

# William B. Davis, Jr.

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Preferred name: "Bill Davis"

Preferred pronouns: he / him

## SOFTWARE & WEB DEVELOPER

Accomplished software developer with extensive experience in all facets of software development lifecycle, user training, and support. Skilled at documentation and user interface design. Always interested in learning and evaluating new technologies while keeping focus on long-term system planning and maintainability.

## TECHNICAL SKILLS

- **Web technologies:** HTML, CSS, Java Server Pages (JSP), and training on ASP.NET
- **Languages:** Java, JavaScript, Python, SQL, C, BASIC (Visual Basic: VB6, VBA, some VB.Net, OpenVMS BASIC), COBOL, Pascal
- **Frameworks:** Bootstrap, JQuery, Jasmine, Materialize, Flask. Django
- **Testing:** JUnit
- **Scripting:** Windows/DOS batch scripting, Unix bash, VMS DCL, Microsoft VBScript, IBM JCL.
- **Operating Systems:** Windows, Mac OS & OS X (Unix), Linux, AIX, DEC/HP OpenVMS
- **Integrated Development Environments (IDEs):** AWS Cloud9, GitPod, Eclipse, IntelliJ IDEA, IBM RAD 6, Visual Studio, VB6 & VBA, ISPF & Panvalet, MPW, Make
- **Databases:** MySQL, DB2, SQLite, Microsoft SQL Server 2000, Oracle, AirTable, MongoDB, PostgreSQL
- **Tools:** Git, GitHub, GitLab, Heroku, Atlassian suite (Jira, Confluence, Bitbucket, Bamboo), CVS, PVCS, Visual Source Safe, GForge, SourceForge, Make, Oracle SQL Developer, DBVisualizer, MySQL Workbench, ServiceNow, Trello, Skype for Business, Webex, Microsoft Teams, Google Meet, Zoom, Slack, HipChat
- **Other technologies:** WinSock, WebSphere, Websphere CE (Apache Geronimo), Apache Tomcat. Splunk, AppDynamics
- **Older technologies:** Minicomputers (DEC/HP VAX and Alpha using OpenVMS), and mainframes (IBM 3090)
- **Limited experience with:** Perl, Ruby/Rails, Postman, various Assembly languages, Trilogy CML, Drupal, Mule ESB

## PROFESSIONAL EXPERIENCE

### Berkley Technology Services Software Engineer

Urbandale, IA  
04/2021 - 03/2023

- Helped stabilize, maintain and enhance BTS's PrintUtil policy document print/email/fax/archive management workflow web app after major department staff attrition; almost all subject matter experts had left before I started (and all had left shortly after I started.) I worked with another replacement worker and with the limited available documentation and minimal training to "keep the lights on" and received a spot bonus for excellent work. Systems uses xPression and Quadient third party PDF/Postscript document generation software on Linux and Windows servers.
- Worked on their CCM Print Tools and Enterprise Print System (EPS) web apps. Made code changes using Java & SQL. Made changes to add elements and attributes to XML export files. Automated startup and monitoring using Windows scripting to ensure the app stayed operational.
- Updated PrintUtil and PDF Compare software to use authenticated SMTP email for the email and fax sending (via email), for improved information security.
- Completely replaced PDF File comparison software server so old it was running Windows Server 2008. Updated third party software Enfocuss Switch (workflow management) and STREAMdiff (PDF and other file difference comparison) and internally developed software used for regression testing of form changes. Worked to automate monitoring and startup so that software would be operational at all times.
- Participated in switching to Agile workstream project management method.
- Experience with IntelliJ IDEA and Eclipse IDEs, Git, Postman, Scoop, DbVisualizer, Atlassian Jira, Confluence, BitBucket/Stash, and Bamboo. SuperPuTTY, WinSCP, FileZilla, Cmdr, Git Bash for Windows, Thycotic, KDiff, etc.

**Apex Systems / Wells Fargo****West Des Moines, IA****Application Systems Engineer 5 / Imaging Services Repository Platform Support****02/2019 - 02/2021**

- Working as a contractor through Apex Systems for Wells Fargo's ICMP (Imaging & Content Management Platform) Repository Support Team. ICMP is one of the largest image repositories in the world, starting with Wells Fargo Home Mortgage loan documents from Wells Fargo Home Mortgage and is expanding rapidly into other Wells Fargo lines of business. Millions of new documents are ingested daily and this is also growing rapidly.
- Worked to reduce the number of image import problems by addressing common problems such as file conversion problems.
- Experience using Oracle SQL Developer and tools like Splunk, AppDynamics,, and many internal tools to monitor and resolve problems with the image repository database, server nodes and related systems.
- Also used: Atlassian Jira and Confluence, other internal wikis, Remedy/PAC2000 problem ticketing system, Skype for Business.

