History and Analysis of Patent-Related Events and Metrics at USPTO

An Interactive Qualifying Project
For the United States Patent and Trademark Office

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By

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Abstract
The goal of this project was to design the framework for a historical event database for the United States Patent and Trademark Office (USPTO). We used interviews and archival research to identify the events and organize the historical event timeline. We also completed a case study on one important event to test the effectiveness of our framework and its content. We developed a set of recommendations to aid the managers in maintaining the database once it has been fully implemented.
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<table>
<thead>
<tr>
<th>Chapter/Section</th>
<th>Primary Author</th>
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<tbody>
<tr>
<td>Title Page</td>
<td>Luis Gonzalez</td>
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</tr>
<tr>
<td>Abstract</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
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<tr>
<td>Acknowledgements</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>Authorship</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>Table of Figures</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>1</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>2</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
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<td>2.1</td>
<td>Elizabeth Mukhanov</td>
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<tr>
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<td>Elizabeth Mukhanov</td>
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<td>2.1.2</td>
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<tr>
<td>3</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
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<tr>
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<td>Elizabeth Mukhanov</td>
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<tr>
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<tr>
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<td>4</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
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<tr>
<td>4.3</td>
<td>Elizabeth Mukhanov</td>
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<tr>
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<td>Luis Gonzalez</td>
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<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>4.3.3</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>4.3.4</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>4.4</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>5</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>5.1</td>
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<tr>
<td>5.2</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
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<tr>
<td>References</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>Appendix D</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Elizabeth Mukhanov</td>
<td>Luis Gonzalez</td>
</tr>
<tr>
<td>Appendix H</td>
<td>Luis Gonzalez</td>
<td>Elizabeth Mukhanov</td>
</tr>
</tbody>
</table>
Table of Contents

Abstract ............................................................................................................................. ii
Acknowledgements .......................................................................................................... iii
Authorship ........................................................................................................................ iv
Table of Contents ............................................................................................................. iv
Table of Figures ................................................................................................................. vi
Executive Summary .......................................................................................................... viii
1 Introduction ..................................................................................................................... 1
2 Background ...................................................................................................................... 4
2.1 History of the USPTO .................................................................................................... 4
  2.1.1 General History of Patents ..................................................................................... 4
  2.1.2 History of Patents in the United States ................................................................. 5
2.2 USPTO Patent Application and Examination Process .................................................. 5
  2.2.1 Challenges at the USPTO .................................................................................... 8
2.3 Studies on the USPTO .................................................................................................. 8
  2.3.1 Pilot Programs ..................................................................................................... 8
  2.3.2 Event Organization in the USPTO ...................................................................... 11
2.4 Summary ..................................................................................................................... 13
3 Methods .......................................................................................................................... 14
3.1 Determining Preferences for Data Organization ............................................................. 14
3.2 Determining Significant Historical Events ................................................................... 14
  3.2.1 Archival Research ............................................................................................... 15
  3.2.2 Interviews with Managers .................................................................................... 15
  3.2.3 Collection of Metrics ......................................................................................... 16
  3.2.4 Creation of the Timelines .................................................................................... 17
3.3 Determining the Effectiveness of a Historical Database ................................................ 17
3.4 Summary ..................................................................................................................... 18
4 Results and Analysis ...................................................................................................... 20
4.1 Historical Event Timeline Organizational Preferences .................................................. 20
4.2 Historical Event Timeline ........................................................................................... 22
Table of Figures
Figure 1: USPTO Patent Application and Examination Process Flowchart ..........................7
Figure 2: Historical Event Timelines, Including Graphs..................................................23
Figure 3: Historical Event Timeline on Second Pair of Eyes, Including Graphs..............25
Figure 4: USPTO Hierarchy........................................................................................101
**Executive Summary**

The United States Patent and Trademark Office (USPTO) collects data on the patent application and examination process and maintains records of its policies. Due to the continuous growth of patent-reliant industries, the USPTO is facing many pressures to keep up with the backlog of patent applications. The lack of a dedicated historical database with historical events and correlating data is limiting the USPTO’s ability to more directly understand how their policy and operational decisions affect the patent application and examination process. A comprehensive historical database would allow the USPTO to be able to easily determine what events occurred within the same time period as the event they were studying. Speeding up the contextual search of an event would help the USPTO evaluate the effects of changes to the patent application and examination process more quickly and accurately. The USPTO requires a comprehensive historical database to be able to check the validity of studies that are proposing changes to the USPTO, complete their own studies and improve their own policies.

Our goal in this project was to provide the USPTO with a framework for a historical database to help organize its events in a way to make studies and analysis easier to complete. The objectives of this project were to:

- Create a historical event timeline for the USPTO, which is a compilation of events over the last ten years organized in three timelines: Operational, Policy, and Statutory events that have caused changes to the USPTO.
- Identify which metrics could have been affected by particular events.
- Recommend how to organize all of this information in a database the USPTO plans to build.
- Reach a conclusion of whether the historical event database is useful in
determining historical context and correlations between events and changes in data.

To reach our objectives, we conducted archival research and interviews with senior managers to obtain their perspectives and expectations about these events. This information was shown as part of the historical event timelines for each category of events, and was included in a separate Microsoft Word document linked to the timelines. Our project provided the USPTO with the basis for a database that will accelerate the search for events in a historical context.

**Results**

During our interviews, we asked each manager if a timeline that collected information on historical events would be useful to their work, and what preferences they had regarding the organization and structure of the timeline itself. We wanted to find out how we could design and create the timelines so that they would be most helpful to the USPTO.

The suggestions from managers included:

- Create a document where comments and notes can be added
- Add links to each document to find additional information
- Write in names of people to contact for more information about a specific event
- Make the database publicly accessible
- State whether an event started as a pilot program or an agency-wide implementation
- Include data on the changes over time on production and quality metrics
- Display any other events that occurred in the same time period, if a user clicked
Based on our research, we organized our data and events into three categories, as decided by the USPTO: operational changes, policy changes, and statutory changes. We used Microsoft Visio to translate these three categories into timelines and add in the events that we were told were the most significant from the perspectives of our interviewees, as well as the events that we collected using the Official Gazette. We then conducted a case study on the event Second Pair of Eyes to test the validity of the historical event timelines as an analysis tool.

The purpose of the case study was to analyze the Second Pair of Eyes in depth using our timelines as well as our metrics and graphs. In conclusion, even though the office did receive what they were looking for - a rise in quality - the unintended results of the corps-wide use of Second Pair of Eyes created problems to the point where it was hurting the office. Since this was implemented just as a temporary program, it was easy to remove it. However, the implementation of this program ended up hurting the office more than helping it.

There have been many events that have affected the USPTO and the patent application and examination process. However, the USPTO managers believe that events in recent history, starting in 1990, have been especially important. In our project we focused on this time period to look for what events had occurred, what impacts these events may have had, and what trends and patterns have arisen from these events. We determined that the most significant events during this time period were the USPTO’s campus move from Crystal City to Alexandria, the American Inventors Protections Act (AIPA), and the Count System Initiatives (CSI).
**Recommendations**

Our conclusions for the project were that there is no single way to organize the historical event database. Managers should stay open to all recommendation in the future. Also, we concluded that the timelines are effective in helping users see what other events occurred during that time period. Additionally, we concluded that our framework will help users analyze events in depth by looking at the metrics that corresponded with each event.

Based on our findings, we recommend that the USPTO consider the following suggestions:

- Keep the PALM database up-to-date, complete, and consider ways to improve its organization: The current layout and organization of the PALM database makes it difficult to be able to search and look for data. Because a majority of the annual data reports do not contain complete data, it makes it more difficult to create graphs and charts without having to look for additional sources.

- Have the event pages be screened by managers: We recommend that the USPTO have the managers screen each event page so that all the information is kept accurate and relevant to the topic. The USPTO will benefit from having all of its employees focused on providing constructive information.

- Develop a menu of options after clicking on any event that occurred over a period of time: We recommend that the USPTO have any events that were in effect over a period of time have multiple choices of how it would be displayed when the event is clicked. This would allow more flexibility in what a searcher would be able to access.
Change the Microsoft Word documents that contain event information into a blog format. We thought it would be beneficial to the USPTO to hyperlink the timeline to a blog instead of a Microsoft Word document. This format allows readers to see who posted the comment and could start a discussion with that user. Also, all the comments would be getting saved so it would be an easier and neater way to keep track of the progress and updates that have been made to an event description page.
1 Introduction

The United States Patent and Trademark Office (USPTO) is responsible for granting and recording patents in the United States. Due to the continuous growth of patent-reliant industries, the USPTO’s patent review process is crucial to maximizing its efficiency. The projected annual eight-percent increase in patent applications in the United States will lead to longer delays between the time of application and time of first action for patent applications (Caillaud, 2011, p. 1). Technology changes quickly, and it is problematic that “the total number of applications awaiting a final decision, representing new technologies ranging from pharmaceuticals to engine designs, remains stuck at 1.22 million, nearly unchanged from levels of the past three years” (Schmid, 2011, para. 11). The USPTO is facing many pressures to keep up with the growing backlog of patent applications.

The USPTO has attempted many changes to its patent application and examination process to solve the problem of backlog, and the USPTO refers to these changes as “events”. However, it does not have the information on events documented in such studies organized on an institution-wide basis, and the records of historical events that have affected the patent application and examination process are spread across many different departments, if any detailed records of the events exist at all, and so it is difficult to look at events in context, and the impact has not been studied. These records being scattered leads to problems when testing the validity of outside studies, or when the USPTO wants to examine their own system in relation to its past.

In addition to studies done by the USPTO itself, there are many studies done by academics on the patent application and examination process of the USPTO. These studies have mostly focused on the effects or causes of changes in the patent application
and examination process (Amador, 2011; Sherrerd, et al., 2010; Stowell, 2006). These changes are typically not the only significant events affecting the USPTO. Because the USPTO is such a large organization, there are frequently multiple programs and policies being changed at once. Further, beyond these internal considerations there are often statutory changes resulting from either legislative or judicial decisions that affect the USPTO. There have been studies on many of these changes, ranging from the effects of pilot programs such as the Patent Application Text Initiative to the effects that Supreme Court decisions such as *KSR v Teleflex* have had on the patent application and examination process. These studies have been used by the USPTO to evaluate itself and determine how it should respond to these changes or influences on the patent application and examination process. When studies are done on the effects of a specific event, the USPTO must consider the other events that were occurring at the same time to determine if that study was correctly interpreting the data it used (James Dwyer, personal communication, 10/3/12).

The studies done by academia often focus on a single event and its perceived effects. The USPTO must then look at the other events that occurred during the timeframe of these studies to fact check its findings (James Dwyer, personal communication, 10/3/12). A comprehensive historical database would allow the USPTO to be able to easily determine the events relevant to each study that occurred within the same time period. Speeding up the contextual search of an event would help the USPTO evaluate the effects of changes to the patent application and examination process more quickly and accurately. The USPTO requires a comprehensive historical database to be able to analyze the historical context more effectively.
The goals of this project were to create a historical events timeline for the USPTO, which is a collection of events that have occurred in the last ten years organized into three timeline categories: Operational, Policy, and Statutory changes. In addition we recommended how to organize all of this information into a database that the USPTO can build upon to help them keep track of how decisions affect the USPTO’s performance.

To reach our goals, we used archival research and interviews with senior USPTO managers to obtain their perspectives and expectations about these events. This information was shown as part of the historical timelines for each category of events, and was included in a separate Microsoft Word document linked to the timelines. Our project has provided the USPTO with the basis for a database that will facilitate the search for events in a historical context and enable managers to improve their understanding of how events have impacted the USPTO.
2 Background

The United States Patent and Trademark Office (USPTO), formerly the United States Patent Office, is the organization responsible for reviewing, recording, and granting patents in the United States. It has seen many changes over its history and continues to be affected by changes in policy and the creation of new programs. In this chapter, we describe the history of the USPTO, how the patent application and examination process works, what problems the USPTO has, and solutions that have been attempted. We discuss the studies that have been performed on the patent application and review process of the USPTO, and the findings from these studies. Finally, we discuss the categories in which the USPTO organizes its studies and changes to the patent application and examination process.

2.1 History of the USPTO

Patents and Intellectual Property are constantly evolving entities in the world in general and particularly in the United States (US). As the agency of the US government administering Patent Law, the USPTO undergoes regular changes to comply with current legislation relating to the patent application and examination process. In this section we discuss the purpose and global history of patents and specifically examine their history in the US.

2.1.1 General History of Patents

Patents have seen many changes from the precursors, to modern patents found in Italian Law and English Common Law, to the documents we see in the US today. In the Constitution of the United States of America, Congress is granted the right “[t]o 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” (U.S. Const. art. I, § 8). The tradeoff is that the inventor must disclose the details of his/her invention.
The process for granting and examining patents varies from country to country, but generally, around the world offices conform to the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), which specifies the minimum requirements on Patent Law for World Trade Organization (WTO) members (Helfer, 2004).

2.1.2 History of Patents in the United States
Since the first iteration of patent law in the US, there have been many significant changes to the administration of patents. Under the first Patent Act of 1790, the Secretary of State, Secretary of War, and Attorney General were granted the authority to grant patents to inventors. (Watson, 2001) This system, although initially adequate, ultimately proved too slow to keep pace with American ingenuity. In 1836 the Patent Act was revised to make the USPTO part of the State Department, and required applicants to detail their invention in the application.

2.2 USPTO Patent Application and Examination Process
The USPTO is responsible for granting and recording patents in the United States, and determines the patent application and examination process on its own initiative subject to the requirements of patent law determined by Congress and the Judicial System. Until recently, the United States patent application and examination process operated under a first-to-invent system, but this is now changing to first-inventor-to-file due to the America Invents Act (Bianchi, 2011). In the United States, the application process for a patent normally follows the process depicted in Figure 1; however pilot programs and policies can change the flow of the patent application and examination process. In brief, once an application has been submitted to the USPTO, it must be examined to determine the patentability of the invention claimed in the application. This
examination includes a comparison to prior art to establish novelty and a non-triviality of the discovery that led to the invention’s creation.
Figure 1: USPTO Patent Application and Examination Process Flowchart (USPTO, 2012e)
2.2.1 Challenges at the USPTO

One of the largest problems facing the USPTO today is the backlog of applications. In 2011 the USPTO reported 690,967 applications still awaiting a first action from an examiner, with 1,168,928 applications being examined (USPTO, 2012d). The resulting backlog has motivated the USPTO to find ways to review patents other than the standard process so that it may make the best use of its resources to fulfill its purpose of reviewing patent applications and granting patents in a timely manner. The USPTO has tried to reduce the backlog through different policies and programs, but ultimately these efforts have not been successful in significantly decreasing the backlog. The average time an applicant must wait for a final office action, either a rejection or a granted application, is just under 3 years.

