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### ENGINEERING WORK BACKGROUND DETAILS:

#### **Great American Insurance Companies: Cincinnati, Ohio**

BUSINESS ANALYST, 8/04 through 10/04  
(Consultant)

I provided Business Analyst services for a small team to understand and gather Business and Functional Requirements and develop Use Cases for a proposed rewrite of an existing legacy mainframe system for one of the Subsidiaries of Great American Insurance Companies. I analyzed numerous complicated Excel accounting spreadsheets, batch cycle Focus reports, worked closely with the client's employees to understand their current business practices, and helped the team gain insight on how a single new .NET system could possibly replace a varied mixture of mainframe systems, manual procedures, and various software tools.

#### **The Health Alliance of Cincinnati, Ohio**

TESTING COORDINATOR, 12/03 through 4/04  
(Consultant)

The Health Alliance of Cincinnati, Ohio is currently preparing to implement Computerized Physician Order Entry (CPOE) at two of their six hospitals, the University Hospital and The Christ Hospital. By 2006, CPOE will be rolled out to the other four hospitals: Jewish, Fort Hamilton, St. Luke East, and St. Luke West. Only about 6% of all hospitals in the United States are currently up and running on a CPOE system. By 2010, per a mandated requirement that will vary from state to state, the nation's hospitals will have already moved to CPOE, or be in the process of implementing such practices.

All six of the Health Alliance hospitals currently use IDX LastWord for their patient care and billing processes and all of these LastWord modules work in combination with each other and are interfaced with other Health Alliance information systems. The IDX LastWord software resides on a shared HP Himalaya 7400 Series non-stop mainframe; based on Tandem architecture.

To enable the CPOE process for The Health Alliance, the vendor has modified two IDX LastWord modules, **Order Communication** and **Pharmacy In-patient**. The code for the remaining modules has not been modified for CPOE. Custom CPOE tailoring to the Order Communication and the Pharmacy In-patient modules is being performed on site by the Health Alliance IS&T Care Management Analysts. Input as to what should be tailored is being jointly designed by the Care Management Analysts, the CPOE Clinical Consultants, and Department Representatives, (Physicians, Pharmacists, Nurses, HUCs, and other LastWord users); all of whom provide input as to what screens, buttons, commands, pull-down menus (VTs) should be created, modified, enhanced, etc. for CPOE. In addition to system design, process flows have also been developed to support the new CPOE future state workflows.

My responsibilities for The Health Alliance included the following:

Without any CPOE system requirements or project specifications and with the initial Design still underway throughout the duration of my contract, I created a Project Scope Map; interviewed numerous team members to discover who did what, how and when; and created a CPOE Key Testing Events calendar for 2004 per management requirements (which includes the following events: System Component Test #1, User Component Test #1, System Component Test / User Component Test #2 Combo, IT #1, and IT #2). I successfully passed all computerized CBT training modules in the use of IDX LastWord. I planned and facilitated a number of large brainstorming and testing related group meetings; defined numerous software testing concepts to include Unit Testing, Functionality Testing,

Regression Testing, etc.; and created a Master Test Plan. I planned for and launched a core Testing Methodology (which included having created a variety of software testing documentation about functionality and regression testing, working examples, test case templates, and other “How To” documentation) that the employees can use after my roll-off from the project to further their methodology and testing development. I identified Essential CPOE Information Sources and resources within The Health Alliance; identified which additional test plans need to be written for future test events; and identified what is needed for accurate CPOE issue tracking with suggestions for the development of bug database standards. I organized and set up on the shared directory working files and folders; provided real-time software testing for certain elements of two finished workgroups (which found more than a dozen bugs in very short order); and worked very closely with several employees throughout my contract. In particular, I provided focused attention on two employees (CPOE Clinical Consultants) in how to “think like a software tester” and how to test their software - as well as how to identify bugs and report such issues. I also transferred knowledge and duties (to the best of my ability and as her time allowed) to the employee assigned the role of Testing Coordinator.

