



Andre' G. Bowlin

SW Engineer / Architect / Team Lead

CONTACT

agbowlin@gmail.com
liquicode.com
github.com/agbowlin
github.com/liquicode
202-552-1696

SKILLS

PLATFORMS

Windows
Linux
AWS

LANGUAGES

Javascript (NodeJS)
Javascript (Browser)
.NET2-4
.NET5+
PHP
Python
Java
C#
C/C++
VisualBasic
Pascal
HTML/CSS

TOOLS

VSCode
MS Excel
MS Visual Studio
ExpressJS
Apache
Nginx
Wordpress

DATABASES

MongoDB
MySql
MS SqlServer

TECHNOLOGIES

AngularJS
Networking (TCP/IP)
Message Queues (AMQP)
Hardware Virtualization
Encryption/Security
DevOps · Unit Testing · Requirements Gathering · Documentation

Senior full stack developer with 40+ years of experience

PROFESSIONAL SUMMARY

I am a highly experienced and self-taught software engineer with over 40 years of experience in the industry. I have a passion for creating innovative solutions and tackling complex technical challenges head-on.

What sets me apart is my versatility across countless platforms and technologies. From .NET and NodeJS to cloud services like AWS, I have a vast depth of knowledge allowing me to evaluate trade-offs and architect holistic solutions tailored to each client's requirements and constraints. I don't just code - I analyze, plan, test, document, and fully own the entire development lifecycle.

I thrive in independent roles where I can let my creativity and problem-solving skills shine. Many of my recent projects have been open source, showcasing my ability to build robust, production-ready systems from the ground up. With my technical breadth and entrepreneurial mindset, I can be a force multiplier for your organization.

My career has spanned sectors like financial services, healthcare, legal tech and more. I've partnered with companies like Bayer and Disney, delivered software for touchscreen kiosks, built news aggregation systems, and more. I'm ready to leverage this cross-domain expertise to create value for your company.

I'm seeking opportunities to join a team where I can apply my full-stack talents to drive innovation. I work with passion and am open to roles ranging from solo contributor to technical leadership. Most importantly, I'm looking for an environment that empowers me to create bold, game-changing solutions.

I would welcome the chance to further discuss how my skills and experience could propel your technology initiatives forward. Thank you for your time and consideration.

WORK HISTORY

Architect / Lead Developer

Ocular Mobile — Ottawa, Canada

Mar 2025 – Mar 2026

Created a research application to perform analysis and visualization of instrument readings (<https://ocularmobile.com/>)

- Inherited a large and unfinished codebase and distilled it to its functional components.
- Implemented sophisticated statistical analyses to support the research team.
- Orchestrated a data pipeline from raw instrument data to analysis and visualization.
- Implemented structured reporting and graphing of all data throughout the data pipeline.

.Net 4.8 C# 7 WinForms OxyPlot

Chief Technology Officer

SpiritEx — Canada

Mar 2024 – Mar 2025

Created a full-featured financial exchange platform for the wiskey industry. (<https://github.com/spiritex-core/spiritex-core>)

- Developed a schema-based modular server framework for extensibility.
- Developed a Member Service for authentication and API Key management.
- Developed an SDK Service for self-documentation and download of platform specific clients.
- Developed a modular transport system with implementations for HTTP and AMQP.
- Developed an MCP Service which informs an inference engine based on service schemas.

Linode NodeJS PostgreSQL Javascript AngularJS

Architect / Lead Developer

Omnimedia — Boca Raton, FL

Jun 2021 – Feb 2022

Created a web based presentation system for 6-foot tall touchscreen kiosk displays.

- Developed methodologies for pushing content to specific kiosks.
- Developed a web ui to construct image based presentations and menus.
- Developed web scrapers to convert customer web sites into kiosk presentations.

AWS NodeJS MongoDB Javascript AngularJS Android

Senior Software Engineer / Architect

Bayer CropScience — St. Louis, MO

Jan 2020 – Feb 2021

Worked on portions of the company's R&D pipeline during a migration of legacy app functionality to a service bus architecture.

