

Academic library beta testing of vendor system design and upgrade: Legal aspects and checklists of best practice

By: [Sha Li Zhang](#), Ted D. Ayres, Marguerite McNair, John H. Williams

Zhang, S. L., T. Ayres, M. McNair, and J. Williams (2007) "Academic Library Beta Testing of Vendor System Design and Upgrade: Legal Aspects and Checklist of Best Practice," *Library Collections Acquisitions and Technical Services*, 31, 25-41

Made available courtesy of Elsevier: <http://www.elsevier.com>

*****Reprinted with permission. No further reproduction is authorized without written permission from Elsevier. This version of the document is not the version of record. Figures and/or pictures may be missing from this format of the document.*****

Abstract:

Working relationships between vendors and academic libraries have extended from a traditional one of customer and bookseller to the testing of vendor-developed software. This extension has occurred since 1980, the last quarter century. What has changed since 2000 is the addition of tests of vendor/client interface informed by enterprise software that completely alters methodologies for accommodating library requirements for book supply, MARC record supply, and electronic invoices and purchase orders. This paper will examine the technical, administrative, and legal considerations now relevant to beta testing of vendor software by library staff and offer charts and checklists that may make these projects more easily comprehended.

Keywords: Vendor/library relationship; Beta test; Contract law; Copyright law

Article:

1. Introduction

The literature on beta testing at libraries serving higher education is scarce. Moreover, the legal implication of such an endeavor is often overlooked. Beta testing projects are now continuous throughout the library/bookseller/serials industry and some organized insight and guidance into the increasing complexity of that testing is warranted. It is time to have a preliminary discussion of the technical and administrative aspects of beta testing of vendor software in libraries and to make a review of the legal implications of such testing.

This paper offers a description of the potential ramifications of that activity, a survey of the literature available on the topic, and suggests useful checklists of best practice. First, an extensive checklist describing library administrative concerns in becoming a beta test site will be presented, with charts of library and vendor software systems and subsystems. As the academic library materials acquisition environment has become increasingly complicated and beta testing of system upgrades normal for both booksellers and acquisitions staff, some description of the technical component of the vendor/bookseller relationship is necessary. Finally, a review of the legal aspects of beta testing will be presented together with an extensive review of the literature of the law that is pertinent to the subject.

2. Literature review

George Miller's WordNet 2.1 [1] gives the noun "system" a polysemy count of 9, which indicates a very high level of lexical ambiguity. One of the earliest uses of the term, cited in the Oxford English Dictionary (OED), is in Hobbes' *Leviathan* (1651). II. xxii. 115: "By Systemes; I understand any numbers of men joined in one Interest, or one Businesse" [2]. The OED cites only one earlier usage, merely 10 years earlier. In the 354 years between Hobbes and Miller, most of human endeavor has become "systematic," to the increasing complexity of our understanding of the term "system." Library materials acquisition and book selling are human endeavors and thus "systematic." Table 1 shows the library side of the systematic relationship between libraries' and vendors' computer systems. Table 2 shows a bookseller's (Blackwell Book Services) side of this same relationship.

Beta testing of software logically follows an alpha test on new products. Smilowitz and Benson [3] report that among lab tests, beta tests and forum tests to identify software usability problems, a beta testing method was the most cost-effective. Moreover, the traditional method for pre-deployment software testing that usually coerces a few dozen employees to come in after hours to do beta testing neither works nor is realistic [4]. While Hildreth advocates the need for automated testing of products to achieve repeatability and accuracy for their software, the author also asserts the value of manual testing for functionality, “where it is useful to have an actual user try out an application” (p. 24).

Library vendors, in addition to their internal automated testing (i.e., an alpha testing), continue using the beta testing method at libraries (their clients) to uncover bugs and system problems, meet performance standards, ensure product readiness for new releases, and achieve desired outcomes in the following areas:

- * improving search results in the Integrated Library System (ILS) or multiple database;
- * integrating new functionalities into the existing platforms (for instance, adding an ERM module to ILS);
- * evaluating new enhancement features; and
- * promoting new products.

Table 1
Library systems complexity and evolution: 1977–2005

Year of implementation	Relational database: <i>Oracle</i>	Server and programming lang.: <i>Sun/Unix/Java</i>	Client O/S: <i>Microsoft</i>	LMS: <i>Endeavor</i>	ERP software
1977	ver.1				
1979	ver.2				
1981			MS DOS		
1983	ver.3 (in C)				
1984	ver.4 (VAX & IBM)				
1985	ver.5 (C/S & MS DOS)				
1987					Peoplesoft began
1988	ver.6				
1989		SPARCstation 1			SCT Banner began
1991	ver.6.1	Solaris 2			
1992	ver.7	SPARCstation 10	Windows 3.1		
1993		Unified UNIX		rel. 1	
1995		JAVA	Windows 95 (end of DOS)		Peoplesoft ver.7
1996					1st campus portal
1997	ver.8, 8i and rel.2 (XML)	SUN Enterprise 10000 (hi end)			
1998		Solaris 7	Windows 98	rel. 2	
1999					
2000		Solaris 8/ SPARCcenter 2000	Windows 2000 & NT		Peoplesoft ver.8
2002	ver.9i	Solaris	Windows XP	rel.2.1	
2003					
2004	ver.10g			ENCOMPASS	
2005		Solaris 10		ver. 5	SCT Banner ver.7

This kind of customer-specific beta testing provides much relevant feedback to vendors and enables them to make targeted improvements prior to general releases of their software products.

