Broadening the patent experience: the value of PIUG and attending the Patent Information Users Group (PIUG) Annual Conference

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Introduction

There are many different types of professionals involved in the world of patents. Scientists, engineers, entrepreneurs, investors, lawyers, huge corporations, and of course, individual inventors. This article is for and about the group of people who help others research and apply for patents. This group includes both librarians of the Patent and Trademark Resources Centers (PTRC) and members of the Patent and Information User Group (PIUG). The focus of this article is to compare the PTRC resources to the PIUG resources, with particular attention paid to describing the potential value of PIUG and attendance at the PIUG annual conference to PTRC librarians. For a list of additional resources, please refer to the end of the article. At the time of attending their first PIUG Annual Conference, in 2019, both authors were also active PTRC librarians.

PIUG and PTRC - A Brief Comparison

Both the PIUG and PTRC devote themselves to the world of patents, but each with a slightly different focus and membership. Each organization evolved out of different sectors of the world of patents. The PTRCA was created in support of the PTRC, which owes its origins to the United States government. The mission of PTRCA is to gather the opinions and needs of the individual PTRC librarians and communicate that collected information to the PTRC program office. The PTRC program office then works with the USPTO to create programs and outreach mechanisms. The PTRCA, PTRC program office, and USPTO have a well-established line of communication, and that has worked well to serve both the PTRC librarians and the public. The PTRCs primarily service micro- and small-entity patent applicants and therefore their resources and information are directed towards that audience. The origins and motivations behind the PTRC/PTRCA and those of PIUG are quite different. PIUG was born out of a need from the corporate sector and with a focus on the international patent landscape from a strategic business development perspective. The associations differ in a number of ways (See Table 1).

The PTRC

In 1790 George Washington granted the first patent and over the next 230 years more than 10 million patents have been granted. In 1975 the Patent Office was renamed the Patent and Trademark Office, which is how we know it today. The Patent and Trademark Resource Center, first created to distribute printed copies of patents to libraries so they would be available to the public, opened in 1871. Over the decades that have followed, the organization has evolved into a valuable resource to pro se inventors and entrepreneurs who seek information about patents and the patent application process. Approximately 100 PTRCs are located in public, academic, and special libraries around the country, including Alaska, Hawaii and Puerto Rico.

Table 1

OVERVIEW OF THE PIUG AND PTRCA.

	PIUG	*PTRCA*
Established since	1998	1977
Cost of basic membership	$95	$65
Funding for membership	Self	Self or Library
Number of countries represented	24	1
Number of annual conferences	3[a]	1
Education offerings	Webinars Live workshops Online trainings[b]	Annual conference breakout sessions
Association Journal	No	Yes

[a] Biotechnology; Annual; Northeast (STN)
[b] On-demand recorded training sessions

PTRC librarians are all members of the PTRC program by definition. Each participating PTRC library commits a PTRC representative to do such administrative tasks as receive official emails from the PTRC Office and submit quarterly user statistics. The PTRC librarian also must maintain remote secure access to the PubEAST/PubWEST databases through the use of security fobs.

PTRC representatives can also choose to be a member of the Patent and Trademark Resource Center Association or PTRCA, which was established in 1977 at the 1st Annual Meeting of Patent Depository Libraries with the USPTO. The PTRCA organization was created to provide another level of engagement for PTRC representatives. It maintains an active listserv where discussions and inquiries take place, as well as publishing an online journal to share research, viewpoints, and project ideas.

The PTRC Program Annual training seminar at the USPTO, which can only be attended by active PTRC librarians, has evolved to be four days of intensive education and training. The first day is usually spent with introductions, sharing updates, and connecting with common principles. The second day is primarily devoted to presentations pertaining to patents. The third day is about trademark education, and the fourth day is always a program put together by the PTRCA Board. This final day usually involves a speaker or presenter who relates to in-the-field PTRC librarian issues. Having time to share outreach and engagement ideas helps bring theoretical issues into practice. Again, the PTRCA organization is of value due to the focus and attention on everyday matters one encounters in dealing with patent and trademark patrons.

