

Source Translation & Optimization

17 Years of Quality Patent Searching and Analysis

Patentability Searches

Invalidity/Opposition Searches

Accelerated Exam Searches

Patent Analysis for Licensing

Freedom to Operate Searches

Technology Area Reviews



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WHY SHOULD YOU INVEST IN PATENT SEARCH SERVICES?

For two decades, Source Translation & Optimization, founded and managed by Greg Aharonian, has conducted high quality searches of patent and non-patent literature for companies and law firms in the United States, Canada, Japan, and Europe. Depending on your patent strategy, our patent searches will save you money, or help you profit more quickly:

- **Investing in a new research effort?** - Our clearance searches will help you avoid investing money in a technology area that is too crowded with existing patents and patent applications
- **Applying for a patent?** - Our patentability searches will help you obtain a high quality patent, which, when the patent issues, will help you more quickly profit from the investment you have made in the invention's R&D and patenting
- **Want your patent to issue in less than one year?** - Our Accelerated Examination searches will prepare the search results and support documents you need to qualify for the accelerated examination
- **Preparing to sue a competitor with your patents?** - Our validity searches will help you find and eliminate any prior art that can challenge your patent in court
- **Being sued, or might be sued, for patent infringement?** - Our invalidity searches will scour the libraries of America looking for prior art that can be used in court, in a reexamination, or in private negotiations to invalidate your opponent's weak patents (and the majority of issued patents can be so invalidated)
- **Licensing one or more patents?** - Our invalidity searches can also be used to help you determine the real economic value of the patents, as opposed to the inflated value that can be put forth by patent owners

Our searches are fixed-fee - you can talk directly with the searcher, usually Greg Aharonian, as often as you want, across multiple stages of prior art searching, without worrying about the clock.

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HOW AND WHERE DO WE SEARCH FOR YOUR TECHNOLOGY?

Beyond the natural and cultural beauties of the two main cities that Source Translation & Optimization is based in, San Francisco and Boston, are the excellent research libraries of some of the leading colleges and universities in the United States.

In the Boston area, we make much use of the libraries of MIT, Northeastern University, Boston University, Boston College, Brandeis University, as well as the historic Boston Public Library,] and a variety of specialized government agency libraries scattered throughout area.

In San Francisco, we make much use of the libraries of UC Berkeley, UC San Francisco, UC Santa Cruz, UC Davis, Stanford, and Santa Clara University; the San Francisco and San Jose public libraries (the latter jointly operated with San Jose State University), with the occasional trip to Southern California's libraries at UCLA, UC Irvine, UC San Diego, CalTech, and USC.

We search through many sources of potential prior art, including:

- **manual searching**, the most effective part of our searching activities, of journal articles, conference papers, government/university technical reports, books, theses, product manuals, found in the library stacks and archives of these universities, as well as can be found in bookstores, unique to being in the San Francisco and Boston areas
- **searching patent databases** provided by the US and European Patent Offices, and the Japanese and Chinese Patent Offices (in collaboration with colleagues in Japan and China), y cuando se les pregunta, una búsqueda de bases de datos de LatinPat, with the occasional trip for accelerated searches to the Public Search Room at the U.S. Patent and Trademark Office
- **searching private and public databases for engineering and medical literature**, including INSPEC; for medical literature, including PUBMED, for business literature, including ECONLIT, as well as private databases of prior art we maintain from our collection activities over the last twenty years

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WHICH TECHNOLOGY AREAS DO WE SEARCH FOR YOU?

Generally, we can perform searches for you in any technology areas making use of, or relating to, all things electronic, which traditionally have mostly involved fields of invention that correspond to the Electrical Arts sections of the U.S. patent system. However, in recent years, with the ubiquitous role of (micro)processors in both Mechanical and Chemical devices, we have broadened our areas of search expertise.

Predominantly so, we have made our reputation on invalidating computing and business patents. Our view is that if you give us five (related software) patents, we can find 102-novelty invalidating art for at least three of them, 103-obviousness invalidating art for at least one of them, and pretty much weaken whatever remains. Sadly, these statistics have changed little in the 17 years that we have been doing prior art searching - globally, patent offices still have major problems with the quality of the patents that they issue - their non-patent prior art resource handling is inadequate.