Libraries in the U.S. are often at the forefront in applying and adopting new technologies in order to enhance their services and programs, improve work efficiency, and ease the constraints resulting from shrinking

operational budgets. These libraries are willing and in many cases make themselves available to test vendors' software that is under development. To some extent, libraries have become vendors' strategic partners who are "pivotal in formulating enhancements to the system" [5].

Table 2
Blackwell systems complexity and evolution: 1969–2006

Year of implementation	Internal systems	Customer interfaces
1969–1970's	Approval and Standing Order Systems (written in Assembler)	
1977		
1979		
1980	FOS (Firm Order System: written in COBOL and EZtreive)	
1981–1986		
1987		PC-Order™ (written in Basic - 1st relational model of data organization. Desktop application for order entry and dial-up transmission)
1988		NTO (New Titles Online)™ (written in CICS-COBOL . Telnet dial-up access to the new titles database replaced microfiche) and PC-NTAS™ (written in Clipper using the relational model of data organization. Desktop application for electronic review of slips)
1989		
1990		
1991		Blackwell Internet Access
1992		
1993		
1994		Direct Order™ (Telnet access to ordering)
1995		Series Online™ (Telnet access to series)
1996		Order Status Inquiry™ (Telnet access to order status)
1997		Collection Manager™ ver.1 (Web access to NewTitles/Approvals)
1998		
1999	IBS (US/UK Integrated Book System)	Collection Manager™ ver.2 (Web access to Firm Ordering)
2000–2003		
2004	CMS (IFS, BDC, OES, BTS)* (Oracle on a Solaris server. Integrated distribution, order entry, and data repository. Technical Services and Selection Services-partial)	
2005		
2006		Series Manager™ (Web access to Series)

* *Note.* IFS software modified in-house: BDC is an in-house initialism for Blackwell's Bibliographic Data Center; OES is the Blackwell Order Entry System; and, BTS is the initialism for Bibliographic and Technology Services FS that supply MaRC records, book processing and EDI transmissions.

Participating in vendor beta testing has created a win-win outcome for both vendors and libraries. Among numerous benefits to being a beta tester, Brandel's [6] list includes early access to new technology that can solve long-standing problems, the opportunity to influence product development and direct access to code engineering, and most importantly "the ability to get your hands on cutting-edge technology to gain competitive advantage" (p. 42). Other proven benefits to being a beta tester are as follows:

- * better-prepared library staff;
- * team efforts between the vendor's system developer and library staff;
- * well-informed vendor design decisions;

* flexible workflow and smoother implementation of a new system [7].

All in all, a beta test is “a privilege” [8, p. 6].

Unlike the case of the commercial sector’s test of products that may never see the market even after frustrating beta testing, library vendors often beta test the products that are either new to libraries or an upgrade to the existing offerings. Therefore, the chance for their products to be used in libraries is quite high. It is imperative, then, that library beta testers carefully examine their responsibilities and expectations prior to making a commitment. As Wurungian [9] points out, there is challenge and opportunity in beta testing. The challenge is being on the cutting edge of technology and of getting the chance to know what it is like to push oneself. Brandle also warns beta testers, “be prepared to deal with the frustrations, the resource demands and possible disappointments that accompany the experience” [6, p. 40].

3. Administrative decision making and beta testing

While beta testing has created a win–win situation, the roles of vendors and libraries are quite different during the beta testing. Vendors have to determine the number of beta testing sites, consider costs, allocate funding for IT personnel, travel, supplies, and software, coordinate with all test sites simultaneously, and have rigorous bug-reporting procedures. On the library’s side, beta testing will in one way or the other impact on library operations. Therefore, the following checklist of questions should be answered honestly prior to committing to beta testing:

* Is the library’s strategic objective to continue using the vendor and its products? If the library is considering switching the vendor or abandoning the vendor’s products, then a beta test should not be considered.

* Is the product being beta tested a better technology than the existing one that the library is using?

* Does the product include key elements required for the software that the library has looked for? The desired outcome for a product being tested should be a system that is flexible, efficient, has better usability and cost-effectiveness, and enables the library to improve its services and programs. If it does not provide competitive advantage, why go through the trouble?

* Is beta testing well-organized by the vendor? What is the vendor’s plan for the beta testing? Does the vendor have established communication channels, e.g., via phone, WebCT, e-mail, site visits, etc. with the beta testing libraries? Does the vendor have a plan to consult with library staff at the beginning of software development?

* Does the library have internal IT personnel to coordinate with the vendor’s technical staff on beta testing? The answer should be YES. If the library’s IT department is short of staff, adding a beta test to the task of the IT department will make the situation worse.

