Lowell Lannert

proactive, diplomatic, thorough, objective, reliable

✓ Dedicated and accomplished across all IT disciplines
✓ Authored several full-stack applications, web sites, and network implementations
✓ Owned and operated an independent consulting company since 1995
✓ Expert at identifying inefficiencies, creating profit, and developing solutions

"Lowell was essential to operations. As we downsized, I reassured Lowell that he'd be the last one out the door. Even after me." ~ CEO

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🏔 Work Ethic ~ Marlinton, WV

As part of a Fiserv merger and new company-wide policy to consolidate employees back into the office, I was released. Coupled with Covid, I took advantage of this time to focus on issues closer to home. I've learned over the course of my career, those best qualified for any lead position, constantly strive to achieve. Therefore, all accomplishments regardless of scope or importance are essential to the character of an individual.

2023 ~ Author ~ CV

</> HTML5~CSS3~Base64

Developing a resume or CV would not normally merit an 'accomplishment'. However, this CV is a 100% responsive and self contained HTML5/CSS3 file. It's very likely no other candidate has demonstrated the initiative or ability to achieve this.

2020-2024 ~ Developer ~ Web Sites

TrueNAS~Wordpress~Divi

Established a cloud VM, created TrueNAS server, created and currently managing several domains and websites.
ietech.com, 2850edray.com, betterearth.net, everydaylotus.org, beautyhaswings.com, irresistiblehue.com

Consulted for the local municipality website, and several local businesses.

2022-2023 ~ Owner ~ Construction Projects

🔨 Architect~Engineer~Carpenter

I exclusively designed and built the following:

• Detached Office - This office has a radiant heating system, a mini split, a unique truss system to increase attic storage, a unique insulation design to eliminate thermal bridging, a wall mounted OLED TV, an integrated sound system, and is completely Cat6 wired. It has windows on 3 sides, a windowed door, a walkout deck, and is Hardie sided with an aluminum roof.
• Water Treatment Building - This building now houses the new water pressure tank, two in-line carbon filters, two in-line iron filters, two in-line reverse osmosis filters, an emergency power generator and is configured to add one more dual in-line element when/if needed.
• Well Pump Housing - The existing housing was in disrepair leading to the risk of freezing. Additionall the water pressure tank was near failure and needed replacement. However, the limited space in this structure, necssitated the movement of the tank to the new structure.

fiserv. Fiserv ~ Alpharetta, GA

2019-2020 ~ Software Architect ~ AMS

➤ Dynatrace~New Relic~AppDynamics

I was part of a company wide team researching, evaluating, and responsible for recommending an enterprise Application Management System. We met weekly and I was instrumental in establishing a prerequisite ROI.

2019-2020 ~ Software Architect ~ Splunk Modules

> Splunk

</> HTML5~CSS3~Python~Outlook HTML

Identified need, assessed ROI, acquired approval, and built two Splunk modules to facilitate monitoring voids in Splunk. One, was to allow for scheduling maintenance. And, the other was an email templating engine to streamline action response, provide context sensitive information, and simplify complex alerts.

While Splunk is an excellent product it lacks essential monitoring platform capabilities. None of which was more apparent than the inability to schedule maintenance periods. Using the core Python capabilities of Splunk, I was able to create a page to schedule maintenance. I also built in the capability to respond to an email in a manner which allowed a maintenance period to be scheduled. And, finally, I created an API for the script to allow future enhancements.

The Splunk email alerting engine was static and very limited in nature. I identified and augmented the Splunk notification platform with HTML templating capability. My objective was to make it easier to educate newly hired employees into the work environment, of not only Splunk, but of company-wide operations. By rendering it in HTML, I was able to include links to more comprehensive data, educational links, maintenance links, and response action links. All this overcoming the severely antiquated Microsoft Outlook HTML rendering engine.

monitise Monitise ~ San Francisco, CA

2010-2019 ~ Solutions Architect ~ Enterprise Monitoring Solution

Linux~Bash

MySQL~MSSQL~Oracle~Postgres

Nagios~Centreon~SNMP

</> Javascript~JSON~Perl

REST~SOAP

VPN~TLS~SSL~SSH

Salesforce~Jira~Confluence

Identified the need, developed the requirements, assessed off-the-shelf solutions, calculated ROI, acquired C-Level approval and built a monitoring solution for the leading mobile banking application. The result was zero downtime averting 100s of impacting scenarios allowing all SLAs to be comfortably maintained.

