

EDWARD KISER

edkiser@gmail.com

CAREER BRIEF

Software Developer with a high level of independence and strong problem-solving abilities. Knowledge and experience ranging from low-level assembly-language to high-level functional programming. Experience with Windows desktop programming, SQL Server programming, Windows Services and Web Services, and some front-end web site development. Some Linux / UNIX and Cloud Computing knowledge. Experience with all phases of the software development lifecycle.

SKILLS

Languages: C# (.NET Framework and .NET Core), F#, T4, T-SQL, C++, C++/CLI, some JavaScript, CIL, some Python, Scheme, Common Lisp, OCaml, various others.

Platforms: Windows from 10 to XP, and Windows Server from 2021 to 2003. Some knowledge of Linux / UNIX.

APIs, Algorithms, and Protocols: WCF, ASP.NET MVC, Windows Forms, some WPF, Reflection Emit, TCP, UDP, regular expressions, lexical analysis, LR(1) and packrat parsing, parser combinators, state machines, concurrency, threading, asynchronous I/O, Task Parallel Library, message-passing, sample rate conversion.

Cloud: Amazon EC2 and S3. Some experience with RDS, Aurora, CodeCommit, and EFS. Strong familiarity with Amazon Linux and Amazon Linux 2.

Databases: SQL Server, multiple versions. Authorship of stored procedures and CLR stored procedures, CLR functions, and CLR aggregates. Development of SSIS packages with custom C# code. Some work with SQLite, Postgres, and MySQL.

Development Tools: Visual Studio 2003–2022, Git, TFS, MinGW (and gcc), DJGPP, LispWorks.

PROFESSIONAL EXPERIENCE

HealthAxis — Tampa, FL (Remote)

Software Developer

3/2022 – present

HealthAxis processes health insurance claims. Here I worked on the Adjudication service, a C# service using WCF and SOAP which determines the amounts payable on a claim.

- Implemented needed changes and new features.
- Added and enhanced user interfaces for internal testing purposes, making it much easier to find and fix bugs. Allowed searching logs by claim number to allow replaying previous calls to the service.
- Altered logging in multithreaded code to reorder logs into a deterministic order, making comparisons possible.

- Wrote an impact report generator that analyzed tens of thousands of claims, with both buggy and fixed code, to see which claims had been impacted by a bug. Wrote analysis results to SQLite databases.

BAE Systems — St. Marys, GA

Senior Analyst

8/2019 – 3/2022

BAE Systems is a defense contractor for the U.S. Government. Here I worked on a project to modernize a warehouse administration program. The old program was written with PowerBuilder and the new one was written with the .NET Framework.

- Developed a parsing program that could read PowerBuilder files and format them as C#. This program implemented a Scheme-like language with an “amb” operator, and an LR(1) parser generator, and then ran programs in that language which could parse the input files, produce parse trees, and format them as C#.

Net Health — Jacksonville, FL

Software Developer

1/2019 – 2/2019

Net Health maintains a web-based system called iHeal where medical practitioners can enter and track wound care information for patients. This includes everything from setting appointments to aggregating information about outcomes.

- Fixed a couple of small bugs in iHeal.

Critical Alert Systems — Jacksonville, FL

Senior Software Developer

7/2018 – 12/2018

Critical Alert Systems makes nurse call systems for hospitals; they provide hardware and software for this purpose. I worked primarily on the software side.

- Wrote code to execute startup steps in parallel, to speed up the loading of the Call Answer Terminal.
- Added a new tab with a dozen settings to a configuration dialog in their web administration program. The web program used Angular 5 and TypeScript.
- Added a “next patient” button to the call answer terminal for use when multiple patients are in the same room.

Cogenix — Seattle, WA

Software Developer

3/2016 – 4/2018

Cogenix is a small consulting company which writes and maintains software for a variety of clients. I worked primarily with a client called ROInnovation, maintaining a web site that helped sales people keep track of references.

- Helped move multimedia files from web servers to Amazon S3. Wrote much of the code that provides files from S3. Wrote a “ZIP file server” which allowed downloading multiple files in a single ZIP file.

- Helped update code to stop Cross-Site Request Forgery by validating query parameters. Developed a little language and parser so that the acceptable query parameters could be easily listed.
- Performed data imports and copying of databases between test and production.
- Wrote data import and export routines which transferred JSON data to and from Microsoft's Cloud DAM.

Getty Images — Seattle, WA

Senior Software Developer

11/2015 – 2/2016

Getty Images offers stock images and film footage to creative professionals and the media through multiple searchable web sites. I worked with a team on the development of RESTful web services which were called by the front-end code and which managed such things as customer data, purchases, and subscriptions.

- Learned to use Git version control.
- Collaborated with team members to replace legacy code and stored procedures by adding new behaviors to RESTful services (using ASP.NET MVC)
- Developed and maintained data access code using NHibernate.