### **SMARTworks, LLC.: Dayton, Ohio**

QUALITY ASSURANCE TEST ENGINEER, 4/03 through 11/03  
(Consultant)

SMARTworks is a customer driven e-business and print procurement firm that hosts an efficient web-based and customizable solution for the management of a complex array of Standard Register forms, as well as unique customer specific documents, digital assets (electronic documents and images), and e-procurement. With a single login website, SMARTworks provides individual accounts to over 800 blue-chip customers. Upon signing on, companies can manage all of their custom printing, forms procurement, and other office supplies purchasing needs in a streamlined and efficient fashion. SMARTworks provides a complete digital library of both images and design files to allow for easy modification of printed materials and electronic documents, including the data storage space for everything. Organizations both large and small can better manage their financial print resources by utilizing the wide array of features and reporting capabilities offered by the system. In addition to companies being able to design, procure, distribute and manage their own preprinted and electronically created documents, they can also interface directly with their print providers – whether it’s an in-house print shop or a 3<sup>rd</sup> party commercial printer - by placing their readied orders via the SMARTworks ordering/requisitioning process.

My duties included the following: working in a small team environment, designing and writing test grids to track specific items for regression testing; documenting main functional areas and sub areas of the software for tester Regression assignments, validating and testing new builds, assisting in the 400+ customer migration from version 5.0 to version 6.0, and assisting in the Integration of new 6.0 customers. To the amazement of my QA peers, I even volunteered and did Telephone Technical Support for a while during an especially busy time for the Customer Support Team. It was fun and challenging and I tried to convince the other QA folks to try it, too, but they just looked at me like I was green and from Mars! This experience, however, was a great way to see the software from the customer’s eyes, which I felt would only make me a better tester; besides that, I made some new friends! I also lead special QA projects as assigned, and interfaced directly with senior executive management to analyze current work flow patterns and make recommendations for process improvement. The Rational Unified Process (RUP) and some of the Rational Suite TestStudio tools are currently in various levels of use, including ClearQuest for bug database reporting and RequisitePro for document generation and control. Microsoft Project Central is being used for time reporting and tracking efficiency. Additional tasks and duties included the inception leadership and management responsibilities for starting up a Mercury Interactive TestDirector 8.0 and QuickTest Pro 6.5 Automated Testing project, for which I was on the vendor selection committee to evaluate and choose the best automated tool for SMARTworks. Following its purchase, I worked closely with 1 other systems engineer who got the tools installed onto a unique server, configured, and integrated with the Rational tools and who also implemented regular backups of the Mercury server. I single-handedly wrote a project proposal, multi-phase project plan, and designed and set up a mini test automation lab on my own with 1 master and 4 slave machines – each with unique Operating Systems and Browsers. I also arranged a technical ramp up session with a Mercury trainer who came to our site and made sure we were installed and set up properly, as well as providing me and 2 others with compressed and concentrated training in the following Mercury courses (which are usually taught over a longer period of time): Fundamentals of QuickTest Pro, Advanced QuickTest Pro, Administering TestDirector, and Using TestDirector. Prior to the end of my contract,

I had worked out the communication issues between the QuickTest Pro client machine and the TestDirector machine. I had achieved the ability to control basic script runs from the TestDirector CPU to be executed on the QuickTest Pro client CPU.

**Digineer, Inc.: Cincinnati, Ohio**

QUALITY ASSURANCE TEST ENGINEER, 4/01 through 6/01  
(Consultant)

Digineer was a Cincinnati, Ohio firm that provided technology enhanced business and clinical solutions, via custom developed software and Web sites for the worldwide healthcare industry. Nelson eHealth Group, (NeHG) is a Princeton, NJ firm that specializes in transformational digital marketing and selling tools for pharmaceutical companies. NeHG had partnered with Digineer to develop an innovative line of targeted Web sites and data gathering/reporting tools to revamp the traditional relationship between time-starved physicians and pharmaceutical representatives.

During the length of my contract at Digineer, I provided a variety of QA services for two NeHG projects: eDetailing and eStatus. For both of these projects, I worked closely with the project managers, team leads, graphic designers, and programmers during the early development stages. In union with the team leads, I wrote many test cases based upon a predetermined test definition list. I also executed Alpha, Beta, and Final User Interface, and Functionality test cases against a variety of Browser and CPU configurations, which incorporated the various versions of Netscape and Internet explorer. I wrote, regressed, and closed numerous software and Web site bugs, and attended many QA team meetings.

The **eDetailing** project consisted of 2 elements: a brand specific “virtual pharmaceutical rep” Web site for a drug called, *Levaquin* and a stand alone Previewer tool, which is a type of Web site template to be used for creating additional brand Web sites. The *Levaquin* Web site is available in either FLASH mode or static HTML mode and replaces the need for an in person visit by a pharmaceutical drug representative.

