

Marcus Rhodes
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A Pick/multivalued Programmer with decades of Experience in full life-cycle software development

Programming in various languages since 1980 at firms like Daimler-Benz AG, WordPerfect, and Novell. Programming in Pick since 1994, including at commercial, ERP software vendors such as Dynix Library Services, Columbia Ultimate, P2, and Precision Solutions. Experienced in both financial and industrial software design, maintenance, and support, for accounting and production-line control systems. Coincidentally experienced in workstation, server, and network installation and administration. Experienced in all tangential technologies, such as Windows, Linux, and AIX (including Smitty), ssh, sshfs, ftp, encryption, cron, http, css, python (including xlswriter), VBA, XML, etc.

Professional Experience:

Aug 2020 – present: CUBS/Pick Programmer

A nationwide lawfirm

Providing UniVerse/AIX and Python maintenance programming and new development on a Columbia Ultimate Business Systems collector environment.

- Developed complementary UniBasic and Python programs allowing host programs to output feature-rich .xlsx files, specifying files, fields, fonts, column-widths, row-heights, etc., all from the Pick code.

Nov 2019 – Sep 2020: Helping my wife recover from kidney failure, and then the global, COVID-19 lockdown.

Sep 2018 – November 2019: Pick Programmer/Linux System Administrator

Robertet Flavors

Engaged to provide continuous coverage for system administration, reports, and data extracts from their retiring CompuDyne (UniVerse 11.1/RHEL5.1 & AccuTerm 7.3a) system to their emerging Oracle system.

- Day-one: Identified and resolved a flaw in a program altered the previous day that threatened to halt production.
- Reverse-engineered their elaborate, and undocumented, access-control system, building a report wanted by federal auditors in one day.
- Developed in a day a flexible report builder to satisfy the many and varied report requests.

Jan 2018 – Sep 2018: Pick Programmer

United Technologies, Huntington, IN

Maintenance and development on a very mature, highly customized, UniData/AIX-based DPRO, Dataworks, and SystemBuilder+ hybrid production-line and warehouse management application.

- Designed a simpler approach to attaching new, remote (in Mexico) printers than was initially proposed, reducing the task to inserting a single line of code in about 200 programs, which was also automated, confining future changes to a single subroutine, accomplishing the entire task in under two days.
- Developed an interface for uploading and evaluating customer response information during my second week on the job, empowering users to manage the task themselves.
- Produced an interface allowing users to forward purchase orders received via web or e-fax to an e-mail address where they are automatically parsed and processed, completely eliminating data-entry errors, and

reducing employee effort to less than 4% of that required to manually enter the same orders.

Sep 2015 – Oct 2017: Testing Consultant

Sogeti USA, Indianapolis, IN

Assigned to a global medical equipment and pharmaceuticals manufacturer to whom my jBase, Linux, and training expertise are key, I use Agile methodology to turn requirements from business analysts into testing protocols to validate system operation. In conjunction with those processes, I also develop automated testing tools in jBase, bash, and AccuTerm VBA, train other consultants in the client's systems, testing protocols, jBase programming, Linux system administration, bash scripting, and VBA programming, consult with the client on development tools and methodologies, coordinate with the client's management and development staff to obtain access to systems, stable development code, updating a JIRA bug database and Confluence project-tracking and progress reporting system.

- Wrote an AccuTerm VBA program to automate the testing of the client's jBase product ordering restriction system, reducing testing time on our first project from 22 hours to 47 minutes.
- Developed a collection of jBase, bash, and VBA utilities to automate the testing of the client's EDI ordering system, reducing testing time from over 30 hours to under 30 minutes.
- Received an emergency summons to the client's headquarters early one Monday morning to assist with a jBase/Linux system administration issue which had stymied their own staff all weekend long, but which was solved by me within half an hour of my arrival.

May 2015 – Aug 2015: Programmer

Herndon Products, Inc., O'Fallon, MO

Redesigning the entire pick-ticket printing module as an AccuTerm GUI application on jBase5/AIX, interviewing users, analyzing business needs, designing data-structures, dictionaries, and GUI screens, testing, documenting, training users, signing off with product and department managers, and everything else that goes with a project of such scope:

- Developed a suite of tools to accelerate the analysis of the existing system by cataloging the use of file-handles and other variable names with respect to the files and data fields, create missing dictionary items based on equate names, profile the calling hierarchy of the programs, identify deprecated code and programs, un-locked writes, etc.