- Upgraded database structures and data from CouchDB to DynamoDB.
- Upgraded application servers from single instances (EC2) to AWS Elastic Container Service (ECS) and Fargate.

EDUCATION

BS Philosophy and Religion

Radford University
Radford, VA
1985 – 1990

LANGUAGES

English — Native
Spanish — Basic

INTERESTS

Martial Arts · Tai Chi · Yoga · House Music

- Developed a number of small utilities to support my team such as log monitoring and data throughput analysis between pipeline nodes.
- Advised on architecture level elements of the company's overall technology pipeline.

AWS NodeJS CouchDB DynamoDB Javascript AngularJS

Architect / Lead Developer

Early Global News (EGN) — Boca Raton, FL Apr 2018 – Dec 2018

Created a news gathering, curation, and publishing system for Early Global News (EGN), a daily newsletter of overnight news delivered to hedge funds and individual investors.

- Developed a news scraping and aggregaation system which included about 200 websites world wide.
- Developed a web ui to curate news articles, construct editions of the EGN newsletter, and publish pdf versions of the newsletter to subscribers.
- Developed the EGN website to manage subscribers and distribution lists and host newsletter archives.

AWS NodeJS CouchDB DynamoDB Javascript AngularJS

Architect / Lead Developer

Rosen Financial, LLLP — Falls Church, VA Jun 2014 – Aug 2023

Worked with Rosen Financial, a financial real estate firm, to provide backoffice and technology services on a part-time basis.

- Deployed and managed the company's QuickBooks installation.
- Developed office SOPs and workflows.
- Developed web-based loan tracking software.
- Developed various document management applications and utilities for Windows.
- Performed various IT tasks as needed: workstation support, network configuration, backups, etc.
- Interfaced with service professionals (i.e. lawyers and accountants) to fulfill data requests.

AWS NodeJS MongoDB MySql Javascript PHP SailsJS/VueJS AngularJS .NET4

Architect / Lead Developer

Smile, Inc. — Lake Worth, FL May 2013 – May 2014

Worked with Smile, a background screening company, to develop an online background screening service.

- Developed an AMQP message based infrastructure for scraping, compiling, and publishing public court records.
- Developed controllers to spawn and coordinate long running scraping and publishing tasks.
- Directed a small programming team to implement individualized scrapers for each US county (about 3,000)

AWS NodeJS CasperJS/PhantomJS PHP MongoDB MySql Apache

Senior Developer

DrScribe — Lake Worth, FL Jan 2013 – Apr 2013

Worked with DrScribe, a medical services company, to integrate the DrScribe EMR application with LabCorp using HL7 messages.

- Developed interface between DrScribe and LabCorp to dispatch messages and capture results.
- Met weekly with LabCorp personnel to ensure accuracy of HL7 messages.
- Began a documentation initiative to document all DrScribe network servers, services, running tasks, and databases.

C# 2010 MS SqlServer 2008 HL7 NHAPI NUnit

Technology Partner

Robertson, Anschutz, & Schneid, PL — Boca Raton, FL Jul 2011 – Dec 2012

RAS is a law firm in South Florida having specialties in Bankruptcy and Foreclosure processing. I partnered with RAS to streamline their workflows by building integration and automation systems.

- Developed BlueTrack Extensions, a suite of software solutions designed to work with and enhance the firm's case management system, BlueTrack. The BlueTrack software is proprietary and any enhancements had to be implemented independently and then reverse engineered into the BlueTrack system. The Extensions software provided advanced search features and allowed users to dynamically report on BlueTrack data. In an environment of rapidly changing procedures and requirements, the Extensions software saved countless companywide hours of duplicated and wasted effort.
- Led and implemented NetDirector service integration with the BlueTrack case management system. This integration required the development of several server side systems as well as the mapping of all data values between the NetDirector and BlueTrack systems. The integration automated a number of process including the intake of new referrals (Foreclosure and Bankruptcy), document requests, and 3rd party searches.