**Dynamo LLC / Trility Consulting, LLC / Masonite****Urbandale, IA****Software Development Consultant****11/2017 - 08/2018**

- Working as a contractor through Dynamo LLC in partnership with Trility Consulting. Trility had a contract with a large nationwide architectural door manufacturing company, Masonite, to learn, document, maintain, modify and debug a mission-critical legacy order-entry system after all but one part-time member of the development staff familiar with it had left, while it was being replaced with a modern cloud-based system. No documentation was available.
- Pair-programmed/debugged with a second contractor.
- The legacy system was written using VB.Net 2005 and the Trilogy SalesBuilder Constraint Modeling Language (CML) that was used to create an AI rules engine for configuring and checking orders.
- Other tools worked with: Git, Atlassian BitBucket, Slack, Microsoft Visual Source Safe, Visual Studio 2005, 2008 and 2017, Windows batch scripting for automation. Also investigated AutoIt and other testing automation tools.
- Some research and development in VB.Net on GUI testing automation for Test Driven Development of changes and bug fixes.

**State of Iowa - Office of the Chief Information Officer (OCIO)****Des Moines, IA****Information Technology Specialist 3 - Integrated Information for Iowa team****08/2007 - 09/2017**

- Maintained and enhanced the Online Payroll Warrants web site (Java/JSP, Eclipse & IBM RAD 6 IDE, IBM WebSphere & Websphere CE / Apache Geronimo web app servers, Web services) used by most state employees to view their paycheck stubs. Worked with Central Payroll, server team, networking team, and mainframe team to bring many feature upgrades to completion, also on moving site from WebSphere 5.1 on IBM AIX (Unix) to WebSphere Community Edition (a.k.a. Apache Geronimo) on Windows. Found and fixed several security holes in original code that would have allowed malicious parties to access employee pay data.
- After not having used COBOL in many years, refreshed knowledge quickly and assisted the mainframe programming team with several COBOL programming projects on the mainframe-based State Human Resources Information System (HRIS). Assistance was mostly report changes, data extraction, and data loading.
- Took over and enhanced the COBOL-based mainframe back-end for the Online Payroll Warrants system database. Worked with mainframe staff to switch from original IBM MQ Series messaging to use of a web service (written in COBOL!)
- Enhanced reliability and reduced errors or outages in Income Offset project programs (Java, Mule ESB, Ruby & Ruby on Rails), which reclaimed tens of millions of dollars of money owed to state agencies annually by keeping (offsetting) state tax refunds, lottery/casino winnings or payments to vendors who owed debts to the state. In FY 2008, \$22.5M was reclaimed and by FY 2017, \$48.8M was reclaimed. This system was also used by cities, fire departments, community colleges, state universities, and utilities in Iowa.
- Handled daily processing issues in the batch processing cycle of state financial/ERP system (CGI's AMS Advantage) AIX and Windows batch jobs. Use of UNIX bash shell, Windows command prompt, and other tools to diagnose and solve problems.
- Many other programming projects using Microsoft Visual Basic for Applications in Excel, Word, and Outlook, such as:
  - Extracting calendar events from Outlook for reporting purposes, written to a spreadsheet.
  - Processing hundreds of job descriptions in Word documents using regular expressions to extract five-digit codes and descriptions and write to an Excel spreadsheet. The program was embedded inside its own documentation in Word.
  - Maintaining and upgrading field validation code behind a complex expense report created as an Excel spreadsheet used state-wide.

- Customizing and creating spreadsheet formatting macros for attachment to reports created by IBM Brass Ring.
- Co-administrator for maintaining IBM's Kenexa Brass Ring system, which ran the State of Iowa's job posting & applicant tracking system. Extensive experience on Kenexa Brass Ring Workbench administration tool and reporting tool.
- Assisted in setup and conversion from IBM Kenexa Brass Ring to the more government-oriented NEOGOV job posting and applicant tracking system; served as co-administrator.
- Set up and administered the WebDAM digital asset management system (photos, video, documents) for clients such as the Iowa Dept. of Natural Resources and Iowa Dept. of Economic Development (Tourism).

**Startly Systems, Inc. (spin-off of CE Software)**

**Clive, IA**

**Contractor**

**07/2007 - 08/2007**

- Worked on writing a user's guide for their CalendarMaker product using Microsoft Word and Adobe InDesign.

**Standard & Poor's, Inc.**

**New York, NY**

**Contract Programmer (short recurring contracts, part-time, over several years)**

**06/2007 - 07/2007**

- Recreated (under a tight time deadline) a TCP/IP data capture program in Visual Basic 6. It extracted data from the NASDAQ mutual funds ticker data streamed via the Internet and fed it to an HP Alpha OpenVMS system for processing.
- Wrote extensive user and technical documentation, and trained users.
- Made additional system changes over the next several years, part-time, and remotely:
  - Made changes as the NASDAQ data feed record structure changed over the years.
  - Worked to re-implement the NASDAQ program in Java instead of Visual Basic 6, to comply with their changing corporate standards.
  - Supported them after Hurricane Sandy took out their data center in Manhattan. Set up a NASDAQ data capture program on a new server and fixed problems running it under the newer Windows version due to missing DLLs and changes in Windows.