Dec 2013 – Apr 2015: Release Specialist

P2 Energy Solutions, Denver, CO

Responsible for the analysis of dozens of clients' UniData systems for software upgrade compatibility issues, installation of P2's SB+-based Excalibur and custom java-based client BOLO products' patches, back-ports, updates, and upgrades, code-comparison, and, where possible, reconciliation, merging custom code into new release software:

- Documentation and analysis of current release distribution process and tools, converting them into computer-based training materials and scripts.
- Designing a next-generation automatic deployment tool modeled after current industry standard methods, especially a more intelligent, automatic custom code merge facility.

Aug 2013 – Nov 2013: Focusing on helping my son recover from brain cancer.

Dec 2012 – Aug 2013: Independent Contractor

Client Services, Inc., St. Charles, MO

CSI ran, at the time, CUBS on jBase4 on AIX. I was tasked with designing, writing, testing, and deploying a module for automatic report generation and delivery, as well as with rewriting numerous reports for various clients to run within the that system, delivering reports to client service managers and clients as industry standard spreadsheets, using attractive fonts, colors, proper column-widths, and encryption.

- Various dictionary-driven and automatically-generated, encrypted, compressed, and e-mailed Excel spreadsheet reports with full font and color control, utterly eliminating any need for staff intervention until/unless clients request format adjustments.
- Numerous UI enhancements such as a full-featured, OS-independent, point-n-shoot file-selector box; a modern input field; date-entry dialog; and an on-line help system. (A pretty big deal on CUI systems.)
- A fully modularized account-loading system, allowing users to create rich, robust, easy-to-use loaders for even the most complex formats in only an hour or two.
- Several Accuterm GUI routines such as a file-picker, date-picker, single and multi list-box, menu, alert and message boxes, as well as a help reader and advisory system with password verified, 'I have read this', tracking.

Aug 2012 – Nov 2012: Web-developer

Precision Solutions, Inc., Longmont, CO

I had proposed to Kevin King, proprietor of PSI, that I become his understudy. I worked for him, studying his approach to integrating a web-server with Prelude's Epicor product. It was a brief, but very informative and enjoyable ride, for which I am forever grateful to Kevin.

- While there, I wrote an on-line credit-card transaction processing system, and a few other small applications related to web-business operation, warehouse operation, and system administration.

Mar 2012 - Aug 2012: System Administrator

Diversified Adjustment Service, Coon Rapids, MN

The departure of the previous sysadmin left a vacuum that was filled by external consultants for six month before deciding to hire me full time because of my system and network administration skills, as well as for my CUBS and Pick experience:

- To maximize our aging system's performance, I wrote a set of routines for building and parsing large lists using standard Unix commands: cut, join, merge, sort, wc, etc.
- Built and installed a Windows 2008 terminal server from recycled parts and software, bringing the firm terminal services for 1/10th the cost (\$5,000 vs. \$50,000) cited by outside consultants.
- Migrated the CEO from a Windows laptop to a Mac, and trained him in its use.
- Began Automation of month-end processing, including automatic e-mail distribution of reports to subscribers, eliminating the 2-day-long, manual efforts of 3 people.

Mar 2011 to Dec 2011 – Senior Software Developer

Receivables Performance Management, Lynnwood, WA

With the departure of the previous IT Director, the promotion of the assistant programmer to the Directorship, the extensive use of procs, expanding clientele, and rising client expectations, RPM had a pressing need for D3/Linux Pick programming and system administration assistance:

- Rewrote dozens of procs and programs, typically reducing size and run-time to 1/10th the original, while improving robustness and usability.
- Trained other programmers in the use of common Unix utilities (sort, uniq, cut, join, sed, lftp, mutt, etc.) to simplify and accelerate Pick programs to verify data sent-to/received-from purification vendors.
- Advised regular staff and consultants in the design, installation, and migration to a new database server based on solid-state disks, and running CentOS 5.7, cutting server cost in half while doubling performance.
- Mentored the network sysadmin in the use of tools such as Nagios, the configuration of the new Zimbra e-mail server, as well as managing Samba.
- Standardized interface programs to use profiles, cutting development time in half, or less.
- Mapped/documentated the major data-structures to reduce the learning curve for future trainees.

