software development life cycle, development, documentation, testing and maintenance for Machinery manufacture, Railway – products, Packaging facilities, Financial Software.
- Experience in:
 - § Designing Software modules in electronic controlled systems in railway vehicles and locomotives
 - § V-Model, Agile, OOA/OOD, UML
 - § SIMATIC® S7, WinCC®, TwinCat® (Beckhoff), Mitsubishi, TCMS/MITRAC/MVB (Bombardier), Zenon® (CopaData), Profibus DP, EtherCat, Ethernet, MS Visual Studio 2013
 - § Black box/White box, Integration test, Windows XP/7, Ubuntu, MS Word/Excel 2007, LaTeX
- An effective communicator with exceptional analytical, technical, negotiation and client relationship management skills with the ability to relate to people at any level of business and management.
- Impressive, fast track software career driven by challenges and a desire to be successful in all endeavors; hands-on experience in PLC (function plan, instruction list, structured text).

Core Competencies

Software development ♦ Software development life cycle ♦ Documentation ♦ Testing ♦ Maintenance ♦ Designing ♦ Developing web application ♦ Project management ♦ Copa Data Zenon 6.5 ♦ Visual Studio 2010/ Visual Studio Tools for Applications ♦ .NET Framework 4.0 ♦ OOA/OOD ♦ Analytical Skills ♦ Communication Skills ♦ Planning

Technical Skills:

Automation	PLC (function plan, instruction list, structured text)
Database systems	MS SQL Server 2012, ADO.NET, MS Access, WCF, C, C++, C#, VBA for Excel, .NET Framework 4.5
Languages	SIMATIC® S5/S7, WinCC®, TwinCat® (Beckhoff), Mitsubishi, TCMS/MITRAC (Bombardier), Zenon® (CopaData), Profibus DP, EtherCat, Ethernet, MS Visual Studio 2013
Systems /Environments	OOA/OOD, UML, V-Model
Software models	Blackbox/Whitebox, Integration test
Testing	Windows XP/7, Ubuntu
OS	

KEY DELIVERABLES ACROSS TENURE

Project Management: Delivering and implementing projects as per scheduled milestones while ensuring compliance to quality standards; preparing project management plans, periodic reports and other records as per set parameters; holding review meetings to monitor progress of the project as per schedule / budgets

Project Coordination: Assisting in coordinating the implementation of changes to improve performance against metric targets; Helping identifying critical path tasks.

Process Management: Assisting in the development of estimates for projects; Contributing to defining time tables and project plans; Assisting in the definition of milestones.

Application Design: Designing new systems and Translating functional requirements into technical requirements and design.

Application Development: Designing and coding complex programs; Evaluating complex client area requirements and processes; Conducting analysis of organizational needs and goals for the development and implementation of application systems; Providing application and user support and performs troubleshooting

Testing: Reviewing and refining test cases, scenarios and scripts to ensure applications quality; Creating test transactions and run component and system tests for conformance to standards and adherence to design specifications; Preparing the test environment; Analyzing results of testing sessions and presents results; Working with users to review test results to ensure they meet expected results; Conforming to quality assurance test standards.

Implementation support: Guiding the set up and customization of release procedures for classification of various internal & external documents, etc.; handling integration with other modules, integration & user acceptance testing & extending post go-live support, including training support to end-users; preparing help manuals for all modules

Application Support: Assisting in providing support for the application.

