Doug Cumbie

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Last Update: September 02, 2013

OBJECTIVE: Seeking a software engineering role that will allow me to continuously improve my skills through challenging projects, exposure to new technologies, and by being part of a dynamic team.

WORK EXPERIENCE:

Nova Technologies, Inc. — Dec 2012-Present

Software Engineer

Developed software modules for the Call for Fire Trainer (CFFT), which provides a simulated environment for training personnel in call-for-fire missions. The trainer includes integrating various simulated hardware and software components to create realistic training scenarios. The application was designed as a composite application using the .NET Prism framework. This modular approach provided a more robust software product that could be easily modified or configured by combining various components as plug-ins to create the delivered product.

My primary role consisted of developing and maintaining the Pre-Mission Planning System (PMPS). The setup and configuration of each simulated mission is performed using a separate software application known as the PMPS, which allows an instructor to specify and define the details of a training mission. The PMPS software followed the same composite design as the main trainer, utilizing its own individual modules as well as modules used in the main trainer.

Major Tasks:

- Adding new features to existing software modules:
  - Refactored portions of the main PMPS application to reduce redundancies across various modules and provide a more efficient design for introducing new pre-mission features.
  - Added capabilities to the trainer's close air support configuration to include creation of aircraft weapon loads and preplanned missions.
  - Updated the trainer's FalconView 2D mapping interface to exist as a common software module for consistency across modules. Added new functionality for additional symbology overlays, as well as map interaction services for obtaining map-clicked location and manipulating existing symbology parameters. Also removed existing "hard-coded" 2D map interfaces in other modules and updated them to use this common FalconView interface module.
- Developing new Prism software modules to meet contract requirements:
  - Created a Fire Support Coordination Measures (FSCM) module that provided interfacing to the 2D map (FalconView) for drawing and displaying MIL-STD-2525C tactical graphics. The module provided graphic creation in the PMPS application and display in the trainer's instructor station to assist with the mission objectives.
- Creating and maintaining tasks using Agile software development:
  - Created user story work items with time estimates and priority for all responsible software tasks using MS Team Foundation Server.

Technologies:

- Microsoft Visual Studio 2010 (C#)
- Prism 4.1 using Unity dependency injection container
- WPF and Model-View-ViewModel pattern design
- Team Foundation Server 2010

Lockheed Martin, Orlando, FL — Jan 2012-Nov 2012

Software Engineer

Performed various software development tasks for the Lockheed JASSM program. The work performed consisted of software development on an existing application used in the pre-mission planning phase for the JASSM missile. The project was labeled classified and required a secret clearance.

Supervisor's Name: Brad Carter. Phone: 407-356-6991

Major Tasks:

- Creation of new software features, bug fixes, or code modifications as requested by the customer and or test teams.

Technologies:
- Microsoft Visual Studio 2010 (C#)
- MSSQL

MtronPTI, Orlando, FL **July 2010-Dec 2011**

Lead Software Engineer

Developed and modified various software applications for in-house testing of company products including filters, oscillators, and resonators. Software development included creation of Windows and DOS-based test applications that interfaced with various test hardware to collect data for product specification verification and validation.

Supervisor's Name: Michael Montgomery. Phone: 407-298-2000 x246

Major Tasks:
- Development of new software test applications from scratch to assist in the production phase of product development.
  - Created a new software test application to spec-test delivered components for a classified missile program. The software interfaced with a network analyzer to take various measurements and ensured that the customers requested specifications were met by our delivered product.
- Porting old legacy test applications written in C and HT-BASIC to new .NET application (C# and VB.NET).
  - Ported a legacy C, DOS-based test program to a .NET, database driven application that greatly improved efficiency and turnaround-time of the product test process by adding better data management, improved report generation, and additional test functions.
- Modification, maintenance, and feature updates to legacy test applications.
  - Expanded capabilities of legacy C programs for enhanced testing results
  - Resolved known software issues to reduce delays in the test process

Technologies:
- Microsoft Visual Studio 2008 (C#, VB.NET)
- MS SQL database design and development
- Legacy DOS application development in C (Borland C++ 3.1)
- Configuration Management Tools: TortoiseSVN, Git
- Software interfacing with IEEE-488/GPIB instrumentation, motor controllers, and memory modules.

AAI, Orlando, FL **Mar 2008-June 2010**

Software Engineer II

Major team player in the software development of the Shadow Crew Trainer (SCT): a complete software simulation of AAI's Shadow 200 UAV System.

Supervisor's Name: Lisa Kegler. Phone: 407-340-1197

Major Tasks:
- Modeling of various components of the system (Camera Payload, Avionics, Automated Landing System, Transceivers)
- Instructor Operator Station design/development
- Communication Framework: Messaging toolset responsible for de/serialization across various transmission channels including TCP/IP, UDP, Serial, Shared Memory.
- Development of reusable libraries shared across the system: VRSG Image Generator interface, VRSG Overlay Manager interface, Simulation Manager modules, DIS Messaging.