Realty In Motion — Bellevue, WA

Software Developer

06/2015 – 10/2015 (second time working here)

Realty In Motion provides legal services concerning real-estate transactions (especially foreclosures) in several states. I had the advantage of already being familiar with many of their systems.

- Maintained and extended a .NET components library called from MS Access.
- Worked on programs that would send and receive XML web-service transactions. Tracked down which database tables they were using.
- Wrote a program to retrieve error e-mails from Outlook and store them in an SQL database.
- Updated projects and automated builds to work with Visual Studio 2013.
- Completed an unfinished program that generated a daily Excel spreadsheet and sent it to another company by SFTP.

Port of Seattle — Seattle, WA

Technical Lead

02/2015–05/2015

Here I contributed to the development of an automated entry / exit control system. The work I did was primarily concentrated on development of two web sites, one for administration and one for user self-service. I also provided consultation concerning the development of a Windows Service which communicated with bar-code scanning hardware.

- Developed the web sites using Kendo MVC and ASP.NET MVC 5. Developed testing procedures using Selenium WebDriver and TechTalk SpecFlow.
- Used EF6 Code-First with SQL Server 2012 R2 and SQL Server 2014. Wrote migrations and stored procedures to handle encrypted data columns.

- Improved a validation attribute that allowed uniqueness constraint violations to be detected as validation errors, by adding support for validation against multiple constraints, and preventing SQL injection by dynamically constructing Linq expressions.
- Used “Cookie Authentication” with OWIN to replace Forms Authentication.
- Developed a TCP relay program to monitor the communication between a bar code scanner and its vendor-provided configuration software.

BECU — Tukwila, WA

Software Developer

02/2014–12/2014

BECU is the Boeing Employees’ Credit Union. Here I contributed to the development of SSIS packages and web services which would connect BECU’s internal databases to an outside vendor’s Personal Financial Management system. I also did some front-end work to embed the vendor’s PFM system (“Money Manager”) into BECU’s On-Line Banking system.

- Used SQL Server Integration Services (SSIS) to develop data conversion tools for transferring batches of data between external vendors. In one case I used F# and some incomplete documentation to figure out the format of a file of fixed-field records, and then wrote C# code to parse those records.
- Wrote JavaScript code to improve the appearance of BECU’s On-Line Banking System, to allow the user a new way of setting the start page, and to ensure that the embedded Money Manager control could extend user sessions.
- Added a field to the CRM database to indicate which users were in beta. Altered several internal web services to convey that information to On-Line Banking.
- Corrected an error in the cryptography used to protect user account numbers, before the system went into production.

Realty In Motion — Bellevue, WA

Software Developer

12/2012 – 01/2014

My first time at Realty In Motion, I worked on maintenance and new feature development for several of their internal tools.

- Identified and corrected deployment issues, and automated the build process, for a .NET components library that was called from a legacy Access application. Resolved issues that were preventing library components from running in Windows 7 (thus making it possible to upgrade users from XP). Used logging to discover and fix several bugs that users were encountering in the program. Worked with management and users to develop new wizards to meet business requirements.
- Corrected bugs and added features in an ASP.NET MVC web application that allowed remote office workers to review title documents.
- Maintained and enhanced portions of the company’s automated mailing system. Mailings were business-critical, since if a mailing didn’t go out, a foreclosure could be invalidated, costing the business and its customers time and money. Helped investigate failed mailings. Helped to develop tools to check whether a mailing had gone out or failed.
- Led the way in documenting many of the company’s previously-undocumented services on an internal Wiki, making work easier for developers and management.

Microsoft — Redmond, WA
Software Developer in Test
08/2011 – 09/2012

Worked on Visual Studio 2012 as part of the VSOS team. The VSOS team deals with large-scale features of Visual Studio that work across multiple languages and platforms.

- Developed tests for the Visual Studio Task Library, which is used by Asynchronous Solution Load and is also a public API available to the developers of Visual Studio extensions.
- Analyzed startup data to determine trends in initialization time for various Visual Studio components.
- Performed fuzz testing for the asynchronous load data in Solution User Option (suo) files. This included altering part of the test framework to be able to perform fuzz testing on parts of compound files.
- Used a memory heap inspector to help identify memory leaks in Visual Studio.
- Added functionality to a random solution generator to create random references between solutions.
- Added functionality to a test program to automatically detect assertion failures and hangs. (Crashes were already being detected.)
- Wrote a queuing service to connect the solution generator and the test program, so that randomly generated solutions could be tested without having to be generated as part of the test.

AutoQuotes — Jacksonville, FL
Software Developer
05/2007 – 08/2011

AutoQuotes (now part of Revalize) maintains an electronic catalog of food service equipment and sells subscription software allowing salesmen to create accurate price quotes. Here I developed utilities and editors for the Data Department, and server-side tools, using C#, Windows Forms, SourceGear Vault, and ClickOnce deployment. I also conducted research activities to determine the feasibility of using various APIs to solve special problems.