PROFESSIONAL EXPERIENCE

STATE METHOD GMBH, DEUTSCHER SPARKASSEN VERBAND,
FINANCE SECTOR
Software Developer C#/.Net

May.2013 to Nov.2013
Heidelberg - Germany

- Project Description Master data Management tool for financial Software modules
A generic program for configuration and managing master data in a plugin-based, integrated solution for financial software modules.
- Objectives
- Frontend-Programming of a service oriented entity system
 - Developing of a standardized graphical user interface(C#/.NET)
 - Data binding to a table or other 2-dimensional data structure
 - Adjustable formatting for data presentation
 - User input validation
 - Automatic layout adjusting and scroll functionality
 - Developing of custom container controls with an easy handling
 - Implementation of a Ribbon-Toolbar with a Ribbon-Helper class
 - Adjustable Layout-Themes
 - Modular program components (in form of DLL's) as a part of a plug-in-based, integrated system
 - Data visualization by using Crystal-Reports
- Role Responsibility for the graphical user interface and the Frontend to a service oriented entity system; Designed and coded complex program-structures in an integrated plugin-System; Evaluating client area requirements and processes
- Specific skills used Microsoft SQL Server 2012, WCF, Binding Context, Data Grid View, Property Grid, Textbox, Combo Box, Checkbox, Image Picker, Date Time Picker, Tree View, Data Table, I Binding List, Format specifies, Error Provider, Stack Panel, Codeplex, Crystal-Reports

NEOGRAMM GMBH & CO KG, INDUSTRIAL AUTOMATION
Developer for Zenon Applications

Dec.2011 to May.2012
Mannheim - Germany

- Project Duration Designing and Programming of an Operating panel
Dec. 2011 to May 2012
- Description Designed and programmed virtual surfaces for operating panels (HMIs) in blister-producing packaging machines at ROMACO®
- Objectives
- Revised the old Software components and developed a new designed surface with a mix of old and new functionality
 - Developed a wizard for the automatic generation of Zenon elements with extended functionality, i.e. adjustable operating levels for specific user groups
- Role Analyzed old software regarding their functionality;
Designed and programmed the surface according their requirements;
Coordinating the implementation of changes
- Specific skills used CopaData Zenon 6.5, Visual Studio 2010/ Visual Studio Tools for Applications, .NET Framework 4.0

- Project Duration Visual inspection of a printed expiry date
Mar.2011 to Mar.2012
- Description Installation and start-up attendance of a visual inspection station
- Role Programmer SIMATIC S7
- Objectives
- Validation check of the expiry date on packaging of food products
- Specific skills used SIMATIC S7, Stemmer Image Processing

Project	Analysis, Design and Implementation of function modules in Railway-vehicles
Description	Elaboration of functional Requirements for electronic-controlled components in locomotives in a transnational operating field, in adherence to stringent safety regulations, giving by the supervisory authority of the UIC (International Union of Railways); Designing, implementing and testing of Software modules, regarding their functional requirements; Documenting the process as well as the testing results in the Application Lifecycle Management tool Polarion®.
Objectives	<ul style="list-style-type: none">• In charge of following work packages:• Fire-detection, SiFa, train protection systems (Integra, ZUB),• Rollback protection, Lateral acceleration control,• Axle box temperature monitoring,• Traction / Acceleration / Velocity control,• Current / Voltage control, TELOC Data recorder <ul style="list-style-type: none">• Prepared and revised requirements for electro-mechanical components• Read wiring/interface schemes• Created Signal flow plans• Programmed and tested the Software in the in-house test labor• Wrote documentations for function blocks to perform electro-mechanical operations, i.e. Circuit-breaker monitoring, ramps, pulses, etc.• Designed and implemented the Train-bus-interface for extern vehicle-signals
Role	Conducted Design, Implementation and Test of software modules, functional separated in work packages; Holding frequently review meetings in sympathy with the System Engineer, to validate functional requirements, design concepts as well as test results
Specific skills used	Comprehension skills for analyzing all kind of electronic controlled systems regarding their signaling in their functional closed operating field, MS Word/Excel 2007, MS Visio 2007,MS Project 2007, MS Outlook, TCMS / MITRAC, Visual Source Safe, Tortoise SVN, Lab View, My Friend, VBA for Excel, V-Model