Technologies:
- Microsoft Visual Studio 2008 (C#, C++ .NET, MFC)
- .NET Concepts: Reflection, Generics, Interop (P/Invoke)
- .NET Frameworks 1.0 to 3.5
- Interfacing with MetaVR's VRSG software
- Configuration Management Tools: SVN, TortoiseSvn, Hudson, Trac, NUnit
- Doxygen

Support Systems Associates Incorporated (SSAI), Mary Esther, FL **Feb 2003-Feb 2008**

Computer Scientist II

Responsible for all aspects of work towards various software and hardware projects for SSAI's primary customer, the US Air Force.

Supervisor's Name: Harold Kimball. Phone: 478-954-2993

Major Tasks:

- Developed version 3.0 to 5.0 of the Digital Mapping Interface System for Gunships (DMISG) moving map software for AC-130H and AC-130U model gunships. DMISG functions as a 1553 bus monitor to provide aircraft and sensor situational awareness (SA) overlays on FalconView maps. Also integrated Cursor On Target (CoT) technology into DMISG to provide SA of remote events. Implemented a client/server functionality into DMISG for efficient sharing of 1553 and CoT data over an Ethernet network using UDP.
- Assisted in the development of a mobile moving map software application for a Pocket PC handheld device. Also created desktop application for exporting and downloading map-imagery data to handheld device via a USB port and Microsoft ActiveSync.
- Software development of the Mil-Std 1553B portion of an AC-130H Navigation and Fire Control Tester computer, used for real-time decoding and display of selected aircraft 1553 message values, visual line-graph display of selected 1553 word values, and ability to record 1553 bus streams to file in SBS ARC file format.
- EEPROM programmer and symbology tester for AC-130H Display Generator Unit
- AC-130H Gunship GPS Trainer
- AC-130H Gunship Gun Tester
- Computer support and network administration for the entire site

Technologies:

- Borland C++ Builder 6 Professional
- Visual Studio 2003, 2005 (C#)
- FreeVCS, JediVCS configuration management tools

iBrand Marketing, Orlando, FL **Aug 2001-Feb 2003**

Software Engineer

Worked with a small team of creative engineers designing and developing various web-based applications for clients.

Supervisor's Name: Ozvaldo Coto. Phone: 321-356-6441

Technologies:

- Macromedia Dreamweaver
- HTML, JavaScript, VBScript, Java, ASP, MySQL..

EDUCATION:

University of Central Florida, Orlando, FL 32817
M**.S. Computer Engineering**, Fall 2008 – Fall 2009
Completed 6 credit hours

University of Central Florida, Orlando, FL 32817
B.S. Computer Engineering, August 2001
GPA: 3.4/4.0

University of West Florida, Pensacola, FL 32514
B.S. Electrical Engineering, May 2007
GPA: 3.65/4.0

JOB-RELATED SKILLS:

- C# (MS Visual Studio 2003/2005/2008/2010 - desktop and mobile applications)
- Prism Development (.NET): Model-View-ViewModel pattern design, composite application development, Dependency Injection (Unity)
- Windows Presentation Foundation (WPF)
- C and C++ programming (Borland C++ Builder 6, Microsoft Visual Studio 6, 2005, 2008, 2010).
- Visual Basic .NET
- MS SQL
- Java (Borland JBuilder, JCreator) – Senior Design project (2001)
- Embedded Development: ANSI C for NetBurner Coldfire microprocessor, Pascal for Microchip PIC microcontrollers, Arduino tinkering
- MC68HC11 microcontroller assembly language
- FPGA development with VHDL and Verilog: Xilinx Virtex-II XUPVP2 – Graduate Course (2008)
- Matlab
- ASP, VBScript, JavaScript, HTML, SQL, MySQL
- PSpice (circuit design), LogicWorks (digital circuit design)

- BASIC, QBasic
- DOS, Windows 98/2000/XP, Unix, Linux

INDEPENDENT ENGINEERING ENDEVOURS:

Handheld Wireless GPS Tracking Device	Designed and developed with one team member for undergraduate electrical engineering senior design course. The device consisted of a GPS module, microcontroller, LCD display, and a long-range wireless transceiver integrated into a battery powered, portable handheld unit. More info: http://www.dougcumbie.com/site/sendes.html
UAV Ground Station	Developed a ground control system for communicating with a remote unmanned aerial vehicle. Project was developed for the ECAAT UAV team of the University of West Florida. The software application utilized a wireless link to provide uplink and downlink communication for various control and monitoring capabilities including real-time position display on Google Earth.
FPGA Breakout	Classic Atari video game recreated on a Xilinx FPGA development board using Verilog. More info: http://dougcumbie.com/fpgaBreakout/breakout.html
Google Earth API	Developed an independent software library for injecting objects into Google Earth for static or dynamic updates.