2.3 Studies on the USPTO

The USPTO has studied different parts of the patent application and examination process before. These studies have typically focused on assessing pilot programs or changes in policy to evaluate how effective those programs or policies were. This effectiveness has been measured in different ways. The Patent Application Text Initiative is a software supplementary program that provides patent examiners with the ability to search text document versions of applications for keywords rather than search by hand. In a study on the Patent Application Text Initiative the success of the program was measured by what level of use the program saw among examiners and how useful the examiners believed it was to them in examining patents (Hamer, 2011). Other studies have used different measures of success such as processing time spent in a pilot program versus processing time spent in the normal application process (Kukla, 2008).

2.3.1 Pilot Programs

Pilot programs are used in many organizations as a way to test the effectiveness of
any new policy. It is important to use pilot programs in companies and government organizations because they “help keep your costs in line, and they help you reduce resistance to adopting new methods” (Boyd, 2011, para. 1). There have already been studies that examined ways to improve the efficiency, speed, and quality of service in the patent application and examination process. In the USPTO it is especially important to have pilot programs because the USPTO has its budget approved by Congress each fiscal year, so they have very tight budgetary concerns. (Loiselle, 2009, p.18). Both patent applicant and examiner feedback about any change in policy is crucial and is an important part of the data that are collected in the USPTO (Kukla, 2008, p.17).

There have already been pilot programs implemented by the USPTO that can be examined to determine their effects on applicants and examiners. The USPTO Peer to Peer (P2P) pilot program was implemented to “increment(e) the quality of patent examination, by opening up the search for prior art to the public as an additional resource for the patent examiner” (Loiselle, 2009, p.9). This pilot program encouraged patent applicants to become involved in the process to allow them to perform prior art research for their applications (p.21). After any new program is implemented, it is always necessary to evaluate it to determine if it is effective and helping the process. From a previous study, a conclusion was reached that during a two-year time period, “people involved with the P2P program thought that the first two years of P2P were a success or, at the very least, a good start to the program” (p.73). Moreover, “from the surveys of patent examiners, 70% wanted P2P to become a full office program at the USPTO” (p.74). This indicates that the implementation of the P2P pilot program was a success and had produced a positive impact on both the patent examiners and patent applicants.
Another pilot program that has been launched within the past five years is the Patents Ombudsman Program (USPTO, 2012c). This pilot program helps the applicants get assistance whenever they have a question or problem with the Patent Application and Examination Process. Additionally, it helps return the prosecution portion of the patent application and examination process to normal when the applicant feels they have been examined unfairly. This program is currently in its second year, which means that this is a good time to start looking at the effects of the program. By now, it will be clearer what changes have occurred since the implementation of the program. With the data organized and using many data collection methods such as interviews and surveys, managers will be able to see whether the program has been useful and whether it should be fully implemented.

Besides pilot programs, there have also been permanent programs set in place to speed up the patent application and examination process. The Accelerated Examination program was implemented in 2006 to speed up the patent application and examination process (USPTO, 2012g). In this program, if applications meet the requirements at the time of submission, they are able to immediately go through the examination process. In general, an application that does not meet all the requirements will be put in the standard application examination queue, and this is where the backlog starts occurring (Kukla, 2008, p 16). This motivates applicants to make sure that the application that they are submitting meets all the requirements to ensure that their application will not be delayed. There are three major requirements for the Acceleration Examination pilot program that the applicant must meet in order to be considered for this program. The applicant must first complete a prior art search containing less than three independent claims, must have
the correct fees and must schedule an interview with the examiner (p.17). The Accelerated Examination program has a twelve month turnaround goal for the examination process, which can be significantly faster than the standard application processing time (USPTO, 2012g). Currently, with a new budget to hire more patent examiners, by 2015 the USPTO (2012a) is aiming to have the patent application time reduced from 35 to 20 months.

Another important pilot program, the First Action Interview Pilot Program, was started in 2009 and is scheduled to run until November 16, 2012 (USPTO, 2012b). This program allows applicants to hold an interview with the examiner who is in charge of their application. Communication is usually very slow between the applicant and the examiner, and this pilot program gives the applicant a chance to resolve any issues, and speed up the examination process. By having an interview with the examiner, it gives the applicant face-to-face interaction with the examiner, which may give them an advantage in the process. Most of the pilot programs that are implemented allow the applicants to take on a part of the examination themselves in order to show the examiner that their application is valid. It is more likely for applications to be put on hold if the applicant shows no interest in the application and does not put in effort to contact the examiner. Meanwhile, applicants that reach out to the examiners indicate that they want to be involved, and it is a joint effort to speed the process up from both the applicant’s and examiner’s sides.

2.3.2 Event Organization in the USPTO

All of the pilot programs and permanent programs that were created for the USPTO are considered to be “events,” and for the purpose of this project, the USPTO has identified three categories for grouping events:
• Policy changes
• Operational changes
• Statutory changes

Policy and Operational changes are defined as internal changes, changes the administration makes to the USPTO’s functioning through pilot programs, decisions with the Patent Office Professional Association (POPA), and rule changes. Policy changes are specifically changes made that directly change the patent application and examination process, such as new rules for prior art search, or any new stages added in the process. Operational changes are changes that affect the rest of the USPTO, such as pay raises, technology changes, or Hoteling Programs. Hoteling programs are programs the USPTO has used to allow employees to work from home. These allow employees to be hired without having to find or create office space for them. All external changes are defined as Statutory, including Supreme Court decisions, and new laws from Congress. (Personal Communication, James Dwyer, 10/22/2012)

As an example of how these categories work, the events described earlier can be categorized as follows:

• Policy: Accelerated Examination
• Operational: Peer to Peer, Ombudsman
• Statutory: TRIPS agreement

With the three categories into which events can be organized into, a historical event timeline will then be helpful for the USPTO. A historical event timeline is the framework of a paper database that has two functions. First, it can be used to look at additional events that happened during that same time period. It can also be used as a way
to look at data and metrics and see what effects the events had on the data.

2.4 Summary

Throughout the history of the USPTO, many changes have occurred to the organization including changes in the patent application and examination process. Overall, the USPTO wants to increase productivity and stay efficient in the patent examination process to avoid backlogs and a slowdown in the process. In order to maintain consistency in its examination process, it is also necessary that the office performs studies to validate the information and to notice any trends or patterns that could have had an effect on the USPTO. By using a historical database, where an organized record of historical events is stored, the office managers will find conducting studies on the events much easier. In the next chapter, we will outline how we plan to create the framework for such a historical timeline.
3 Methods
The goals of this project were to create a historical events timeline for the USPTO, which is a collection of events that have occurred in the last ten years organized into three timeline categories: Operational, Policy, and Statutory changes. In addition we recommended how to organize all of this information into a database that the USPTO can build upon to help them keep track of how decisions affect the USPTO’s performance.

The objectives we completed on the way to achieving our goals were determining the preferences for the organization of such a historical event timeline, actually creating a database mock-up, and conducting a case study to provide an example analysis with the timelines and measures collected by the USPTO. In this chapter we will discuss the methods that we used to determine the preferences for data organization, determine the significance of important events, and determine the effectiveness of a historical database.

3.1 Determining Preferences for Data Organization
Our first objective was to determine what managers would like to see in a historical event timeline. We gathered the preferences by asking the interviewees if and how they would use the information we had collected. If they believed they would use the information we had collected, we then asked them what information they would find the most useful to their work. We also asked what form of organization of the information we collected would be the most useful to them. Once we had gathered all this information on their preferences, we compared the preferences of all of the managers. These preferences were considered when we determined which method of organizing the information to recommend. The preferences of each interviewee were weighted according to that interviewee’s stated likelihood to use the information we had collected.

3.2 Determining Significant Historical Events
The first thing we needed to do to begin to create our timelines was to collect the
events that occurred over the last ten years. We did this by examining the USPTO and the Patent Office Professional Association (POPA) websites to get an initial list of the events and through the interviews mentioned above with the USPTO managers to gather more in-depth information on the events. We then sorted the events into the three timeline categories of policy, statutory, and operational changes.

3.2.1 Archival Research
We conducted archival research on the historical events that have affected the USPTO. James Dwyer informed us that the USPTO does not have a dedicated record system to track important events and that we would collect this information from the POPA and USPTO websites.

We gathered the following information on all events we could find as defined by the USPTO:

- Important dates (implementation, termination, or implementation of any part)
- A short description of each event
- Event category (policy, operational, statutory, or IT change)
- Whether the event was an internal change or not

The dates associated with each event allowed us to create timelines for the events. This provided a framework for the recommendations for the organization of all historical events. The short descriptions serve as reminders about what each event entailed, and the event type and whether it was an internal change or not determined which timeline category an event belonged to.

3.2.2 Interviews with Managers
The interviews we conducted focused specifically on senior managers who had exposure to the events that had occurred in the categories we have selected to focus on.
We interviewed each person James Dwyer and recommended, as well as other managers suggested to us by the interviewees. One of the main objectives of these interviews was to gather as much information as possible on the events that had occurred.

We began our interviews by explaining our project, and then asked what the interviewees’ responsibilities were at the USPTO (See Appendix A for the full interview protocols). We asked the interviewee what he or she believes were the most significant events in the past ten years with respect to changes to the USPTO, to narrow down the scope of events that the interviewee would remember. We asked the interviewee to provide as many details as they could about the events they mentioned. Specifically, we looked for information to supplement the records we had gathered previously from the USPTO and POPA websites and information on the expected effects of the events.

We also compared the opinions and expectations of the interviewees. In our comparisons we focused on the managers’ expectations to see if there was a consensus or differences of opinion about expectations for the events. All information and opinions gathered from these interviews were included in the descriptions of the events in our list.

### 3.2.3 Collection of Metrics

The USPTO had expressed a desire to have graphs of various measures shown with the timelines, so we contacted Martin Rater and Daniel Hunter to direct us to the databases that store the information related to USPTO examiner population, allowances, abandonments, issuances, filings, actions per disposal, second action non-disposals, and compliance to quality measures. We gathered the data, normalized the allowances, abandonments, issuances, and filings to the examiner population, and created the graphs to be used in the historical event timelines.
3.2.4 Creation of the Timelines

With our recommendations and event information we created our timelines in Microsoft Visio. We first created the overall timelines with a traditional line and hash method, with each hash or block signifying an event, with blocks showing the duration of the event. We then created our second layer of the timelines, which was information that was accessed by clicking the name or hash of the event. We used hyperlinks to have the name and hash of the event link to a separate document that displayed the information. This information layer included a short summary of the event, dates associated with the event, and any studies that have been done on the event. It also included links to the studies done and the original document, unless it did not have an electronic copy, in which case it displayed where a physical copy of the paperwork associated with the event could be found.

3.3 Determining the Effectiveness of a Historical Database

After we collected all the necessary information to include in our system of four timelines, we conducted an evaluation of our timelines in the form of a case study. To do so, we were given the event Second Pair of Eyes by James Dwyer.

With all three timelines and the data collected by the USPTO, we were able to overlay the different events that occurred in that time period with the data, and begin our case study.

The objectives to complete the case study were to determine:

1. What did Second Pair of Eyes(SPOE) consist of?
2. Why was SPOE implemented?
3. What were the expectations of SPOE?
4. Were the expectations of SPOE realized?
5. What unintended effects, if any, did SPOE have on:
   - Patent operations
   - Allowances
   - Abandonments
   - Issuances
   - Filings
   - Actions per disposal
   - Second action non-disposals
   - Compliance to quality measures

6. What were the other events occurring during the same time period as SPOE?

7. What effects, if any, did the other events have on the measures mentioned?

Questions 1 2 and 6 were answered using our previous archival research. Questions 3 and 4 were gathered from our interviews with USPTO management. Questions 5 and 7 were answered by looking at the metrics collected and comparing the changes in the graphs to the other events and their expectations.

3.4 Summary

Using the methods outlined we provided the USPTO with a collection of information on past events for each category indicated, recommendations for a system to organize that information, and a simple example of the use of this system of timelines to evaluate the effects of changes to the USPTO. The products resulting from these methods are expected to help the USPTO more easily evaluate the veracity of independent studies and more rapidly conduct its own studies on changes in the application process. The results we obtained by using these methods are described in the next section of this
report.
4 Results and Analysis

In this chapter we will discuss the results of the historical event timeline organizational preferences, the results from the creation and content of the timeline itself and the results that we reached with our case study. Our goal to create a historical event timeline for the USPTO that is organized into three timelines was achieved through the completion of our project.

The results of our project allowed us to determine the most useful way to create timelines for the USPTO using the managers’ preferences regarding the structure and layout of the timeline. In this chapter we will present all of our results as well as a detailed case study on a selected event called “Second Pair of Eyes”.

4.1 Historical Event Timeline Organizational Preferences

During our interviews, we asked each manager if a timeline that collected historical events would be useful to their work, and what preferences they had regarding the organization and structure of the timeline itself. We wanted to find out how we could design and create the timelines so that they would be most helpful to the USPTO. All of our interviewees (20/20) said that a historical event timeline would be useful for their work, and they could see it being helpful in many of the studies they carried out. For example, Bruce Kisliuk stated that the database would be useful to help see how the data collected by the office changes, and why it changes (See Appendix B).

There was no consensus on how the managers wanted to see the timelines organized--each member who gave organizational preferences asked for features that would help his/her specific area of expertise. These suggestions included:

- Creating a document where comments and notes can be added
- Adding links to each document to find additional information
- Including names of people to contact for more information about a specific event
- Making the database publicly accessible
- Stating whether an event started as a pilot program or an agency-wide implementation
- Including data on the changes over time on production and quality metrics
- Upon clicking an event, having it display any minor events that occurred in the same timeframe

From the above suggestions we organized the timeline to incorporate the suggestions that were not difficult or unreasonable to include in our historical event timelines. For example, one suggestion was to include a contact person to whom people could turn to if they had questions about a specific event. We decided not to incorporate this suggestion because it would be overwhelming for managers to constantly receive questions about the events. Over time managers may move to other positions or even leave the USPTO, so it would be difficult to maintain continuity. Another suggestion recommended that we provide links to any case studies that have already been done for each event. We incorporated this suggestion because this is a key feature for the user to be able to understand the event. It also would allow the user to save time looking up additional information on the event since the links with additional information would already be provided. We also made the document interactive, allowing others to leave notes and comments. This is important for the employees to be able to post their own recollections of the events and always keep the information on the events up to date. Managers would then be able to go through and save the changes they believe are the most accurate.
It was important to incorporate the preferences of managers to the organization of our timelines because they will be the ones using it. We wanted to make sure that our timelines would be as useful as possible, so we took careful consideration of the recommendations provided to us and chose those that would provide the greatest utility for our historical event timelines.