In the drug marketing industry, this process is called “Detailing”, hence the name, “eDetailing”. eDetailing provides a self-paced, log in educational process at Basic, Intermediate or Expert levels with relative Professional Credits of 25, 50, and 100 points, respectively. Upon completion of an eDetail, targeted physicians can earn professional credits, which they can redeem and distribute for their own use or donate to charity. Either targeted or untargeted physicians can log in, receive educational information about the drug, clinical study synopsis data, prescribing information, drug safety updates, typical patient histories, physician testimonies, order drug samples and participate in other eDetailing related activities. The *Levaquin* Web site can either be accessed manually or via a CD, which will load the browser automatically and run the images off itself, versus the server, to make the process as fast as possible. Targeted users are tracked via a CD serial number and a valid DEA (Drug Enforcement Agency) number. The Web site is secure and all user access is authenticated by the unique DEA number assigned to each physician. All user provided data and statistical usage information regarding the eDetails is collected and stored in a database.

The **eStatus** project consisted of 2 elements: a multi brand “eDetail data sorting, tracking, and status reporting utility” Web site (with a tour that runs in FLASH mode or static HTML) and a stand-alone client server Admin Tool. Based upon data gathered from the eDetailing database, eStatus displays various charts, statistics, and calendar information, which can be emailed, printed, or graphically imported into another application using the PNG format. The Admin Tool enables the administrator to set up companies, users, project types, projects, results, user access privileges, and the association of users to projects and projects to results.

**American Financial Group / Great American Insurance Companies: Cincinnati, Ohio**

Y2K CERTIFICATION AUDIT REVIEWER, 6/99 through 10/99  
(Consultant)

I joined the AFG Y2K Project Office as an Audit Reviewer. This was a very high profile group. I found myself reviewing the exact same genre of mainframe applications that I had been previously Y2K testing / certifying for the CIS Department (see below). My knowledge and expertise in the testing methodologies gave me an advantage from the inside out in being able to accurately judge how well other teams had performed their Y2K Testing,

Documentation, and Certification duties. To ensure objectivity, I did not directly review any applications that I had personally certified earlier.

As a member of this small team of audit reviewers, I was responsible for reviewing Y2K tested / certified applications that had been submitted to the Y2K Project Office by the various Certification Test Teams for Audit and final Y2K Certification. I carefully reviewed all aspects of an application's Y2K tested history. This included analyzing its date specific test plan for completeness and accuracy, all supporting documentation to offer "proof" that the app was Y2K compliant, lists of any date related bugs that were found during testing with their resolutions, its compatibility with other interactive applications (as applicable).

Where Certification issues were discovered, I worked carefully with the test team to resolve them. In every case, close interaction with the application test team's leader was necessary. Typical areas needing help were test plan writing and documentation. Often, major reorganizing and indexing of the documented test materials - including culling superfluous documentation was necessary. Sometimes even the re-testing of key software components had to be done. No application was determined to be Y2K compliant until all aspects of its date processing modules were properly tested and Certified by the test team, reviewed by an audit reviewer, inspected by an official auditor, and then readied for placement into long-term storage. The whole point of having an audit review was to ensure that due diligence had been performed and that the application's Y2K test team had built defensive documentation, should litigation ever ensue within the next seven years.

### **Great American Insurance Companies: Cincinnati, Ohio**

Y2K CERTIFICATION PROJECT COORDINATOR / TEAM LEADER, 7/98 through 5/99  
(Consultant)

I joined the Corporate Division's CIS (Corporate Information Services) department as a multi-purpose individual, where more than 100 applications were destined to be Y2K Certified by at least 25 test teams throughout the second half of 1998 and most of 1999. My primary mission was to create a Y2K Certification testing methodology for the group, focusing on a Test Plan template that could be used by all up-coming certification teams for all of the Corporate business applications undergoing the rigors of Y2K Certification. I designed and implemented a Test Plan template, a Y2K Quality Gate system of sign-off forms and tracking documents, as well as a set of Test Plan Questionnaires. The Test Plan Questionnaires were designed as data capturing tools and targeted for key resources, such as the Business Owners and knowledgeable Users, Technical Experts, and Subject Matter Experts and System Analysts. I wrote a series of "How To" documents, which explain in a logical flow such things as, how to go about setting up for Y2K testing, and how to get started on generating a custom test plan for an application. I also provided a step-by-step list of team leader duties that must be considered when launching a new Y2K Certification test team and beginning a new test project, listing specific tasks that the team leader must do. To organize the teams, I created a Y2K directory on our group's shared server and set up sub-directories for each application. Inside each application's directory, I organized folders to contain the standard files and documents required for certification. To track problems and resolutions, I designed and implemented a "bug" database from the ground up, using Lotus Notes.