* Does the library have available resources to participate in beta testing? The resources should include available staff, allocated staff time, and infrastructure (sufficient memory in servers, compatible software, high speed internet connection, equipment, etc.). What is the total cost expected of the library as a beta tester?

* Does the library staff have a partnership mentality to participate in a beta test? If they do not like the vendor or the vendor’s products at all, their enthusiasm, patience, and willingness to go through all frustrations can be doubted. The best practice is that the library includes both believers who are motivated by shortcomings in exiting technology and non-enthusiastic staff who are frustrated and afraid of further frustration in a beta testing event.

* Does the library staff have previous beta testing experience? Good or bad experience from previous beta testing will help library staff develop strategies to deal with unexpected, sometime even failure.

- * Will staff gain positive experience and needed training through the beta testing? Though it is difficult to predict the outcomes of a beta test, it is always helpful to have a back up plan to counsel the staff.
- * Does the library have beta testing policies and procedures in place? Having these policies and procedures help sustain enthusiasm and efforts from the library in case of personnel changes.
- * Is the library clear about the vendor's expectations of beta testers?
- * What is the level of commitment to the beta test from the library?
- * What are the library's expectations from the vendor? Has the library communicated these expectations to the vendor prior to signing a beta testing agreement?
- * What is the expected impact of beta testing on the library's normal operations such as workflow, staffing, procedures, and budget constraints?
- * Is the specific beta testing time frame in conflict with major library events? Is the library able to re-schedule the beta testing time frame if a conflict occurs?
- * Is a formal agreement necessary?
- * Finally, does the vendor plan to recognize the library's contributions as a beta tester? Many vendors do that, which often helps them to recruit the library as being a beta test site for new product development in the future.

When the above questions receive predominantly positive answers, the appropriate and authorized official (i.e., library directors, deans, university provosts or vice presidents) should sign the beta testing agreement that has been fully reviewed and approved by counsel for the library with the vendor to demonstrate a full commitment as a beta tester. The library should designate one staff member as a liaison or a contact person with the vendor to make sure that communication is being facilitated. The library staff should be kept updated on progress and have their voices heard when things do not go as expected. Furthermore, the library should continue taking input from operations staff and convey that to the vendor.

4. Vendor practice and beta testing

From the bookseller's perspective, then, the need to use libraries for beta testing is imperative. The complexity of the separate components of library and vendor subsystems and the delicacy of the interface between the two inform that imperative. The testing of programs, however, can vary depending on the size and impact of the system development. Beta tests can range from the simplest upgrade of a current feature of an online system interface to a major distribution system overhaul. There are several reasons that booksellers employ beta testing:

- * to allow a library to give input on the design of a product;
- * to see how client libraries perceive what is being developed; and
- * and to test the new feature/product in a final production environment that can expose problems not detected through internal testing by the bookseller.

Systems have to be tested by people who will be using them. Booksellers (vendors) resist the urge to get a feature or service implemented without the critical beta test even though marketing pressure can exist to move implementation along swiftly.

What has changed fairly recently, however, is the multiplicity of interfaces that now must interact seamlessly. Even small changes in operations can have vast, unintended consequences (e.g., disruption of bibliographic record or electronic invoice supply) and much more careful consideration must be given to responsibilities assumed by both libraries and vendors testing and implementing these changes.

4.1. Common documents used in beta testing

Usually, even a modified Non-Disclosure Contract to protect the test results has rarely, if ever, been used for system upgrades and software development. This may or may not be significant when the implications of bad test results could potentially impact customer relationships and satisfaction. As an example, a simple Software License Agreement was used in the general distribution of Blackwell's software application, PC-Order™ in 1987; however, one was not used to protect the beta software. Since there was no cost involved in the use of the software and little concern of secrecy of the features, no risk was perceived. The software agreement simply covered the responsibility that the library took in placing orders. The Testing Contract, on the other hand, is used regularly at Blackwell. For most testing situations, it is simply an e-mail outlining the expectations of the test, defining the duration of the test, the contact name, and method of feedback during the test. However, a more formal signed agreement was used for the libraries involved in the beta testing of Blackwell's distribution system, a much larger endeavor having a potential for risk to both libraries and internal operations.

Other documents that are useful for communication at the beginning and during the beta testing include the Letter of Commencement and the Testing Guidelines. The first is used to announce the start of the test and includes information about access to the beta site. The Guidelines document is used occasionally when the beta testing needs to be focused on specific areas of a new feature. Regular status reports of the testing, an official declaration of the end of the testing, and a thank-you letter are also always features of the succession of documents concerning beta testing. Communication is provided by mail/fax, e-mail, and by phone. Blogs are also now being explored for future development because of the collaborative nature and sharing aspect of that form of communication.

4.2. Two brief cases

Looking at two experiences, a comparison can be made of the beta testing of a new feature of Blackwell's Web-based system, Collection Manager™, and the beta testing of Blackwell's new distribution system, impacting all aspects of vendor/client interface. In both cases, one person was identified as the single Blackwell contact for the testing libraries. From the library side, it is preferable that one individual is identified as the contact at the library. For Collection Manager™ testing, that one individual is used as a liaison between the users and Blackwell's system developers: feedback and testing results are passed quickly for enhancement or for correction. For the distribution test, the Blackwell contact had to coordinate feedback across the company to many departments to investigate and correct the issues that came up as a result of the testing. The Testing Contract used for beta testing a new feature in Collection Manager™ starts as a solicitation for testers by phone or in person. It is easy to find testers most times of the year and Blackwell maintains a list of potentially willing libraries.