- Led and implemented a workflow system for the Foreclosure and Bankruptcy lines of business. The workflow system automated many routine tasks (such as performing Military and Pacer searches) and facilitated efficient inter-department collaboration through automated emails.

C# 2008 MS SqlServer 2008 NetDirector

Lead Developer / Architect / Manager of Development

DJSP Enterprises, Inc. — Plantation, FL

Mar 2008 – Jun 2011

- Performed development and maintenance of DJSP's primary case tracking application, Tracker. Implemented significant enhancements within the code to improve the overall design and re-usability of the routines. Developed a code generation mechanism and templates to provide a true data layer to the application. Implemented an auditing subsystem to track individual per-user changes to the underlying database.
- Implemented various 'intelligent' reports which provided department specific views into the Tracker database. These reports enabled users to better organize and schedule their resources in a more effective manner.
- Developed an SOA framework and network services in preparation for developing a distributed workflow system for in-house use and to provide tighter client/vendor integration. Extensive use of GoF design patterns.
- Performed management tasks as Manager of Development including supervising developers, performing code reviews, documenting systems, constructing development, test, and stage environments, advise on infrastructure decisions, and assist in preparing for an initial audit for SOX compliance. Also developed, documented, and implemented primary SDLC processes for the company.
- Directly supported upper management and C-Level executives by performing data analysis and customized reporting.

MS VisualBasic 6 VB.NET 2008 ASP.NET 2008 C# 2008 WCF WPF MS SqlServer 2005
Crystal Reports 7 OTRS Subversion

Software Developer

Oasis Advantage — Jupiter, FL

Aug 2007 – Sep 2007

- Performed reconstruction of a mission-critical database that had been damaged due to a hardware failure. Developed stored procedures to implement backup strategies for corporate databases. The stored procedures provided detailed information regarding backup and cleanup events beyond the normal SQL Server Maintenance Plans, including customized email notifications. Provided analysis and recommendations for improving access security to SQL Server. Also performed work to automate the installation and configuration of SQL Server instances.

MS SqlServer 2000 PowerShell

Software Developer

Kaplan University — Plantation, FL

Mar 2007 – Aug 2007

- Implemented Project 2 of 6 in Kaplan University's Financial Aid Re-engineering effort. This project automated the submission of disbursements from Kaplan to various lending agencies. This project used SFTP to upload files ELMNet and constructed Transmission Queue files for uploading via the EDconnect application.

.NET2 VB.NET MS SqlServer 2005

Owner / Developer

Fortressgate, Inc. — Beulah, MI / Boynton Beach, FL

Mar 2004 – Mar 2007

- Responsible for the configuration and administration of all corporate network servers and services.
- Redesigned rawtech's licensing system (v4.0). The system offers a web-based administration portal to allow software publishers, distributors, and resellers the ability to create, manage, and support their own licensing policies. A license policy allows customers to register and activate software products online. Invoices are automatically generated and delivered to distributors and publishers when a new license policy is created by a reseller. Customers are able to register and activate software products using a number of different methods: web, tcp/ip, instant messenger, email, sms, and manual via telephone.
- Assisted in the development of the software product, PowerPressed. PowerPressed functions as a MS PowerPoint Add-in to perform in-place optimizations on PowerPoint presentations. Optimizations include the removal of redundant or irrelevant information within the file as well as reducing the stored size of embedded images. Resulting presentations retain the PowerPoint format and are can be further viewed and edited by users.
- Converted the CipherBox product to the BluBox brand. CipherBox was released by Fortressgate, Inc. under the BluBox brand with no significant modifications.