I was also assigned the responsibility of leading the Y2K Certification efforts for the Premium Entry application, which was the first application in CIS to begin its Y2K Certification process. Premium Entry is an application of major importance to the company, which processes all insurance policy related transactions. Premium Entry is the vehicle that logs all Premium business to the Company's books. It is written primarily in COBOL with some Easytrieve PLUS and SyncSort. The various tools related to its running are: JCL, CA-7, CA-11, Repository, and Panvalet. Technically speaking, it is a data capturing system. Its sole purpose is to book Premium data for policies. It is a conduit that directs the data flow downstream to Management Reporting, Bureau Reporting, Earnings, Accounting systems, Statuary Filings, etc., and other Great American applications. Premium Entry is interrelated with all other CIS systems and produces a wide variety of reports, such as errors to be corrected, accounting reports, tax and surcharge reports, etc. If Premium Entry were to fail sometime in the new century for any reason, the company's ability to process new business would be stopped in its tracks until the problem could be resolved.

My team tested with full volume Production data, using a Baseline from August '98 month-end. Test Cycle 1 aged all input files by 1 year (included processing **Expiration** Date into Year 2000), and upon re-running, created the Test Cycle 1 test output reports. Test Cycle 2 aged all input files by 2 years (included processing **Effective** Date into Year 2000), and upon re-running, created the Test Cycle 2 test output reports. For each aging cycle, prior to generating the test output for the User Verification Team, the programmers ran file compares for key files. A TIS (Test Instruction Sheet) contained the expected results for each series of jobs that were tested. All unusual or unexpected observations that were discovered during the testing and verification stages were recorded into the CIS Y2K Issues Database and the Premium Entry TISs.

**GRE Insurance Company (Guardian Royal Exchange): Cincinnati, Ohio**

Y2K CERTIFICATION PROJECT COORDINATOR, 12/97 through 6/98

(Consultant)

As a Project Coordinator for the Marine Y2K Team, I was one of 130 people (consultants and regular employees) who were brought together for the Y2K project, and who were spread out over 12 unique groups (each with their own Project Coordinator), where the company was attempting to test more than 90 different insurance applications for Y2K Compliance; in as short a period of time as 6 months.

My Marine Y2K Team consisted of two separate tracks called, Marine Track #1 and Marine Track #2. All members of my team were mainframe savvy programmers, who used such tools as JCL, COBOL, CICS, Xchange, File-aid, Data Ager, Xpedit, and Microfocus COBOL. The testers, in particular had received special training in QA Hiperstation & QA Director.

The activities of both tracks were managed by me and consisted of the following personnel:

- 2 Testers, who ran all the test cycles.  
They executed automated online testing scripts for the on line applications and ran Batch programs using JCL and COBOL as needed, for the Baseline, Aged, February 29th (Leap Year), and Year 2000 testing.
- 2 Technical Administrators, who supported the testing regions and verified that all the pieces were there.  
They assisted the testers ensuring that all required files were present and that Security Privileges were properly set in place.
- 2 Technical Coordinators, who had the business knowledge.  
They were knowledgeable in the Marine applications and Batch processes, which were being executed. They provided an in-depth understanding of the company's business rules, in order to achieve correct Results.
- 2 Test Planners, who wrote the test plans, per a standardized Test Plan Template.  
They were specialists in the applications being tested, and worked closely with the developers and users to create valid test cases.
- 21 Business Coordinators, who were the expert users.  
They were utilized as information resources and as on-line test case entry specialists (whose keystrokes were captured by QA Hiperstation and re-run many times during on-line testing). All of them were remotely located in Seattle, WA; Princeton, NJ; and New York, NY and represented the User Community at large for each respective application being tested.