In both testing situations, participation by a wide variety of libraries is desirable, including small and large libraries from around the world. As the needs for functionality vary among clients, and testing environments (internet connections, browser versions and library systems) can differ, diversity of testers is an issue. Following a verbal agreement to participate, an e-mail is sent to the main contact at the library outlining the test parameters, including the anticipated start, duration, and expected participation. This can have the biggest impact on the contribution of the library. The library contact will then disperse the information at their institution to generate interest from personnel who like to get an early look at new features and take part in the development of new features.

Participation in the testing can vary widely, even after a library enthusiastically volunteers to be involved. For instance, the actual timing of the test can adversely impact a library when resources to test are limited by vacations or illness or other local projects take precedence. Feedback can range from "I can't use this unless..."

to “We tried it and we love it.” The most useful comments include details about the user’s positive or negative experience as well as descriptions about expectations of usefulness. Needless to say, an extensive amount of participation always leads to success of the implementation.

Risks assumed for testing and implementing a new feature in Collection Manager™ at Blackwell are simpler and are minimized by including libraries in development at every step of the process from conception to completion. Blackwell is reasonably sure by the time of beta testing that the proposed feature will be both desirable and useful.

The risks of testing a new distribution system, however, are high. This sort of beta test impacts nearly every part of the library workflow in acquisitions from ordering to book processing and invoicing. Many new features are brought to the market and only a few are eliminated. One of the challenges during Blackwell's distribution test was to negotiate with the test libraries over which eliminated features were critical after all. Additional risks included the burdening of the library staff when certain aspects of the system did not meet expectations. In the end, however, the potential of the system was realized, as book supply was faster than ever before, offering more options for processing and invoicing. A flexible system that will provide for the future needs of client libraries was also assured. And, hardly least of all, long-standing partnerships were reaffirmed.

Booksellers and libraries still rely on personal relationships and seemingly tacit agreement on the conduct of business relationships. In many cases, contracts for book business do not even exist. Pressure is not exerted on any library that has willingly volunteered to help with beta testing and development. Risk assumption by booksellers is great because a participating library can react by simply taking business elsewhere despite any contracts signed for a beta test. Additionally, booksellers cannot always react to every suggestion for enhancements by immediately including it as a result of the beta test. Instead, they must weigh the suggestions for their immediate importance for utility and general enthusiasm about the system at its implementation. Finally, beta testing benefits both the bookseller and the client libraries.

5. The legal perspective on beta testing

5.1. Is a contract necessary?

In a perfect world, contracts would not be an expected and requisite part of a business transaction [10]. The parties to any transaction would simply shake hands and proceed, without complaint, delay, or question, to perform the expected activities or promises [11]. Unfortunately, the reality is that, for a variety of reasons, one or more of the parties to the transaction often do not perform the expected activities or promises, or do not perform the activities or promises as expected. Alternatively, sometimes one or more of the parties have different recollections or conceptions as to what the expected activities or promises actually were.

The authors would suggest that there are two principal purposes in having a written contractual agreement stating precisely, and in as much detail as necessary, the expectations and intentions of the parties to any transaction, particularly if and when expenditure of significant amounts of money are involved. First, a written contractual agreement, carefully and thoughtfully written, provides the best statement of what the expectations and intentions of the parties are; there is no room left for misunderstanding or misinterpretation. Secondly, and perhaps most importantly, a written contractual agreement provides the basis for judicial intervention, if and when the parties cannot agree.

Again, in a perfect world, there would be no need to seek intervention or assistance in having the expected activities or promises performed. Unfortunately, the world is not perfect and thus having a written contractual agreement that can and will provide the foundation for a judge or other decision maker to provide relief to the disappointed party or parties is certainly well advised, if not mandatory in today’s business world [12].

The case of *Telecom Intern. America, Ltd v. ATand T Corp.*, 280 F.3rd 175 (2nd Cir. 2001) seems worthy of mention at this point. In that case, Judge Winter wrote at page 188:

This appeal and cross-appeal involve several writings carefully negotiated by corporate giants with resources that give them access to the finest legal and technical support the planet had to offer. They now argue that each has been misled by the other to sign documents that did not reflect their true intent. Each seeks judicial relief from the unconscionable conduct of the other.

Judge Winter went on to write, tongue firmly placed in his cheek, that:

Underlying these tales of oppression and betrayal told by lawyers in a fashion worthy, not of Dickens, but perhaps, save for the lack of a carnal aspect, of afternoon television is a rather ordinary, reasonable, contractual allocation of risks [13].

5.2. What are the basic elements of a contract?

As intimated above, a contract is a "...legally enforceable agreement between two or more parties involving mutual promises to do or not do something." McGonagle, *Business Agreements*, page 7 (Chilton Book Company 1982). To constitute a binding contract,

An agreement ... must be entered into by competent parties who express definite assent in the form required by law. Furthermore, such agreement must be supported by proper "consideration," must not at the time it is made be obviously impossible of performance, and must not so contravene principles of law or public policy as to be entirely devoid of legal effect [14].

