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Intellectual Property Analysis of Amazon's U.S. Patent No. 5,960,411

Amazon.com, Inc. v. Barnesandnoble.com, Inc.

Litigation Report

March 2, 2001

Background

Amazon.com, one of the world's most recognizable electronic (e-) retailing brands, began selling books online in July 1995. The company has since expanded into a variety of departments and acquired a stake in several other e-retailers such as HomeGrocer.com, Pets.com, Gear.com, Della.com, Greenlight.com and living.com over the years. Amazon.com has also taken advantage of the United States Patent and Trademark Office's decision to allow business process patents, which include e-commerce processes. The patent in question, U.S. Patent No. 5,960,411, entitled *Method and system for placing a purchase order via a communications network*, is part of the first wave of these e-commerce process patents to be issued by the USPTO.

The bricks-and-mortar retailer, Barnes & Noble (BN) launched its e-commerce counterpart to Amazon, barnesandnoble.com (BN), in 1997. BN quickly secured several high profile partners, including The New York Times, AOL and Lycos. The German media giant Bertelsmann took an equity stake in the company and, together with BN, currently controls the majority of its voting power.

Litigation

On October 21, 1999, Amazon sued Barnesandnoble.com (BN) for infringement of Amazon's '411 patent in the U.S. District Court, Western District of Washington, Seattle (*Amazon.com v. Barnesandnoble.com*).

In the complaint, Amazon alleged that BN's "Express Lane" shopping order system infringed the "1-Click" method claimed in the '411 patent, and moved for a preliminary injunction. BN asserted that its Express Lane feature did not infringe claims of the `411 patent and also argued that the '411 patent is invalid due to anticipation and obviousness.

On December 2, 1999, the District Court rejected BN's contentions, maintaining that Amazon has presented a sufficient case for possible patent infringement, and granted Amazon's motion. BN appealed the decision to the U.S. Court of Appeals for the Federal Circuit (CAFC). Upon review of the District Court's opinion, the CAFC ruled on February 14, 2001 that BN had presented sufficient arguments questioning the validity of `411 and lifted the injunction.

The case has been remanded to the District Court for trial. According to an Amazon.com press release issued February 15, 2001, the case is scheduled to begin September 10, 2001 in Seattle.

Identified Intellectual Property

U. S. Patents assigned to Amazon.com

5,960,411	Method and system for placing a purchase order via a communication network. Filed September 12,1997/Issued September 28, 1999.
6,185,558	Identifying the items most relevant to a current query based on items selected in connection with similar queries. Filed March 10, 1998/Issued February 6, 2001.
6,185,556	Method and apparatus for changing temporal database. Filed May 4, 1999/Issued February 6,2001.
6,175,823	Electronic gift certificate system. Filed September 15, 1998/Issued January 16, 2001.
6,169,986	System and method for refining search queries. Filed October 1, 1999/Issued January 2, 2001.
6144,958	System and method for correcting spelling errors in search queries. Filed July 15, 1998/Issued November 7, 2000.
6,064,980	System and methods for collaborative recommendations. Filed March 17,1998/Issued May 16, 2000.
6,003,024	System and method for selecting rows from dimensional databases. Filed November 5, 1997/Issued December 14, 1999.
6,029,141	Internet-based customer referral system. Filed June 27,1997/Issued February 22, 2000.
5,999,924	Method and apparatus for producing sequenced queries. Filed July 25,1997/Issued December 7,1999.
5,963,949	Method for data gathering around forms and search barriers. Filed December 22, 1997/Issed October 5,1999.
5,715,399	Secure method and system for communicating a list of credit card numbers over a secure network. Filed May 30, 1995/issued February 3,1998.
5,727,163	Secure method for communicating credit data when placing an order on a non-secure network. Filed March 30,1995/ March 10,1998.

Financial Information (FY 2000)

	Amazon.com, Inc. (Nasdaq: AMZN)	Barnesandnoble.com (Nasdaq: BNBN)
Sales ($ million)	**$ 2,762**	**$ 320**
Net Income ($ million)	**($ 1,411)**	**($ 276)**

Product Information

Amazon.com	***Barnesandnoble.com***
Online e-retailer, that initially expanded from books to cars, CDs, computer games, DVDs, furniture, home electronics, jewelry, lawn mowers, outdoor grilles, software, videos, toys, tools and wine. Also conducts auctions for items including art and real estate. International operations in: Japan (amazon.com.jp), United Kingdom (amazon.com.uk), Germany (amazon.com.de), and France (amazon.com.fr).	Online bookseller that features books (90% of sales), e-books, magazines, music, software, videos. (Ownership controlled by Barnes & Noble and Bertelsmann).