4.2 Historical Event Timeline

We organized our data and events into three timelines, as identified by the USPTO: operational changes, policy changes, and statutory changes. We used Microsoft Visio to create these three timelines and add in the events that we were told were the most significant from the perspectives of our interviewees, as well as the events that we collected using the Official Gazette.

As seen in Figure 2, the timelines span from 1990 to 2012, and each event is labeled with the event name, or an acronym commonly used in the USPTO for the event. We designed the timelines so that each event is hyperlinked to a Microsoft Word document. By clicking on an event, a user can read information about the event that includes a summary, dates that pertain to the event, links that lead to additional studies, perceptions of the event, and the outcomes based on the interviews that we held. The summary of the event is crucial for the understanding of the event, and allows the user to become familiar with the event. Additional links allow the user to easily reach online documents that contain more detailed information about the event, external links that show the results of the events on patent blogs, and original documentation, such as the original USPTO announcement of the event. The perceptions are a list of expectations that the managers whom we interviewed had for an event, and can be built upon with the notes system, so that managers can include their own expectations after the system is in
place. The user could find this information useful to see if the expectations matched the results- which are also in a list format, directly after the expectations.
Figure 2: Historical Event Timelines, Including Graphs
We have also color coded some of the events. The event Second Pair of Eyes is highlighted in red, to bring attention to it as it is our event for the case study. Other events in blue signify that the event had a definite beginning and end, and so have their entire duration displayed in the timelines. When Second Pair of Eyes is clicked, it lets the user choose between opening up the Word document to the information pertaining to the event, or to a separate Visio document which zooms in on this event, shown in Figure 3, so that they are not locked into opening the separate timeline when they only require the information. On this separate Visio document, there is one timeline displaying all the events that happened during the same time period as the Second Pair of Eyes, no matter their category. It also shows graphs displaying various metrics, including quality measures, filing numbers, and productivity measures. On the timeline, users would also be able to click on any event to lead them to the document containing information on the event.
4.3 Case Study

Our case study consisted of determining:

1. What did Second Pair of Eyes (SPOE) consist of?
2. Why was SPOE implemented?
3. What were the expectations of SPOE?
4. Were the expectations of SPOE realized?
5. What unintended effects, if any, did SPOE have on:
o Patent operations
o Allowances
o Abandonments
o Issuances
o Filings
o Actions per disposal
o Second action non-disposals
o Compliance to quality measures

6. What were the other events occurring during the same time period as SPOE?

7. What effects, if any, did the other events have on the measures mentioned?

For our complete Case Study, please refer to Appendix G.

Second Pair of Eyes is a program used at the USPTO to have a second review of an Examiners Office Action prior to the action being mailed to the applicant. These reviews can be corporate-wide, selected to particular technology area, or at the individual examiner’s level. The actions being reviewed can also be varied from all actions to selected actions, such as Allowances or Final Rejections. The idea behind Second Pair of Eyes was that every patent that was submitted as allowable would receive a second review by a supervisor, which was supposed to reduce the number of allowances with errors found by the Office of Patent Quality Assurance. The USPTO reviews a sample of final dispositions and in-process Office actions from the Examining Corps each year.

In the early 2000s the USPTO was criticized for their allowances on patents that had questionable validity, including patents for a peanut butter and jelly sandwich (U.S.
Patent 6,004,596) and a stick (US Patent No. 6,360,693). Attempting to cut down on the allowance error rate, which is the percent of allowances reviewed and considered un-patentable, the USPTO instituted the Second Pair of Eyes program in 2006. The idea behind Second Pair of Eyes was that every patent that would be allowed would receive a second review by a supervisor, which was supposed to reduce the number of un-patentable allowances.

In 2003, the Second Pair of Eyes had already been instituted in the Business Methods area of the USPTO, resulting in a dramatic drop in the allowance error rate. Because of these results, the USPTO management adopted it for use in the patent area of the office, hoping for similar results. The management at the time was expecting that this second review would ultimately reduce the allowance error rate and increase the quality of the patents that were granted.

Second Pair of Eyes was terminated in 2009, due to a large drain in resources from having to review each and every allowance. The termination of Second Pair of Eyes was also due to the criticism from outside sources on the extremely low allowance rate, which had dropped from close to 70% down to 41%. The program was eliminated as a corps-wide initiative to avoid further damage. This drop was from a combination of factors, including the fact that the reviewed allowances were scrutinized much more carefully than applications before Second Pair of Eyes, and so even applications allowed by examiners were denied by their supervisors. Another factor was that primary examiners, who were normally only reviewed by the number of patents they examined, felt that they were being undermined and were losing the responsibilities and authorship they had earned. Other examiners were afraid to allow patents since they had a chance of
being denied anyway, and this would look bad on the examiner’s reviews. This caused a drop in morale across the examiner population, according to three of the managers in the USPTO whom we interviewed.

Our case study also included the events that were occurring at the same time, and we compared their expectations and effects to the data shown. The most significant events in the same timeframe were Accelerated Examination, KSR v. Teleflex, and the campus move from Crystal City to Alexandria. Accelerated Examination was a program where an application would be moved up to be reviewed early, with a promised final action within twelve months. KSR v. Teleflex was a Supreme Court decision which set a new standard for obviousness where if a person of “ordinary skill,” or someone who is educated in the field, would obviously combine two prior art inventions, then the combination is not considered allowable. The Campus Move was the physical move of the USPTO from Crystal City to Alexandria.

Accelerated Examination was expected to increase filings, so it was not significant in forcing the filing numbers down. Second Pair of Eyes was having too powerful of a negative effect for Accelerated Examination to make a significant change in filings. KSR v. Teleflex made the rules on obviousness stricter, so it should have decreased the number of filings and allowances, but the numbers were stable from 2007 to 2008. Since KSR v. Teleflex took place in early 2007, there was time for the effects to be felt before the year end. Second Pair of Eyes’ negative effect may have been masking KSR’s, and the stability may have been from employee hiring changes. The campus move was the event that was mentioned most often by the managers we interviewed, but it was not expected to affect the production and quality of the examiners’ work
negatively, since the move took place over time and was well-publicized, enabling the impact to be as small as possible.

At the conclusion of our case study, we determined that the historical event timelines are effective at conveying the context of an event, showing the all events occurring during the same timeframe. Of course there are ways to improve the effectiveness of the system. These suggestions are detailed in section 5.2 of this report.

4.3.1 Most Significant Historical Events: Campus Move, AIPA, CSI

There have been many events that have affected the USPTO and the patent application and examination process. However, the USPTO managers believe that events in recent history, starting in 1990, have been especially important. In this project we have focused on this time period to look for what events have occurred, what impacts these events may have had, and what trends and patterns have arisen from these events. Based on our interviews with USPTO managers, we determined that the most significant events during this time period were the USPTO’s campus move from Crystal City to Alexandria, the AIPA (American Inventors Protections Act), and the Count System Initiatives. These events were mentioned the most often by our interviewees, and they were each significant for their own individual reasons. We also attempted to collect more information on these events from the PALM database, but its information was not kept up-to-date, and it was difficult to obtain the information we were looking for.

4.3.2 Campus Move

In almost all of the interviews that we had, the campus move from Crystal City to Alexandria was mentioned, and it was often considered to be the single most important event in recent history for the USPTO. Not only did this move increase the size of the campus, it also was when the USPTO shifted from using paper applications to electronic
filing. At the end of 2003, USPTO management agreed that due to the growing number of patent applications being submitted and the growing number of examiners needed, it would be best to expand the whole campus of the USPTO, and the simplest way to do so was to move to a new location.

With the increase in space for everyone at the new campus, it was expected that the campus move would increase productivity. Managers expected that the employees, having their own offices in the new buildings, would be able to focus better on their work and get more work done without distractions. Because of the shortage of space in Crystal City, examiners often had to share offices, and it was believed that working in such cramped quarters reduced the quality of the examiners’ allowances. However, this campus move also raised some concerns among employees about the commute to work, since the new location in Alexandria, VA, was further away from both Washington, D.C. and Maryland, and it was at the end of one of the Metro lines.

With the campus move, employees accepted their new offices, and according to some, spent too much time in them. Even though the move to a larger office space did add to an air of privacy, fewer employees were spending time socializing, and more time was spent in their individual offices. This caused a different environment in the office, and some employees preferred the social atmosphere in the old office setting, which enabled much more social interaction among employees.

There were positive results of the campus move, as well. The concerns about the commute to Alexandria were mitigated by the widespread use of teleworking, which was implemented in 2001 and expanded once the USPTO was settled in at Alexandria. The switch to electronic filing was expected by most employees, but the radical change of
leaving all their paper files behind in Crystal City concerned some employees. This had a big impact on the USPTO, because most documentation and patent applications were now available online, which made it easier to keep track of documents and share information. Switching to an electronic format in any organization is beneficial, but this was especially beneficial to the USPTO, where there is a very large amount of paperwork. Overall, the campus move from Crystal City to Alexandria impacted most employees in a positive way, according to the managers whom we interviewed.

4.3.3 American Inventors Protection Act

Another often-mentioned event was the AIPA, with its large impact at the end of the twentieth century being a strong point of conversation. The AIPA, or American Inventors Protection Act, introduced Requests for Continued Examination (RCE), the new patent term change, and pre-grant publication. An RCE is a form, with an associated fee, that allows an applicant to have his/her application continue to be examined, even after the application has been given a final disposition. The new patent term changed the amount of time that a patent was enforceable from 17 years from the time the patent is granted to 20 years from the time of filing the application. Pre-Grant Publication, or PGPub, made publishing an application 18 months after it is filed mandatory, although an applicant could opt out for a fee.

The AIPA was established in 1999 and as such, most of the expectations for what the AIPA would do have been forgotten over the years, but expectations for a few of the programs, specifically the introduction of RCE’s and PGPub, have stayed fresh in the managers’ minds. The changes to RCEs were expected to reduce the number of filings and give examiners more time to review them. PGPub was expected to be attractive to the patent applicants because they could edge out other competitors earlier on.
In reality, the change to RCE’s resulted in a large, new backlog of RCEs, according to Gary Jones and other USPTO managers, which was detrimental to the examiners and the applicants. This burdened examiners with a whole new source of work and gave applicants another fee to deal with. PGPub had mixed results: some people opted out by paying a fee to keep their inventions secret, while other applicants liked the fact that their inventions could be used as prior art against their competitors.

4.3.4 Count System Initiative

The Count System Initiative (CSI) was an event with a significant but different impact. It affected the workforce directly, instead of affecting the patent application and examination process. The Count System Initiative set into place new measurement standards for examiners. It is important to have a standard for measuring the work the examiners do to ensure that the quality of their work is up to the expectations set by the Patent Office. In 2009, the CSI was discussed between the management of the USPTO and POPA without having rules set beforehand, and both parties agreed to meet and discuss the terms of the new Count System. The resulting measurement system put more weight on the first office actions, which examiners felt required more work, so they were appreciative of that reweighing.

The managers we interviewed had no expectations for the discussions that resulted in the new Count System; the discussions were the first that managers of the USPTO had ever held with POPA. The goal of the discussion was to create new rules that were expected to help bridge the gap between the management at the USPTO and POPA. Once the new system was in place, according to our interviewees, the new Count System was supposed to encourage examiners to pick up their oldest work first and work diligently to reduce their backlogs.
The Count System resulted in lower stress on the examiners and led to a more open relationship between USPTO management and POPA. The examiners reported to their supervisors as feeling “more liberated” (Susie Huson, personal communication, 10/24/2012) with this new system, being able to get credit proportional to the amount of work they put in. Overall this had a positive impact on the Patent Office, which made it one of the top events mentioned by our interviewees.

4.4 Summary

The completion of our project revealed important information pertaining to the objectives we had set. The results of the organizational preferences of the historical event timeline revealed that each manager who we interviewed had their own preferences based on the type of work that they do. Our previous archival research and interviews with the USPTO management helped us to create our historical event timeline and the framework for a historical database. The case study displayed that the results of the Second Pair of Eyes had a negative impact on the USPTO. With our results we were able to find conclusions and provide the USPTO with recommendations.
5 Conclusions and Recommendations

The creation of the historical event timeline revealed much about the USPTO, including what the managers believe is most important to the functioning of the USPTO. Through our research we were also able to see what could be improved in the historical timeline that we had created. In this chapter, we will discuss the conclusions that we determined after the completion of the project as well as the recommendations that we would like to provide to the Office.

5.1 Conclusions

Due to the varied feedback on how to organize a historical event database that we received from our interviews, we concluded that in general every manager has his/her own specific preferences based on the type of work that he/she does. For example, Susie Huson (see Appendix B), informed us that she would find links to additional documents helpful for her work. This is because she works with the patent examiners’ union often and would benefit from having the documents be easily accessible. Since each manager and each department would use the database for something different, there is no best way to organize the database. This would suggest that the people who would be managing the database should be open to all suggestions about how to change and improve it.

Our timeline’s completion and subsequent case study led us to the conclusion that this historical database would be a usable and useful tool for the USPTO’s managers. With our case study we saw that the historical event timelines showed the historical context of Second Pair of Eyes well. The data we collected on other events during the time period of Second Pair of Eyes can be explained within the events that occurred in the same timeframe, or can be attributed to Second Pair of Eyes itself.

5.2 Recommendations

Based on the results of our project, we have come up with recommendations that
we think may help employees in the USPTO as well as people who are using the historical event timelines. These recommendations include:

- Keep the PALM database up to date and complete,
- Organize the office database so that it is easier to use,
- Filter notes on the timelines content for relevance,
- Provide a range of options on what information can be accessed after clicking on any event in the timeline,
- Change the Microsoft Word documents that contain event information into a blog format.

We recommend that the PALM database be kept more up-to-date and have complete information. This will make using and analyzing the information much easier, since the PALM database is the first source of information for managers who are trying to gain additional information and statistics.

We recommend that the USPTO have the managers filter each note and edit that is made about an event, so that everything is kept on topic. The USPTO will benefit from having all of its employees focused on providing constructive information instead of using the database as another means of communication and social networking. Because of the effort this would take, an alternative would be to set up a separate but similarly monitored discussion board, where employees would be able to directly respond to others without having to wait for an approval from a manager. The managers would then take the constructive and helpful information and put it into the database.

We recommend that the USPTO have any events that spanned a significant amount of time be given multiple options as to what information is displayed when an
item is clicked on. A user could open the informational document, as for any other event, or a user would open another timeline that shows all other events that occurred at a similar time, as demonstrated by our case study with Second Pair of Eyes. This would allow more flexibility in what a user would be able to access.