May 2010 – Apr 2011 – Independent Contractor

Various clients, Denver, CO

New application development and system administration work for various CUBS users such as Firstsource, Caine & Weiner, and others:

- Various dictionary-driven and automatically-generated, encrypted, compressed, and e-mailed Excel spreadsheet reports with full font and color control, utterly eliminating any need for staff intervention until/unless clients request format adjustments.
- Numerous UI enhancements such as a full-featured, OS-independent, point-n-shoot file-selector box; a modern input field; date-entry dialog; and an on-line help system. (A pretty big deal on CUI systems.)
- A fully modularized account-loading system for CUBS clients, allowing me to create rich, robust, easy-to-use loaders for even the most complex formats in only an hour or two.

Jun 2009 - Apr 2010: Senior Systems Analyst

First Revenue Assurance, Denver, CO

Reporting directly to the client-services manager of the former FRA, Laura Moody, and, later, Sarah Biles, I primarily handled full life-cycle development of software in support of client-services' mission: writing data-loaders, activity and status reports (some in XML format), and advanced the automation of processes (such as automatic e-mail delivery of system status alerts). I also oversaw the scheduling and monitoring of external sysadmins and other resources:

- Redesigned the dayend (overnight batch) process to run automatically as a phantom, launching subordinate programs as phantoms, logging their activities, and alerting system administrators via SMS of problems.
- Rewrote several dayend processes to execute in less time, even reducing the run-time of the most extreme case from about 8 hours to under one minute. (I have witnesses!)

- Developed a new design for data-loading programs to reduce errors while cutting development time an estimated 50%.
- Developed a user-friendly report-generator to replace CUBS' EasyOut, which allows users to create reports by choosing dictionary items from a point-&-shoot list, save and recall reports and the results from another scrolling list, and deliver those reports to any e-mail address in xml format.

Mar 2003 - Jun 2009: IT Director

Health Advocates, Van Nuys, CA

Reporting directly to the owners of the now-defunct Health Advocates, I oversaw every aspect of the firm's technology needs, including the IT department, its staff of 7, and all information and telecom systems, as well as ancillary systems, such as power, HVAC, fire-suppression, and access-control.

My team and I were servicing over 300 users, half of which were local in 2 x 20,000 sq/ft buildings, with the remainder spread across 5 remote offices and a dozen hospitals, all connecting to the CUBS system via Asent's AccuTerm.

My list of accomplishments could fill a book, so here are just a few in brief:

- Presided over the IT needs of the firm throughout its 6 year, 300% expansion, locating, hiring, training, and directing my remarkable staff in their various capacities, finding, and, sometimes designing, and implementing significant technological upgrades and innovations in the process, approximately quintupling system performance while tripling its load. (FusionIO, QM, NX, Easyco, ...)
- Introduced a revolutionary 'Integrated Pick Host' of my own design, essentially swinging the pendulum back away from distributed Wintel PCs connecting via terminal emulation to a legacy, character-based Pick/CUBS database server toward a model blending the terminal/host environment of yore with the graphical interface and applications of today, vastly improving security and user experience, while reducing cost about 50%.
- Personally modified the CUBS letter-printing facility to immediately print automatically via WordPerfect to any printer on the network, without forcing the users to negotiate several layers of menus and prompts, allowing new letters to be developed and deployed by legal staff (instead of programmers) with minimal IT assistance.
- In under 40 hours, wrote, tested, and deployed a feature-rich document archival/retrieval extension to CUBS permitting every manner of electronic data to be securely and permanently associated with any account, and retrieved and presented within seconds via the associated application.
- Replaced numerous CUBS entry fields with my own point-and-shoot, scrolling list, markedly reducing the user learning-curve, 'sticky-note' monitor-frames, and entry errors.
- Created a full-screen text-editor (with spell-checking!) option for CUBS' fiscal fields.
- Added a facility to automatically generate and disseminate regular reports in html format via sftp or as encrypted zip-file attachments to e-mails to distribution lists.

Oct 2000-Jan 2003: Independent Contractor

ECO Resources/Southwest Water, Sugar Land, TX

Hired by, and reporting directly to the VP of IT, I was responsible for all aspects of AIX and Linux system administration, D3 database administration, and all new software development as part of an effort to evolve the legacy system into a marketable product.