- Diverse - Among the departments that benefitted from this solution were: marketing, QA, engineering, support, management, and most importantly our customer base.
- Robust - 200+ remote servers at 100+ remote sites, 100s of touchpoints, and billions of metrics.
- Open source - this entire solution used open source tools. It, therefore, was modifiable and expandable with the only cost being man-hours. Additionally, there were no licenses, support contracts, or recurring costs whatsoever for the resources used to build this solution. Keep in mind employee time is required regardless of what monitoring solution is deployed. When considering this it is difficult to find an alternative with a better ROI.
- Autonomous - The primary objective was a solution which was autonomous from the product. This, effectively, eliminated the potential conflicts of an integrated system.
- Single code base - Due to the rapid deployment mechanisms and design, there was only one code base. It is always the 'production' code and was always up to date at all customers.
- Flexible data formatting - The 'results' generated from the agents were all in Nagios format. This allowed the agents to port to several backend monitoring solutions. After reviewing several aggregator backends, I opted for Centreon. At that point in time it, simply, had the best ROI. Furthermore, knowing that construct, if needed, it could be integrated with alternative backends.
- Community of help - Nagios, at the time, was the 3rd largest monitoring solution in the world and the largest 'open-source' monitoring solution. As an open-source product of such scope the qualified scope of available talent was large.
- Decoupled Architecture - Much like Postfix's architecture I opted for a store-and-forward concept in the design of this product. This detached process allowed for 'updates', 'improvements', and 'fixes' to be rapidly deployed. 'Agents' extracted metrics, 'analyzers' assessed and packaged this data, 'channel mechanisms' delivered the data, monitoring 'presented' the results, the email engine enhanced the messages and the additional information library enabled a more consistent support response.

- Agents: These were all bash scripts called using a hierarchy of cron scheduling. The 'results' were stored as text files which were later analyzed for further processing.
- Analyzer: This script assessed all the data created by the agents every 'cycle' (default was 20 minutes). The analyzer evaluated metrics against thresholds, 'rolled up similar metrics' to combine metrics in graphs (thus reducing the number of rrd files generated) and grouped based on category to combine similar metrics into fewer emails. This was an effort to not dilute issues with too many emails.
- Channel delivery: The 'analyzed' results were either 'pulled' or 'pushed' (depending on the customer's security model) to a core DMZ site. There were multiple options for delivery of the data which more readily adhered to customer security choices. From there they were automatically security vetted and relayed to an internal destination for 'presentation' to the team.
- Presentation: The core monitoring component 'presented' the data. This meant it graphed, reported, and where applicable submitted an alert to the email engine.
- Email engine: This process augmented the message with color coding, added content specific instruction and validation links and formatted for multiple delivery mechanisms (eg email, sms, etc)
- Library: The links embedded in email alerts redirected the team to 'next' steps. These are called 'click-throughs'. By having these with each alert, the learning curve to onboard personnel was substantially reduced. It further reduced errors in 'assumptions' and/or diagnostic methods as this library of instructions was constantly maintained by the support team with the optimal procedures and/or alternate procedures unique to customers.