The PIUG

PIUG is an organization founded in 1988 by a group of patent information professionals working in the industry (mostly chemical, pharmaceutical, petroleum, and technology) to develop open communication among individual patent searchers and database producers, particularly Derwent. The professional patent searchers were able to help shape the very patent databases they relied on then and still

rely on now. The connection between searchers and database creators is the driving force behind PIUG. In 1999, PIUG was incorporated as a non-profit organization in the state of Michigan and was governed by a board of directors.

PIUG serves an entirely different clientele than the PTRCs (See Table 2). PIUG is open to anyone who, by work, title, or interest, engages with the world of patent information. While the PTRC provides guidance to librarians on the matters of patents and trademarks, the PIUG provides guidance solely on patents. According to the PIUG website, members of PIUG are patent attorneys, patent agents, licensing professionals, patent information researchers, patent information vendors, and patent information and

documentation experts from the U.S. and abroad. Among the members are many professional patent searchers who work at law firms, corporations, or academic technology transfer offices. These members give PIUG its unique outlook and programming focus.

The organization also includes patent professionals from other countries, giving it a much broader scope of patent issues, laws, and issues of professional practices than the PTRC. It is here, in the international realm, that the strength and focus of PIUG exists. By looking at the international level, one can come to view and appreciate the complexity of patenting and patent searching across several different systems. As commerce, and in turn patenting, becomes more global, a broader viewpoint is essential.

Table 2

COMPARES THE PROFESSIONAL BACKGROUND, JOB ROLES, AND CUSTOMER BASE OF EACH ASSOCIATION'S MEMBERS.

	PIUG	PTRCA
Job Roles	• Provide patent landscape analysis • Conduct international patent searching • Evaluate patentability of invention	• Train the public in patent and trademark research • Provide information about the application process and maintenance • Provide access to business resources
Employer	Independent contractor or part of a larger corporation	Academic or public library
Education	Engineering; Science; Law	Library and Information Science
Customer Questions	What does a patent landscape look like? Where should we invest R&D money? Will a patent survive litigation?	Can I get a patent (or trademarks)? Will my patent survive litigation? Has anyone in my family ever gotten a patent?
Customer Base	Inventors Corporations Lawyers Anyone wanting to investigate patentability and/or the patent landscape	Independent Inventors Entrepreneurs Educators Anyone from the general public with an interest in patents and/or trademarks

An Overview of the 2019 PIUG Annual Conference

The Value of PIUG presentations

The presentations at the 2019 PIUG Annual Conference were, in the authors' opinions, much like the training sessions at the USPTO PTRC Annual Seminar. The attendees of both conferences are in a single large venue to hear the presentations and each day of the annual events are organized around a theme. In addition, as with many annual conferences, PIUG selects an overall conference theme specific to that year. In spring 2019 the theme was: Preparing for the Future and the Unknown: New Technologies and Skills for the Patent Searcher.

Conference sessions were clustered each day with common threads to give a cohesive flow and points of discussion that carried throughout that particular day. Some highlights include:

Day 1 - Design Patents; Trends in Patent Searching, and Patent Visualization; Senior Management

Day 2 - The Many Facets of Patent Searching and EPO & WIPO Facilitating Access to Patent Information

Day 3 - Patent Landscapes and the Future of Patent Information

The presentations on Day 1 of the conference were devoted to design patents, including issues of The Hague System for the international registration of industrial designs, best practices in searching design patents, and figure searching in utility patent applications. It was fascinating to hear about search systems, and the searchers, who are focused on the visual parts of a patent over the written content. When the drawings take priority over text, entirely new issues and problems arise. The Locarno Classification System was mentioned and several different search tools introduced. Most eye opening was the volume of design images searched and how the searcher can process images in rapid succession. No doubt, patent searchers who deal exclusively with images have developed unique methodologies and search strategies.

