

ROBERT P. CHURCHILL

CBAP, PMP, CSM, CSPO, CSD, Lean Six Sigma Black Belt

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BUSINESS PROCESS ANALYST / PRODUCT OWNER / SOLUTION ARCHITECT

Exceptional process analyst who has completed software development, analysis, architecture, simulation, modeling, control system, and process improvement efforts at over 80 facilities worldwide. Applies deep analytical skills to understand, map, quantify, and document complex operations and define governing equations. Applies communication skills to work with customers and technical teams. Builds models, analyzes business rules, and helps identify, negotiate, and define project requirements. Applies software engineering skills to develop, manage, and deliver robust and efficient solutions in multiple industries.

Core Competencies / Management & Analysis

Systems Analysis	Process Discovery	Requirements Engineering
Domain Knowledge Acquisition	Data Collection and Analysis	Subject Matter Expert Interviews
Business Process Reengineering	Operations Research	Internal and External Consulting
SDLC / Scrum / Agile / Waterfall	Process Improvement	Project/Program Management
Monte Carlo Analysis	Reliability Engineering	Process Mapping
Process Automation	Manufacturing Systems	Thermodynamics
Documenting As-Is / To-Be States	Six Sigma Analysis (Quality)	Lean Analysis (Throughput)

Certifications

Certified Business Analysis Professional (CBAP) #CBAP48092

Project Management Professional (PMP) #1284485

Certified Scrum Master, Certified Scrum Product Owner, Certified Scrum Developer (Scrum Alliance)

~~Certified Lean Six Sigma Black Belt (CLSSBB) #VIL020684 (lapsed Jan 2018)~~

Software Engineering

System Architecture	Multi-Tier & Web Architecture	Inter-Process Communication
Real-Time Computing	Industrial Control Systems	Computer Simulation
Interactive Computer Graphics	User Interface Design	Testing / V&V / Acceptance
Microservices	DevOps	Unified Interfaces

Languages: C/C++, JavaScript, Node.js, HTML/CSS, PHP, MySQL, Java, SQL, FORTRAN, Pascal/Delphi, SLX, FileNet WorkFlow

Office: Word, Excel, PowerPoint, Visio, Project, SharePoint, Basecamp, Jira, Rally, Confluence, Git

Experience

Universal Studios - Orlando, FL (contracted through Hays)

2018–Present

Technical Writer, Process Analyst, Software Reverse Engineering Specialist

Applied knowledge of software engineering, management, governance, and configuration to document and improve software stack and supporting DevOps processes.

- Documented process flows, CI/CD pipeline, and elements of end-to-end DevOps environment.
- Identified opportunities to improve software architecture, debugging and failure response procedures, documentation, and training.
- Designed unified interfaces for crowdsourcing detailed documentation of code and related data and communication flows, improving real-time situational awareness of the entire functional stack, and organizing documentation and support materials for all working systems.
- Reverse engineered software operations in multiple languages, but primarily in Node.js and the Loopback and Bluebird Promise libraries.
- Proposed and prepared demo for automated generation of animation of all process flows in a way that showed messages, data items, input parameters, and return values.

Independent Developer and Process Analyst - Kensington, MD

2015–2018

Web and Simulation Developer, Business Analyst

Refreshed and extended development, analysis, communication, and leadership skills through research, courses, books, meetups, Scrum and CBAP certifications, and website at rpchurchill.com.

- Created and edited questions for AdaptiveUS business analysis training website.
- Learned JavaScript, Java, PHP, MySQL, HTML/CSS, Node.js, and numerous development tools.