IP Analysis

Background

E-commerce business process patents pose special problems for the patent examiner. First, these patents often claim a novel or non-obvious combination of concepts or methods that are widely known to those skilled in the art. For example, the '411 patent claims a unique method for combining the common client and server computer system(s) into an Internet-based purchasing system. The patent examiner must clearly distinguish the claimed invention from its constituent parts, and this is often a difficult task. Second, many of the early e-commerce business process patents were examined at a time of rapid change in the Internet's technology and operation, increasing the likelihood of cases of anticipation, obviousness, and/or infringement. The '411 patent was filed by Amazon on September 12, 1997 and issued on September 28, 1999.

With these issues in mind, M•CAM has conducted an intellectual property analysis of the '411 patent with emphasis on all forms of prior and concurrent art, including publications, products, industry standards, and patents.

Prior Art and the '411 Patent

The `411 patent claims the essential components of the "1-Click" feature used in processing on-line shopping orders. The `411 patent claims a method for taking previously recorded procurement information, such as a shipping address and user password, and conducting a new transaction with a "single-action". The patent claims that the single-action may be such things as the click of a mouse or the pressing of a key on a keypad. With 1-Click, the returning online shopper does not have to re-enter or reconfigure their purchasing information, thereby improving the on-line shopping experience.

The obviousness and anticipation of the 1-Click functionality was the subject of *Amazon.com v. Barnesandnoble.com.* The 1-Click process should not be confused with the well-known, multi-step "shopping cart" model used by many e-retailers.

The `411 patent describes the process in this way:

> "The present invention provides a method and system for single-action ordering of items in a client/server environment. The single-action ordering system of the present invention reduces the number of purchaser interactions needed to place an order and reduces the amount of sensitive information that is transmitted between a client system and a server system."

IP Analysis continued on Page 3

M•CAM has identified at least three cases of un-cited, relevant prior art for the '411 patent. A comparison reveals a striking similarity between the '411 patent claims and the following prior art cases:

1. U.S. Department of Commerce Office of Acquisition Management - December 14, 1995;
2. Elcom International, Inc. Personal Electronic Catalog and Ordering System (PECOS™) - March 25, 1997;
3. Open Buying on the Internet (OBI) standard - June 4, 1997.

Each of these methods has clearly stated the intention of using a single-action or one-step process for conducting on-line procurement or purchasing activities. These can be compared with the relevant '411 patent claims given below:

The `411 patent claims:

(1) A method of placing an order for an item comprising: under control of a client system, displaying information identifying the item; and in response to only a single action being performed, sending a request to order the item along with an identifier of a purchaser of the item to a server system; under control of a single-action ordering component of the server system, receiving the request; retrieving additional information previously stored for the purchaser identified by the identifier in the received request; and generating an order to purchase the requested item for the purchaser identified by the identifier in the received request using the retrieved additional information; and fulfilling the generated order to complete purchase of the item whereby the item is ordered without using a shopping cart ordering model.

(6) A client system for ordering an item comprising: an identifier that identifies a customer; a display component for displaying information identifying the item; a single-action ordering component that in response to performance of only a single action, sends a request to a server system to order the identified item, the request including the identifier so that the server system can locate additional information needed to complete the order and so that the server system can fulfill the generated order to complete purchase of the item; and a shopping cart ordering component that in response to performance of an add-to-shopping-cart action, sends a request to the server system to add the item to a shopping cart.

(9) A server system for generating an order comprising: a shopping cart ordering component; and a single-action ordering component including: a data storage medium storing information for a plurality of users; a receiving component for receiving requests to order an item, a request including an indication of one of the plurality of users, the request being sent in response to only a single action being performed; and an order placement component that retrieves from the data storage medium information for the indicated user and that uses the retrieved information to place an order for the indicated user for the item; and an order fulfillment component that completes a purchase of the item in accordance with the order placed by the single-action ordering component.

Summary of the relevant, un-cited prior art for Amazon's '411 patent identified by M•CAM:

1. U.S. Department of Commerce Office of Acquisition Management

Due to the long and complex nature of the Federal acquisition process, the Department of Commerce (DOC) Office of Acquisition Management received recommendations on streamlining the process in 1995 (D0052-A003-Change-U-001, December 14, 1995). The business process reengineering report, Concept of Operations (CONOPS), addressed ways to make the acquisition method more timely, efficient, and responsive to customer needs. A major component of the report incorporates the usage of information technology to facilitate the acquisition process. More specifically, the proposed system would include a web-based system for shopping and ordering through a detailed online catalog with paperless invoicing and automatic payment between the various vendors and the DOC. This process describes an example of conducting a transaction in one step, utilizing the web.

