

IT Administrator Interview:

John Frink of the Springfield Towne Library and Research Center

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LIS 630 Class Project

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I. INTRODUCTION

Springfield Towne is a restoration project and “living history” museum in the eastern United States. One of its components is the Springfield Towne Library and Research Center, with a collection of over 20,000 volumes, and a mission to support both the internal research goals of the affiliated museum and archives, and to provide research materials for external history and genealogical research.

A. History

C. Montgomery Burns, one of the restoration project’s founders, established the Springfield Research Center as an adjunct to the project and museum. Grants were obtained, and the center was established with a focus on the study of historic arts and crafts within a seven-state area. The center initially collected artifacts and archival material, but as Mr. Burns purchased more and more books for it, its collection was eventually consolidated with small collections belonging to various other departments within the restoration project, and the Springfield Towne Library and Research Center (STLRC) was born in 1998. The library currently has a collection of over 20,000 volumes, mostly focused on regional history, in addition to its collection of archival and arts and crafts materials.

B. Mission Statement, Goals, and Objectives

The specific goal of the STLRC is to facilitate research, both internal and external, in regional history and genealogy.

C. Overview of STLRC

The library component of the STLRC contains over 20,000 volumes mostly related to local and regional history. The library itself has one full-time employee and one part-time intern, and is seeking an additional full-time assistant who will be shared with the research center and archives. The facility is located in the basement level of an expanded and renovated supermarket building at the south end of the restoration area. The center primarily (about 80%) serves internal clients doing research related to the museum or restoration site. However, visiting scholars and researchers are welcome, and there is a growing user base of genealogical researchers as well.

D. Interview Methodology

The questions were submitted to and answered by Mr. Frink via email the week of 11 February 2008. A verbal follow-up was planned for the following week, but Mr. Frink was unable to make the pre-arranged appointment time, nor to arrange a better time, so the planned follow-up had to be eliminated.

II. TECHNOLOGY ADMINISTRATOR'S ROLES AND RESPONSIBILITIES

A. Major Tasks

Mr. Frink's primary tasks involve user support and server upkeep. The former can, and often does, include specific application support (Office, etc.).

B. Budgeting for Purchasing, Maintenance, and Replacement

As a non-profit with minimal government support, STLRC's library information system "does not drive the IS budgeting at all." Equipment within the library is older, and only recently did the library benefit from a server migration, which allowed eight-year-old server hardware to be replaced. Essentially, it seems, new equipment is purchased when grant money can be obtained or when something breaks down.

C. Connectivity Costs

Springfield Towne is in the process of switching from a T1 line provided by a company called Level 3 Communion to a newly-installed fiber optic connection provided by Time Warner. This will more than double the monthly cost (from \$500 to \$1200) but will result in nearly a tenfold increase in bandwidth (from 1.54 Mbps to 15 Mbps).

D. Security

Theft has never been an issue, as the library is secured and very few external users are granted access to the equipment. Only the IS department has physical access to the server, and only two employees have login access. Access to the LIS is password-protected and only Mr. Frink can create new accounts.

E. Patron/Customer Satisfaction


As the desktop computers in the system are eight years old, most users are not terribly happy with them. However, Mr. Frink points out that "the Library system does not require a lot of hardware resources to run and the old hardware is adequate." They also seem adequate for office applications and email.

The LIS package (Re:Discovery) itself is not popular; it is a somewhat rudimentary system, lacking a circulation module, and even Mr. Frink is not happy with its interface design and appearance. It does feature a web-based catalog interface with keyword searching,

On-Line Research Archives

Call Number:	AM12 .N8 N8
Item Type:	periodical
Author:	North Carolina Museums Council.
Title:	Directory / North Carolina Museums Council.
Location:	Ref
Publisher:	Raleigh, NC : The Council, 1998.
Description:	1 v. ; 28cm.
Notes:	"A guide to North Carolina museums."
Subjects:	North Carolina Museums Council Directories. Museums North Carolina Directories. Museum directories North Carolina. Exhibition spaces North Carolina Directories.

Searching provided by:



and in my test, the interface was relatively fast and accurate, not to mention somewhat more intuitive than other interfaces I've used. Records produced were not, however, particularly detailed. It is definitely a bare-bones system.

III. HARDWARE AND SOFTWARE OVERVIEW

A. Network

1. Servers, Routes, Firewalls, Etc.: The network includes a HP Proliant server, DL380 G5, quad processor, 8GB of memory, and 2TB of RAID 5 storage. HP Procurve switches and a Cisco PIX firewall. Mr. Frink did not provide the number of network ports.
2. Redundant Power: The server has a redundant power supply; all core networking and servers are on an APC Matrix backup power supply with four hours of run time. I was not able to determine if the system includes a notification module so that Mr. Frink can be made aware that backup power has started.
3. Backups: Server backup is completed using MS Backup to another server or a removable hard drive. Mr. Frink acknowledges that "a better solution is needed." I was not able to determine the backup schedule, nor if it was an automated or user-initiated process. A more reliable system might involve tape backups and more attention to offsite storage and redundancy.
4. Cabling: Cabling consists of twisted pair, Cat-5, 100 Mbps to all workstations. The server has redundant Cat-5 at 1Gbps to the core switch.
5. Wireless: The STLRC has experimented with wireless networking, but has found that the building is not conducive to it, due to an overabundance

of concrete and steel that either blocks or interferes with the signal.

Wireless was made available only to employees, and never to library patrons, even during testing.

6. Replacement Cycles and Maintenance: The center would like to have a five-year component replacement cycle, but its non-profit status limits budget flexibility. The main server and one third of the desktop computers on the network were recently replaced. Servers are covered by an extended support agreement with Hewlett Packard, which includes a four hour response time weekdays from 8am to 5pm.