These tracks, though separate, were in effect, two collaborative parts of a whole and I managed them as such, due to the team-oriented nature of our Y2K testing efforts. The team members on each track were primarily responsible for their own track's list of software applications, as detailed below. However, both tracks were expected to support each other in times of need and when available time permitted. At first, both tracks met together as one group (daily) at the beginning of the project, for informational and progress Team Huddles. As the project evolved and the team learned the routine and processes, the Team Huddles went to an "as needed basis". Additionally, each Wednesday was "Statistics Day", where my testers and technical coordinators were especially helpful in providing timely and accurate information in contribution to my PC Weekly Statistics Reports.

The success of my team depended entirely upon my ability to effectively manage a diverse array of personalities, skill sets, experience levels, aptitudes, and a very tight testing schedule. I was held completely responsible for the success of my team and I took this obligation very seriously. Had we failed to meet our goals, significant attention and investigation as to why they weren't met would have resulted. Needless to say, although we never missed a deadline

(working a few nights and weekends as necessary), the stress factor was very high as well as the potential for team mates to buckle under the pressure, but we remained as cool as could be expected. In fact, all of the members of my team were exceptional people, both in talent and in their ability to get along with each other and perform well under any conditions.

My responsibilities included building a cohesive and team-spirited group, managing all aspects of the 2 testing teams of 9 direct reports (4 contractors & 5 employees) and 21 off-site employees, interviewing & hiring a key replacement contractor for IDMS and ADSO skills, conducting contractor performance reviews as needed, holding daily team huddles, interfacing with the mainframe Security people regarding access privileges for my team's testing regions (emulating 25% capacity of the normal production environment), conducting application Kickoff meetings using video and telephone conference tools for off-site employees, attending Y2K planning sessions and skills training sessions, attending twice a week PC Support Group meetings and weekly Leadership Support Group meetings, interfacing with the Quick Response Team to fix non-Y2K Production bugs, attending weekly Change Control meetings (as needed when my team produced Y2K Code Changes to be merged into Production), working closely with the Information Systems people in coordinating Production Implementation, ensuring that both of my teams provided prompt Acceptance Testing to verify proper Implementation into the Production environment, providing weekly statistical progress reports for each application under way, processing contractor time cards, producing statistical time utilization reports, processing all Y2K deliverable documentation and official sign-offs and creating an archive folder for each application (in preparation for the GRE Y2K Auditors), posting weekly numbers charts, and hosting monthly team member and guest of honor lunches.

Although it sounds like it would have been "Mission Impossible", all of my team's Y2K responsibilities were completed 3 weeks ahead of schedule and overall, the entire company's Y2K efforts were completed with results delivered on time for the July 1, '98 deadline. A Herculean effort, indeed; and it is this fast-paced environment in which I participated.

The Marine Team's Y2K testing work consisted of the following GRE Insurance Group software applications:

**Track #1**

Marine Assured Inquiry, Marine Manual Stat, Marine Cash Collection, Marine, Premium Inquiry, Marine Yacht System, Marine Yacht Pol, Marine Broker Inquiry, Marine Broker Database, and Marine Reinsurance Update.

**Track #2**

Marine CMF & EASEL, Marine Loss Trans, Marine Loss History, Marine Reporting, and Marine Miscellaneous Focus Onlines.

**Great American Insurance Companies: Cincinnati, Ohio**

QA SOFTWARE TEST ENGINEER, 11/96 through 12/97  
(Consultant)

I came onboard to join the Personal Lines Division team of Quality Assurance testers and business analysts for the Y2K project called, IMACS. The Microfocus COBOL and C++ source code of this new enhanced GUI insurance policy system was being modified and customized in-house. An aggressive Make schedule provided a multitude of new Builds to test and kept the testing team busy changing environments to the next available CICS test region and updating their local IMACS databases. IMACS was undergoing a "Rollout" plan of adding live state programs in a phased approach, with Ohio being the compare base. Eventually, IMACS will replace the original 3270 Legacy system (for client and policy entry) called, PRO. Both are concurrently in use to enter either "live" or "test" Client Households and HomeOwner and Automobile policies. I contributed to the IMACS project by writing test plans, endorsement test grids, testing new Builds of the software, and reporting bugs, which in the Personal Lines division are called System Inquiries, or SIs.

I also designed and implemented two special testing projects outside of IMACS (3270 Summary Screens and 3270/GUI DocumentDirect), worked directly with those programmers, wrote and illustrated (MITNOR Graphics) all of the user documentation for both of them, and conducted several user training sessions.