IP Analysis continued on Page 4

2. Personal Electronic Catalog and Ordering System PECOS™

Since 1996, Elcom International Inc. (Nasdaq: ELCO) has been developing procurement tools for online purchasing. On October 16, 1996 the company announced its PECOS.net™ product, a Java™ -based e-commerce system. The company summarized the PECOS™ attributes in its March 25, 1997 10-K.

Excerpt from Elcom's March 25, 1997 10-K:

> "The Company believes that an interactive and integrated electronic catalog and ordering system, such as PECOS™, can provide users with demonstrable added value through many conveniences and benefits, including immediate confirmation of pricing and availability, automatic forms generation, **one-time data entry**, reduced paperwork, **electronic routing and approvals**, accurate, secure and more rapid exchange of business data, and reduced purchasing cycles. Such a system also can provide electronic transmission of orders to suppliers for processing and/or fulfillment, payment and shipping information, purchase order generation, invoices, optional shipping costs, and other information directly from a customer's PC. Hence, many redundant order processing tasks are eliminated by transferring data entry from the seller to the customer while concurrently increasing both parties' efficiency and overall convenience of conducting business together…"

3. Open Buying on the Internet (OBI) Online Purchasing Standard

From October 1996 through May 1997, the Internet Purchasing Roundtable developed a voluntary standard for conducting online business transactions. In a May 1997 article entitled, "Open Buying on the Internet: A Standard for Business-to-Business Internet Commerce" stated specific ideas regarding the nature of online purchasing. The group offered an OBI scenario that explained a purchasing activity that closely resembles the actions claimed in the '411 patent, including the use of HTML pages and client/server systems. But more importantly, the OBI scenario incorporates the critical '411 claims, including the system recognition of the user and the single-action functionality.

Excerpt from SupplyWorks, Inc. and American Express copyrighted article:

> "Using the 'Web' browser, Pat navigates to the purchasing department's home page, and uses a keyword search mechanism to find a list of three MRO suppliers. Pat selects GlobalSupply Corp. from the list and is immediately presented with a GlobalSupply catalog that welcomes him as a MegaCorp customer. Unbeknownst to Pat, by making the selection of a supplier, his computer was connected to a server at GlobalSupply that authenticated the digital certificate associated with the stockroom computer and thus presented a catalog tailored to MegaCorp's maintenance employees. The GlobalSupply catalog is a series of dynamically generated HTML pages that incorporate pictures, graphics, text and sound allowing requisitioners to place orders with 'point-and-click' ease. Pat clicks on the letter "c" in the alphabetical search mechanism and is presented with a list of maintenance supply categories beginning with "c." He continues searching through successively more exclusive categories until he finds a list of most of the cleaning agents kept in the stockroom. Selecting a five-gallon drum of the needed cleaning agent, he clicks on the 'create order' button and is presented with a screen that looks very much like a partially complete paper requisition form.
>
> Again unbeknownst to Pat, by clicking on the 'create order' button his product selection information was transferred to Global Supply's OBI server where it was formatted as an OBI Order Request. The OBI Order Request was digitally signed by the GlobalSupply OBI server and was then transferred over the Internet using HTTP/SSL to the MegaCorp OBI server. The MegaCorp OBI server receives the OBI Order Request and verifies the digital signature of the GlobalSupply OBI server, ensuring the authenticity and the integrity of the message. The MegaCorp OBI server then formats the OBI Order request for internal workflow. Simultaneously, a generic 'maintenance requisitioner profile' is retrieved (the profile is associated with the stockroom computer). Pat's stockroom computer reconnects to a purchasing department server, and when the background processing is complete, the partially completed order is presented in the familiar requisition form layout.
>
> Pat notes that the proper shipment information is already in the form. He has only to enter his name and employee number as the actual requisitioner; the system recognizes his number and enters the account code for plant maintenance supplies, and Pat's purchasing card number. Pat looks over the form one last time and then selects the

Continued on Page 5

'complete order' button at the bottom of the page. At this point, Pat's involvement with ordering the cleaning agent is complete. He can later check the status of the order through an 'Order History' function in the GlobalSupply catalog

The order, now complete, is formatted as an OBI Order and digitally signed by the MegaCorp OBI Server. An HTTP connection is opened to the GlobalSupply OBI server and the order is sent. The GlobalSupply OBI server receives the OBI Order, checks the digital signature, and enters the order into its regular fulfillment process. A five gallon container of the cleaning agent is picked, packed, shipped, and delivered to Pat's plant the next day in accordance with the service expectations defined in the contract between GlobalSupply and MegaCorp. Overall, the process of creating the order was relatively easy and took only a few minutes of Pat's time. The ordering process could have been even faster if the GlobalSupply catalog supported 'frequently-ordered-item' lists as a value-added service.