- Developed a ClickOnce “Company / People Editor” which was used every day by the Data and Sales Departments.
- Developed a program to translate English product specifications into Spanish using dictionaries of multi-word phrases.
- Developed a URL checker (with .NET 3.5) that used multiple parallel threads to check whether web pages were reachable.
- Developed a project conversion service that used multiple threads to convert proprietary-format project files from the previous version of the software to the most recent version.
- Developed a billing editor that allowed the CFO and the sales department to keep track of future invoices.
- Developed a service using UDP that allowed processes to obtain brief “locks” on a database over the internal network, to ensure that no deadlocks occurred during certain queries.
- Developed a Windows service in C# which loaded a DLL specified by a ClickOnce application; this allowed the Click Once application to (effectively) install Windows services.
- Assisted in the development of AutoCAD and Revit plug-ins allowing users to discover, download, and manage CAD blocks of products in the catalog.
- Designed and implemented the application logic for the CesaCAD web site, which allows users to search for products, see pictures of them, and download CAD drawings for them.

Omniphone, Inc. — Mobile, AL**Software Engineer***01/2004 – 02/2007*

Omniphone sells telephone equipment for use in secure facilities. Here I wrote new software and maintained existing software that provided real-time control for the company's hardware, which performed telephone call recording, call conversion, and security functions.

- Designed and implemented a Windows Service which performed real-time call recording on up to 24 lines, using C++ and a custom-designed asynchronous message-passing engine inspired by Erlang.
- Maintained and extended two of the company's flagship software products (PhoneTracker and SentryLink), which had C++ codebases of over 50,000 lines each. This work included handling transitions from DAO to ODBC, addition of features, and bugfixes (some of which required that portions of the code be rewritten).
- Maintained SentryWeb, an ASP.net application providing similar functionality to SentryLink.
- Designed and implemented an application which performed real-time billing number validation using C++, MFC, and Win32 API functions, including I/O Completion Ports.
- Supervised all builds and releases, wrote all release documents and wrote all internal-use installation guides.
- Designed and implemented a GUI database administration tool for SQL Server Desktop Engine. This allowed customers to create, rename, drop, clone, backup, and restore databases.
- Designed and implemented a Java applet which allowed calls to be monitored from a web browser. This required some server-side support in ASP.NET in C# using IHttpHandler.
- Designed and implemented a Java command-line program which could demodulate and decode Caller ID signals in telephone recordings.

Sunlit World Business Systems — Jacksonville, FL**Self-Employed***01/2001 – 12/2003*

Here I handled multiple projects, mostly research.

- Designed and implemented an appointment management system for a carpet-cleaning company, using Red Hat Linux, Apache, MySQL, and PHP.
- Conducted research into the design and development of Forth and Scheme language implementations. Wrote one Forth implementation, with a working and tested x86 assembler, and designed a Scheme implementation (this implementation was later completed).
- Wrote part of a lexical analyzer generator in Java; wrote complete lexer and LR(1) parser generators in Scheme.
- Designed and implemented sr-convert, a utility that performs sample-rate conversions on WAV files. Uses MinGW and SSE instructions using GCC's extended inline assembly.

InterVoice-Brite — Jacksonville, FL**Engineer I***06/1998 – 07/2000*

Here I used the company's proprietary language, InVision, to develop code for automated telephone systems.

- Oversaw the development of an insurance company's enrollment verification system.
- Designed and coded a formatting engine for network packets.
- Designed and coded a fax library that read templates from a table and carried out substitutions.

OTHER EXPERIENCE

- Wrote "Sunlit World Scheme," <https://github.com/Sunlighter/swscheme>, which implements large parts of the R4RS Scheme standard, uses reflection internally for easy extensibility, and uses reflection emit to generate code.
- Wrote an asynchronous queuing library for .NET. <https://github.com/Sunlighter/AsyncQueues>
- Implemented a Scheme with an "amb" operator in Common Lisp. (Not published.)

EDUCATION

- University of North Florida, Jacksonville, FL, Fall 2000. Graduate coursework in computer science, including software engineering. 3.6 GPA.
- University of North Florida, Fall 1993 to Fall 1997. Bachelor of Science in Electrical Engineering, 3.26 GPA.
- Terry Parker Sr. High School, Jacksonville, FL. Fall 1992 – Spring 1993. Graduated.
- Stanton College Preparatory School, Jacksonville, FL, Fall 1988 – Fall 1992. Participation in International Baccalaureate program.

AWARDS, MEMBERSHIPS, HONORS

- National Merit Scholar Semi-Finalist
- Academic Leadership Scholarship, University of North Florida, four years.
- Member of IEEE and IEEE Computer Society from 1998 to 2009.
- 1480 Scholastic Aptitude Test in 1991 (99.9th percentile), 2230 Graduate Record Exam in 2000 (630 Verbal, 800 Quantitative, 800 Analytical, 99.9th percentile overall)