Another recommendation that would be beneficial to the USPTO is to hyperlink the timeline events to a blog instead of Microsoft Word documents. We thought it would be useful that when a user clicks on an event, the events page would lead them directly to a blog with the same information pertaining to that event from the Microsoft Word documents available on the blog page. The major difference would be in the way that managers, supervisors and users could interact with each other. At the bottom of the page, there would be a section to post comments on anything a user wishes to discuss about the event. This format would allow readers to see who posted a comment and allow them to start a discussion with that user. Also, all of the comments would be saved so it would be an easier and neater way to keep track of the progress and updates that have been made to an event’s description page.

With these recommendations, we expect the USPTO to be able to move forward and continue to improve upon our historical event timelines. This will hopefully culminate in the institution of a new historical database to aid the USPTO in conducting more efficient studies.
References


Appendix A: Interview Protocols

Interview Protocols Used Between the Dates of 8/23 and 10/11

Interview Protocol for Todd S. Keiller

Hello, Mr. Keiller, we are the USPTO team #2, and would like to ask you some questions regarding the USPTO today. We would like to record our conversation, if you don’t mind, and will send you a transcript as soon as possible.

Firstly, we would like to ask what experience you have with the patent application process? Have you filed an application for yourself or a client before?

(Do not ask if no experience with process) How was the patent process, in terms of speed, from your point of view?

(If no experience, ask this) Do you have any colleagues who have filed an application for someone before?

(If yes) Could you please give us their contact information so we may get in contact with them and ask them questions?

Thank you (continue to no question, as well.)

(If no) Is there any advice you would want to give us moving forward?

Thank you for your time

Are there studies you know about that have gone over the patent process and determined what slows it down the most?

Interview Protocol for Ed Kelly, Head of Ropes & Grey’s Patent Practice

Project Description: Next term we will be working with the USPTO to create a Historical database to track changes to the application process, either due to internal policy changes or the creation of pilot programs. We will also gather information on the metrics the USPTO uses to collect data on the application process and state which metrics
are applicable to which events and parts of the process. We also believe that we will be analyzing these metrics by talking to senior managers and researchers that have done studies on pilot programs and other parts of the application process to determine what data they find the most useful. Our understanding of our project could change once we arrive in Washington but we believe it will remain somewhat similar. We would like to ask you a few questions about your experience with the application process and its pilot programs.

1) What types of patents do you usually deal with?
2) How long would you say it takes, on average, for you to write an application?
3) How long would you say it takes, on average, for an application you wrote to either be granted or receive a final rejection?
4) Could you briefly summarize what you do for a typical application?
5) Is there any part of the process that you feel is a bottleneck for the process?
6) Have you made use of any of the pilot programs the office has attempted over the past 10 years? If so, which ones and how useful did you find them?
7) How have changes in Patent Law such as the America Invents Act affected your side of the application process?

**Interview Protocol with Kristy Cullivan**

Kristy is the Director of Academic Advancement School of Business in the
Leadership and Planned Giving Team.

Explain Project

Interviewer: Hi Kristy, thank we would like to interview to find out more information in how data is collected in the WPI School of Business.

Interviewer: First I’d like to start off by asking, how is data stored here in the Business School?

(Response with how data is stored)

Interviewer: Does everyone have permission and is able to access this data?

(Response if yes everyone has access or not)

If no, then ask, why doesn’t everyone have access?

Interviewer: Is there a system to track the data?

(Response yes/no for a system)

Interviewer: In general, do you find it easy to find documents and data that you are looking for?

(Response yes/no)

Interviewer: What are some of the difficult or frustrating parts that you have experienced with data organization here?

(Response goes into detail about her experiences)

Interviewer: Do you think there is something it could improve on?

(If yes, then ask to go into more detail)

Interviewer: Is there a specific team in charge of organizing and collecting data?

(If yes, then ask for contact information)

Interviewer: What are some of the methods here to collect data?
Interviewer: Do you know what process it goes through?

Interviewer: Has anyone here ever tried to make a historical database/historical database/anything else to help you look through data and understand it better?

Interviewer: How do you determine what data is useful for analyzing a process?

(If yes then ask for specifically what it was)

Interviewer: Is there anyone else you think might have a better view or understanding of this and would you recommend that we talk to them?

Interviewer: Thank you.

**Interview Protocol for Managers at the USPTO**

Hello, thank you for spending time with us to today for this interview.

- We are the group of WPI students creating recommendations on the History and Analysis of Patent-Related Events and Metrics at the USPTO, and we want to ask you some questions about the history of the USPTO.

- Before that, though, we would like to know what your responsibilities are in the USPTO?

We would like to ask you about your experience in the office regarding changes in the USPTO.

- What events have happened in the last ten years that have affected the patent system and your office?
  - Could you give us some more details about when it occurred/what it entailed?

- What were your expectations for each of the events you’ve indicated?
  - For example if I was talking about the AIA then I might say that I
expected a drop in the quality of applications because of the switch to first to file, which would be seen in a lower acceptance rate after 3 years, because of the current backlog?

- We will be using the events and related information in our recommendations to the USPTO, would you use the information that we collect in your line of work?
  - If not, what kind of information on these events would be helpful to you, then?
  - If so, the USPTO is going to be using our recommendations to create a system to organize the information in a database. How would you prefer it to be organized to help your efforts?

- Are there any other people you know with a historical background that could help us in our efforts to obtain important events over the last ten years?

Thank you.
Appendix B: Interview Transcripts

#1 Phone Conference with James Dwyer

9/12 11A.M.

Introductions with James Dwyer, Andrew McKay, Elizabeth Mukhanov, Alex Gonzalez, and Seth Crampton.

Andrew McKay: Can you go into more detail about what exactly we will be doing? We understand that we will be analyzing behavioral changes but we’re not completely certain what that means exactly in terms of actually doing it.

James Dwyer: Ok. What we have currently today is that we gather a lot of data on examiner activities, a lot of prosecution activities, performance of examiners. We also look to see where they spend their time so we collect that data. We collect data with respect to quality, event calendars of examiners work, and we have an organization where there is a lot of processing of things and goes from one person to the next. Like we have the board of appeals for instance which they basically any case that is appealed based on examiner decisions, they act on it, so there are a lot of things that we do in this process that we collect data on. Also there are a lot of behavioral changes and/or physical changes in our process. Some of them come from statutes. When we have congress and the president pass laws that require us to do things differently or additional things, there can be changes in some of the data that we get. We also have union issues; sometimes we have a change in examiner performance appraisal plan. The way we measure their quality and the way we measure their productivity, and their event calendars, and it’s those changes that also have an effect on some of the values that we get in our data pile. We
also have policy changes that may come from case law, we recently have had many significant Supreme Court decisions which have created a slightly different outcome to some of our decisions that we make as examiners so we want to capture that. So what I’m asking of this team is to start by gathering all the data that we have in different areas of the office and also to talk to and survey out those individuals that may have more of a historical look so that we would go back maybe ten years and look at all the historical things that have occurred. So if you can look at it from this perspective: if I wanted to do a study in the future on any particular activity that may have occurred because of a change in policy or statute or operation that I could easily go into one place and do that analysis without having then repeat what you guys have done collectively and gone through the office and kind of organized this. I wouldn’t have to repeat that I would already have the data in front of me and the chronological and historical activities that occur so that I could then proceed with my analysis. So the thought is to sketch out what that would look like you guys sketch out what that would look like and then maybe as a sub project to take one component that I could hand to you and from this, do an analysis of the event that occurred. Like say there was a supreme court decision and then 3 years later you want look to see how has that affected the values in our data files on the examiner activity. Is that clear

A.M.: Yes that helps a lot. So would we be the 1st group that would be looking into this correct?

J.D.: That’s correct. We have an area where we have our chief economist and he has started doing some white papers but I think he’s at that stage where he has to then go meet with a plurality of groups so he’s suffering I would imagine. I haven’t talked to him
but I would imagine he’s suffering from that same pain of he has to do all the root work before he even gets to his white paper analysis so that would be another individual that you would be working with to collect what he’s done in the past to collect some historical data. So there’s going to be a lot of data gathering and surveying of the individuals. Not necessarily surveys but focus groups or individual interviewing to collect this grouping.

A.M.: Alright. Another question related to that is when I assume we will be surveying examiners and likely applicants if we can get our hands on any to survey, would it be best to maintain confidentiality for the examiners correct?

J.D.: That’s correct.

A.M.: Just wanted to make sure.

J.D.: And there’s also some union issues that we need to work through whenever you’re out talking to examiners but we can work through those.

A.M.: Alright

J.D.: There’s also on the physical end of things I will be sending you shortly, for you guys to fill out, so we can make sure that when you get here on day one can add you and also get you an internet account so you can do your business here. So I’ll be sending that shortly.

A.M.: Ok that would be fantastic.

E.M.: Has anyone noticed any changes already that have made you want to look into this more?

J.D.: Yes in fact we do this all the time. We’re always looking at our data and sometimes the issue of trying to figure out how it’s going to change. Fee settings is a good example of that where we are now allowed to set fees for activities well there’s a
certain economics issues when you start to change the fees on services that we provide you’ll always have to estimate what the effect of that is. Are you going to get less fees if you raise the cost of a certain service, or are you going to get people wanting that service because of that fee. Any businesses were constantly looking at what changes what could have occurred. We also sometimes get requests and or we have professors around the country who do white papers based upon data that we produce and share with them and a lot of times they come to conclusions that we have to rebut because they didn’t take into consideration other activities that occurred simultaneously that would corrupt the data. We also have a tendency to sometimes jump quickly on changes that we see. Some changes are on data. And this causes us to alarm and sometimes a tendency to at least have a overreaction to those these changes and the concept here is that if we have the ability to quickly look without having to reassemble in a short period of time, here’s our data set and this is all chronologically what has occurred and then it allows us to be a little bit smarter when we try to look to see what is causing or what will cause in the future for example id we change the examiners path, what are the net affects should we expect to see. And I certainly don’t expect you guys to see even 1% of all the things that can and will potentially happen. I would like it basically to build a system that we can go to and like I said one sub project could be to analyze this one piece as a sample of what one can use again this thing that were going to build here.

A.G.: One thing that we wanted to ask is that you already introduced Chris Longe; will you be sending his contact information as well as chief economist?

J.D.: Yes and I will also send you collections, not the data because of privacy issues, but what I’ll do is send you captions of the data in other words these are the things
we look at. Some of them we have a glossary which somebody whose patent savvy might understand or should understand it. For you guys being on the outside there’s going to be a lot questions about what exactly does this entire all mean. So at least this will be a start for you to start looking at some of the acronyms and patent prosecution terminology and start doing some Google searches and what not to try to educate yourself on the examination process. And I also talked to our academy this morning and trying to put together a 1 or 2 day class for both WPI groups on patent examination to give you an overview of what the job here is and how we do it. Also help you understanding when you’re doing interviews or surveying, talking to examiners or supervisors to understand some of the lingo.

A.M.: One more question off of what you just said, for in terms of when were actually down in dc and assembling all the data I assume that we will have to keep most of the data on site right? Because there’s a whole bunch of privacy issues there.

J.D.: That correct.

A.M.: Ok.

J.D.: I’ll be sending you and there will a confidentiality agreement that you will have to sign as a government employee. You’re not a paid employee but you’re still considered an employee which will explain that this is data is not to be shared openly. When you come to your publishing of your project and past WPI. Gives us an opportunity to go through it and lets us see if there’s anything in it that is confidential in nature. In the past this hasn’t been a significant problem because you’re reporting on the generalities of what your project is not on the data that’s in the databases its what the databases do would be fine
J.D.: I will start sending you as a group things that we have with some level of explanation and feel free to and the best way to get a hold of me to start with is email and form there if we need to set up 2 or 3 or 4 phone calls between now and October that’s fine with me.

Interview #2- Todd Keiller

Interview with Todd Keiller

10/4/2012, 3 PM

Present at Interview: Alex Gonzalez, Todd Keiller, Elizabeth Mukhanov

Interviewer: What exactly is your role here and what specifically are your goals or what you’re in charge of doing?

Todd Keiller: I am the Director of Technology Transfer which means I work with any new intellectual property that is generated from the institute and try to decide whether we protect it or turn it into intellectual property with either a patent, trademark or copyright, its mostly patents. And then I help find a home for it either through a direct license or to a company or either we start up a company. And so we’re very small, I’m the whole office, and my assistant Linda Kelly, who helps track things for me and organize things. But the goal is to become a premier small technology transfer office that is a model for the rest of the country. And it’s easier in a place like this because the students are very inventive and forces the faculty to be very entrepreneurial. We have a great resource with the business school who helps me find networking. We have an alumni can go to with ides and they can help direct and mentor.
I: So you yourself actually write out the patents and file them, or?

T: No in technology I pick an outside patent attorney so if it’s down in Gateway and it’s more biomedical engineering certain group that’s mechanical engineering I use a different group.

I: So you kind of through various types of patents, like you said BME mechanical engineering.

T: So they are all over the map. So that fabric is going to be turned into new emergency medical technician uniform. On my phone is a phone app that detects whether I have atrial fibrillation, what blood loss is, what oxygen content of blood is. So that’s kind of a spectrum of things that can happen. New high flow batteries, better ways of kids k-12 doing better in the homework through system computer. So it’s my typical day which is a lot of fun.

I: so the way you go through the patent application, do you receive ideas form faculty or do they set up a patent?

T: so there is an invention disclosure form that comes out. So I got 2 invention disclosures yesterday. On my website which they down load it. I have to improve the form and so forth but it asks a couple basic questions like what is the idea, and normally they’ve been writing a transcript for publication so they can use that as a description. What’s important for us to know: how is it funded? Because if its federal finding involved we have to report that to the government, get the grant number right, and report that to the government. Who are the inventors? And we sometimes challenge them not because they’re excluding someone but because they’re including someone usually putting them all on a paper when someone might have just put a couple of widgets
together, they’re not an inventor but they are on the paper. So we work through that. Then I send them off to the patent attorney who generally only has to quiz them a lot and the patent attorney has to write it up and hopefully at end you end up with a patent. Here is an example of one of our latest ones that got issued. And I have to get together with Dr. Hoffman now we need to go find companies that are working in this particular are to sell licenses to.

I: going off of that, about how long does it usually take from them submitting the form to you and you getting the patent or getting a rejection?