Day 2's presentations focused on patent searching and issues that can arise such as causes for inaccurate results (the searcher or the search system?), data errors and omissions, practicing a high standard of care, and professional patent searchers moving away from a "freedom to operate" patent search to patent landscape analysis. It brought home the realization that what you do not find is as dangerous as what you find in a patent search. It was mentioned that there are several legal cases in the works where searchers have been responsible for inaccurate searches.

Day 3's explored what might be in the future of patent searching and patenting on a global level. Machine learning and using AI (artificial intelligence) concepts were explored, given the volume of patent data on a worldwide scale. Can AI be used to help search patent data? Another provocative session talked about using the "white space" in patent landscape analysis to intuit ideas that have not yet been combined. Viewing patent data as a network of ideas and foreseeing where that empty map space might lead to future inventions.

The presentations were thought-provoking and touched upon issues from the very real to the extraordinary, from day-to-day search issues to futuristic ideas of using machine learning to solve problems. Mixed in with all these thought-provoking ideas were presentations by vendors. These presentations brought the ideas and ideals into present-day action. These vendor presentations were helpful on many fronts, mostly to bring the concepts into reality and demonstrate what is currently possible. Overall, the shift between the theoretical and the practical created a space for everyone to dream, to explore, and to connect over what is current practice and what is possible for the future.

The Value of Attending PIUG Workshops

Workshops are offered before and after the conference and have an additional fee associated with them. They provide in-depth instruction on a variety of patent-related topics. The 2019 workshop offerings included sessions on basic and advanced patent searching, WIPO (World Intellectual Property Organization) standards, AI Basics, and CPC (Cooperative Patent Classification) for searching. Knapp presents here are highlights from some of the available workshops before and after the conference.

Introduction to Patent Searching Workshop

The Introduction to Patent Searching workshop was given by John Zabilski. Zabilski is a registered U.S. patent agent and currently a Senior Application Specialist with Chemical Abstracts Service (CAS). In this workshop, Zabilski divided this session into three sections: Patent law for beginners; Patent search resources, and Basic search techniques.

The Patent Law section provided a thorough and detailed overview of U.S. and international patent law and the filing process. He described the three most common types of patent searches:

- Patentability (Novelty) - search of prior art
- Freedom to Operate (Clearance) - search of active patents
- Validity/Invalidity (Infringement) - search for previously undiscovered prior art

In the second part of the workshop, which covered patent resources, Zabilski reviewed the many database options. He discussed both free (Patentscope, Espacenet, PatFT/AppFT, Google Patents) and commercial (Derwent Innovation, PatBase, PatSnap, Questel, STN International (CAS), Total Patent) choices. He also pointed out some non-patent literature resources such as PubMed, Google Scholar, and Elsevier Science Direct (Open Access).

The workshop closed out with Zabilski describing best practices for searching patents. In addition to basic and advanced keyword search strategies, he also explained how to use patent classifications and patent citations to expand and refine search results. This session differed from similar USPTO PTRC workshops in the breadth of coverage of resources and techniques. Zabilski did mention the 7-step U.S. Patent Search Strategy, but did not focus on this alone. In fact, he almost seamlessly moved between resources, showing how you can link from Google Patent to the USPTO PatFT database.

Patent search tips, techniques & reporting workshop

The Patent Search Tips, Techniques & Reporting workshop was given by Dominic DeMarco, the Managing Director of DeMarco Intellectual Property, LLC, a patent search firm located in Alexandria, VA. His firm primarily works with patent attorneys in the areas of prosecution, product clearance, and litigation.

DeMarco began the workshop by going into greater detail than the introductory workshop about the different types of searches, and more importantly, the strategies that can be used to approach those searches. A generalist strategy often comes from not having a firm grasp of the invention. It typically involves learning as you go, making more adaptations to the search, and often takes longer. The patrons that PTRC librarians will often need to employ a generalist search to start, despite having a deeper understanding of their invention because they have a novice understanding of the search platforms.