My favorite project, though, was ATF Automated Scripting, which grew to occupy 100% of my time. Towards the end of June '97, I came onto the ATF project in its infancy and pulled it out of total disarray. There was no one on site who knew anything about automated testing. ATF had been set aside for several months and the original people

who had been introduced to the product had either moved on or forgotten what they learned in the initial vendor-provided training. Based on my previous experience at Apple Computer with an automation product called, “Virtual User”, I organized the structure of the ATF software, properly installed it on various machines and configured it as needed, including modification of the Config.sys files on each CPU to accommodate particular ATF modes of operation. For a while, I was the sole person on the project, so I was able to design and implement an automation strategy from the ground up. Later, I was joined by several others to form an ATF Team, for whom I offered layout suggestions, scripting insights, and savvy user tips. I was able to provide the team with an organized and flowing system, containing numerous executable scripts that automatically entered Clients into the IMACS database and generated sequential Home Policies via a Master Controller Script. I continued to refine these scripts, resolved certain networking problems, and debugged other issues that arose, due to multiple people working on a complex relational system.

**Acuson Corporation: Mountain View, California and Ann Arbor, Michigan**

SOFTWARE AND HARDWARE TEST ENGINEER, 3/94 through 7/95

(Consultant)

Within 2 months, I quickly became fluent in the precise and unusual area of the Medical Imaging industry. I came to be known as the “expert tester” of a highly secret Ultrasound Machine, called the QV200, which was capable of Generating, Storing, and Retrieving Animated Digital Clips of such fantastic things as the Doppler Effects of blood moving in two different directions from a prolapsed mitral valve, a 10 week old fetus rubbing its forehead, and blood moving through a clogged section of the carotid arteries in the neck. In my 3rd month, I was sent to Ann Arbor, Michigan to the company’s Engineering Headquarters to work one-on-one with the programmers and other key personnel who were designing and developing this fascinating technology. It was there that I participated in the testing of one of 6 single units, each consisting of the following networked machines: Ultrasound Imager (about the size of a hot dog stand) housed in a wheeled chassis, Database computer used to direct where the stored images would be placed and recalled, Review Station for accessing the images for review, Print Server for printing the images to specialized medical printers (almost the same size as the Ultrasound machine) and last but not least, a Sun file server on which the images and exams actually resided. We dealt with such perplexing issues as UNIX File Servers, Database Management, Image Playback Times, Storage and Retrieval Times and various other features and requirements in demand by the ever growing medical industry. I also wrote Test Plans and Instructional Documents related to the use and proper set up of this very sensitive and complicated equipment, where just one seemingly insignificant step omitted in the installation procedure, or something installed out of order, could wreck complete havoc on the system and bring the entire network to a grinding halt.

**Global Village Communication: Mountain View, California**

SOFTWARE TEST ENGINEER, 5/92 through 3/94

(Consultant initially, and Employee later)

I began testing for Global Village as a contractor in May of 1992, becoming a regular employee in August, 1992. During my employment, I served the company in two distinct categories: as a Quality Assurance Test Engineer for the Engineering Department and as the Customer Service Testing Engineer for the Customer Satisfaction Department; each position approximately one year in duration.

CUSTOMER SATISFACTION TEST ENGINEER, 5/93 - 3/94

The type of testing done for the Customer Satisfaction Department was different from that of QA in the sense that I was working in a post-market environment with a very heavy emphasis in Resolving Customer Problems and Debugging Hardware Failures of returned modems encountered in the field of real world usage. I set up a basic testing lab and ran it on my own. The primary source of test issues was the technical support staff itself. I also dealt 1-on-1 with selected customers providing Problem Debugging and Modem Installation Services, as needed. I performed many tasks for this department, including developing the RMA (Return Merchandise Authorization) Hardware Symptom List, extremely detailed RMA Trend and Pattern Reporting, in addition to doing Technical Writing and Teaching, as needed.