T: well it comes to me and in usually 40-60 days we will either file a patent or say a case where someone was sitting there came with their idea, went online did a quick and found the idea dead on. So, that would be a very quick disclosure and come back later. If I file a patent it takes the attorney depending on how quickly we put a patent on file like the next day which is not recommended it usually takes them about 30 days to write it up and go back and forth with the inventor. We typically file what’s called a provisional patent which just holds it in line at the patent office but the patent office doesn’t do anything with it. And then within a year you can covert that and that’s when it gets started from. From the time you convert it can be 18 months. They typically will reject any claim that you’ve put in. and then I have to go pay the patent attorney to go analyze that and explain to the patent office why they’re wrong in the patent office and it’s really a negotiation that goes on. We get the inventor involved, and hopefully at the end of the day it can take a couple of years and end up with some allowed claims. You have to decide are those claims worth anything or now. But during this timeframe, ideally if I had more hands I would be writing up non confidential marketing piece. And sending that out
to targeted companies. And the library here has good resources for me with a lot of databases I could put in keywords. We have one lithium battery recycling concept, put in a few key words and I found companies that are working in that area. So that's a way of sending a straight out company. Let me just show you one of them. I had a PhD candidate over the summer working for me developing marketing pieces. So this is the same inventor that you saw, so it’s a way of the patent is pretty boring so we try to make it a little zippier. We try to get a picture of it, the inventors, the patent status, what the advantages are, so it’s more of a marketing piece, who to contact: me. And so this is what I need to get out to, in this case if you think of a walker for the elderly have a walker and can sometimes slip out from under them and this device if it starts to slip will stop you from slipping. And I do get MQP’s and generally one of them I’m going to see on Tuesday she graduates all ready but the team developed a shoe, they studied what forces cause your ACL to pop which happens more in female athlete than male, and once you get to the force, the shoe has a little baser that comes up and protect you from not going so far. So I’m hoping to knock on Reebok and new balances because they’re in our backyard to see if we can get interest. The harder part is getting to just evaluate, everyone’s busy, so how do you get the foot in the door.

I: You said that the negotiation at the patent office takes a while, is there a particular part of that negation that takes awhile or is it just the..?

T: the back log that they have. So they look at it, they do this office action which is the rejection it takes a little while to come up with a response which takes six month. Then you wait. It’s a painful long process. Now there’s a change in the patent law and you can pay to be put on the front of the line, not for academia but fair for IBM.
I: I think I remember reading that fine was 5000 dollars

T: for the acceleration? I think you’re right it think it is in that range.

**Bob Bahr and Rob Clarke**

Bob Bahr has been at his job since 2000 but prior to that since 1994 he worked in what is now the Office of Patent Legal Administration. These jobs made him at least aware of policy changes going back to 1994. The big change in 1995 was the change to the 20 year patent term in the URAA. They (the Patent Office) published their final rules around April saw a huge spike in the number of incoming applications in May and June and then a drop in incoming applications afterwards because people had rushed to submit under the prior rules. They expected a surge in filings before the deadline for the switch and that expectation was met.

The next significant change was in 1999 with the American Inventors Protection Act. It added 18 month publication and it added patent term adjustment. Patent term adjustment came into being in May of 2000 and so that would have motivated applicants to file after May of 2000: File continuations or something to get a case on the books after the date the rules went into effect. They expected there would be a surge in filings similar to the 1995 surge and although there was it was not as large as they expected it would be.

18 month publication started in November of 2000 and he believed that may have motivated applicants to file before November. He didn’t recall much of a blip there because they weren’t nearly as major a change as the change to 20 year term. This did not meet expectations. They expected a much larger blip than happened.
*Rob Clarke joins*

Right after that there was the anthrax scare which caused havoc with mailing to the government. That may have caused a filing hiccup. There may also have been an economic issue because filing seemed to go down at that time and they couldn’t tell whether it was because people were filing less or people were trying to file and their papers were getting diverted elsewhere.

The other thing in that time was the Festo decision. They remembered Festo being fairly big. That was a decision in 2002 that made it hard to assert a range for a doctrine of equivalence if you made an amendment. They expected that would’ve made applicants more likely to amend which would result in more RCEs and more Continuations, which delays prosecution because it would require examiners to evaluate arguments in response to rejections and then evidence in response to rejections before claims would be amended.

There was a fee adjustment in December of 2004 that might have caused some disturbances. The Creed Act didn’t do much agency wide but did happen in that area.

KSR happened in 2007 and the Office’s guidance for KSR was issued in August of 2007 which might have resulted in more rejections. There was no way to look at that decision in April of 2007 and think anything positive about the patentability of a claim.

In August of that year the office also published rules that would limit RCEs and so people filed for a lot of RCEs before the rules went into effect.

Bilski et al was perceived to cause a reduction in the likelihood of granting patents for certain technologies. It was in 2009 for the Supreme Court but it was rejected all the way up. The federal circuit made the decision in 2008 and the office issued
guidelines after the federal circuit decision and revised guidelines after the Supreme Court decision.

In September of 2011 fees went up by 15% with 10 days notice. The fee changes may have produced a rush to get patents in for the next 10 days so there would likely be a rise and drop in applications submitted around that time.

The American Invents Act is expected by them both to generate odd filing behavior in February and April to get an application effective under both First to File and First to Invent.

**Gerard Torres:**

Office of the Chief Financial Officer- Office of Planning and Budget- Fee and Forecasting Area. Started in office late 2005.

Almost every year there’s a big change that occurs: Supreme Court ruling, federal circuit ruling, congress makes a change or something going on in the economy.

**Significant Events:**

Mid 90’s (95 or 96)- changed the TRIPPS Agreement- trade related intellectual property. Change the term of the patent- previously us patents the term could be 20 years from the time of application filing to the time end of the life of the patent was 17 years, that changed it to 20 years. They also changed how they measured it. Used to be 17 years from the granting of the patent and now its from the filing of the patent you have 20 years until your rights expire. People changed their behavior during that time period because
some people would benefit from the old rules, and some people would benefit from the new rules. So people would use different app filings to adjust to different rules.

Late 90’s- America Inventors Protection Act: talk to lawyers about changes in that because those are more legal changes. This is when unless you opt out; you have to publish your application at 18 months. Makes it more transparent and makes people more aware of the different patent applications available out there.

RCE’s: RCE is a way to continue prosecuting your application after the examiner has initially rejected it. This has become a big issue currently because applicants prefer not to have to do an RCE, they prefer to have everything done initially but we’ve tried to make a lot of changes to institute more efficient examination process. We’ve been unsuccessful but it’s not always the examiners fault.

05- Changed the patent fee structure a little bit. Agency needed more funding and as part of the consolidated appropriations act of fiscal year 2005, they placed in a new fee structure. At that time only congress could change the fees that (not all but most of the ones that generated the most revenue). In 2005 while office was drowning in backlog, congress increased the fees so that we could generate more revenue and hire more patent examiners in hopes to get backlog down. Always work with congress when changing the fees.

2008- The office proposed rules for claims and continuations. Those rules never got implemented but applicants still reacted almost as if rules did get implemented. People lowered on average the number of claims per application filing and that was something we didn’t expect. We expected that the rules went in place, but they didn’t go in place so why did people react to it. During time of financial crisis so maybe it wasn’t
related to rules but to the economy.

KSR ruling

One about business methods more recently

America Invents Act- too new to say. Still formulating a lot of assumptions on how it will be in future when more of act gets implemented. Lag between when it gets implemented and when people start reacting to it.

Expectations:

CAA- consolidated appropriations act of 2005 which increased the revenue. Minor behavioral change because of this. People filed fewer claims per application on average (this is one thing that was targeted when they increased the claims fees. If you went above 21 total claims and 3 independent claims) it did work as we had planned.

Database:

It will be useful to him because it would be great to have it in electronic format. The PTO does have a historical library. It’s part of STIK (?)- keeps track of all historical documents related to the agency. Much more efficient to have an electronic file.

Contacts:

The historical library (STIK?)

Patent Legal Administration

Bob Bahr
Bruce Kisliuk:

Bruce Kisliuk is the deputy commissioner of Patent Administration. He covers the patent business unit, the budget, the planning, the IT and automation involvement, and the office of innovation and development which is the office for outreach for small and independent inventors and businesses.

The first thing he mentioned was a quality initiative document somebody put together as a draft that talks about events of quality related things that have happened since 2003. He gave us a copy of that document.

The first event he considered important was the American Inventor Protection Act of 1999. He viewed it as a seminal moment and a good starting point for the timeline. He said that it caused two big changes, pre-grant publication in 18 months which was a huge change in process for the office because they used to only publish patents on Tuesday but afterwards they had to start publishing pre-grants on Thursday, and that added a new source of prior art and it also added Patent Term Adjustment as a ‘protection from the GATT changes that happened in 95’ the GATT changed the term from 17 years from grant to 20 years from filing but the 20 years from filing means the applications lost the time it took to process from their terms. The law said that if the Patent Office took too long to process an application then they could grant Patent Term Adjustments to guarantee that the patent would be valid for 17 years from grant. This caused the office to decide to attempt to minimize patent term adjustments because that takes away from the public domain. The expected way to evaluate the performance of the office in this regard was to meet and not give out patent term.
Shortly after that was the ‘Millennium Agreement’ with POPA that he considered important because patent examiners used to be on a regular GS scale, the engineering scale. The agreement was basically a tradeoff where the administration wanted to move to electronic searching for files and in exchange the union demanded a higher pay scale. So examiners got on average a 10% raise across the board. He said this was important because it was the start of a transition to fully automated filing, which he believes to be the single biggest change in the past 10 years. Changing from a paper based search system to an electronic search system. Another piece of that agreement was a work-at-home pilot. The building of the electronic tools enabled this program and now enables the teleworking that many employees use. The agreement happened around 2000 but didn’t take effect until the pay rate was approved by OPN.

Shortly after that around the 2001 timeframe the telework programs were scaled up. He thought these programs were also extremely important.

He also mentioned the move from Crystal City to Alexandria and part of that move was staged with the removal of the paper. They left the paper in Crystal City and came to Alexandria with an automated system.

He didn’t remember the exact timing but the move to an electronic processing system was also one of the events he believed were important, which ultimately got rid of most of the paper.

KSR happened in 2007 which was pretty significant but we had already discussed. Bilski in 2008 was the other major Supreme Court decision.

The next event in 2009 was the start of the count system changes called the CSI or Count System Initiatives. The system for how examiners are given credit had been
unchanged for the past 30 years so the CSI reduced the credit for RCEs and gave more credit up front for regular cases. That was a big change because it was a seminal point in the relationship with the union for the Patent Office. They worked in a pre-decisional meeting with the union and agreed to changes without having to go into the formal negotiation process with the union. That template for working with them has continued since then. The next year, in 2010, they changed the examiner performance model.

And then he mentioned that AIA has only had a few aspects implemented and that the effects will not be seen until later. He also mentioned the Patent Prosecution Highway which started in around 2006.

For AIA he expected the law to allow the office to build up an operating reserve and keep the money needed to continue reducing pendency. Those numbers are fairly easy to measure though.

He believed he would be likely to use the timelines we are building. One large reason is that in the past decade or two he believed there had been more changes to the IP system than in the previous 200. And there’s so many things changing that it’s hard to be sure what are the actual causes of changes observed in the data the office collects. So the timeline should be useful in that regard. When you make changes there’s cultural impacts, organizational impacts, attitude impacts etc. The changes are not isolated to just their intended effects. When a process is implemented or something changes there’s a lot of activity around messaging what is expected of your employees.

Jack Buie:

Jack Buie has been in the patent office for about 20 years and has always worked on the budget for the patent program either in the CFO organization or in the patent
organization. He chose to give the most important 10 years from as far back as the early 80s. In 1989 he said that the patent office had achieved their pendency goals and were where they wanted to be in that regard at that time. As they got into the early 90s they were still having growth in application filings and they asked for budget increases to keep up with the growth in filings but were denied by congress and so the pendency began to grow out of control again.

The office becoming fully fee funded at the end of the 80s was another event he said was important.

The NAFTA treaty in 1996 that changed the term of patent protection was also important. He believed the GATT agreement became the NAFTA agreement. That changed the term of patent protection which was a big change for the office and for applicants. And they got a large spike in applications because, he believed, everyone was trying to get in under the old 17 year patent term.

He also mentioned the American Inventors Protection Act of 1999 that made the USPTO a ‘performance based organization’ and set statutory deadlines for processing times. It made the USPTO an agency of the department of commerce and gave the Office control over its own operations. It gave the USPTO freedom in its budget operations, personnel procurement and other operational details.

He perceived the Tech Bubble of the late 90s to cause a huge surge in the filing rate. He also thought that the high attrition rates during that time were attributable to the dotcom boom because the many tech startups were stealing examiners. The fixed budget and increased application rates were expected to cause a backlog issue at the time and in fact did.
He also mentioned the 2005 move from Crystal City to Alexandria. He said that coincidentally at the time of the move from Crystal City to Alexandria the office had been trying to move its paper files into electronic files for years prior to the move. The office decided to finish scanning everything and completely end the use of paper file storage in the move to Alexandria and leave all the paper behind in Crystal City. The implementation of the Electronic Filing System was much better received by applicants than its predecessor and so implementing that saw a huge increase in electronic filings. He also mentioned that the AIA gives the patent office the ability to set and administer its own fees after a 15% fee increase goes into effect across the board. Previously the fees were set by congressional statute. He believed a historical database could be useful to look back at past events for things like the tech bubble to show people a bigger picture to convince them to make a decision. He also mentioned that Patent End to End was a program to take all the scanned images and convert them to text and upgrade all the legacy systems the office has. He said it is currently underway and early on in the implementation process and so didn’t have a huge amount of stuff we could do with it.

**Susie Huson:**

She works directly for the commissioner and her executive assistant. She does ‘odds and ends’ because she does what the commissioner needs done. She does a lot of project management and meeting arbitration. They call meeting arbitration ‘the bunkers’. They are pre-decisional meetings between the unions and the management. It’s not a
negotiation it’s a pre-decisional meeting. Management decides they want to do something that has some kind of impact or implementation issues where they have to work with the unions to come to an agreement instead of going into the highly structured formal negotiation route to work it out more easily. So they sit down in a room with no windows in the training academy called ‘the bunker’ to sit down and work out the details of the things the managers want to do. For example implementing the new count system took 8 months to work out. It was the first agreed upon pact that they have had in like 35 years. She does a lot of whatever Peggy needs done. She has been with the office for 27 ½ years. She has been at her current job for the last 14.

The biggest thing she remembers is in 2009 when they did their first bunker situation they had a different union present for the POPA union who was much less willing to work with the management to come to solutions. Peggy becoming commissioner was also instrumental in fostering that newly strengthened relationship. The restructuring of the count system was also important. They changed it in 2009 and then again made some tweaks to it in 2010 after a study. They have kept looking at it every year to fix it because they were ‘shooting for a 70% solution to it the first year’. The examiner PAPs saw a similar process to be fixed. Those were the largest things. They had to agree on how the examiners would be rated on their formal performance evaluations. Coming out of the examiner PAP the docket management plan for how the cases are handled and what order they are reviewed in was another bunker they had to do. This past year they put in a SPE hoteling pilot that she thought would be huge. Last year they did telework enhancement act pilot program (TEAPP) which was also a big event they did with all 3 of the unions and management throughout the organization. TEAPP is
a 7 year program that lets employees live anywhere in the contiguous states and have their duty station be their home so they never come back to the office.