MS IIS 6 MS SMTP/POP3 .NET1.1 VB.NET ASP.NET MS SqlServer 2000 MS VisualBasic 6
LEAD Tools rawHyperStorage

Technology Partner

Impact Imaging, Inc. — Beulah, MI

Nov 2000 – Mar 2004

- Design and developed a file repository networking product. The product allowed the creation of user accounts and file repository areas on the server. Accounts are given access to one or more repository areas and users may upload and download files within those areas. Network communications between the client and server are compressed and encrypted. Repositories on the server can exist as a MS SQL database, MS Access database, or as a set of files on disk. One version of the client was implemented as a Windows Explorer Namespace Extension allowing management of remote files from within Windows Explorer.
- Design and developed a video archiving, conversion, and display utility. This utility extracted frames from existing video files, performed some image processing on each frame, and stored them to a proprietary file format. The utility could also render the frames back into a standard video file format. The formats supported during both import and export of frames were the Real Media format, the Windows Media format, and the AVI format including all supported AVI codecs. A simple scripting language was developed to assist in the importing, processing, and exporting of video frames. A primitive network streaming server was also developed to stream video to the utility's video viewer.

MS VisualC++ 6

MS VisualBasic 6

LEAD Tools

Real Media SDK

Windows Media SDK

Windows AVI SDK

Windows Sockets

Software Developer

First Union Capital Markets Group — Charlotte, NC

Apr 2000 – Nov 2000

- Designed and developed major portions of DealMaker2, the mission-critical application for First Union National Bank's mergers and acquisitions operations. Responsible for product architecture, component development, and about 50% of the application development. DealMaker2 brings together the different levels of data processors and management staff at BHC. All users have access to real-time data while still enforcing individual security restrictions on a user's ability to view, add, edit, or delete data from the database. Flexible application-specific objects and controls were developed to expedite development and standardize DealMaker2's look and feel.

MS VisualBasic 6

MS SqlServer 6.5

Sheridan Components

MS Office 97

Software Developer

Walt Disney Imagineering — Orlando, FL

Jul 1999 – Apr 2000

- Developed the Resource Planning application for WDI. Resource Planning is used by WDI in both Florida and California to plan for, track, and anticipate staffing requirements for current and future projects. The data (hours required per person, per project, per month) was maintained in an Essbase multidimensional database. To accommodate Mac as well as PC machines, the client application was developed using a set of predefined MS Excel 97 templates which are populated and maintained via VBA forms and code. Additional work was done to prepare for a second version of the product relying on SQL Server and VB6.

MS VisualBasic 6

MS SqlServer 7

Hyperion Essbase 5

MS Excel 97-VBA

Software Developer

Private Individual — Alexandria, VA

1998 – 1998

- Designed and developed a relational viewer OCX for a private concern. This control is remotely based on the classic hierarchy/tree control and provides for a unique and intuitive method of displaying relational data and databases. A study and understanding of the relational paradigm and, in particular, Entity-Relationship Diagrams has been required.

MS VisualBasic 5

Creators Toolkit 1

Software Developer

Home Automated Living, Inc. — Alexandria, VA

1997 – 1997

- Designed and developed portions of the HAL 2000 software product for Home Automated Living, Inc. HAL 2000 is a home automation product incorporating speech recognition to control home appliances and downlinks from the internet and satellite TV. Primary responsibilities included development of the Macros, Schedules, and Conditions sub-systems of the product. These sub-systems allow users to define and execute groups of commands either explicitly, at predetermined times and dates, or according to various other conditions such as sensor events and security alarms. Also developed various classes and components to facilitate an overall component-based architecture.

MS VisualBasic 4

MS VisualBasic 5

L&H ASR and TTS

Successware SDE

List Collection 3

various ocxs

Owner / Developer

RA-Ware Technologies, Inc. — Alexandria, VA

1994 – 2004

- Redesigned rawLicense (v3.0) to simplify the registration and activation process for end users while enhancing the management capabilities available to remote administrators. Licenses are now defined by one or more License Policies which control software usage.