"The law of contracts determines which private agreements may be enforced in the court system and the sanctions that will be imposed upon those who fail to live up to their enforceable promises." Dunfee and Gibson, *Supra*, page 1.

The first American treatise devoted to the law of contracts was written in 1844 by William Story, the son of the famous Justice Story of the United States Supreme Court [15]. Today, there are a multitude of resources available to guide, assist and inform students, business persons, corporate executives, entrepreneurs, inventors, lawyers, and judges about the writing [16] and enforcement of contracts:

- * For contract basics, see 17A Am Jur 2nd, *Contracts* and the multi-volume *Corbin on Contracts*, Revised Edition (West, 1993)
- * For more specialized discussion, see Hirsch, *The Contracts Management Deskbook* (Amacom, 1983)
- * Auer and Harris, *Computer Contract Negotiations* (Van Nostrand Reinhold Co., 1981)
- * Cambridge, *Purchasing Computers* (Amacom, 1979)
- * Brooks, *Computer Law: Purchasing, Leasing and Licensing Hardware, Software, and Services* (Practicing Law Institute, 1980)
- * Brickman, *Computer Contract Dilemma* (Hayden Book Company, Inc., 1981).

5.3. What should appear in a beta test agreement [17]?

While beta testing can be done on a variety of products, ideas, concepts, and/or processes, the primary focus of this paper is the beta testing of software relating to various aspects of library operations, principally the ordering of publications, periodicals and monographs by library staff from booksellers and further discussion will be limited to such testing [18].

In determining the important elements of a contract, an initial and quite elementary answer appears obvious: a contract should contain/address anything and everything that is necessary to: (i) adequately address and state the agreement and intent of the parties, and (ii) protect the legal and practical interests of the parties [19]. The

bottom line is that a contract should reflect the full understanding and agreement of the parties. This so-called bottom line is certainly applicable to beta testing contracts.

As previously noted, the intent, purpose and agreement of the parties to a beta testing contract will necessarily vary from situation to situation (and from party to party), but a comprehensive and helpful contract should seek to provide guidance, answers and resolutions with regard to the following:

- * What work is to be performed?
- * Who is expected to perform what work?
- * How and when is the work to be performed?
- * What is the agreed-upon payment for the work? When paid? How?
- * If there are risks, can they be shifted?
- * If risks cannot be shifted, can they be covered by insurance?
- * Who is responsible for injury?
- * If there is disagreement, how will the disagreement be addressed?
- * If there is disagreement, where will it be resolved?
- * If there is disagreement, what law will be used to decide?
- * Are there any warranties expected/required relative to the work?
- * Any confidential information to be protected?
- * Will something of marketable value be created?
- * If so, who owns? Who benefits? Will there be sharing?

The above listing is not necessarily intended as a complete and comprehensive listing, but is intended to cover many basic elements that should be considered in contract negotiations [20]. While it is likewise beyond the purpose and intent of this paper to go into significant detail about each of the items suggested for consideration, it would be helpful to have some discussion preliminary to the next section of the paper.

5.3.1. What work is to be performed?

The crucial importance of this basic aspect of the beta testing contract should be readily apparent. The owner of the software will want to precisely state its expectations as to any beta testing to be performed. It is likewise important for the library testing site to understand the stated expectations and not overestimate the ability of its staff to perform, i.e., an elementary aspect would be the on-going work of the library and the capability of the staff to perform said on-going work. Is there time for additional burdens/opportunities regarding the expected beta testing and the timeframes set forth in the beta testing contract?

5.3.2. Are there risks?

It is suggested that both parties considering or negotiating a beta testing contract should think like lawyers while doing such consideration and/or negotiation, i.e., what are the worst-case scenarios? [21]. It is beneficial that

such scenarios be anticipated, and addressed (as possible), by the beta testing contract, because such situations can and will occur.

It is in the mutual best interests of both parties to a beta testing contract to avoid “worst-case scenarios,” but having thought about same in advance can often avoid drastic and unhappy consequences. What happens if a library employee is injured in connection with the performance of beta testing? What happens if the software being tested does not perform (or worse) after being “certified” or “approved” by the beta testing library? What if a library employee reveals the software to another party, accidentally or intentionally, and should it make a difference?

5.3.3. How and where will disagreements be resolved?

Consistent with the worst-case scenario thinking, the parties should also consider how and where disputes and disagreements will be resolved. If the parties to the beta testing contract reside and do business in the same state, this matter will not be as crucial or significant; however, often, if not in the majority of cases, the two parties will be from different states, if not different countries [22].

The parties should discuss, and agree, if possible as to which jurisdiction’s law will be applicable regarding construction and interpretation of the beta testing contract (or agree to let the legal system make that determination based on which jurisdiction has the most “contacts” with the content and purpose of the contract); agreement on this point will likewise guide and determine in what jurisdiction any proceedings or process shall occur. Finally, the parties should also discuss, and agree, as to their preference or intent in using the formal judicial structures (state, federal, or international) available, with attendant costs and potential delays, or if some selected alternate dispute resolution mechanism, whether arbitration, mediation, or conciliation, should be utilized.