He went on to discuss the classification search strategy, which most PTRC librarians are very familiar with. While the PTRC training understandably focuses on CPC/USPC, DeMarco also discussed the IPC and Japanese classification. This comprehensive coverage of classification systems, including their strengths and weaknesses, was very valuable.

DeMarco closed this session by describing how patent search firms have to report the results of a search. Some of it is similar to cautions that PTRC librarians have to take. DeMarco is not providing direct legal advice, only the results of a patent search. However, unlike PTRC librarians, DeMarco's ability to generate revenue and retain clients rests upon the thoroughness of the search and his team's ability to articulate those results understandably and concisely.

Engineering/Electrical patent searching workshop

The Engineering/Electrical Patent Searching workshop was also led by Dominic DeMarco. He started out by emphasizing that an engineering patent searcher cannot be experts in all technologies but can be experts at searching for patents. He emphasized that there is a fundamental difference between search types (patentability vs. clearance vs. freedom to operate). DeMarco suggests that the best approach is to draft a query that will result in a number of results you can review in 15-20 minutes. Review those results and then draft the next query. One of the strategies he suggests was best but easy to make errors, was a combined classification and keyword search. They can be dangerous because it is inherently limiting and may result in missing relevant prior art.

When conducting engineering searches, DeMarco suggests breaking the invention down into primary concepts and then using those concepts to construct searches. He presented a basic sample search for a dancing shoe with a rotatable heel… and in the preferred embodiment, the heel should have ball bearings. Using "dancing shoe," "rotating heel" and "ball bearing", DeMarco suggest starting with a combined search of all three and then subsequent searches of combinations of two ("dancing shoe" and "rotating heel," "dancing shoe" and "ball bearing"; and "ball bearing" and "rotating heel"). He offered this as one method of logically breaking down the search and continued to emphasize the need to "iterate and learn."

Leveraging CPC for search workshop

The USPTO has contracted Serco for over 11 years to classify granted patents. In that time, they have classified over 3.8 million patent applications. In this workshop, Serco associates discussed and demonstrated the power of using CPCs for patent searching. Searching for patents by CPC is a commonly

used technique and is a superior method to simple keyword searching. Much like the USPTO's 7-Step Strategy, Serco associates presented their 4-Step Strategy:

1. Understand search concepts
2. Identify relevant CPCs
3. Map CPCs to search concepts
4. Develop search strategies

Within Step 2, "Identify relevant CPCs", the Serco team has come up with a clever acrostic using their company name to further delineate the search strategy:

- **S**earch for CPC starting points in prior art
- **E**valuate subclass and main group frequency for a logical focus
- **R**ead CPC titles, including parent classifications and references
- **C**onsider details from the definitions and any notes or warnings
- **O**bserve related areas and neighboring classifications in the scheme

Serco uses this method to identify prior art in order to properly classify new patents, so it is not surprising that their search strategy emphasizes using CPC titles and descriptions to inform the evolution of their search. This session provided a wealth of information on how CPCs are assigned and gave valuable insight into how to leverage that knowledge to better utilize CPCs for prior art searches.

The Value of Interacting with PIUG Vendors

The presentation by the people behind web-based Google Patents was fascinating due to the level of control and make-it-happen programming that is used to update the search system continually. The authors learned that the entire website is created and controlled by just a few people. Meeting and interacting with the Google Patent programmers made the connection between user and creator more real and direct. Overall, one of the main benefits of the conference was the direct connection between the patent searcher and search creator, having an open line of communication and feedback.

The Overall Value of the Conference

Standard membership to PIUG is $95 and there are ten other options of membership level. One of the most valuable parts of being a member is having access to the PIUG Wiki, now changed to forums on the PIUG website as of January 2020. Much like the PTRCA listserv, the PIUG forum is a place for patent professionals to ask questions and bring various issues to the forefront for discussion. The PIUG website also notifies members of workshops and other professional opportunities (See Table 3).