- Design and developed rawLicense, a software registration and activation system designed to protect and control the public distribution of software. rawLicense uses encrypted network communications to allow users to unlock downloaded software. A branding subsystem is also incorporated into rawLicense which functions as a descriptive resource for the product and also helps to determine the type and nature of licenses available for that product. rawLicense is able to support limited term evaluation licenses as well as full retail licenses. A management utility was also developed to allow remote administrators to query the server for registration and license details. Licensing information is encoded on the user's machine and cannot be transferred to other machines. The client component also checks for date-time tampering.
- Design and developed CipherBox, an application specializing in the compression and storage of digital images. CipherBox displays an explorer-like interface to a rawHyperStorage archive file allowing users to add, remove, and manipulate file entries within a familiar UI. Users are able to drag files into the CipherBox UI to archive them, where compression and encryption are applied according to user customizable options and a user supplied password for the archive.
- Design and developed rawHyperStorage, an archiving COM component. rawHyperStorage enables applications to archive file data, organized in a hierarchical structure, and contained within a single disk file. File data can be supplemented with application defined metadata and can be optionally compressed and encrypted within the archive. The component models a file system within the archive, allowing applications to manipulate folders and file entries within the archive file. This project used 64-bit file pointers allowing archive files to exceed the 2GB file limitation. Each file entry is encoded independently and an index is kept to facilitate random access of file entries. All internal indices and data are also encrypted within the archive file.
- Design and developed CryptLib, a COM component implementing various encryption algorithms. Options are available to compress as well as encrypt network traffic using Zlib for binary compression and the Blowfish, TEA, XOR, or DES algorithms for encryption.
- Design and developed rawNet, a networking COM component. Options are available to compress as well as encrypt network traffic using Zlib for binary compression and the Blowfish algorithm for encryption.
- Designed and developed the Creator's ToolKit product for RA-Ware Technologies, Inc. This product is a set of COM components designed to facilitate the development of advanced and flexible user interfaces. This product encapsulates certain functionality (i.e. Styles, FmtText, Images, Borders, etc.) that can be used and manipulated from within an application or custom controls. A surface object is also provided to allow implementation of double-buffered animation and flicker-free drawing. VB5 product demos include a bitmap button, listbox, grid, scrolling marquee, and various other useful controls.
- Converted the List Collection controls to support the 16 and 32-bit OCX component standard. Development required an extensive and intimate knowledge of MFC and OLE programming. Project highlights include: Centralization of primary objects into a single DLL which are shared among the rest of the controls; Customized notification mechanisms allow immediate updates of displayable controls in response to changes in underlying List and Item objects; Implementation of dual (IDispatch and custom) interfaces for all objects and controls provides for type-safe programming by the user and increased performance benefits; A component-based development strategy was implemented which resulted in reducing the required changes for maintenance of the List Collection controls and allowing the same set of source code to generate identical 16 and 32-bit OCXs. These controls and objects also offered the highest levels of speed and storage capacity available on the market at the time of their release.
- Designed and developed the List Collection, a package of nine listbox-type VBX custom controls for use with Visual Basic and other VBX compatible development environments. All of the controls were written from scratch and without subclassing other controls. Through the use formatting codes and special properties, the List Collection places an emphasis on the use of color, images, and a customizable interface. The controls all implement a virtual memory subsystem, which allow applications to access up to 500 megabytes of memory for storage of text, images, and other resources in 16bit environments.

MS VisualBasic 2-6

MS VisualC++ 1-6

MFC/CDK 2-3

.NET1.1

Windows Sockets

Encryption

OLE/COM/ATL

Image Compression

Software Developer

National Credit Union Administration — Washington, DC

1991 – 1995

- Designed and developed the Loan Analysis module for AIREs, the primary tool used by the National Credit Union Administration's Examiner and Auditing staff. This module allows extensive analysis of loans made by credit unions and the factors contributing to the loan granting process. The software is designed to be flexible enough to group and classify concentrations of credit granted to different members of the same family or household. To support a wide variety of changing standards and circumstances, an integrated query and grouping system was developed which allow loans to be queried and then referenced within user-defined groups. This feature was also used to facilitate a Team Exam, wherein different members of a team work separately on the same database, requiring changes to be compiled into one final database. The Loan Analysis module was written in Visual Basic for Windows.
- Design and developed an application for the Financial Crimes Enforcement Network (a joint effort of the FRB, OCC, RTC, OTS, FDIC, and NCUA) to collect and validate data concerning known and/or suspected financial crimes. The application is a data-entry system to be used by all of the financial institutions in the United States. Data collected at the financial institutions is transmitted to a main database accessed by all of the financial regulatory agencies. The lifetime of the data is designed to be error-free and secure. At the completion of the data-entry process, an OCR scannable printout is generated and sent to FinCEN for scanning and eventually stored on a shared network. A class framework was developed in C++ for the DOS environment which allowed for popup windows, listboxes, textboxes, and display labels. Support for decorative frames and colorful text display was also integrated into this framework.