5.4. How do parties to a beta testing contract deal with intellectual property being reviewed or tested?

While all aspects of a beta testing contract are important, perhaps of most importance to the parties is the need to recognize, appreciate, and protect potential intellectual property aspects of the software being tested. Although it should be clear that the library test site needs to be cognizant of expectations and requirements in this regard, it is undoubtedly of most significance to the owner/developer of the software being tested to protect its financial interests in the software. In addressing this point, it is appropriate that a brief discussion of "intellectual property" law occur.

As early as 1432, kings, emperors, and organized states began to encourage the creation and disclosure of new ideas and devices by providing rewards and excluding others from using the new ideas and devices for some limited period of time. As noted in Francis and Collins, Patent Law, Fourth Edition (West, 1995) at page 5:

These early efforts of kings, emperors and states to reward and encourage the disclosure of the intellectual and artistic creations and discoveries of authors and inventors are the beginning of copyrights and patents. From these early efforts of encouraging and protecting intellectual property have evolved the distinct areas of legal protection of trade secrets, unfair competition, trademarks, patents and copyrights.

In the United States, the law of intellectual property finds its foundation premised on the following language from the U.S. Constitution. In Section 8 of Article I, Congress is given the authority and power:

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

In responding to this directive, Congress has provided for a variety of means of protecting intellectual property, depending upon the nature of the property created, i.e., the issuance of a patent [23], the granting of a copyright [24], or by the granting of a trademark or service mark [25].

A patent is a governmentally granted monopoly for a term of years on a new and useful invention falling within the class of inventions set forth in 35 U.S.C. Section 101 provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvements thereof, may obtain a patent therefor... [26].

"A copyright, like a patent, is recognized as a public reward given to encourage the genius, meditations and skill of creative persons and to provide further incentives for continuing such efforts." Smith, Patent Law, Revised Edition (Overbeck Co. 1964), page 5. Copyright protection is also controlled by federal statutes and serves to protect original work of authorship fixed in a tangible medium of expression, such as literary works, musical works, photography, dramatic works, artistic works, motion pictures, and choreographic work [27].

A trademark serves to identify the source or origin of the goods upon which it is used. The right to a trademark arises from its use in trade and its subsequent registration. Registration merely confirms that the registrant has established a right to use a particular mark on certain stated goods [28].

S.S. How should the parties to beta testing contract deal with intellectual property being reviewed or tested? Assuming that the owner/developer of the software is interested in claiming ownership of said software for subsequent exploitation, commercially or otherwise, it is important that the owner/developer take steps to protect its ownership during any beta testing phase, whether the owner/developer is considering securing a patent or copyright protection [29]. In this regard, courts have recognized that an inventor "...may need to have a customer test the invention to determine that it works as intended." U.S. Environmental Products, Inc. v. Westall, 911 F.2d 713, 717 (Fed Cir, 1990). In TP Laboratories v. Professional Positioners, Inc., 724 F.2d 965 (Fed Cir, 1984), the Court noted that at page 968:

...the public interest is also deemed to be served by allowing an inventor time to perfect his invention, by public testing, if desired, and prepare a patent application.

The testing may even take place on the premises of another, i.e., the library beta testing location. See In re Hamilton, 882 F.2d 1576, 1581 (Fed Cir, 1989). An important and pivotal case is City of Elizabeth v. American Nicholson Pavement Co., which was decided by the United State Supreme Court in 1877. In that case, the Court recognized, and explained, that an inventor:

...may have it [the invention] put up and used in the premises of another, and the use may inure to the benefit of the owner of the establishment. Still, if used under the surveillance of the inventor, and for the purpose of enabling him to test the machine, and ascertain whether it will answer the purpose intended, and make such alterations and improvements as experience demonstrates to be necessary, it will be a mere experimental use, and not a public use, within the meaning of the statute. 97 U.S. 126, 136 (1877) [emphasis and bracketed material supplied].

Initially, it is important that the software owner/developer and the entity doing the beta testing understand, agree, and specifically state that the usage of the test site is "experimental" and intended to test, improve and enhance the software. LaBounty Mfg. Inc. v. U.S. Intern Trade Com'n, 958 F.2d 1066, 1072 (Fed Cir, 1992). As stated in Sinskey v. Pharmacia Ophthalmics, Inc., 982 F.2d 494 (Fed Cir, 1992) at page 498:

...it must be shown that the activity was 'substantially for purposes of experiment.' ***Objective evidence such as length of the test period, whether payment was made for the device, whether there was a secrecy agreement [30], whether progress reports were kept, whether someone other than the inventor conducted the experiments, and the overall number of tests must be considered.