Again, my achievements were manifold, but, in brief:

- Full life-cycle development, from requirements gathering to design, development, implementation, and continuing support of maintenance, accounting, and payroll modules, including...
- Integration of payroll module with Ceridian (a Windows-based HR and payroll package), accounting module with Ideas (a Windows-based accounting package), and enhancing the payroll module to post daily instead of weekly.
- Development of an 'über report' of data from every module into a single spreadsheet with which the CEO could monitor and correct daily performance problems within minutes (as opposed to monthly) (and then only after taking hours to cross-reference numerous other reports).
- Replacing the detailed scrutinizing of reams of numeric time-sheets with easily assessed bar-graphs to greatly accelerate payroll processing with far fewer errors.
- Converting the entire system from RS232 over serial lines to tcp/ip over Ethernet, personally researching and selecting new client software, developing an installation and documentation CD, training IT staff and users, networking the primary and secondary systems, rewriting the fixed-port login process, as well as much of the remaining software, to support floating ports and network printing.
- Development of a sub-system to disseminate accounting reports via e-mail as compressed and encrypted spreadsheets.
- Created a suite of development tools, such as a source-code repository and check-in/out system with automatic revision control.
- Created several utilities to automatically manage certain aspects of the system, such as file sizing, obsolete account cancellation, clearing old logs and hold files, and cloning to a fail-over system.
- Added user-extensible, on-line help to many programs to reduce the load on IT-support staff, empower the users, and eliminate the halos of sticky-notes around monitors.
- Developed a sub-system for printing coupons via laser printers which met vendor requirements for fonts, clarity, positioning, and equipment, allowing scanners to eliminating what had been a manual process.
- Created a tool to provide IT personnel with point-&-shoot user management. Greatly reduced the complexity of the task and training time.
- Designed and built a network system transfer facility, eliminating the need for tape-drives, and cutting system cloning time in half.
- Developed a single, Windows-enabled printing facility to replace the myriad of previous schemes, leading a team of programmers in its implementation.
- Analyzed and documented the previously undocumented order-entry and fulfillment system.

- Worked with consultants to develop a conversion process for implementing the new AccPac system, developing the syncing software myself.

Jun 2000 - Sep 2000: Head of Software Engineering

TruckMaster Logistics Corp., Jerome, ID

Anticipating Melaleuca's troubles, I approached Doug (<http://www.truckmaster.com/>) with the proposal that I join his team to help rationalize his burgeoning code-base, then about 10MB, and highly customized for each client, making it nearly unmanageable.

- Introduced a method for bridging the gap between D3 and its host Linux OS by using a combination of special dictionary items and programs, allowing cross-platform use of development tools, such as using nano as a Pick code editor instead of ED.
- Created a control-record driven screen designer and filler to speed the software development process, as well as a number of 'controls' which could be added to a form via a point-and-shoot list.

Sep 1998 - Jun 2000: Senior Analyst

Melaleuca Corp., Idaho Falls, ID

At the time, Melaleuca (<http://www.melaleuca.com/>) manufactured and distributed fitness, cosmetic, and household products through a tiered marketing model. Their UniData-based system incorporated modules covering the entire spectrum from HR and financials to manufacturing and distribution.

Initially tasked with re-engineering the shipping module, I was soon assigned the lead on a series of high profile projects, some of which had languished for years, waiting for the right talent to arrive and tackle them:

- Replaced the existing package labeling system with a USPS-compliant system, providing the fabrication facility with detailed designs for the hardware (a combination of a conveyor belt, Zebra label printer, bar-code scanner, computer terminal, label peeler and applicator, and ejection-gate), while writing and testing the software myself, installing the finished system in the remote packing facility, documenting the entire system for future admins, and training the warehouse staff in its use.
- Integrated both the SCO-based Telephone Voice Response (IVR) and web-based order-entry and tracking systems with the legacy system, an effort requiring a comprehensive analysis of the entire order-entry and tracking system, rewriting them as a set of subroutines, resulting in a parallel system using a series of SQL commands executed via dictionary items.
- Worked in close coordination with a Deloitte & Touche team of consultants designing data-exchange processes and formats for synchronizing the emerging J.D. Edwards' One World system with the retiring legacy system, designing, developing, testing, and deploying all the Pick-side software myself.

Jun 1996 - Sep 1998: Programmer/Analyst

Columbia Ultimate Business Systems (CUBS), Vancouver, WA

Hired to develop software to minimize CUBS (www.columbiaultimate.com) clients' mailing expenses by meeting new postal regulations, I was quickly placed over all the Immedia division's Pick (UniVerse and jBase3) product development, and even MIS responsibilities.