- Design and developed a utility for the National Credit Union Administration to freely convert data between various major data based applications including Lotus 1-2-3, DBase III-IV, and Microsoft Excel for Windows. The development of this utility required the reverse engineering of file formats for several of these applications. Received recognition for exceptional performance and initiative.
- Design and developed a system level application to help synchronize updates between master databases residing on a Tandem mainframe and SQL databases residing on the NCUA Headquarters' LAN and Regional servers. Updates made by users across the country to the master database are interpreted and mapped to the structure of the SQL databases, allowing an update operation to proceed. In order to ensure data integrity, this project required the implementation of extensive error-recovery and backup systems to be incorporated into the utility.
- Design and developed an employee evaluation system for the National Credit Union Administration for use by NCUA supervisors and managers across the United States. The flexible and robust design of this system was so successful that end-users began to using it for their own analysis and reporting needs. Received recognition for outstanding program and interface design.

DBase III-IV

HP-PCL

Lotus 1-2-3

MS C/C++ 7

MS Access 2

MS SqlServer

MS VisualBasic 3

Software Developer

Lombardi Cancer Research Center — Washington, DC

1994 – 1994

- Contracted with the Lombardi Cancer Research Center at Georgetown University to redesign an in-house database and data entry system for use in a long-term cancer research study. The resulting application was required to be compatible with an in-place reporting system. Primary responsibilities included incorporating export and reporting features into the program and also to programmatically scan import and key-input data for duplication and possible miskeying. As the criteria for duplication was based on an "educated guess" by comparing a person's name, birth date, and other prioritized values, a significant amount of attention was given to optimizing Visual Basic's Data Access database operations.

MS Access 2

MS VisualBasic 3

Software Developer

Bitstreams, Inc. — Washington, DC

1993 – 1993

- Designed and developed the software product Bit Talk for Windows, for Bitstreams, Inc. Bit Talk is a front-end user interface for remote mainframe and PC FOCUS databases. The employment of this product effectively overcomes severe limitations posed by many commercial mainframe based applications.

MS VisualBasic 2

Software Developer

The NetWeave Corporation — Philadelphia, PA

1992 – 1992

- Converted pre-existing C code library for The NetWeave Corporation's principal software product, NetWeave, into a Windows compatible DLL for use with Visual Basic. NetWeave is a software library designed to facilitate client-server communications between various major mainframes and personal computers. This project required considerable analysis of the Microsoft Windows communications subsystem, memory management, and addressing. Requirements also included the modification of more than 750,000 lines of C code to operate safely in Windows.

MS QuickC 2

Software Developer

Sales and Marketing Systems, Inc. — Fairfax, VA

1991 – 1992

- Converted Sales and Marketing Systems' primary product, SalesCtrl2 (a sales tracking and lead management software product), to be compatible with several major external word processing packages (MS Word, WordPerfect, and WordStar). The conversion of SalesCtrl2 required the modification and management of over 250,000 lines of C code. Also developed a utility application for end-users of SalesCtrl2 to convert documents between these word processing packages and SalesCtrl2's native file format. The completion of this project included reverse engineering of each of the major word processor's file formats.

MS C 6

Software Developer

The World Bank — Dhaka, Bangladesh

1983 – 1983

- Developed financial analysis and reporting package of World Bank projects for World Bank executive management. Consulted with Bank and local project managers on reporting and application requirements. Conducted the development of end-user documentation and training.

HP-BASIC