Concurrent Art for the '411 Patent

Using M•CAM's DOORS™ patent analysis software, at least one relevant concurrent art patent was found to closely resemble the innovation embodied in the '411 patent. U.S. Patent No. 5,708,780 entitled *Internet server access control and monitoring systems* (Levergood et. al.), was filed June 7, 1995 and issued January 13, 1998. The '780 patent represents a concurrent business process patent that sheds light on the nature of the competitive landscape of the '411 patent:

"In another aspect of the invention, the user may gain access to domain of servers containing journals or publications through a subscription. In such a situation, the user may purchase the subscription in advance to gain access to on-line documents through the Internet. The user gains access to a subscribed document over the Internet through the authorization procedure as described above where an authorization indicator is preferably embedded in a session identifier. In another embodiment, rather than relying on a prepaid subscription, a user may be charged and billed each time he or she accesses a particular document through the Internet. In that case, authorization may not be required so long as the user is fully identified in order to be charged for the service. The user identification is most appropriately embedded in the session identifier described above."

In addition `780 claims:

(1) A method of processing service requests from a client to a server system through a network, said method comprising the steps of: forwarding a service request from the client to the server system, wherein communications between the client and server system are according to hypertext transfer protocol; returning a session identifier from the server system to the client; and appending as part of a path name in a uniform resource locator the session identifier to the request and to subsequent service requests from the client to the server system within a session of requests.

(13) "a client directs a service request to a first server which is to provide the requested service; the first server checks the service request for a session identifier and only services a service request having a valid session identifier, and where the service request has no valid identifier: the first server redirects the service request from the client to the authorization server; the authorization server subjects the client to the authorization routine and issues the session identifier to be appended to the service request to the first server; the client forwards the service request appended with the session identifier to the first server; and the first server recognizes the session identifier and services the service request to the client; and the client appends the session identifier to subsequent service requests to the server system and is serviced without further authorization." This patent incorporates a method for controlling and monitoring access over a client-server system, which can be applied to an e-commerce site for verifying a customer's identification in a transaction.

Conclusion on Page 5

Economics

Market research has revealed that Amazon's 1-Click is widely popular with customers because it gives them a faster, more efficient, and pleasant online shopping experience. Important market players, such as Apple Computer Inc. have recognized this fact; Apple has already licensed both the `411 patent and the 1-Click trademark. Enforcing the claims of the '411 business process patent may give Amazon a significant competitive advantage and licensing opportunity in the future.

The litigation may also bear significantly on business process patents as a whole. Already as a result of the `411 patent and other related business method patent infringement cases, the USPTO has increased the stringency of the business method patent prosecution process by incorporating another level of examination. This additional step in the screening process is designed to prevent the issuance of patents that may inhibit either innovation or smooth business practices (or both) within the e-commerce space. Therefore, the ultimate outcome of this case may be critical in determining the level of protection afforded business process patents, the amount of litigation one would observe in the future, and ultimately the economics of the e-commerce marketplace.

Conclusion

The Amazon.com case serves as an example of the need for patent due diligence to evaluate both un-cited prior trade and government documents. The enforceability of the "411 patent will undoubtedly impact licensing revenue to Amazon and may if deemed unenforceable, limit the underlying value of this hotly contested property.

The outcome of the District Court in *Amazon.com v. Barnesandnoble.com* will be important for Amazon.com, the e-commerce marketplace, and the future of business process patents. M•CAM has identified at least three relevant prior art cases and one concurrent art patent that were not cited by Amazon's '411 patent. These are 1.) the U.S. DOC Office of Acquisition Management business reengineering report dated December 14, 1995, 2.) Elcom's PECOS™ online purchasing product, dated March 25, 1997, 3.) Open Buying on the Internet (OBI) standards scenario dated June 4, 1997, and 4.) U.S. Patent No. 5,708,780 Internet server access control and monitoring systems, filed June 7, 1995.As these and potentially other prior and/or concurrent art are identified, Amazon may encounter challenges in the future with respect to the enforcement of some or all of the claims found in the '411 patent.