- Self governing - This solution monitored itself too. There are several maintenance scripts, and monitoring agents designed to make sure monitoring does not impact production. Again, the 'modular' architecture further reduced this risk.
- Unique agents - Though much of monitoring can be replicated in a commercial product, some subsets are unique and unmatched.
- Log monitoring - The global community of log monitors, for the most part, was inadequate. A custom script was created allowing for custom thresholds, custom strings, and rapid deployment of new strings to watch.
- Sqlclient - This is a custom java sql script for 'read-only' DB queries. Since it covered MSSql, Oracle, MySql, and Postgres it was transparent to the monitoring scripts using it.
- Real-time Simulation - This model was divided into two parts:'Hive' and 'Bee'. The 'bee' was an Android application designed to perform round-trip SMS testing to the product. There were several located in different geographical regions and of different phone models. Their results were delivered to the 'hive' in the DMZ. Those results were, in turn, retrieved by the core.
- Stats - Using sqlclient, this script was able to extract monthly billings statistics used by the Monitise adoption team. They were multifaceted in that they simulated SMS, URL, and REST channels. This data was considered essential to C-Level management.
- Utilities - Over the years several tools had been implemented to facilitate the services monitoring provided.

  - mSync - This synchronized the code to any single, any group (eg 'cloud'), or all customer VMs.
  - mGetReports - Retrieved any/all reports from any/all customer VMs
  - Report repository - Quick and dirty ajax page to display the local directory of reports.
  - m - A short cut to display VM information
  - mZipAgents / mUnzipAgents - Zips the entire monitoring code base where the 'customers' prefer to deploy updates themselves
  - Backbase - Facilitated the 'sql' (repository of SQL commands), 'servers' (table of customer VMs), and 'cheat' (shortcuts to helpful linux commands) tables
  - mArchive - This RRR approved script zipped and archived files matching selected filters. This maintained disk integrity by moving and/or removing aging log files.

- Granularity - This solution extracted metrics in varying time intervals; one minute being the smallest. As such, it is not as precise as on-premise full scale monitoring solutions. This was a licensing, cost, sustainment and accessibility decision. However, it did have SNMP capability bridging this limitation and due to its modularity, system and real-time log analysis was integrated for intensive care analysis.
- Expertise - It required expertise to 'enhance' and/or 'fix' code. That said, most code had been vetted for nearly 5 years and, as such, required no modifications.

2012 ~ Software Architect ~ Report Generator

</> PHP~AJAX~SQL

I designed an AJAX/PHP SQL report generator to support unique customer requirements. I wrote a query parser which formed the foundation of subsequent grid movement. I used sessions and AJAX calls to minimize data transfer. I created a key based authentication system.

"Lowell was a great technical resource ... instrumental in helping gather and organize monthly usage data ... critical to company operations ... reported to C-level executives ... easy to work with ... always had confidence his output would be accurate and punctual" ~ VP Sales

ClairMail ClairMail ~ Novato, CA

2008-2010 ~ Technical Support Engineer ~ Support

🐧 Linux~SQL (Oracle, Microsoft, Postgres)

🛢 SalesForce, Jira, Git

I was the senior Tier 4 Technical Support Engineer for the leading FinTech mobile banking application. It had a customer base consisting of the majority of large financial institutions in the nation. ClairMail

"Lowell was part of an international support team ... he never waivered when called upon for night shifts ... he was critical to the team" ~ Deployment Manager

IETech ~ San Francisco & Sausalito, CA

1995-2008 ~ Owner ~ Consulting

Founded and operated a consulting company since 1995, which catered to the technological needs of multisized world-class wine and champagne businesses. During this time, I provided comprehensive, fiscally responsible, support in all aspects of IT to my clients.

CTO: As part of these CTO roles, I established company-wide policies and guidelines to reduce employee transition costs by structuring their technology. For example, login IDs were by role and the file structure was by job description instead of individual.
Server Migration: As part of my commitment to excellence, I replaced all of the Microsoft backend products with their Linux counterparts, resulting in substantial cost savings, significantly improved uptime, and extended capacity. This included, but was not restricted to: replacing Active Directory with OpenLDAP, IIS with Apache, file services with Samba, MS Exchange with Postfix, Backup with Bacular, and MS SQL Server with MySQL.
Client Feasibility Study: I tested the feasibility of Linux as a client platform. I built test computers running SuSE, Ubuntu, and RedHat. I used VirtualBox to maintain Microsoft awareness and run proprietary Microsoft applications. I used REST to access shared calendaring applications. My objective was to recommend a platform to lower life cycle costs, increase security, improve integrity, and extend the hardware life.
Slideshows: I wrote and/or integrated several AJAX/PHP slideshow programs. Each program delivered data differently to best suit the calling device (eg large screen display, computer monitor, tablet, or phone). This was prior to current CSS modeling availability. Navigation, search, and pagination buttons were configurable. XML and JSON were supported delivery formats.
Cataloging: I designed and implemented a cooperative web based information gathering application application. It allowed multiple people to aggregate and categorize information for a law firm. I used Backbase as the client side platform and JSON as the delivery format. I used PHP on the back end to process all stored data.