- RTR Technologies, LLC** (split from Regal) – Aberdeen, MD, Lexington Park, MD 2002-2015
Regal Decision Systems, Inc. - Baltimore (Linthicum), MD, Lexington Park, MD
Operations Research Analyst, Project/Program Manager, Scrum Product Owner
 Performed management, design, analysis, data collection, presentation, documentation, and software engineering functions for process simulations in the United States, Canada, and Mexico.
 Served as project manager for multiple analysis and development efforts and program manager for several logistics task orders: \$4.7M/year, 35 employees, 3 subcontractors, and a satellite office.
- All activities supported improved efficiency, cost, reliability, maintainability, robustness, and speed.
 - Became expert in operations research and discrete-event simulation tools and techniques.
 - Analyzed aircraft logistics support operations as part of team using the largest GPSS/H discrete-event simulation model ever written and additional ad hoc techniques.
 - Performed full-scope Verification and Validation (V&V) of software system designed to manage entire fleet of Navy and Marine Corps F-18 series aircraft per MIL-STD-3022.
 - Performed Analysis of Alternatives (AoA), Cost-Benefit Analysis (CBA) of high-volume processes.
 - Reverse-engineered and specified redesign of major agency staffing model (27,000 staff, 100+ activities, 500+ locations) to improve accuracy and clarity, and incorporate business rules.
 - Designed and built 3D pedestrian ingress/egress simulations with agent and threat behaviors.
 - Built and used tools to simulate land border crossings on both sides of both United States borders.
 - Created Medical Office Simulation tool to analyze and streamline operations in medical practices.
- American Auto-Matrix** - Pittsburgh, PA 2000–2002
Senior Software Developer
 Worked with HVAC controller products and supervisory control software.
- Updated PC-based driver software and created installers for multiple MS operating systems.
 - Managed software releases and version control.
 - Ran technical support web forum for direct customers.
- Bricmont, Inc.** (later acquired by Andritz) - Pittsburgh, PA 1994–2000
Manager of Level 2 Projects, Software Engineer, Control Systems Engineer
 Designed, implemented, and serviced Level 2 model-predictive supervisory temperature control and material handling systems for steel reheat and induction melting furnaces worldwide.
- Completely re-architected and re-implemented Level 2 supervisory control software. Migrated department to faster/cheaper systems and introduced new development tools.
 - Systems featured 1D and 2D real-time finite element thermal simulations, 2D and 3D GUIs, communications with other processes, and archiving and display of historical data.
 - Systems improved steel quality and saved 10%+ on fuel costs.
 - Commissioned numerous systems (of up to 50,000 custom lines of code) in the United States, Canada, Mexico, South Korea, and Thailand, and served as on-site service representative.
- CIScorp (Corporate Information Systems, Inc.)** - Pittsburgh, PA 1993–1994
Project Coordinator, FileNet Imaging Programmer
 Performed data collection and analysis of business processes leading to design and implementation of FileNet document imaging systems for business process re-engineering projects.
- Benefits included improved time service and accuracy, and cost savings of over 30%.
 - Business processes ranged from the overtime pay reporting for an engineering business unit to the entire disability insurance underwriting department at a major insurance company.
- Micro Control Systems** (contracted through IMC International) - Pittsburgh, PA 1993
Control Systems Engineer
 Updated database and user interface of control system for soaking pits and reheat furnaces.
- Westinghouse** (contracted through IMC International) - Pittsburgh, PA 1989–1992
Thermo-Hydraulic Simulation Engineer
 Designed and implemented software to simulate fluid systems in full scope, real-time BWR and PWR nuclear power plant training simulators on multi-processor distributed architectures.
- Models ranged from single-phase, single component systems to complex, multi-phase, multi-component systems and included interactions with control panels, instruments, and environments.
 - Created system to build model constants, interfaces, and documentation from acquired data.
 - Built PC-based software simulation framework to develop and test concepts to be implemented on the delivered system.

Sprout-Bauer (*later acquired by Andritz*) - Muncy, PA 1988–1989
Process Engineer

Performed and documented detailed heat and material balances. Created flow diagrams and instrumentation schemes for several types of mechanical pulping systems.

- Performed quality and operational audits at paper mills in the United States and Canada.
- Recommended process improvements.
- Assisted in start-up and troubleshooting of instrumentation and process equipment.

Military Service

United States Army - Fort Bliss, El Paso, TX 1984–1988
Air Defense Artillery

Education

Carnegie Mellon University - Pittsburgh, PA 1984
Bachelor of Science – Mechanical Engineering

Added concentration in computer science, real-time computing, and computer graphics.

Patent

US 6259071 ([link](#)) 2001
Single-point temperature control system for a multi-section line furnace

Volunteer Work

Baltimore NodeSchool – Baltimore, MD 2017-2018

Volunteer Programming Mentor

Coached new JavaScript programmers through online programming exercises.

Advisory Committee – Post University, Waterbury, CT 2015-2018

Industry Representative to CIS Program

Offered recommendations regarding soft skills, team dynamics, discovery, requirements, and tools.

Ruby for Good – Front Royal, VA 2016

Volunteer Programmer and Analyst

Four-day group project to implement web systems for various charities, including the National Zoo's Red Panda research program.

Junior Achievement – Pittsburgh, PA 1991-1993

Industry Advisor, Evening Program

Served program for two years in which high school students form and operate their own companies.