**Standard & Poor's Fund Services / Morningstar**

**Urbandale, IA**

**Computer Systems Programmer/Analyst**

**1998 - 06/2007**

- Created new and modified existing programs for data entry, processing, and report production using Visual Basic 6, Microsoft Access, VBA, SQL Server 2000, FTP to OpenVMS & SunOS systems, and COM to control other Windows programs to automate file transfer, file production, and user notification.
- Developed new and maintained existing entry screens, reports, and processing jobs using DEC/HP VMS BASIC & DCL on DEC/HP VAX & HP Alpha minicomputers running OpenVMS.
- Automated formerly manual data entry from dozens of spreadsheets received via e-mail by using a VB6 program, saving hours each day, freeing staff for other products, letting staff handle data from additional companies, and improving quality of data. Data was compared to competitors and exceeded all in quality, depth, and scope.
- Automated a manual data entry task that used to take several people two full days, monthly. The automated system handled the entire task in under a minute, allowing the staff to handle other tasks requiring human insight.
- Used VB6 and WinSock TCP/IP API to automate capture of mutual fund data feed from the NASDAQ stock market, resulting in more reliable and accurate delivery of data, saving hours of manual data entry daily. This also allowed for expanding our coverage to include data from many additional mutual funds that were not on the NASDAQ. Modified as the data feed changed at times over the years.
- Created software design and technical specs, technical and user documentation for new and existing systems, resulting in better and more reliable software, and easing future maintenance and enhancement projects.
- Completed revisions to OpenVMS-based systems for Year 2000 Project, averting major problems.
- Handled problems with daily and monthly processing on Windows and VMS, automated to improve quality.
- Handled questions and problems from system users with the software we created for them, and used that information to further improve the systems and processes.
- Given corporate Product Innovation ACE Award for work done on the Underlying Funds Project.
- Received Special Achievement Award for work performed on the time-critical SEC After-Tax Returns project.

**MicroFrontier, Inc.**

**Urbandale, IA**

**Director of Technical Support / Product Design and Testing / Webmaster**

**1996 - 1998**

- Created a company web site including several CGI-backed web forms using JavaScript. CGI scripts written in Perl on a Digital Unix system for surveys, sign-up for seminars, product registration.
- Built translated versions of software in French, German, Italian, Spanish, and Swedish allowing it to be sold in multiple countries and bundled with scanners & cameras sold worldwide using a single package.
- Built software distribution installers, allowing sales via web and online services not just mail and computer stores.

- Created software design specifications for several new products and updates.
- Wrote tutorials for product manuals and transformed product manuals into HTML for use on product CDs.
- Managed Quality Assurance testing of software products on Macintosh and Windows, freeing up programmers to concentrate on coding and reducing the number of bugs in shipping products.
- Created and supervised tech support department, freeing up programming staff to concentrate solely on programming.
- Developed relational databases in FileMaker Pro to track technical support contacts, bug reports, suggestions, and frequently asked questions, allowing for better software quality and assisting support staff with helping customers.

**PrairieSoft, Inc. / Prairie Group, Inc. (spin-off of CE Software)**

**West Des Moines, IA**

**Director of Technical Support / Product Design & Testing Manager / Webmaster**

**1993 - 1996**

- Developed Prairie Group's website, improving customer technical support and improving pre-sales and post-sales information available to customers.
- Responsible for telephone, e-mail and online forum technical support, freeing up other staff to focus on their jobs. Developed FileMaker Pro databases to track technical support contacts, bug reports, suggestions, and frequently asked questions, allowing for better software quality and better support.
- Created technical specifications for many product upgrades based on experience with technical support issues and customer feedback, greatly improving product capabilities and reliability.
- Coordinated quality assurance testing and external beta testing for new products and upgrades, reducing number of bugs in shipping products and increasing product quality due to feedback from testers.

**MacNET, Inc.**

**Cupertino, CA**

**Contract Programmer (remote)**

**1993 - 1993**

- Worked on Mac/Windows QuickMail electronic mail gateway to MacNET mail system using C language.

**CE Software, Inc.**

**West Des Moines, IA**

**Software Engineer**

**1990 - 1993**

- Member of programming teams for award-winning software products QuickMail, QuicKeys, and CalendarMaker for Macintosh and Windows platforms.
- Created software gateways for QuickMail so it could exchange mail with many other electronic mail systems.
- Worked with translators and enhanced source code to support proper operation in multiple human languages, enabling software to be translated into Japanese, French, German, Italian, Swedish, and Danish, allowing the software to be sold in 18 countries outside the USA. Trained programmers on how to localize software.