☰ Management

🖧 Cat5~T568B~TCPIP

</> Backbase

✉ Exchange~Postfix~AntiSpam

🖥 VirtualBox~TrueNAS

</> Active Directory~Open LDAP~Samba

</> HTML~CSS~AJAX~JSON~LAMP

Networking: I researched, evaluated, tested, and installed multiple cabling plants ranging from small offices to entire campuses. All wiring was professionally terminated RJ45 (T568-B) and integrated with existing RJ11, and standard coax where required. All outlets were professionally finished, labeled, color coded, and documented. Additionally, I redesigned my client's networks to improve security, integrity, and expand telecommuting. I identified and isolated key computing functions to minimize the impact of failure, created a backbone to support maintenance, and developed redundancy for mission critical applications.

EMail: I researched and installed a Postfix email system which processed over 50,000 emails per week. I then built an email gateway to filter bad traffic by qualifying senders and delaying SMTP traffic. More comprehensive scanning continued to be done for legitimate senders and recipients on the main mail server.

LTree: I wrote an in-house full stack application to represent server data in a browser as a tree. This effectively eliminated internal web development costs. Extensive thought was given to the most efficient interface to minimize data transfer yet provide a flexible, secure, and powerful file tree. The system was designed to separate content from format, thus allowing it to be used as a menu system as well. Its purpose was to display a directory structure in a browser, but with many extended features. For example it had the ability to incorporate 'virtual' directories, resulting in limitless expandability. In the end, maintaining a single file system was all that was required to create a company website.

Virtualization: I evaluated and tested multiple virtualization environments before settling on Xen as the environment to simulate client configurations.

"As the CEO of multiple companies, I had the pleasure of working with Lowell for several years ... His character and behavior are second to none ... Integrity, dependability, and reliability, best express who he is" ~ IETech Client

L.A.Cellular ~ Cerritos, CA

1993-1994 ~ Network Administrator ~ System Integration

I integrated three disparate computing platforms into one homogeneous system for the 'fraud' group of Los Angeles Cellular using multifunction VMs for Windows, Linux, and 3270 Emulation software. This involved testing, design, and procurement of a highly sensitive 21 workstation LAN.

</>	XBase
🖧	VirtualBox, Windows, Linux, 3270 Emulation

1993 ~ Network Administrator ~ System Repair:

See testimony below.

"Lowell, being the only employee with a background in Dbase, was called upon when our XBase credit approval system went down. He spent 48 hours straight without sleep to isolate the problem recover corrupted data, and restore the system back to operation. This type of dedication is unparalleled." ~ CTO

Personal ~ Hermosa Beach, CA

1992 ~ Designer ~ Custom Line of Furniture

I designed a furniture line and had it professionally built. As part of this I created a real-time document by integrating MS Word with AutoCAD. If an AutoCAD drawing changed, the document changed. This streamlined publication also output cut lists, allowing quicker design to production.

</>	AutoCAD, MS Word

"I've never seen designs so thought out, so thorough, and so clear." ~ Furniture Manufacturer

Brown & Root Braun ~ Alhambra, CA

1990-1993 ~ Network Administrator ~ Campus Network

Successfully designed and implemented a robust 14-server network (Netware 386 V3.11) that supported up to 800 users. My ongoing responsibilities included overseeing all aspects of LAN and WAN operations as well as managing various applications such as DB, mail, fax, and print servers. Additionally, I ensured the network's security was top-notch, implementing various measures to safeguard against potential threats.