- Assembled requirements for, designed, built, documented, deployed, and supported an automated billing system for Immedia division which accepted e-mailed statements from vendors in various formats,

warehousing the data, forecasting trends, updating the parent company's billing system, e-mailing trend and activity reports as Excel spreadsheets, eliminating the need for human intervention beyond maintaining services and pricing tables.

- Designed, wrote, and installed a subsystem to automatically pass clients' address databases through a data purifying vendor on an as-needed basis, report on the activity, and calculate charges.
- As a personal protégé of Jim Adamson's jBase-based CUTools project, he and I worked at installing CUTools on my personal laptop where I then proceeded to learn The Collector application and jBase thoroughly, as well as to migrate 'my' Immedia billing system to jBase. (And I've been using jBase off-and-on ever since.)

May 1994 - Jan 1996: Programmer/Analyst

Dynix/Ameritech Library Services, Provo, UT

Providing remote system-administration and custom programming for libraries running Ameritech's library management software (Dynix) (http://en.wikipedia.org/wiki/Dynix_%28software%29) on Pick (R83 and AP), UniVerse (HPUX, AIX, SCO), Prime, Ultimate, and Sequoia:

- Member of a team tasked with developing a standard support-technician PC workstation and software designed to replace green-screens, and improve productivity of the entire support department immeasurably, and that because ...
- Developed utility programs to automate support functions, accelerating resolution times as much 6,000%. (That's no typo.) (But it is a long story.)

Related Qualifications:

Bi-lingual German/English

Novell Network Engineer (NetWare 4.x & TCP/IP) – I completed all of the training required for certification at Erudite in Salt Lake City, UT.

Novell Certified Groupware System Engineer(GroupWise 3.x & 4.x) – Via a special week-long class at the (then) Novell/WordPerfect Corporation campus, in Orem, UT.

Completed a 10-day, full-time training class in Revelation's OpenInsight in the fall of 2005 as part of an evaluation of the product as a possible replacement for our existing CUBS D3/Linux system.

Education:

Bachelor's Degree (equivalency) – In accordance with the then West German Ministry of Culture, when combined with my apprenticeship at Daimler-Benz, my Community College of the Air Force (Human Resource Management, Astronomy, Meteorology, Radio), University of Maryland (Human Resource Management, German, Computer Science), Central Texas College (Electronics), Volkshochschule Stuttgart [Community College of Stuttgart] (German, Photography, History), and technische Fachhochschule Esslingen [Esslingen Institute of Technology] (Mathematics, Computer Science, History, English) (No kidding!) credits would approximate a Bachelor's of Science in Computer Science in the United States.

Brigham Young University – Adding an additional 90 credit hours in, among other things, electronics engineering, mathematics, and computer science.

Utah Valley State College – Yet another 9 hours of OO programming, this time in Borland C++ and Smalltalk V.

And then some:

I have a youtube channel: https://www.youtube.com/channel/UCN7Pq68IP_ffj9jokzzpnHg

I taught a free class in programming to occupationally challenged adults which I organized and promoted myself.

I remotely tutored and mentored a friend's son through his Computer Science classes at the Universidad de la Salle, and even into his first position: <https://www.linkedin.com/in/javier-dominguez-11994750/>

I've created my own web-site, touting my CUBS and Pick programming services. Look it up! www.thinqware.com

I am the creator of AnyKey (<https://github.com/MarcusAureliusRhodes/AnyKey>), a simple subroutine granting Pick programs the power to use ... any key ... (or combination of keys) on the keyboard. Tired of wasting screen space on "Press U for up, D for down, and Q for quit"? Users weary of that antique, amateurish look and feel? With AnyKey, they can use the up/down keys to scroll through a list of items, one line at a time, page up/down to scroll a page at a time, home and end to jump to the top or bottom of the list, and any of those plus shift to quickly and easily select entire ranges of items. Pick software finally works the way the rest of the world works!

I'm also the author of Vignettes, a collection of Pick subroutines & AccuTerm VBA code that give Pick programs a Windows face-lift via simple, drop-in replacements for existing Pick code. For example, got programs requiring users to enter a range of dates? Vignettes' Date-Ranger pops up a Windows dialog-box with not only two calendars (one for the start date, and the other for the end date), but also buttons for current/previous day, month, quarter, and year. Got programs forcing users to enter a path to a file? Vignettes' PathFinder presents users with a familiar, standard Windows file-browser. There's also a pop-up message box with optional icons and button sets, a menu, a list-box allowing the selection of either only one (with automatic close) or multiple items, a notification box, and even a credentials entry box.