That said, here is a list of some of the technology areas we search more frequently:

Software (e.g., graphics, databases, communications, security, Internet)

Business Methods (e.g., advertising, auctions, financial, medical, insurance)

Hardware (e.g., system architectures, firmware, networks, storage, digital circuits)

Electronics (e.g., RF circuits, signal and image processing, superconductors)

Energy (e.g., biofuels, energy management, renewable energy systems)

Art and Entertainment (e.g., architecture, fashion, jewelry, multimedia)

Medical Devices (e.g., sensors, surgical, imaging systems)

Biotechnology (e.g., stem cell engineering, artificial chromosomes)

University library stacks - in which we conduct much manual searching of journals, conference proceedings, and book - have ample resources for finding prior art for these technology areas.

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HOW DO WE WORK WITH YOU DURING THE SEARCHING PROCESS?

We typically charge a fixed fee for our searches (table of rates below), working with you until we are both satisfied that the prior art to be found has been found, or does not exist. Before we provide a quote for our search fee, we prefer to first do a preliminary analysis of the patent or patent application, and have a brief discussion with you. We typically send you an invoice at the end of the search. If you have an NDA, we are glad to sign it.

Our searching process is iterative – we do a first pass of searching, and send you results and analysis. Then after a conversation - you talk directly with the searcher - in which the prior art is reviewed, we do a second pass of searching, and send you results and analysis, with a follow-up conversation (or email exchange). This process typically takes one to three passes for a patentability or clearance search, and three to five passes (though there is no limit) for all other searches.

The level of commentary and/or analysis is your choice. Some clients prefer as little commentary and analysis as possible (to avoid any future discovery problems) for their patentability searches. For invalidity searches, some clients prefer to have a claim chart analysis of the most relevant prior art. The most detailed reports are provided for the Accelerated Examination searches that conform to the regulations specified by the U.S. Patent and Trademark Office.

Our fees are as follows:

Patentability Searches (patents only)	\$ 500
Patentability Searches (patent and non-patent)	\$1000
Clearance Searches	\$1500+
Accelerated Examination Searches	\$2000+
Validity/Invalidity/Licensing Searches	\$4000 - \$5000+

The “+” sign indicates that these are base prices, though most search fees charged are at the base price. Validity/Invalidity/Licensing search fees vary more due to priority dates of the patents in question, the amount of prior art cited, and the narrowness of the patent claims. These fees apply to a patent family – a patent and its continuations and continuations-in-part are typically charged just one fee. Discounts are provided when searching a family of related patents. Any patentability search we can do in fifteen minutes or so for which you then don’t file, we don’t charge.

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OUR SEARCH REPORT

Much of the prior art that we find, we provide in electronic form, stored on our servers for you and your client to download at your convenience. Our search reports are typically PDF/DOC documents, allowing us to list the prior art that we have found, provide any commentary, plus a link to the document on our servers by clicking on the title of the prior art item. For example of a link:

[Overview of recent U.S. Supreme Court Jurisprudence in Patent Law Congressional Research Service, September 2010 \(PDF\)](#)

Additional types of information that we can provide in search reports include:

- classes/subclasses searched in the patent databases
(for example, U.S. Patent Class 114, subclasses 66,68,70,71,72,73,77R,78,85, and IPC8 Class B63, subclasses 1/00,3/00,5/00,9/00, etc.)
- keyword search logic used when searching online databases
(for example, “ABST/caliper and (ABST/microprocessor or ABST/CPU or ABST/controller or ABST/processor) and ABST/motor and SPEC/stepping)

For Accelerated Examinations, and when requested in other cases, we use more comprehensive versions of the U.S. Patent and Trademark Office’s templates:

[USPTO Pre-Examination Search Document \(.doc\)](#)

and

[USPTO Search Support Document \(.doc\)](#)

We are preparing samples of the various search reports and analyses that we provide to our clients. We are also currently leading a volunteer effort to help the revise these two documents, to be submitted to the USPTO to be considered for adoption.

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ABOUT US

Source Translation & Optimization was established by Greg Aharonian in 1995 as a patent law consulting firm, first being located in the Boston area, and then branching out to San Francisco. For over 17 years, Mr. Aharonian has been a consultant to law firms, corporations, universities, and investment funds, helping them deal with a variety of legal, economic and business planning problems for which patent quality is an important financial factor. His clients are mostly in the United States, with an increasing number of clients in Europe, Asia and Brazil.