🖧	Intel~3Com Ethernet~IPX/SPX
🖧	Novell~LAN Manager
🖥	Apple~xDOS~Windows

1991 ~ Network Support Manager ~ Tiered Support

I implemented a unique support matrix to tap knowledge within the existing company infrastructure. This reduced support costs by providing a graded level of support. I did this by identifying employees who were experts in mainstream application software. I then implemented a departmental bill back mechanism justifying part of their time as high end application support.

"Lowell led the investigative and disaster recovery team when the company was infected with a virus. Despite sound policies and procedures established by Lowell, end-user neglect was the root cause. Lowell handled the resulting all-hands meeting with composure and resolve, quantitatively emphasizing the importance that everyone adhere to the established security policies." ~ CEO

S.Systems ~ El Segundo, CA

1987-1990 ~ Network Engineer ~ Fiber Network

Under a sensitive security classification, as project engineer, I led a team in evaluating LAN technology, establishing customer network requirements, and proposing the full technical specification of a large 750 node Fiber Optic LAN. This included requirements analysis, economic analysis, design, implementation plan, training plan, and security plan. I performed extensive evaluations of the current state of available token ring, token bus, and ethernet products, and produced life cycle cost/benefit comparisons of copper and fiber optic transmission mediums for specific customer needs.

"Lowell consistently performed above client expectations." ~ Manager

⊹	FDDI~Multimode fiber~Proteon
⊹	Ethernet~Token Ring~TCP/IP
⊹	Vax~Banyan Vines

INTRO Intro Services ~ Studio City, CA
1985-1987 ~ IT Director ~ Personal Matching

As project manager and chief architect I led a team in detailing the requirements for an extensive psychological profile questionnaire. In conjunction with this, I created a matching application for single people. The algorithm, though simple in concept, is still considered state-of-the-art today and has yet been replicated. This application produced record profits for the company with 500+ percent revenue growth.

"500% annual revenue growth was the direct result of Lowell's skills." ~ CEO

🖥	IBM~Iomega~HP
</>	DBase~XyWrite

INTRO Intro Magazine ~ Studio City, CA

1983-1985 ~ Publishing

As IT Director, I launched several initiatives to improve efficiency within this publishing company.

I was hired to help salvage the primary company asset from a failing and obsolete proprietary computer. That company in solvency was acquired, but that line of computers was completely abandoned. After eliminating all other options I engineered a printer cable to make the source system think the new destination computer was a printer. I was then able to use the system 'dump' report to transfer the data.
Mailing list Management: Subsequent to the dump was the need to 'clean' the transferred mailing list. I wrote several mailing list scripts to cleanse, standardize format, and eliminate redundancy. This allowed for the streamlining of merging new mailing lists and effectively improved efficiency in mailing over 100%.
Automatic Pasteup: I wrote a classified ad paste-up application. This optimized page layout, streamlining monthly publication and reducing printing costs.

"How Lowell managed to save our most valuable asset was absolutely amazing." ~ CEO

🖥	IBM~Iomega~HP
</>	DBase~XyWrite

Employers

Education

Iowa State University ~ Ames, IA

BS Computer Science ~ Dec 1981-May 1983

fiserv.	Alpharetta, GA	Mar 2019-Mar 2020	Software Architect		BA Architecture ~ Aug 1977-Dec 1982
monitise	San Francisco, CA	July 2008-Mar 2019	Solutions Architect		
eoh	San Francisco, CA	Apr 1995-Jul 2008	Owner		
WELLS FARGO	San Francisco, CA	May 1994-Mar 1995	Solutions Architect		
L.A. CELLULAR	Cerritos, CA	Aug 1993-May 1994	Systems Architect		
Brown & Root	Alhambra, CA	Mar 1990-Aug 1993	Network Architect		
S.Systems	El Segundo, CA	Mar 1987-Mar 1990	Network Architect		
INTRO	Los Angeles, CA	Jan 1984-Jan 1987	IT Director		