**CE Software, Inc.**

**West Des Moines, IA**

**Director of Technical Support**

**1987 - 1990**

- Established CE Software's technical support department and managed four tech support staff members. Department given several awards by IT professional/user groups and computer trade magazines for support quality.
- Wrote user documentation for QuickMail Client, QuickMail Forms email form design, and QuickMail Remote Access programs.

**Pioneer Hi-Bred International - Farm Information Management Services Division**

**Johnston, IA**

**Software Engineer**

**1986 - 1987**

- Developed applications for use by farmers and for information services provided to farmers. Programmed VAX minicomputers in VMS Pascal & DCL, and MS-DOS compatible personal computers in Microsoft C and Lattice C.

**Pioneer Hi-Bred International – Pioneer Data Systems Division, Payroll Department**

**Johnston, IA**

**Software Engineer**

**1984 - 1986**

- Programmed payroll applications and reports in COBOL on IBM 3090-compatible mainframe. W-2 printing programs had to allow for employees working in multiple states and/or countries in a single tax year.

**Amtec Computer Systems**

**Urbandale, IA**

**Software Engineer**

**1982 - 1984**

- Developed new and modified existing Medical Office Management System software written in Business BASIC on Pertec microcomputers to meet customer requirements.
- Provided hardware and software installation, preventative maintenance, and technical support to customers, including on-site support and phone support.

- Trained customers in programming in BASIC, on using TRSDOS, and on using various application software.
- Created Computer Sales Quote system in Microsoft BASIC, used by local staff and later by other Radio Shack stores in the district to produce price quotes for computer systems sales.
- Wrote promotional "customized shopping list" software using Microsoft BASIC that was used during Christmas holidays in Radio Shack stores around the country to help shoppers find appropriate gifts.

## **EDUCATION & PROFESSIONAL DEVELOPMENT**

- **Drake University:** Bachelors of Arts degree in Computer Science
- **DMACC / Ed2Go / CodeInstitute.net:** Full Stack Web Developer - online continuing education course (2019-2021)
  - HTML5, CSS, Javascript, Python, frameworks such as Bootstrap, jQuery, Jasmine, Flask, Django, etc.) Tools used include GitHub, GitPod, AWS Cloud9, AWS S3, Heroku, GitHub Pages, MySQL, MongoDB, SQLite, and using APIs such as Google Maps, GitHub, EmailJS, etc. I used additional web resources such AirTable.com for a web-based database and simple CMS, to allow easy site maintenance.
  - Several small and large projects are part of the course. Those projects included creating the IowaPen Collectors club web site <https://iowapen.club/> and <https://wbd-fsd-project4.herokuapp.com/> - both these projects are on-going.
- **DMACC: Des Moines Area Community College:** Java I – III
- **DMACC: Des Moines Area Community College:** Visual Basic I – III
- **National Career Readiness Certificate,** Platinum Level
- **Spindustry:** Microsoft Official Training #MS-2310: Developing ASP.NET Web Apps using Visual Studio.NET
- **Spindustry:** Microsoft Official Training #MS-2072: Administering a MS SQL Server Database
- **Spindustry:** Microsoft Official Training #MS-2071: Querying Microsoft SQL Server with Transact-SQL
- **Spindustry:** Microsoft Official Training: Microsoft Access Intro, Advanced, Macros & VBA Programming.
- **MindLeaders:** Introduction to Unix
- **Element K:** Relational Database Design

## **OTHER ACHIEVEMENTS**

- Jim Gebhardt Memorial Award & Scholarship, Hoover High School
- BASF Scholarship
- Columnist and Reviewer, MacGuide Magazine, a nationally-published computer software review/rating magazine.
- President, Treasurer, Secretary of Northwoods Townhomes Board of Directors, multiple terms.
- Founder, President, Newsletter editor of Club Mac Midwest computer user group,
- Vice President, Webmaster of Des Moines Science Fiction Society (DMSFS).
- Webmaster, DMSFS's DemiCon annual science fiction/fantasy convention for several years
- Panel Presenter/Moderator at multiple DemiCon annual conventions (put on by DMSFS).
- Founder and President of IowaPen writing instrument collectors club, also website developer

## **SOFTWARE DEVELOPMENT EXAMPLES**

- IowaPen writing instrument collector's club website: <https://iowapen.club/> (uses JavaScript, Bootstrap, Vue, AirTable DB)
- Quotations Space: <https://wbd-fsd-project4.herokuapp.com/> (uses Python, Django, Bootstrap, Heroku CI/CD, etc.)
- See also my GitHub repository at [github.com/billdavisjr](https://github.com/billdavisjr)
- All other sites I have worked on are company internal-use-only and not accessible to the public.