The SPE hoteling pilot was worked out in the bunker last year around this time and they worked out what the impacts of the program might be, for example if an SPE was home and their employees were here how that would affect their work relationship. They agreed to a program for about 100 SPEs and they will be coming back next month at which point they will do an evaluation and exit survey. They had done focus groups and surveys throughout the program and will gather more information to determine how they SPEs, their employees, and their peers felt about this program. They would then decide whether to do another round of the pilot, make it a permanent program, or kill it.

She got the impression that for the first bunker the systems were perceived to be a little too harsh and that the employees wanted a little more time. Alternatively the managers wanted to meet certain numbers and weren’t sure that loosening requirements would work for meeting those numbers.

For the PAP they just wanted to get to the point where everyone used the same standard to evaluate employees. The union would say that the office took everything to a conduct action instead of a performance action. So if an SPE wanted to fire an examiner s/he would find a conduct reason to do so because it’s much harder to fire someone under the performance standard than the conduct standard. Changing that was expected to foster a more mentoring and welcoming environment rather than a ‘gotcha’ environment.

For TEAPP, which came out in 2010, they started talking with the unions in 2011 and finished in late June (if she recalls correctly). So they now have 7 years to test this program. They were the only agency specifically named in the legislation that would
HAVE to do this. They ended up allowing each union a certain number of slots that can be upped each quarter based on the total number of teleworkers in each union. 76% of the employees filled out the ‘best place to work survey’ and it is expected to be a huge improvement in the quality of work like for the TEAPP users.

The expected data that would be affected by the events mentioned should be detailed in the reports for each of the events. These reports can be found on the respective parts of the website or in specific internal documents about the programs.

She also believed that the products of our project would useful to her work. She also thought that overlaying QIR data on the timelines would be useful. She also thought that links to additional documents would be highly useful information to include for the events.
Appendix C: Information on Data Collected by USPTO

Examiner QIR Dashboard Development
Focus Session
April 4, 2012
1:00 p.m. to 3:00 p.m.

Draft Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic/Activity</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Welcome and Agenda Review</td>
<td>Jim Dwyer</td>
</tr>
<tr>
<td>1:05</td>
<td>QIR Composite Index Background</td>
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<tr>
<td>1:25</td>
<td>Sharing of all QIR variables and descriptions</td>
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<tr>
<td>1:45</td>
<td>Focus Session Questions:</td>
<td>Susie Huson</td>
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<tr>
<td>1:50</td>
<td>Q1. What data would examiners find most helpful on a dashboard?</td>
<td>Jim Dwyer</td>
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<td></td>
<td>~ General Information</td>
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<td>~ Original Data</td>
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<td></td>
<td>~ RCE Related</td>
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<td>~ Board Related</td>
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<td>~ Specialized Reporting</td>
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<tr>
<td>2:10</td>
<td>Q2. How often should data be made available to examiners?</td>
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<td>2:25</td>
<td>Q3. How should the data be configured (displayed) for ease of use by examiners?</td>
<td>Susie Huson</td>
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<tr>
<td>2:50</td>
<td>Conclusion of session and closing remarks</td>
<td>Jim Dwyer</td>
</tr>
</tbody>
</table>

QIR Briefing Documents:
- QIR Variable Components and Descriptions
USPTO: Quality Index Reporting (QIR)
Available Tally Reports

http://sirdev-opae/qir/

The following variables are available on biweekly (pay period) basis for each patent examiner.

<table>
<thead>
<tr>
<th>MOST USEFUL INFORMATION FOR EXAMINERS</th>
<th>FREQUENCY OF REVIEW</th>
<th>VARIABLE</th>
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</thead>
<tbody>
<tr>
<td>FY – Fiscal Year</td>
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<td>PP – Pay Period</td>
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<td>TC – Technology Center of examiner at time of event</td>
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<td>Work Group – Work Group of examiner at time of event</td>
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<td>GAU – Art Unit of examiner at time of event</td>
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<tr>
<td>Examiner Number – 5-digit examiner number</td>
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<tr>
<td>Examiner Name – Examiner determined to be responsible for case event</td>
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<td>Grade – The GS Level of the Examiner for the pay period retrieved.</td>
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<td>Grade Date – The current last promotion date stored in Infrastructure via HR.</td>
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<tr>
<td>Signatory Authority Level – The current signatory authority level for the examiner.</td>
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<tr>
<td>Examiner on-Board Date – The date on which the employee started with the USPTO.</td>
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<tr>
<td>Total Examining Hours – The total (regular + overtime) examining hours used in the production calculation in PALM.</td>
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<td>Total Other Time – The total other time hours derived from webTA and stored in PALM.</td>
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<td>Total Overtime – The total overtime hours worked in the pay period as stored in PALM.</td>
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<td>Percent Examination Time – The percent of time attributed to</td>
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<tr>
<td>MOST USEFUL INFORMATION FOR EXAMINERS</td>
<td>FREQUENCY OF REVIEW</td>
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<tr>
<td>Examination during the pay period.</td>
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<tr>
<td><strong>Regular / QSI Examiner Production %</strong> – Based on (\frac{(N + D)}{2}) QSI % FY production, this is the ORIGINAL-PALM-count-system-calculated percent production over the period. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td><strong>Regular / QSI Expected Production</strong> – The ORIGINAL-PALM-calculated expected production for the pay period. If an examiner has a QSI(+), it is factored in.</td>
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<tr>
<td><strong>Total Balanced Disposals</strong> – The balanced disposals (the sum of FAOM counts + disposal counts divided by two) for the pay period in the ORIGINAL PALM count system.</td>
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<tr>
<td><strong>Static Quarterly Production</strong> – Based on (\frac{(N + D)}{2}) QSI % FY production, this is the ORIGINAL-PALM-count-system-calculated percent production for the ENTIRE quarter of the pay period data that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td><strong>Rolling Quarterly Production</strong> – Based on (\frac{(N + D)}{2}) QSI % FY production, this is the ORIGINAL-PALM-count-system-calculated percent production for the quarter through the pay period data that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td><strong>Static FY Production</strong> – Based on (\frac{(N + D)}{2}) QSI % FY production, this is the ORIGINAL-PALM-count-system-calculated percent production for the ENTIRE fiscal year of the pay period that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td><strong>Rolling FY Production</strong> – Based on (\frac{(N + D)}{2}) QSI % FY production, this is the ORIGINAL-PALM-count-system-calculated percent production for the fiscal year through the pay period that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td><strong>Workflow for Pay Period</strong> – The sum of the positive and bonus workflow points less the negative workflow points as stored in PALM for the pay period data that is retrieved. [Prior to Docket Management system implemented in FY11].</td>
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<tr>
<td><strong>Workflow Year-to-Date</strong> – The sum of the positive and bonus workflow points less the negative workflow points as stored in PALM for the ENTIRE fiscal year of the pay period data that is retrieved. [Prior to Docket Management system implemented in FY11].</td>
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<tr>
<td>Most Useful Information for Examiners</td>
<td>Frequency of Review</td>
<td>Variable</td>
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<tr>
<td>CSI – Regular / QSI Examiner Production % – Based on ((N + I + D) / 2) QSI % FY production, this is the PALM-CSI calculated percent production over the period. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td>CSI – Regular / QSI Expected Production – The PALM-CSI calculated expected production for the pay period. If an examiner has a QSI(+), it is factored in.</td>
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<tr>
<td>CSI - Total Balanced – The balanced disposals (the sum of FAOM, Intermediate, and disposal counts divided by two) for the pay period in the PALM-CSI system</td>
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<tr>
<td>CSI - Static Quarterly Production – Based on ((N + I + D) / 2) QSI % FY production, this is the PALM-CSI calculated percent production for the ENTIRE quarter of the pay period that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td>CSI - Rolling Quarterly Production – Based on ((N + I + D) / 2) QSI % FY production, this is the PALM-CSI calculated percent production for the quarter through the pay period data that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td>CSI - Static FY Production – Based on ((N + I + D) / 2) QSI % FY production, this is the PALM-CSI calculated percent production for the ENTIRE fiscal year of the pay period that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td>CSI - Rolling FY Production – Based on ((N + I + D) / 2) QSI % FY production, this is the PALM-CSI calculated percent production for the fiscal year through the pay period that is retrieved. If Examiner has a QSI(+), it is factored in.</td>
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<tr>
<td>MOST USEFUL INFORMATION FOR EXAMINERS</td>
<td>FREQUENCY OF REVIEW</td>
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<tr>
<td>COPA 2012 First Actions – The number of original First Actions done on COPA 2012 cases during the period. This data is populated for each fiscal year by looking at original first actions during the FY where the application was 13 months old+ at the beginning of the FY.</td>
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<tr>
<td>COPA 2012 Cases on Docket – The number of COPA 2012 cases docketed to the examiner at the beginning of each pay period. This data is populated for each fiscal year by looking at applications docketed to the examiner where the application was 13 months old+ at the beginning of the FY.</td>
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<tr>
<td>Original FAOMs – The number of original FAOMs done in cases during the period. No FAOMs after RCE included.</td>
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<tr>
<td>Original FAOM Allowances – A count of the original first action allowances done in cases during the period. No FAOMs after RCE included.</td>
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<tr>
<td>Original 2\textsuperscript{nd} Actions Made Final – A count of the 2\textsuperscript{nd} Action final rejections done in cases during the period. Restrictions are not counted as actions in selecting this data. No actions after RCE included</td>
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<tr>
<td>Original 2\textsuperscript{nd}+ Action NFs – A count of original second –plus-action non-final rejections in cases during the period where the examiner of the second-plus-action non-final rejection is recorded (e.g., not necessarily the same as the examiner of any earlier action). No actions after RCE included. Actions are selected from rejections, allowance, Quayle action, interference actions, advisory actions, suspensions, independent rule 105 communications, advisory actions and abandonments.</td>
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<tr>
<td>Original 2\textsuperscript{nd}+ Action NFs – Same Examiner – A count of original second-plus-action non-final rejections in cases during the period where the examiner of the second-plus-action non-final rejection is the same examiner as the examiner of at least one earlier action. No actions after RCE included. Actions are selected from rejections, allowance, Quayle action, interference actions, advisory actions, suspensions, independent rule 105 communications, advisory actions and abandonments.</td>
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<tr>
<td>Original 2\textsuperscript{nd}+ NFs – After Restriction – A count of original second-plus-action non-final rejections in cases during the period where there was an earlier restriction in the case. No actions after RCE included.</td>
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<tr>
<td>Most Useful Information for Examiners</td>
<td>Frequency of Review</td>
<td>Variable</td>
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<tr>
<td>RCE included. Actions are selected from restrictions, rejections, allowance, Quayle action, interference actions, advisory actions, suspensions, independent rule 105 communications, advisory actions and abandonments.</td>
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<tr>
<td>Abandonments Not Including RCEs – A sum of the disposal counts awarded for abandonment type transactions (Failure to Respond, Express and after prior disposal) but not for RCEs.</td>
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<tr>
<td>Office Actions – A count of Office actions in the period selected from restriction, rejections, allowance, Quayle action, interference actions, advisory actions, interference actions, suspensions, independent rule 105 communications, advisory actions and abandonments. Abandonments for failure to respond are not included in the count of actions.</td>
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<tr>
<td>Disposals – A count of disposal counts awarded in the period where the counts are from allowances, interference actions, examiner’s answers and abandonments.</td>
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<tr>
<td>Total Allowance Disposals – A count of allowance disposal counts. Can be used to calculate % Allowed of Disposals when used with the “Disposals” count above.</td>
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<tr>
<td>Total Abandonment Disposals – A sum of the disposal counts awarded for abandonment type transactions (Failure to Respond, Express, for RCE and after prior disposal).</td>
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<tr>
<td>Withdrawn Allowances – The number of allowances withdrawn (W/N=) in the period for cases in which the examiner was the owner of the latest allowance (CNTA)</td>
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<tr>
<td>Reopens after Final – The number of applications where prosecution is reopened (CTNF) after final rejection (CTFR). This category includes post-RCE reopens, but those situations where there is an intervening RCE filing between the final rejection and reopening non-final rejection are NOT included. The date and examiner associated with the reopening actions are used.</td>
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<tr>
<td>Multiple Restrictions – The number of applications in which a 2nd+ restriction / election requirement was imposed. This category includes post-RCE restrictions. The date and examiner associated with the 2nd+ restrictions are used.</td>
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</table>
| Restrictions after 2nd Action – The number of applications in which a restriction / election requirement was imposed on the 3rd+
<table>
<thead>
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<th>MOST USEFUL INFORMATION FOR EXAMINERS</th>
<th>FREQUENCY OF REVIEW</th>
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<tr>
<td>action. This category includes post-RCE restrictions. The date and examiner associated with the 3\textsuperscript{rd}+ action restrictions are used.</td>
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<tr>
<td><strong>Restrictions ON 2\textsuperscript{nd} Action</strong> – The number of applications in which a restriction / election requirement was imposed on the 2\textsuperscript{nd} action. This category includes post-RCE restrictions. The date and examiner associated with the 2\textsuperscript{nd} action restrictions are used.</td>
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<tr>
<td><strong>Terminal Disclaimers Filed</strong> – The number of Terminal Disclaimers approved in the TC for which the examiner owned the prior Office action.</td>
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<tr>
<td><strong>Examiner Interviews Recorded</strong> – The number of Examiner Interviews recorded in PALM for which the examiner owned the prior Office action.</td>
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<tr>
<td><strong>Average Turnaround Time</strong> – The average time from the forwarding (FWDX) of a case in non-final amended status (71) until the examiner sends out an Office action.</td>
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<tr>
<td><strong>Occurrences in Turnaround Sample</strong> – The number of cases used in the sample (i.e., in determining the average) for Average Turnaround Time.</td>
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<tr>
<td><strong>Original First Action Restrictions</strong> – The number of original first action restrictions done by the examiner during the period.</td>
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<tr>
<td><strong>3\textsuperscript{rd} + Non-Final Rejections</strong> – A count of third (or more) non-final rejections in cases during the period where the examiner of the third-plus-non-final rejection is recorded (e.g., not necessarily the same as the examiner of any earlier non-final rejection). Actions after RCE included, but counting of non-finals restarts with an RCE.</td>
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<tr>
<td><strong>3\textsuperscript{rd} + Non-Final Rejections – Same Examiner</strong> – A count of third (or more) non-final rejections in cases during the period where the examiner of the third-plus-non-final rejection is recorded and is the same examiner as at least two earlier non-final rejections. Actions after RCE included, but counting of non-finals restarts with an RCE.</td>
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<tr>
<td><strong>2\textsuperscript{nd} + Ex Parte Quayle Action</strong> – The number of applications in which a 2\textsuperscript{nd} + ex Parte Quayle action is mailed. This category includes post-RCE ex Parte Quayle actions. The date and examiner associated with the 2\textsuperscript{nd} + ex Parte Quayle action are used.</td>
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<tr>
<td>ORIGINAL DATA</td>
<td>MOST USEFUL INFORMATION FOR EXAMINERS</td>
<td>FREQUENCY OF REVIEW VARIABLE</td>
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<tr>
<td><strong>3rd + Restrictions</strong></td>
<td>A count of third (or more) restrictions in cases during the period where the examiner of the third-plus-restriction is recorded (e.g., not necessarily the same as the examiner of any earlier restriction). The count of restrictions does NOT restart with an RCE.</td>
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<tr>
<td>MOST USEFUL INFORMATION FOR EXAMINERS</td>
<td>FREQUENCY OF REVIEW</td>
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<tr>
<td>FAOMs after RCE – The number of FAOMs done after RCE in cases during the period</td>
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<tr>
<td>FAOM Allowances after RCE – A count of the first action allowances done in cases after any RCE filing.</td>
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<tr>
<td>2nd+ Non-Finals after RCE – A count of second–plus-action non-final rejections in cases where both+ non-finals took place after a common RCE and where examiner of the second-plus-action non-final rejection is recorded (e.g., not necessarily the same as the examiner of the 1st action).</td>
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<tr>
<td>RCE Disposals – The sum of the disposal counts awarded for abandonments for RCE (ABN9).</td>
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<tr>
<td>RCE Abandonments – (a.k.a., total RCE filings) A count of the abandonments for RCE (ABN9) recorded in the period. This number is the same as the total number of RCEs.</td>
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<tr>
<td>2nd+ RCE Filed in Same Case – A count of the 2nd+ RCE filings in cases recorded in the period.</td>
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<tr>
<td>1st Action Final after RCE – A count of the first action final rejections done in cases after any RCE filing.</td>
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<tr>
<td>Allowances after RCE – A count of the allowances done in cases after any RCE filing.</td>
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<tr>
<td>Improper RCEs – A count of the improper RCEs (IRCE) received for which the examiner owned the prior Office action (typically a final rejection that resulted in the RCE submission).</td>
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<tr>
<td>2nd+ Non-Finals – Same Examiner – After RCE – A count of second-plus-action non-final rejections in cases during the period where both non-finals took place after an RCE and where the examiner of the second-plus-action non-final rejection is the same examiner as the examiner of at least one earlier action). Actions are selected from rejections, allowance, Quayle action, interference actions, advisory actions, interference actions, suspensions, independent rule 105 communications, advisory actions and abandonments.</td>
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<td>Most Useful Information for Examiners</td>
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<tr>
<td>All Board Decisions – The number of original BPAI decisions (Affirmed, Affirmed in Part, Reversed) where the examiner drafted the last-filed examiner’s answer.</td>
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<tr>
<td>Board Decisions - Affirmance – The number of original BPAI decisions where the examiner who drafted the last-filed examiner’s answer was either affirmed or affirmed in part.</td>
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<tr>
<td>Board Decisions - Reversal – The number of Board decisions where the examiner who drafted the last filed-examiner’s answer (APEA, APE2) was reversed.</td>
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<tr>
<td>Board Decisions – Affirmed in Part – The number of Board decisions where the examiner who drafted the last-filed examiner’s answer (APEA, APE2) was affirmed in Part.</td>
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<tr>
<td>Pre-Appeal Conference Requests – The number of pre-appeal conference requests (AP.C) received on cases for which the examiner owned the prior Office action (typically the final rejection).</td>
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<tr>
<td>Pre-Appeal Conference Decision to Proceed to Board – The number of pre-appeal conference decisions to proceed with the appeal (APCP) during the period received on cases for which the examiner owned the prior Office action (typically the final rejection).</td>
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<td>Pre-Appeal Conference – The number of pre-appeal conference decisions to withdraw the rejection (APCA) or to reopen prosecution (APCR) where the examiner was the owner of the latest action.</td>
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<tr>
<td>Allowance after Board Decision – The number of Allowances done as the next significant action after any Board decision (no intervening RCE). An allowance preceded by a Quayle action after Board decision will be included.</td>
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<tr>
<td>Abandonment after Board Decision – The number of Abandonments done as the next significant action after any Board decision (no intervening RCE).</td>
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<tr>
<td>Reopen Prosecution after Board Decision – The number of cases where prosecution was reopened after any Board decision (no intervening RCE).</td>
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<td>Metric</td>
<td>Description</td>
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<tr>
<td>Defective Appeal Briefs (APBD)</td>
<td>A count of the non-compliant appeal brief holdings (either by the LIE or the Examiner) for which the examiner owned the prior Office action (typically a final rejection that resulted in the appeal brief submission).</td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;+ Action Non-Final after Pre-Appeal Conference</td>
<td>The number of 2&lt;sup&gt;nd&lt;/sup&gt;+ action non-final rejections done as the next action after any pre-appeal conference.</td>
<td></td>
</tr>
<tr>
<td>Allowance after Pre-Appeal Conference</td>
<td>The number of Allowances done as the next action after any pre-appeal conference.</td>
<td></td>
</tr>
<tr>
<td>2+ Defective Appeal Briefs – Same Case</td>
<td>A count of the multiple non-compliant appeal brief holdings (either by the LIE or the Examiner) in the same case for which the examiner owned the prior Office action (typically a final rejection that resulted in the appeal brief submission).</td>
<td></td>
</tr>
<tr>
<td>Appeal Brief with Examiner’s Answer</td>
<td>The number of appeal briefs that received an Examiner’s Answer during the period.</td>
<td></td>
</tr>
<tr>
<td>Examiner’s Answer</td>
<td>The number of examiner’s answers done by the examiner during the period.</td>
<td></td>
</tr>
<tr>
<td>Appeal Brief Reopened Resulting in Allowance</td>
<td>The number of appeal briefs that received an Office action reopening prosecution in response to the appeal brief that were subsequently allowed.</td>
<td></td>
</tr>
<tr>
<td>Board Remands</td>
<td>The number of remands by the Board of cases in which the examiner was the owner of the latest examiner’s answer ((APEA), or supplemental examiner’s answer (APE2)). PALM remand entries are selected from TCRD, APRD, AP.R, APAR and APPR.</td>
<td></td>
</tr>
<tr>
<td>Appeal Briefs</td>
<td>The number of appeal briefs received for which the examiner owned the prior Office action (typically the final rejection or advisory action).</td>
<td></td>
</tr>
<tr>
<td>Appeal Brief Reopened</td>
<td>The number of appeal briefs that received an Office action reopening prosecution in response to the appeal brief.</td>
<td></td>
</tr>
<tr>
<td>Appeal Brief Allowed</td>
<td>The number of appeal briefs that received an Office action allowing the case in response to the appeal brief.</td>
<td></td>
</tr>
<tr>
<td>Returns of Appeal (Status 119 &amp; 149) Cases</td>
<td>The number of cases that ENTER into status 119 or 149 (TC Return of Appeal or BPAI Return of Appeal, respectively). Returns are attributed to the examiner owner of the latest examiner’s answer (APEA), or supplemental examiner’s answer (APE2). Cases are reported for the pay period in which the application enters status 119 or 149.</td>
<td></td>
</tr>
</tbody>
</table>
### Amendment after Notice of Appeal (Status 127)