Table 3

COMPARES TYPES OF INFORMATION AVAILABLE FROM EACH WEBSITE

	PIUG	*PTRCA*	*USPTO*
Job postings	Yes	No	No
Patent databases	Yes	Yes	Yes
History	Yes	Yes	Yes
Foruma	Yes	No	No
Publically available resources	Yes	Yes	Yes
Additional members-only resources	Yes	Yes	No
Formerly a wiki; Public can view, but only members can subscribe to forums, initiate topics, and reply			

Again, the PIUG annual conference was remarkably valuable for its education, thought-provoking presentations, and discussions, for introducing patent vendors into the community mix, and for providing a space for higher-level conversations. It was a good mix of day-to-day operations and pie-in-the-sky futuristic ideals. The conference provided time and space to be exposed to international issues and explore how the U.S patent system fits into the broader landscape.

Having the various patent vendors be part of the conference, and conversations, were key to the value of the conference. As PTRC librarians, the authors mostly rely upon free databases and rarely have access to proprietary patent search tools. Having access to, hearing about, and playing with, a number of professional patent search tools was eye-opening for the level of sophistication possible in patent searching.

All the vendors, national and international, were friendly and willing to converse about their products, how they worked, and what made them unique. Of course, as PTRC librarians, the authors were curious about older patents and how these search systems dealt with the pre-1976 U.S. patent divide. Maybe the most amazing feature presented was the Sigma tool in Google Patents, where similar patents to a search query are returned. Although not perfect, and the search algorithm not revealed, it is a fun feature to explore.

PIUG is currently offering PTRC librarians the member rate for the conference registration. This opportunity is a good way for those curious and wanting to expand their patent perspective to attend the conference at a reduced rate.

Ways of getting involved in PIUG

Expanding your patent landscape is easy, and PIUG offers a number of ways to get involved. If you do not want to become a member, there are still other opportunities for education and involvement. An easy thing is to become familiar with the PIUG website and read some of the discussion threads on the forum. While only members, initiate, and reply to forum threads, there is much to be gleaned from just reading the questions and comments.

If you would like to attend a PIUG Conference, of which there are three (Biotechnology, Annual, and Northeast), each with a slightly different focus, there is an award opportunity. PIUG offers the Brian Stockdale Award to one recipient a year. This award includes a one-year membership and covers the registration costs for the annual conference, the pre- and post-conference workshops, as well as up to $2,000 in travel expenses. The workshops are invaluable and a significant bonus to the award as they typically cost extra beyond the conference registration fees. The recipient must be new to the patent information profession, with less than three years of total experience. Applicants must submit a 500-word essay detailing current experience, professional interest in patent information, and need for financial support to attend the annual conference. The deadline for applying is generally in early March, with the annual conference typically happening in early May.

Conclusion

Sometimes a new perspective can make all the difference. By looking in a new direction, one gains a fresh perspective and can evaluate one's place in a broader context. The authors gained valuable insights into the greater patent landscape by joining PIUG and attending the annual conference. f the PTRC. The authors also each learned a great deal about new search systems and current issues in patenting in the United States and globally. Finally, the authors had the opportunity to meet professionals immersed in the world of patents, and for a moment, see the world through their eyes.

Appendix: Additional Resources

- PIUG, Inc. homepage https://www.piug.org/

- PIUG, Inc. History https://www.piug.org/history

- PIUG, Inc. Membership https://www.piug.org/membership

- PTRCA homepage (https://ptrca.org/)

- PTRCA Mission Statement https://ptrca.org/mission

- PTCA Past Presidents https://ptrca.org/pastpresidents

- USPTO PTRCs homepage https://www.uspto.gov/learning-and-resources/support-centers/patent-and-trademark-resource-centers-ptrcs

- USPTO PTRCs Locations by State https://www.uspto.gov/learning-and-resources/support-centers/patent-and-trademark-resource-centers-ptrc/ptrc-locations

- WIPO Locarno Classification https://www.wipo.int/classifications/locarno/en/