B. Hardware

1. Desktops: All workstations in the library are Dell Optiplex machines. The specific units in the library system have 667MHz processors, 128MB of RAM, and 20GB hard drives. These are obviously not among the units that have recently been replaced.
2. Primary Uses/Other Uses: Computers are mostly used for email, web browsing, and Microsoft Office applications, so the hardware configuration is adequate, if not optimal.
3. Scanning and Digitization: There is some scanning and digitization done in the center, but not within the library system; presumably this graphics-intensive work is done on the more powerful updated machines. This may change soon, which would likely require hardware upgrades.

4. Replacement Cycles and Maintenance: Workstations are covered by standard manufacturer warranties. Mr. Frink is happy with the Optiplex units and reports that hardware failures are virtually nonexistent.

C. Software

1. Servers: The servers run Windows Advanced Server 2003 Datacenter Edition, 64 bit.
2. Desktops: Desktop units run Windows 2000 or XP Professional. All have a standard Office 2000 installation.
3. Databases: There are no server-hosted or OPAC-connected databases within the facility; any databases used are desktop-level, CD-ROM products, and are purchased on an ad hoc rather than subscription basis.
4. Email/Communication: Exchange 5.5 is the email server, and Outlook 2000 is the client software. This is an extremely old package, but It is apparently adqequate for the needs of the facility.
5. Website: The Springfield Towne website was designed by a local web design firm which also handles the hosting. It is an SQL database-driven site, formatted in PHP, with content added through the MODx content management system (CMS), an open-source product designed particularly for Linux-based web servers. The CMS allows staff members to focus on content only, without having to learn design skills or use a more complex software package like Dreamweaver. Like most CMS (Joomla, Drupal, Wordpress, etc.) it allows users to create new content

via a simple web-based form that looks something like a simple word processor, without having to face HTML code nor to upload files through FTP. Content creation and organization is therefore completely separate from design.

6. Security: Incoming email is scanned for viruses by Katharion. All desktops run Norton Antivirus, linked to a central antivirus server.

IV. CURRENT AND FUTURE TRENDS AND ISSUES

A. IT Strengths and Weaknesses

The current network and It configuration for the center are generally adequate for current use and patterns, and the network is generally flexible and in a largely standard configuration, so it should be relatively serviceable for some years to come, particularly with the new fiber connection. The biggest weaknesses seem to be (1) the lack of an ongoing strategy for implementing capital improvements and upgrades (and budgeting for them), (2) the resulting older hardware, and (3) the lack of a strong, consistent backup strategy.

B. Changes in Computer-based Technology

The website and its demand for more fresh content, and the need for greater bandwidth have been two of the biggest recent changes. The website is more of a multimedia experience than it used to be, and will probably become even more of one in the near future. Moving (and storing) all these larger files has been more of a challenge as well.

C. Future Changes and Similarities

Ultimately, over the next few years at least, the primary use of the desktop computers will probably continue to be email and office applications, and as a small library and archives, the server load may not be all that much higher, either. The center is involved in a large digitization initiative in partnership

with several other area organizations, and it will be a very multimedia-intensive project, but it will be also developed and hosted externally, and therefore won't impact the local network or servers. However, the preparation of materials for this initiative will probably be done locally, and will be difficult, if not impossible, on some older hardware.

D. Future Changes in Patron/User Needs

The center is currently involved in an outreach program to attract more external users, and these users will presumably have higher expectations than the current base, which is 80% internal. This would likely lead to calls for a more advanced OPAC, possibly for more subscribed databases (and therefore for more database integration within the OPAC), and for increased access to multimedia and other digitized materials. All of this would result in the need for more robust, updated hardware to support applications that require significantly more processor, memory, and storage resources.

E. Currently-required Technology Skills

Mr. Frink wishes the STLRC "could require basic computer knowledge and Office familiarity." Like many IT managers within small organizations, he finds that application support takes up a significant amount of his time, and cuts into time available for some of his other core duties.

F. Student Recommendations

Mr. Frink's suggestions for students entering the field are

1. Familiarity with relational databases and database structure.
2. SQL knowledge to facilitate interaction with these databases
3. Knowledge of XML and other metadata formats which are used to present the contents of the databases.

V. CONCLUSION

A. Summary

As I suspected, the primary thing I learned in this interview is that the IT environment in a non-profit organization is considerably different from that of a large corporate entity. Non-profits have to fight for everything they get, they can't be cutting edge, and they usually can't afford the newest technologies and equipment, nor can they afford a large IT staff. That being the case, the role of IT Administrator is in some ways even more important in such an organization, because he or she is usually also the primary person keeping the system running. Being in this position requires more general "nuts and bolts" knowledge of systems and hardware than a corporate IT director might need. I have a lot of respect for anyone who can pull off this difficult role.

B. Personal Impact

Interviewing Mr. Frink has convinced me that my focus on databases is a good move since I hope to work with digital libraries and digitization projects. It's also made me even more certain that, even though I want to work in a very "high tech" field, I'm not really interested in a networking or IT administrator position. I view the technology more as a means than as an end, and I'm not sure that would be a particularly effective orientation for someone involved strictly in the IT "back end." I want to expand my knowledge of how to create and maintain databases and dynamic websites, but from the perspective of a

content provider rather than of a programmer. Of course, I do want to know enough to speak intelligently with programmers about my needs.

C. Necessary Skills

As Mr. Frink stated, I think database administration and design will be one of the most important skills for me to develop for my future career goals, as will related applications, such as PHP and SQL. Understanding metadata protocols and XML will be essential as well. My graphic design skills are in relatively good shape now (or good enough at least that I make something of a living at web design), but archival techniques (specifically image scanning, high resolution photography, OCR, and newer PDF technologies) are a few things I could stand to learn more about.