Mr. Aharonian maintains two main Web sites, www.bustpatents.com, devoted to patent quality and analysis, and www.patenting-art.com, devoted to the growing patentability of art and entertainment. Along with lawyer Richard Stim, Mr. Aharonian is author of the book, "[Patenting Art and Entertainment](#)", published by Nolo Press in 2004. Mr. Aharonian has lectured at law conferences, corporations and universities.

He is also the publisher of the Internet Patent News Service, one of the first Internet-based publications for intellectual property issues, which he started in 1994, with many thousands of subscribers in the Americas, Europe and Asia. Mr. Aharonian's data and analysis on patent issues has been cited and published in a variety of venues, including the [New York Times](#) (*on patent donations and the IRS*), [New York Times](#) (*on Apple v. HTC*), [BNET](#) (*on Apple, HTC and Google*), [CNET News](#) (*Eolas v. Microsoft*), [Business Week](#) (*Microsoft takes on Priceline*), [Wired](#), [San Francisco Weekly](#), [Forbes](#), [Economist](#), [ABA Journal](#), [PrintWeek](#), [Business Week](#), [GameTime IP](#) (*on tax reduction patents*), [Scientific American](#), *New Scientist*, and an annual report of the European Patent Office.

Mr. Aharonian has a Master's Degree in Physics from Cornell University, and a Bachelor of Science degree in Physics and in Computer Science from Brandeis University.

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AN ABRIDGED SAMPLE INVALIDITY ANALYSIS

In February 2011, Apple Computer was awarded a patent (also filed in China and Europe) for allowing cellphone users to dynamically choose the carrier for their phone calls, soliciting bids for cellphone connection time to multiple carriers, bids the cellphone user can then select from. The patent generated a lot of controversy, but maybe unduly so, because most likely the patent isn't valid, despite tens of thousands of dollars Apple spent filing the patent. The patent is:

Dynamic Carrier Selection

[U.S. Patent 7,885,654](#)

(filed 2006)

Apple Computer

The patent cites 1 patent, 12 patent applications, and one journal article, as prior art. To experienced searchers, this is too little of the prior art to submit for a patent application in this technology area. Indeed, at least three patents not discovered by the U.S. Patent Office suggest the Apple patent is invalid. The first patent is:

Dynamic Carrier Selection

[U.S. Patent 6,671,359](#)

(issued 2001)

which allows wired-line users to dynamically choose carriers using lookup tables of prices. However, it is obvious to transition to wireless users dynamically choosing carriers using lookup tables of prices by combining the '359 patent with:

Routing [wireless] calls as determined by a call cost database

[U.S. Patent 7,376,411](#)

(filed 2004)

which cites the '359 patent. All that is missing is prior art for bidding for telecommunications services, which can be found in:

Bidding for telecommunication traffic with request for service

[U.S. Patent 6,269,157](#)

(issued 2001)

Combine these three very related patents, and you have a strong obviousness invalidity argument against Apple's patent, especially in light of other patent and non-patent prior art to be discovered.

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ANOTHER ABRIDGED SAMPLE INVALIDITY ANALYSIS

A January 2011 article in the Milwaukee Sentinel-Journal, on problems with patent pendency and quality, mentioned how one university professor struggled for 11 years to get his “valuable” patent on biometric smart cards to issue from the US Patent Office. His complaint is that he missed many licensing opportunities in those years while waiting.

In a January 2011 edition of our newsletter, the Internet Patent News Service, we examined this patent because, without even searching, we felt the patent was invalid, based on our many years of prior art searching, and decided to search out the prior art in this technology area. The question is, is his patent even valid? If not, he missed no licensing opportunities, and wasted 11 years of his time and money because he did not properly search the literature that pertained to his invention. Here is a brief summary of our results. Let’s look at the patent, in particular, claim 1:

Authenticated and privacy preserving biometric identification system

[U.S. Patent 7,711,152](#)

(filed April 1999)

George Davida

Claim 1:

1. A method for generating an Identification and Verification Template (IVT) for a biometric comprising the steps of:

obtaining a user biometric from a biometric system with one or more servers, wherein the biometric system includes one or more biometric scanners to collect physical information from the user which is stored as bits of information on the biometric system,

wherein the user biometric includes previously encoded authorization information defining a set of privileges granted to a user by an authorization officer for a security infrastructure;

generating a dependency vector from the user biometric on an identification processing system with one or more servers,

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(... claim 1 continued ...)

wherein the dependency vector is generated with a **LOSSY TRANSFORMATION OF INFORMATION** stored in the user biometric;

and storing the dependency vector in an Identification and Verification Template (IVT) on a reliable storage medium external to the identification processing system, such that the IVT is bound cryptographically to the user from which the user biometric was obtained,

wherein the **IVT DOES NOT INCLUDE COMPLETE INFORMATION FROM THE OBTAINED USER BIOMETRIC** but does allow for verification of the user when the IVT is accessed for the security infrastructure at a later time.