QUALITY ASSURANCE TEST ENGINEER, 5/92 - 5/93

The emphasis in QA was to Test Pre-released Products, both software and hardware. Working in a team environment, I helped to guarantee the quality of the Fax Center DA, the GlobalFax driver, and the INIT Cdevs called TelePort Serial, PowerPort, and TelePort ADB, respectively. I tested all aspects of the software functionality. Additionally, I tested all Global Village hardware products ranging from the original v.32/Dongle internal modem to the TelePort Gold. Other testing aspects included checking 3rd party applications, modems, and fax machines for Compatibility with Global Village's own products. Doing this required teamwork, the ability to follow test plans, if available, and serious independent examination of various features of the software, including but not limited to: Option and Command Key Faxing, Fax Enveloping, Scheduling Faxes, the Registration Process, the Installer Process, etc. I was also the Lead Tester for the OCR (Optical Character Recognition) product.

**Apple Computer, Inc.: Cupertino, California**

MCSQ (Macintosh CPU Software Quality) Division

SOFTWARE QA COMPATIBILITY TESTER ON NEW CPUs, 12/91 - 5/92

(Consultant)

I provided Compatibility Testing for Beta version, pre-released CPUs. Upon finding a bug of any type - cosmetic, or crashing, etc., I attempted to duplicate it under various operating conditions: (Virtual Memory On or Off, 24-bit or 32-bit Addressing, System 7.0.1 or 6.X, Single/Multi Finder; also noting such things as the ROM and CPU versions, On-board RAM, and whether or not the machine was running System 7 Tune Up), and then checked to see if the bug was reproducible on released CPUs, such as the IICI and the LC. If it was a crashing bug, a MacsBug Log of the crash was generated and then the Complete Regression Path was followed by entering the bug's information into Apple's Anomaly Database called, Radar. I also did Virtual User Scripting. Virtual User is an Automated Testing environment that runs inside an MPW shell. Apple is currently using VU Scripts to run Quick Looks and Medium-Depth Scripts for Compatibility Testing of Third Party software products on prototype CPUs. VU can run with either Single or Multiple Targets, and within or across Target network zones.

**The Learning Company: Fremont, California**

SOFTWARE QA APPS. TESTER FOR THE WRITING CENTER, READER RABBIT, OUTNUMBERED!, 7/91 - 12/91

(Consultant)

I tested the features of a new Word Processor for Children, in both stand-alone and networked versions. I also provided additional QA testing for TLC on two other product types: Children's Reading and Mathematics Games. A typical day was spent User Testing the software, where in a team environment, I assisted in Compatibility Testing, Functional Testing, the finding and writing up of new anomalies, the Regression Testing of previously found bugs, and "Ad Hoc" Testing, while waiting for fixed versions of the software to come in from the programmers. Also, we would go offsite to Apple Computer's CIAC Third Party Testing Lab, to concentrate on Compatibility Testing with hardware not available at TLC.

**Space Systems/Loral: Palo Alto, California**

TECHNICAL PUBLICATIONS EDITOR and GRAPHIC ILLUSTRATOR, 5/91 - 7/91

(Consultant)

I worked with a team on a huge government proposal document (many 1,000s of pages long) and my primary focus was twofold: First, I imported straight text created by the Technical Writers into a common platform, modifying it as necessary to meet the standardized format, edited handwritten redlines from the Technical Editors and type set from scratch Scientific Tables, Mathematical Formulas, and Multiple Columns, all done in Microsoft Word 4.0. Secondly, I created new and edited existing Schematic Drawings that were to be inserted into the proposal, using Adobe Illustrator. A unique feature of this job was that the editing work would come to me in either Macintosh HFS format or IBM DOS, and in any software package between the two. This necessitated that my Mac was "Bi-lingual"; having DOS Mounter installed in the system folder and Mac Link Plus in the Utilities folder.

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**Epson Technology Center: Sunnyvale, California**

SOFTWARE QA COMPATIBILITY TESTER FOR PRINTER DRIVERS, 4/91 - 5/91

(Consultant)

I provided software testing in a Macintosh laboratory environment in which my primary focus was to Test more than 50 different Mac software packages against 8 Epson Printer Drivers (6 Dot-Matrix and 2 Laser), using various Macintosh hardware/memory/system configurations, including Kanji, and comparing the quality (and color when appropriate) of the outputs to those generated by the Apple Image Writer LQ and Apple Laser Writer II. My methods of testing included running a series of Mixed Attribute Tests on each driver, as well as conducting separate tests using the Portrait and Landscape printing modes in varying degrees of print enlargement or reduction. Bug reporting, bug verification and system error duplications were all based upon Apple standards.