Patent Quality Program

San Marcos, Texas
Tuesday, February 21, 2017
Update on Patent Quality Programs

Daniel Ryman
Senior Advisor to the Director of the USPTO
Agenda

• Clarity of the Record Pilot
• Master Review Form
• Quality Metrics
• Topic Submission for Case Studies
• Stakeholder Training on Examination Practice and Procedure
Clarity of the Record Pilot
Pilot Goals

- Identify Examiner Best Practices
- Find Correct Balance for Appropriate Recordation
- Use Data/Feedback to Assist Other Programs
- Enhance Clarity of Prosecution Record
Areas of Focus

- More detailed interview summaries
- More precise reasons for allowance
- Pre-search interview – Examiner’s option
- Enhanced documentation of 7 areas of claim interpretation:
  - Special definitions of claim terms
  - Functional language
  - Intended use or result (preamble and body of claim)
  - "Means-plus-function" (35 U.S.C. §112(f))
  - Optional language
  - Non-functional descriptive material
  - Computer-implemented functions that invoke 35 U.S.C. §112(f) ("specialized" or "non-specialized")
Pilot Evaluation

- Reviewed 2,600 Office actions, including a statistical mix of:
  - Pre-Pilot Office actions
  - Pilot Office actions
  - Control group
- Determined key drivers
- Gathered best practices
Interview Summaries

% of Applicable Office Actions Exhibiting Key Drivers

- Substance of applicant’s position described in the interview summary
- Substance of an agreement or next steps described in the interview summary
- Details of agreement reached

Pre-Pilot Office Actions
- 55%
- 63%
- 62%

Pilot Office Actions
- 67%
- 80%
- 70%
35 U.S.C. § 112(f) Presumptions

% Applicable Office Actions Exhibiting Key Driver

- Examiner clearly stated 35 USC 112(f) presumptions on the record: 20% (Pre-Pilot), 54% (Pilot)
- Examiner clearly explained on the record how 35 USC 112(f) presumptions are overcome: 17% (Pre-Pilot), 62% (Pilot)
- Examiner clearly identified the corresponding structure for any limitation that involves 35 USC 112(f): 21% (Pre-Pilot), 59% (Pilot)
When claims were grouped for purpose of rejection, all claim limitations from all grouped claims were clearly addressed.

If an intended use, purpose, or result limitation is broader than applicant’s presumed interpretation as described in the spec, the explanation addressed why the broader interpretation is appropriate.

35 U.S.C. § 102 Rejections

% Applicable Office Actions Exhibiting Key Driver

- Pre-Pilot Office Actions
- Pilot Office Actions
35 U.S.C. § 103 Rejections

If a claim limitation contains an intended use limitation, the explanation addressed how the intended use limitation has been treated

If a claim limitation contains non-functional descriptive material, the explanation addressed how the limitation has been treated

% Applicable Office Actions Exhibiting Key Driver

<table>
<thead>
<tr>
<th>Key Driver Description</th>
<th>Pre-Pilot Office Actions</th>
<th>Pilot Office Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a claim limitation contains an intended use limitation, the explanation addressed how the intended use limitation has been treated</td>
<td>53%</td>
<td>70%</td>
</tr>
<tr>
<td>If a claim limitation contains non-functional descriptive material, the explanation addressed how the limitation has been treated</td>
<td>50%</td>
<td>72%</td>
</tr>
</tbody>
</table>
Reasons for Allowance

% Applicable Office Actions where Reasons for Allowance Added to the Clarity of the Record

- Pre-Pilot Office Actions: 59%
- Pilot Office Actions: 77%

Reasons for Allowance added to Clarity

Pre-Pilot Office Actions  Pilot Office Actions
Clarity of the Record – Next Steps

Monitor Pilot Treated Cases

• Are applicant’s arguments more focused?
• Average time to disposal compared to pre-pilot cases?

Applicant Quality Chat

• Focused only on applicants with at least one pilot treated case
• Gather information/thoughts on any differences seen during pilot time period
• Discuss/share best practices

Full Detailed Report

• 2nd Quarter FY17
Master Review Form

PatentQuality@uspto.gov
Challenges in Measuring Quality

- Objectivity vs. Subjectivity
- Leading vs. Lagging indicators
  - What we are doing rather than what we did
- Balloon-effect
- Variance and controlling for a wide range of factors
Variance, Consistency, & Quality

Consistency is a key driver of quality perceptions and there are numerous factors that contribute to potential inconsistencies.

- 1.5 million Office Actions
- 8,300 Examiners
- 260,000 CPC symbols
- Examiner Production Goals
- 45,000 Agents / Attorneys
- 15,000 pro se Applicants
- 530 Art Units
- Pilot Programs & Initiatives
- 65 OPQA Reviewers
- Changes in law or policy

and other factors...
Program Goals

• To create a **single, comprehensive** tool (called the Master Review Form) that can be used by all areas of the Office to **consistently** review final work product
  – Common review standard
  – Common data points

• To better collect information on the **clarity and correctness** of Office Actions

• To collect review results into a **single data warehouse** for more **robust analysis**
  – Increased precision in metrics
  – More granular levels of analyses to detect anomalies, inconsistencies, and hot spots
Design

Modular designed smart-form

20+ modules
Omitted/Made Rejections, Search, etc.