Project	Automatic Horizontal Tool Changer
Duration	Apr.2008 to Oct.2008
Description	Programming a solution, related to a turret for the temporary storage of tools in a loading system for a drilling, milling and turning center
Objectives	<ul style="list-style-type: none">• Positioning of a turret in a particular position-pattern• Programming of a bit-interface to send activation commands to a robotic arm• Configuration masks of an operating panel for automatic and semi-automatic mode
Role	Designing, Programming, Installing and Testing software; Writing documentations; Prepared help manuals
Specific skills used	Siemens SINAMICS®, S120 CU310, Siemens SIMATIC S7 CPU-315, Stäubli Robotics, Siemens TP177 DP, Siemens SIMATIC WinCC

Project	Eyelet Mounting Machine
Duration	Nov.2008 to Jul.2009
Description	Automation solution for the eyelet mounting process of bicycle rims with a camera-based automatic hole detection (for the punching process)
Objectives	<ul style="list-style-type: none">• Triggering of pneumatic lifting- and sinking arms via electronic controlled solenoid valves• Hole-adjustment over stepper motor drives, controlled by a Pulse-width output terminal• Automatic program-selection after recognition of the hole sequence pattern of the rim• Time optimization of all processes to get the best delivery rate

- Designing and integration of a visualization system, via Ethernet
 - Documentation and preparation of the manual
- Role Designing, Programming, Installing and Testing software; Writing documentations; Organized training support to end-users; Prepared help manuals
- Specific skills used BECKHOFF® TwinCAT, BC9120, BECKHOFF KL20x2d, BECKHOFF KL2502, Sensopart® FA 45 Vision Sensor, BECKHOFF ADS(Ethernet), Mitsubishi, MS Word 2003

GPP CHEMNITZ GMBH,
Industrial Automation/ Image Processing in coordination with
The University of Cooperative Education

Oct.2004 to Mar.2008
Chemnitz - Germany

- Handled various smaller projects in accordance of the University of Cooperative Education.
- Programmed imaging processing solutions within the QT 4 environment and an in-house developed image processing library

Project Visual presentation of geometrical objects

Duration Jan.2005 to May.2005

Objectives

- Programmed a visualization tool by using Open GL Functions under a Linux environment development system
- Rotating, Scaling and Shifting of the geometrical object

Role Designing, Programming, Installing and Testing software; Writing documentations

Specific skills used KDevelop, OpenGL, Trolltech® QT 4.0

Project PNML program interface (Petrinet Markup Language)

Duration Jan.2006 to May.2006

Objectives

- Developed a file converter from the PACE data format to the standardized PNML format for a Petrinet representation

Role Designing, Programming, Installing and Testing software; Writing documentations

Specific skills used BNF schema for resolving the data format of a PACE file, XML, SAX, PNML, Trolltech® QT 4.0

Project Design, development, programming and visualization of a spatial point cloud (Diploma Thesis)

Duration Nov.2006 to May.2007

Objectives

- Algorithm for the light section process for contactless object scanning
- Preparation of the scanned point cloud for surface extraction
- Tessellation of the point cloud by trying different triangulation or Voronoi-diagram algorithm to have the best result for an homogeny and accurate surface

Role Designing, Programming, Installing and Testing software; Writing documentations; Conduct presentations in form of a Diploma plea

Specific skills used Light Section process, Smoothing algorithms, Triangulation/Verona-diagram algorithms

EDUCATIONAL & PROFESSIONAL CREDENTIALS

Graduate Engineer (UCE) - Process Information Technology, 2007
(Glauchau, Germany)
University of Cooperative Education

Diploma - Information technology, 2004
(Chemnitz, Germany)
ABTW GmbH

Certifications:

MCTS .NET Framework 3.5
(Heidelberg, Germany)

Microsoft Certified technology specialist for Windows Forms Applications/ ADO.NET

ISTQB Certified Tester
(Mannheim, Germany)
Foundation Level

Certificate in Project Managing
(Glauchau, Germany)
University of Cooperative Education

Languages Known: German, English, French, and Italian
References: Available on Request