Subject to the advice of counsel [31], the authors suggest that, with specific regard to the issue of protecting intellectual property, it is in the mutual best interests of the two sides to a beta testing agreement to give consideration to including definitive contract language, providing:

- * that the parties intend the use to be experimental and only for the purposes of testing, improving and perfecting the software [32];
- * that the transaction is not intended to be a sale or a permanent transfer of ownership;
- * that the beta testing site is required to take steps to maintain the secrecy and confidential nature of the software [33];
- * that the parties agree to maintain the secrecy and confidential nature of the test results;
- * for a specific time frame in which the beta testing is to be conducted and completed [34];
- * that specific and detailed records be kept of the number of tests and the progress of the beta testing;
- * that the beta testing site be required to make progress reports to the owner/developer [35]; and
- * that the owner/developer of the software maintain ultimate control over the beta testing and the software being tested.

6. Conclusion

It should be apparent from the above discussion that beta testing creates a win-win situation for both vendors and libraries and that a contract relating to the performance of beta testing is clearly a matter of significant importance. It should also be clear that such a contract can and will involve legal matters. In this regard, the respective parties to a beta testing agreement would be well advised to think globally and understand the nature of the relationship being considered; accept that there are competing interests that will need to be reviewed and addressed; reach agreement of what each side wishes to accomplish and what each side to the agreement brings “to the table” regarding strengths, resources (human [36] and financial), skills, and abilities; appreciate the beneficial purposes of a comprehensive and thoughtful contract; and, depending on the complexity of the testing, seek and obtain competent legal assistance from a lawyer with the experience and skill to protect and guard the various mutual differing and competing interests.

In the past, it has been feasible, and certainly desirable, to conduct beta testing of vendor software as part of the informal agreement that was the basis of all vendor library relationships. However, the addition of complex softwares and the difficulty of merging them when an upgrade or new implementation occurs, the addition of enterprise software overlaying established legacy systems, and the constant need for vigilance to just maintain the cyber-status quo makes an implicit agreement less likely. The acknowledgment and distribution of risk in an explicit agreement now appears both likely and attractive. It is also absolutely crucial that beta testing continue to occur and that the mutual faith libraries and vendors have in the ethical standards of one another continues to be the basis for agreements concerning beta testing.

References

- [1] WordNet: Lexical database for the English language. Retrieved February 1, 2006, from Princeton University, Cognitive Science Laboratory Web site: <http://wordnet.princeton.edu>
- [2] Oxford English Dictionary, Retrieved February 1, 2006 at: <http://dictionary.oed.com/>
- [3] Smilowitz, E. D., & Benson, A. E. (1994). Are we overlooking some usability testing methods? A comparison of lab, beta, and forum tests. *Behavior and Information Technology*, 12(1–2), 183–190.
- [4] Hildreth, S. (2004). Automating the 40 monkeys. *Computerworld*, 38(40), 24–25.

- [5] Rogers, M. (2005). "Librarians work with GIS on enhancements to Polaris 3.2." *Library Journal*, 130(4). http://vnweb.hwwilsonweb.com/hww/results/results_single_ftPES.jhtml
- [6] Brandel, M. (2006). The beta benefit. *Network World*, June 2006, 23(22), 40, 42.
- [7] Zhang, S. L., Worley, G., Williams, J.H. & Miller, D. (in press). Collaborative role of library acquisitions in development and testing of vendor systems, in *Charleston Conference Proceedings*, November 2–5, 2005.
- [8] Garman, N. (1996). Caught in the middle: Online professionals and beta testing. *Online*, 20(1), 6.
- [9] Wurangian, N. C. (1993). Testing-Alpha, Beta. *OCLC Systems and Services*, 9(3), 40–42.
- [10] Whether referred to as a contract, an agreement, a memorandum of understanding, a letter agreement, etc., what is important is the intention of the parties regarding the purposes of the promises exchanged. See Cohen, C. (1997). *Effective contract administration* (p. 2). New York: Amacom. In *Foltz v. Begnoche*, 565 P.2d 592 (Kan, 1977), the Court explained at page 596: "...the title of the agreement is important, but not controlling."
- [11] With certain exceptions, an oral contract is fully enforceable and binding. Exceptions include contracts relating to real estate and those lasting for longer than twelve months.
- [12] A key, but oft-forgotten, component of a civil society is that offended or disappointed parties to a contract seek involvement of an outside neutral party (whether a judge, arbitrator, or mediator) to settle and resolve their differences and address their disappointments as opposed to resorting to bully tactics, violence, bodily harm or worse. The courts and the various alternative dispute resolution mechanisms are all intended to provide a reasonable and basic alternative to bloodshed, vigilante enforcement measures, or frontier justice ala Judge Roy Bean.
- [13] "A contract may be viewed as a tool by which individuals, often assisted by their lawyers, establish a private set of rules to govern a particular business or personal relationship." In T. W. Dunfee & F. F. Gibson (Eds.), *Introduction to contracts* (2nd ed., p. 1). New York: Wiley.
- [14] Dunham, C. W., Young, R. D., & Bockrath, J. T. (1979). *Contracts, specifications, and law for engineers* (3rd ed., p. 27). New York: McGraw-Hill.
- [15] Teeven, K. M. (1990). *A history of the Anglo-American common law of contracts* (p. 177). New York: Greenwood Press.
- [16] "Courts do not, it was said, make contracts for the parties. The parties themselves must see that the last 'i' is properly dotted, the last 't' properly crossed; the courts will not do it for them. And if A, without the protection of a binding contract, imprudently relies to his detriment, on B's promises and assurances, that may be unfortunate for A but is not fit matter for legal concern." G. Gilmore (Ed.), *The Death of contract*. (1974), p. 15, Columbus: Ohio State University Press.
- [17] See Stobbs, G. A. (2000). *Software patents*, Chapter 13, Gaithersburg: Aspen Law and Business for an excellent discussion and comprehensive review of the topic.
- [18] See Zhang et al. (2005).
- [19] It presumably does not need to be mentioned that the "legal and practical interests" of the various parties to a contract will often be divergent if not totally different, i.e., both parties have something to accomplish and achieve. Obviously, there will be common interests, but having different parties to a contract means there are different objectives and different viewpoints as to what is most important in being accomplished. Efforts will be taken in this paper to discuss certain aspects of importance to the two sides to a beta test agreement.
- [20] See Brooks, *Supra*, pages 241–243 for a checklist of possible provisions for a "Software Development Contract."
- [21] In addition to thinking like attorneys, the authors strongly suggest that the parties to any beta testing agreement would be well advised to consult with legal counsel prior to the drafting and execution of any contractual arrangement. Whether legal services are available from in-house counsel, through a lawyer or firm on retainer, or someone specifically retained for the task at hand, the advance expenditure of time and money should prove to be an important and excellent investment. However, compare and consider the Telecom case discussed above.
- [22] See Zhang et al. (2005).
- [23] See Kintische, E. (2006, February 17). What good is a patent? Supreme Court may suggest an answer. *Science*, 311, 946–947.
- [24] See generally Nimmer, M. B., & Nimmer, D. (1978) *Nimmer on copyright: A treatise on the law of literary, musical and artistic property, and the protection of ideas*. New York: M. Bender.