The number of cases that ENTER into status 127 (Amendment after Notice of Appeal). The application is attributed to the examiner owner of the last Office action. Cases are reported for the pay period in which the application enters status 127.

### SPECIALIZED REPORTING

<table>
<thead>
<tr>
<th>Most Useful Information for Examiners</th>
<th>Frequency of Review</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowances</td>
<td></td>
<td>The number of allowances (CNTA) done by the examiner in the period.</td>
</tr>
<tr>
<td>Final Rejections</td>
<td></td>
<td>The number of final rejections (CTFR) done by the examiner in the period.</td>
</tr>
<tr>
<td>Actions per Disposals</td>
<td></td>
<td>A count of Office actions divided by a count of disposal counts awarded (see ORIGINAL Data values).</td>
</tr>
<tr>
<td>Printer Rushes</td>
<td></td>
<td>The number of printer rushes (PUBTC) returned during the period where the examiner was the owner of the allowance.</td>
</tr>
<tr>
<td>Allowed Cases Returned to Examiner ACREs</td>
<td></td>
<td>The number of ACREs for cases in which the examiner was the owner of the latest allowance (CNTA).</td>
</tr>
<tr>
<td>181 Petitions</td>
<td></td>
<td>The number of 181 Petitions decided during the period where the examiner was the owner of the last office action. “181 Petitions” include those for invoking supervisory authority including review of final restrictions, premature final rejections, refusal to enter amendments and miscellaneous (610, 699).</td>
</tr>
<tr>
<td>Terminal Disposals</td>
<td></td>
<td>A count of issues plus non-RCE abandonments where the last action in those cases took place during the period. When combined with “Actions in Terminal Disposals,” the user receives a different view of an “actions per disposal” count.</td>
</tr>
<tr>
<td>Actions in Terminal Disposals</td>
<td></td>
<td>A count of Office actions in cases that were “Terminal Disposals” in the period. Actions are selected from restriction, rejections, allowance, Quayle action, interference actions, advisory actions, suspensions, independent rule 105 communications, and abandonments. Abandonments for failure to respond are not included in the count of actions.</td>
</tr>
<tr>
<td>All FAOM Allows</td>
<td></td>
<td>A count of all First Action allowances in an application. Actions are selected from rejections, allowance, Quayle</td>
</tr>
<tr>
<td>Most Useful Information for Examiners</td>
<td>Frequency of Review</td>
<td>Variable</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------</td>
<td>----------</td>
</tr>
<tr>
<td>action, interference actions, advisory actions, suspensions, independent rule 105 communications, and abandonments.</td>
<td>Notice of Informal or Non-Responsive Amendment (NINA) – A count of the NINA holdings (either by the LIE or the Examiner) for which the examiner owned the prior Office action</td>
<td></td>
</tr>
<tr>
<td>4 Month PTA Cases – The number of cases where the examiner failed to respond to a qualifying applicant response within 4 months per the Paten Term Adjustment rules. Any application coming out of status 71, 77, 80, 120, or 121 at the time of examiner’s action is eligible for review.</td>
<td>8 Month Status Cases – The number of cases that have been in key statuses for over 8 months. The statuses are selected from statuses 39 through 89 (pending normal prosecution), 119-123 and 149 (pre-appeal), 135-139 (post appeal) and status 140 (suspended). Cases are reported by the examiner to which the case was assigned at the end of the pay period.</td>
<td></td>
</tr>
<tr>
<td>Consecutive Restrictions – The number of applications in which consecutive restriction / election requirements were imposed. This category includes post-RCE restrictions. The date and examiner associated with the later of the consecutive restrictions are used.</td>
<td>Consecutive Non-Final Rejections – The number of applications in which consecutive non-final rejections were entered. This category includes post-RCE non-finals. The date and examiner associated with the later of the consecutive non-finals are used.</td>
<td></td>
</tr>
<tr>
<td>Consecutive Final Rejections – The number of applications in which consecutive final rejections were entered. This category includes post-RCE consecutive final rejections. The date and examiner associated with the later of the consecutive final rejections are used.</td>
<td>Quayle Action Followed by Final Rejection – The number of occurrences where a Quayle action is followed by a final rejection.</td>
<td></td>
</tr>
<tr>
<td>Quayle Action Followed by Non-Final Rejection – The number of occurrences where a Quayle action is followed by a non-final rejection.</td>
<td>Special Cases - Terminal Disposals – A count of issues plus non-RCE abandonments in special cases where the last action in those cases took place during the period. Special cases are those under</td>
<td></td>
</tr>
</tbody>
</table>
**SPECIALIZED REPORTING**

<table>
<thead>
<tr>
<th>MOST USEFUL INFORMATION FOR EXAMINERS</th>
<th>FREQUENCY OF REVIEW</th>
<th>VARIABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>accelerating examination, Patent Prosecution Highway, or where a Petition to Make Special has been granted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Special Cases - Actions in Terminal Disposals</strong> – A count of Office actions in special cases that were “Terminal Disposals” in the period. Special cases are those under accelerated examination, Patent Prosecution Highway, or where a Petition to Make Special has been granted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ex Parte Quayle actions</strong> – The number of ex Parte Quayle action (CTEQ) done by the examiner in the period.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consecutive Ex Parte Quayle actions</strong> – The number of applications in which consecutive ex Parte Quayle actions were mailed. This category includes post-RCE ex Parte Quayle actions. The date and examiner associated with the later of the consecutive ex Parte Quayle action are used.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: Historical Event Timelines
Included below are sample pictures of the historical event timelines we created on Visio.

FIGURE 2: Historical Event Timeline
Below is the second Visio timeline created to show all the events occurring in the same timeframe as Second Pair of Eyes.

FIGURE 3: Second Pair of Eyes Event Timeline
Appendix E: Historical Event Information

Included below is a sample information page, specifically on the event Second Pair of Eyes

SECOND PAIR OF EYES

Initiated: 2003 (Trademark)

9/21/2004 (21st Century Strategic Plan)

2006 (widespread USPTO use)

Terminated: 2009

SUMMARY:

Second Pair of Eyes was a program instituted in response to criticism of the Patent Office for having too lenient of an allowance rate. This started from a couple of patents being allowed in early 2006 that were very trivial, such as a stick and a peanut butter and jelly sandwich. Second Pair of Eyes made it such that all allowances had to be reviewed again by a supervisor before they are granted, to hopefully cut down on the number of patents that were granted incorrectly.

LINKS:


Century Strategic Plan

http://www.uspto.gov/web/offices/com/strat21/StratPlan_qnas.htm (21st Century Strategic Plan)

EXPECTATIONS:

- Drop in Allowance Error Rate
- Increase in quality of patents granted

RESULTS:

- Drop in Allowance Error Rate
- Drop in Allowance Rate
- Strained Relationships between Examiners and SPEs
- Drop in Morale
- Resource drain
- Increase in the number of cases going to the Board of Appeals
- Criticism of the Patent Office that allowance rate is too strict
# Appendix F: Events Information Excel Sheet

Included below is the excel sheet document detailing the events we collected from interviews.