I bold the only interesting parts of the claim, which in simplified form has four features:

- 1) collect biometric data from a person,
- 2) collect security information about a user
- 3) create a biometric signature for the user using some of the biometric data ("a lossy transformation") but enough to be able to identify the person, and
- 4) securely store all of this on a smart card.

Features 1), 2) and 4) are utterly obvious in light of prior art that dates back to the 1980s, as the first few items below show. The only interesting part is 3), corresponding to the bolded clauses.

While the patent is a nice idea, it was just not ahead of its time in 1999, for the inventor to be able license his invention to others. To begin, the idea of using biometric data on smart cards for security purposes (such as logging into a computer) is well known in the art, e.g. (all of the following was not cited by the patent):

Biometrics on smart cards: an approach to keyboard behavioral signature
Future Generation Computer Systems, July 1997

SmartBadges: a wearable computer and communication system
<http://web.it.kth.se/~maguire/Talks/CODES-980313.pdf>

Continuous biometric authentication matrix
[U.S. Patent 5,229,764](#)

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The idea of using not all of the biometric data was also well known in the art, especially in the early days of smart cards when there was limited data space on the smart card, and tradeoffs had to be made:

Biometrics, a viable proposition for identity authentication and access control?

Computers and Security, 1995

(Abstract: " ... The tradeoffs [include] ... the amount of data stored")

One form of biometric security control is voice recognition, "My voice is my passport - verify me" for fans of the 1992 movie Sneakers (which itself is motivating prior art, and suggests this technology was already well known seven years before Davida filed, if used in a movie as a key plot element).

One paper shows how to so use massive lossy transformation of your voice patterns as biometric data for ID purposes using smart cards - in 1997, two years before Davida filed:

A speaker verification biometric in 40 bytes
by T.C. Phipps and R.A. King, Cranfield University
http://plaza.patso.org/plamen/spk_ver/cardtech.pdf

40 bytes is a significant lossy transformation. Compare Figure 2 of Davida's 1999 patent with Figure 5 of Phipp's 1997 paper - same invention. Another prior art item:

Encoding personalized identification for storage on memory storage devices

[U.S. Patent 5,268,963](#)

Figure 8 of the '963 patent: "Capture biometric data Compress the biometric data Write the biometric data to memory device." Utterly obvious to use lossy compression.

And there is a lot more such prior art, which Davida could have found in 1999, and thus not have wasted eleven years of his life obtaining an invalid patent.

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ANOTHER ABRIDGED SAMPLE INVALIDITY ANALYSIS

(Part of a PATNEWS from January 2012)

As part of the 2011 patent reform act, the PTO was allowed to establish a new, prioritized patent examination system. Pay \$4800, and the PTO is obligated to issue/reject your patent within 12 months. PatentlyO has identified what seems to be the first such \$4800 patent to issue:

Character recognition for overlapping textual user input
U.S. Patent 8,094,942
Google (filed in June 2011, issued January 2012)

So let's have some fun, and make a list of some of the tons of the prior art that the PTO didn't find, even though it had an extra \$4400 in fees to make partial use of:

Recognizing handwritten character string with overlapping and/or broken characters
U.S. Patent 5,321,768 (issued 1994)

Centered-object segmentation and recognition of overlapping handprinted characters
Neural Computation, May 1993

Recognition system for run-on handwritten characters
U.S. Patent 4,731,857 (issued 1988)

On-line connected handwritten word recognition by a probabilistic method
U.S. Patent 5,392,363

Contour feature-based method for identification and segmentation of touching characters
U.S. Patent 5,040,229 (issued 1991)

Isolating image data for character recognition - "overlapping characters ... must be separated"
U.S. Patent 4,680,803 (issued 1987)

Arabic handwriting recognition using feature matching
U.S. Patent 7,142,715 (issued 2006)

Online Arabic handwriting recognition
U.S. Patent Application 2010/128985 (published May 2010)

Separation of touching and overlapping words in adjacent lines of handwritten text
2002 Eighth Int. Workshop on Frontiers in Handwriting Recognition