[25] See generally Lundberg, S. W., & Durant, S. C. (2000) *Electronic and software patents: Law and practice*. Washington, DC: Bureau of National Affairs;
Mooers, C. N. (1975). Computer software and copyright,” *Computing Surveys*, 7, 45–72;
Gibson, J. (2005). *Once and Future Copyright*, *Notre Dame Law Review* 81, 167–243;
and Circular 61, *Copyright Registration for Computer Programs*. (2006). Washington, DC: United States Copyright Office.

[26] See http://www.uspto.gov/web/offices/pac/mpep/consolidated_laws.pdf

[27] 17 U.S.C. Section 102. See also Francis and Collins, *Supra*, page 841, and Litman, J. (2001). *Digital copyright*. Amherst, NY: Prometheus Books 2001, pp. 15–21.

[28] See Smith, *Supra*, page 3. See also the official Web site of the U.S. Patent and Trademark Office at <http://www.uspto.gov/#>

[29] See generally Marzouk, T. B. (1988). *Protecting your proprietary rights in the computer and high technology industries*. Washington, DC: Computer Society Press;

Harris, T. D. (1985). *The legal guide to computer software protection*. Englewood Cliffs, NJ: Prentice-Hall;

Smedinghoff, T. J. (1986). *The legal guide to developing, protecting, and marketing software*. New York: Wiley and Sons;

Bush, G. P. (1972). *Technology and copyright*. Mt. Airy, MD: Lomond Systems;

Davis, G. G. (1985). *Software protection*. New York: Van Nostrand Reinhold;

and Clapes, A. L. (1989) *Software, copyright and competition*. New York: Quorum Books.

[30] “Probably the biggest change in software enabled service industries that are now entering the world of patents is the implementation of what I call a ‘culture of confidentiality.’ In particular, this requires all new product and service developments to be maintained as confidential trade secrets prior to the public roll outs. Also, the culture of confidentiality requires that any patent application be filed prior to the public disclosure of the trade secret.” Glazier, S. C. (2000) *E -patent strategies for software*. Washington, DC: LBI Institute. Of course, this is the very heart of the dilemma under discussion, how to maintain the ability to protect and claim ownership to the software while it is being tested?

[31] It should be noted that every situation is unique and subject to the particular facts of that situation.

[32] See *TP Laboratories v. Professional Positioners, Inc.*, 724 F.2d 965 (Fed Cir. 1984) page 968, footnote 1, for a listing of law review articles relating to experimental use.

[33] This, of course, could involve having employees sign specific confidentiality agreements.

[34] ‘The general purpose ... is to require inventors to assert with due diligence their right to a patent through the prompt filing ... of a patent application’. Z.D. Chisum, *Patents Section 601* (1981 and Suppl. 1983).” *TP Laboratories, Supra*, page 968.

[35] In the case of *U.S. Environmental Products, Inc. v. Westall*, 911 F.2d 713 (Fed Cir. 1990), the Court said at page 717: “...the lack of written progress records is circumstantial evidence of a non-experimental purpose.”

[36] Without the support, understanding and “buy-in” of its employees, a beta testing site will be hard-pressed to meet its obligations, let alone succeed, to the mutual best interests of both parties to the beta testing agreement.