<table>
<thead>
<tr>
<th>Events from interviews</th>
<th>Hits</th>
<th>Summary</th>
<th>Important Dates</th>
<th>Internal?</th>
<th>Expectations</th>
<th>Reality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus move from Crystal City</td>
<td>10</td>
<td>The USPTO Main Campus moved from Crystal City to Alexandria, also left all paper files behind in CC.</td>
<td>December 2003-May 2005</td>
<td>Y</td>
<td>Increase in productivity because of expansion. Issues because it was further.</td>
<td>Employee were less social, spent more time in their rooms instead of socializing. The issues perceived were never realized.</td>
</tr>
<tr>
<td>AIA</td>
<td>8</td>
<td>Fee Increase: 9/26/2011 First to File</td>
<td>Signed: 9/16/2011 Fees: 9/26/2011 Training: 10/5/2012</td>
<td>N</td>
<td>Don’t want the examiners to have to determine which claims are covered by inventor, and which by first to file. Strange filing behavior around change from first to invent.</td>
<td>Too Recent, we can’t tell</td>
</tr>
<tr>
<td>AIPA</td>
<td>7</td>
<td>Business Methods, Publication for foreign applications, patent restoration for delays</td>
<td>Enacted 11/29/1999</td>
<td>N</td>
<td>PGPub to help significantly. 20 year change forcing people to submit beforehand, and less afterward.</td>
<td>PGPub helped quite a bit. People submitted before 20 year change. PGPub</td>
</tr>
<tr>
<td>Count System</td>
<td>Teleworking</td>
<td>caused at USPTO, RCEs PGPub, new 20 year term</td>
<td>Large blip from PGPUB</td>
<td>did not make as large a blip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------</td>
<td>---------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>USPTO worked with POPA to develop a new examiner production system. It is to reduce the instances in which it is necessary for an application to file a RCE.</td>
<td>Unwound Stress, more productive overall. Changed relationship with POPA. First Bunker Situation</td>
<td>More productive, higher moods, people lost track of time while working. Employee retention and engagement went up, and they gained productivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Announced 9/30/2009 Implemented 2/18/2010 Y</td>
<td>Expected members to want to take advantage of it. Most employees wouldn’t be affected too much</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Allowed members to move more than 50 miles away from USPTO, and thus be exempt from reporting regularly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7/2/2001 TEAPP: 7/5/2011 Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KSR</td>
<td>4</td>
<td>KSR v. Teleflex, Inc. set the standard of obviousness that if you were to obviously combine two pieces, it wouldn’t be patentable. Decision 4/30/2007 N ---</td>
<td>Complaints about rigidity, struggle from applicants about determining line of obviousness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated Appropriations Act</td>
<td>4</td>
<td>The Consolidated Appropriations Act revises certain patent application and maintenance fees; provides separate fees for a basic filing fee, a search fee, and an examination fee; requires an additional fee if applicants have more. Effective 12/8/2004 N</td>
<td>We expected people to stop filing so many claims</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>They stopped filing so many for fear of fees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GATT (General Agreement on Tariffs and Trade)</td>
<td>than 21 claims or 3 independent claims; and requires an additional fee for any patent application whose specification and drawings exceed 100 sheets of paper (application size fee).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specifically the Uruguay Round, which included IP. Patents had to be granted unless they could endanger public order or morality. Minimum duration of a patent should be 20 years from filing date. TRIPS Agreement</td>
<td>9/1986-4/1994 TRIPS 4/29/1994 &amp; 1/1/1996</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Rule 101 stated that business methods would be patentable. When a specific method went to court, it was shot down in Bilski v. Kappos. Since then the rule has been the focus of multiple cases, each deciding the ruling in various ways, occasionally contradicting each other. Caused confusion. It led to a string of cases and problems with 101.
<table>
<thead>
<tr>
<th></th>
<th>Second Pair of Eyes</th>
<th>A universal review of all applications before they are granted. Implemented as part of an improved Quality Assurance Program</th>
<th>Initial 3/2000 Class 705 Planned Implementation in all 2003 9/21/2004 Implementation with Strategic Plan</th>
<th>Expected Cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPE Hoteling Pilot</td>
<td>2</td>
<td>New Pilot Program to allow SPEs to hotel as well as examiners</td>
<td>5/2012-11/2012</td>
<td>Y</td>
</tr>
</tbody>
</table>

Sig. Drop in Allowance On the subject of the plan’s quality initiatives, POPA takes the position that the work product reviews and second pair of eyes reviews “represent a burdensome imposition of managerial authority designed to increase control rather than to enhance quality”.3
| pph(Patent Prosecution Highway) | 2 | Under the Patent Prosecution Highway (PPH), an applicant receiving a ruling from the Office of First Filing (OFF) that at least one claim in an application filed in the OFF is patentable may request that the Office of Second Filing (OSF) fast track the examination of corresponding claims in corresponding applications filed in the OSF. PPH will leverage fast-track examination procedures already 5/25/2010, no fees |   |   |
available in the OSF to allow applicants in the OSF to obtain corresponding patents faster and more efficiently.

<table>
<thead>
<tr>
<th></th>
<th>Kappos 2</th>
<th>Administration change, David Kappos 8/13/2009</th>
<th>Great communication skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>examiner performance plan 2</td>
<td>Performance Appraisal Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COPA (Clearing Oldest Patent Applications) 1</td>
<td>Get rid of the oldest applications first. by 9/30/2011 Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPC 1</td>
<td>USPTO and EPO agree to cooperate on a joint classification system derived from IPC-based ECLA 10/25/2010 Y/N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QIR (Quality Index Report) 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>patent end to end 1</td>
<td>Developing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Festo</td>
<td>1</td>
<td>prototypes to replace the current USPTO search system</td>
<td>5/28/2002</td>
</tr>
<tr>
<td>-------</td>
<td>---</td>
<td>------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Festo Corp. v. SKKK Co. was important in determining how broad a patent could be stretched, and whether previous changes to the patent disallowed it from being as broad</td>
<td></td>
</tr>
</tbody>
</table>
Appendix G: Case Study

1. What is Second Pair of Eyes?

It is a program used at the USPTO to have a second review of an Examiners Office Action prior to the action being mailed to the applicant. These reviews can be corporate-wide, selected to particular technology area, or at the individual examiner’s level. The actions being reviewed can also be varied from all actions to selected actions, such as Allowances or Final Rejections. The construct behind Second Pair of Eyes was that every patent that was submitted as allowable would receive a second review by a supervisor, which was supposed to reduce the number of allowances with errors found by the Office of Patent Quality Assurance. The USPTO reviews a sample of final dispositions and in-process Office actions from the Examining Corps each year.

2. Why was the Second Pair of Eyes Program implemented?

The Second Pair of Eyes program was instituted in response to external criticism of the Patent Office for issuing patents that had questionable validity. This started from a select number of patents being allowed in the early 2000’s that were considered by some critics as being trivial. For example, the USPTO was criticized for their allowances on patents for a peanut butter and jelly sandwich (U.S. Patent 6,004,596) and a stick (US Patent No. 6,360,693). The “business methods” area of the Patent Office was receiving attention from a part of industry that was not conventionally covered by Intellectual Property, as patents issued more and more external criticism mounted. During that time, prior art database searches were very limited, as this “technology area” was new and had yet to develop a large body of published and easily accessible documentation. To monitor allowances closely, the Office implemented the Second Pair of Eyes in the Business Area. The program grew from a quick and temporary solution to address external
criticism in Business Methods was expanded to address criticism in general.

The USPTO establishes “5 year strategic plans.” These plans include metrics on performance targets, of which include quality goals. So the USPTO, attempting to meet these Congressional goals, found themselves short of reaching the aggressive quality targets therein. To improve these numbers the USPTO further implemented the Second Pair of eyes expanding outside the Business Area. In 2006 the USPTO instituted the Second Pair of Eyes program throughout the entire Patent Corps. This was maintained until 2009 when it was disbanded as Corps-wide initiative. The USPTO continues to review work of examiners of which include a second review. Such reviews are upon normal oversight and/or dedicated to improve over-all quality in both individuals and Technology Centers.

3. **What were the expectations for this program?**

In 2003, the Second Pair of Eyes had already been instituted in the “business methods area” of the USPTO, resulting in an increase in the quality of the patents issued. Because of these results, the USPTO management adopted it for use in the other areas of the office, expecting similar results. The management at the time was hoping that this second review would ultimately reduce the allowance error rate and increase the quality of the patents that were granted.

4. **Were the expectations realized?**

The expectations that the allowance error rate would go down did happen, so that expectation was realized. The quality increased very slowly and gradually throughout, leaving the quality afterward to be slightly higher, which was also an expectation that was realized.
5. Did the perceptions match the results of the program?

According to the data analyzed, there was a slow increase in quality throughout the program, until it stabilized. In 2009, when the Second Pair of Eyes ended, the quality of the data was at 94% compliance for allowance and final disposition, and 92% compliance for non-final actions, as compared to 94% and 88%, respectively. The compliance for allowance and final disposition fluctuated as low as 90% and as high as 96%.

6. What unintended effects did the program have on Patent Operations?

There were also some unexpected results that came from the Second Pair of Eyes. What the USPTO did not expect was the large drop in the allowance rate that accompanied the drop in the allowance error rate. The number of actions per disposal increased, which could indicate extensive rework from examiners. This creates both internal and external stress and discontent. This drop was from a combination of factors, including the fact that the reviewed allowances were scrutinized much more carefully than applications before Second Pair of Eyes, and so even allowed applications were denied. Another factor was that primary examiners, whose work was not normally reviewed, felt that they were being undermined and were losing the responsibilities and authorship they had earned. Other examiners were afraid to allow applications since they were under close review, and this would be reflected on the examiner’s performance reviews. This caused a drop in morale across the examiner population, according to multiple managers in the USPTO.

What unintended effects did the program have on the number of allowances, abandonments, issuances, compliance to quality measures, actions per disposal, and
second action non-disposals?

Overall there was a negative effect on allowances, issuances, abandonments and filings, with the decreasing number of patents being filed leading to decreases in the other measures. The filings dropped during this time period because people saw that the Patent Office was having a very strict allowance rate and so their hope for their patent getting approved went down. With another set of reviews after a patent was allowed, it was much harder to get patents issued. Between 2008 and 2009, when the Second Pair of Eyes was beginning to be removed, there was a spike in issuances, allowances and filings.

From 2005 to 2010, there was a spike in actions per disposals. This pattern directly correlates to the Second Pair of Eyes. Since examiners were very cautious about the issuances of patents, it took them more steps, more actions, to get the patent to either be allowed or abandoned.

7. What other events were going on during the same time period as the Second Pair of Eyes?

There were five other events going on during the same time period as the Second Pair of Eyes: Campus Move, Accelerated Examination, Consolidated Appropriations Act (CAA), KSR v. Teleflex, and change in administration.

The Campus Move was the physical move of the USPTO from Crystal City to Alexandria. It’s often mentioned for its connection to electronic filing because the USPTO left all of its paper files behind in Crystal City.

Under the Acceleration Examination, the USPTO established procedures under which the examination of a patent application may be accelerated.

The Consolidated Appropriations Act revises certain patent application and
maintenance fees; provides separate fees for a basic filing fee, a search fee, and an examination fee; requires an additional fee if applicants have more than 21 total claims or 3 independent claims; and requires an additional fee for any patent application whose specification and drawings exceed 100 sheets of paper (application size fee).

KSR v. Teleflex set the standard of obviousness where if a “person having ordinary skill in the art” would think to combine multiple prior art inventions, then the combination would not be considered allowable.

In summer 2009, David Kappos became the new director of the USPTO. His administration brought many new changes and improvements to the office.

8. **From the events that took place during the same time period as the Second Pair of Eyes, which events could have also impacted the data represented on the graphs?**

From the events that took place, there could have been some events that impacted the data represented on the graphs. For example in 2004 and 2005, the drop in issuances and allowances may have been in part from the Campus Move. The Campus Move may have been the cause in this drop because it was most likely distracting for the examiners to allow and issue patents while they were on the move, and the time necessary to prepare and unpack from their move.

Dips in 2008 might be attributed to KSR v. Teleflex, since the evidence for making a rejection under 35 U.S.C. §103 was lowered, thereby providing examiners additional leverage in their legal/technical support of their position.

9. **Conclusions**

In conclusion, even though the office did receive what they were looking for-
in quality - the unintended results of the corps-wide use of Second Pair of Eyes created problems to the point where it was hurting the office. Since this was implemented just as a temporary program, it was easy to remove it. However, this implementation of this program ended up hurting the office more than helping it.

Overall, the historical event timeline that we created was simple and easy to use. It is a very visual representation of the events that occurred over the past decade that have had an impact on the office. Finding out additional information for each event was also very simple with just by clicking on the event title. The graphs were also easy to read and use. Since they were matched up with the dates on the timelines, it was easy to correlate historical events with numerous data points in a graphical way. In addition, if there is a change in the data, a user can easily look down to the lined up timelines to see which events occurred at that time period to see if any of those could have had an effect on the data.
Appendix H: USPTO

The mission of the United States Patent and Trademark Office, created as a result of the Patent Act of 1836 (Patent Act, 1836, S 6), is:

“Fostering innovation, competitiveness and economic growth, domestically and abroad to deliver high quality and timely examination of patent and trademark applications, guiding domestic and international intellectual property policy, and delivering intellectual property information and education worldwide, with a highly skilled, diverse workforce.”

-USPTO, “Mission and Organization of the USPTO”, (2012a)

The USPTO’s mission and purpose originate from Article 1, Section 8, Clause 3 of the United States Constitution wherein Congress is empowered

“To promote the progress of science and useful arts, by securing for limited times to inventors and authors the exclusive right to their respective writings and discoveries.”

The USPTO has emerged as the foremost modern patent office, receiving more than 500,000 Utility Patent Applications in 2010 (USPTO, 2012f), far outpacing the 235,700 applications filed at the European Patent Office in the same year (EPO, 2012).

The USPTO exists to administrate and grant United States Patents and Trademarks to fulfill this constitutional power. The main clientele of the USPTO consists largely of lawyers working on behalf of inventors or companies employing those inventors, and several independent inventors.

The USPTO is a member of the Commerce Department of the Executive Branch of the United States Federal Government. The USPTO is headed by the Secretary of Commerce for Intellectual Property. Its main campus is located in Alexandria, Virginia, and new satellite campuses are under construction around the country in locations
including Detroit, Michigan and Silicon Valley, California. As an agency created to fulfill a legislative mandate it is subject to judicial decisions affecting United States Patent and Trademark Law. The USPTO has access to all information normally available to a government agency, as well as information on all patents and trademarks that have ever been registered with the office.

The USPTO is completely funded by the fees that applications for patents and trademarks generate as they move through the process. The level of funding the USPTO is able to draw from these fees is determined by Congress (IPO, 2012). The USPTO’s 2011 budget allowed it to draw $2.7 billion of fees collected in FY 2012 (IPO, 2012).

We are working in Technology Center 2600, a subsection of the Office of the Commissioner for Patents. TC 2600 specializes in examining patents for communications based technology.

At the end of FY 2011, the USPTO work force was composed of over 10,000 employees, of which 6,780 were patent examiners.

Below is the Organization Chart for the USPTO in FY 2011.
Figure 4: USPTO Hierarchy (USPTO, 2012a)