330 question library
Correctness, clarity, best practices

Auto-populated case details

Integrated system with sampling and workflow features
Looking Forward

The Master Review Form’s single data warehouse facilitates:

• Better quality metrics
• Case studies without the need for *ad hoc* reviews
• Rapid measurement of the impact of training, incentives, or other quality programs on our work product
• Quality monitoring tools, such as dashboards
Quality Metrics
## Quality Metrics – Redefined

### Metrics Today

<table>
<thead>
<tr>
<th>Product Indicators</th>
<th>Master Review Form</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Capturing both correctness and clarity of examiners’ final work product using uniform criteria gathered in a single database</td>
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<th>Process Indicators</th>
<th>Transactional QIR</th>
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<td>Tracking the efficiency and consistency of our processes (for example, to identify “churning”)</td>
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<tr>
<th>Perception Indicators</th>
<th>Survey Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Continuing to internally and externally poll perceptions of patent quality</td>
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</table>
Key Product Indicators

Product Indicators
Master Review Form
Capturing both correctness and clarity of examiners’ final work product using uniform criteria gathered in a single database

Process Indicators
Transactional QIR
Tracking the efficiency and consistency of our processes (for example, to identify “churn”)

Perception Indicators
Survey Results
Continuing to internally and externally poll perceptions of patent quality

- Correctness: Statutory Compliance
- Clarity
- Various levels of reporting
Quality Metrics Website

https://www.uspto.gov/patent/initiatives/quality-metrics-1#step2
Quality Metrics FY17 Targets

- **35 USC 101 Compliance**
  - Expected performance based on current resources and initiatives
  - >98%
  - 98%-93%
  - < 93%

- **35 USC 112 Compliance**
  - >92%
  - 92%-87%
  - < 87%

- **35 USC 102 Compliance**
  - >95%
  - 95%-90%
  - < 90%

- **35 USC 103 Compliance**
  - >93%
  - 93%-88%
  - < 88%
Key Process Indicators

**Product Indicators**
Master Review Form
Capturing both correctness and clarity of examiners’ final work product using uniform criteria gathered in a single database

**Process Indicators**
Transactional QIR
Tracking the efficiency and consistency of our processes (for example, to identify “churning”)

**Perception Indicators**
Survey Results
Continuing to internally and externally poll perceptions of patent quality

- Focus: Quality Index Reporting (QIR) Database
- Outliers
- Root-cause
Quality Metrics Website

• Process Indicators
  – Consistency of Decision Making
  – Rework
  – Reopening Prosecution
Key Perception Indicators

Product Indicators
Master Review Form
Capturing both correctness and clarity of examiners’ final work product using uniform criteria gathered in a single database

Process Indicators
Transactional QIR
Tracking the efficiency and consistency of our processes (for example, to identify “churn ing”)

Perception Indicators
Survey Results
Continuing to internally and externally poll perceptions of patent quality

• Internal and external perception surveys
• Validate other metrics and identify quality hot spots
Quality Metrics Website

• Perception Indicators
  – Select data points from External Quality Survey

Frequency of Technically, Legally, and Logically Sound Rejections (Percent reporting “most” or “all” of the time)
Quality Metrics - Next Steps

- Publish Clarity Data
- Develop Dashboards for Monitoring
- Quality Assurance Action Plans
- Evaluate Perception Indicators
Topic Submission for Case Studies
Topic Submissions – Background

• Case studies used internally on an *ad hoc* basis to study particular issues

• Federal Register Notice initiated this program on December 21, 2015
  – USPTO invited stakeholders to submit patent quality-related topics for study
  – Submissions were accepted through February 12, 2016
Topic Submissions and Selection

Submissions:

- Received over 135 ideas for case studies from 87 stakeholders
  - Intellectual property organizations, law firms, companies, and individuals

Process of review and selection:

1. Assessed whether the topic was appropriate or capable of being timely assessed via a case study
2. Determined whether other programs or mechanisms within the USPTO were more appropriate
3. Grouped the remaining submissions by subject matter
## Topics Selected for Case Studies

<table>
<thead>
<tr>
<th>Patent Quality Topic</th>
<th>Project Status</th>
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<tbody>
<tr>
<td>2. Consistency of application of 35 U.S.C. 101 across Art Units/Technology Centers</td>
<td>In-Progress</td>
</tr>
<tr>
<td>3. Use of compact prosecution when making 35 U.S.C. 101 rejections</td>
<td>Being Finalized</td>
</tr>
<tr>
<td>5. Enforcement of 35 U.S.C. 112(a) written description in continuing applications</td>
<td>In-Progress</td>
</tr>
</tbody>
</table>
Compliance of rejections with 35 U.S.C. 101 official guidance

Objective: This study evaluated whether rejections made under 35 U.S.C. § 101 were correct under USPTO Guidance and were clearly explained.

This was the top study suggested by the public.
Methodology of the Primary Study

A representative sample of Office actions across all Technology Centers having an Alice/Mayo-type § 101 rejection was chosen for study through a random selection process.

– Actions were issued January 2016-August 2016
  • May-June 2016 training on formulating § 101 rejections occurred. Results before and after the training were compared to determine the effect of the training.
  • 394 were Office actions issued pre-training; 422 were post-training.

– Review was limited to the first claim in the Office Action rejected under § 101 and its dependent claims
  • To maximize the breadth of cases/art areas/technologies studied
Findings – How often were the rejected claims actually ineligible?

99% of dependent claims were correctly treated where the independent claim was correctly rejected.

Rejections: Correctness of Eligibility Conclusion

- Correct Conclusion of Eligibility
- Incorrect – No Judicial Exception (Step 2A)
- Incorrect – Significantly More Claimed (Step 2B)

n = 816 rejections
Findings – Were the rejections properly explained?

A proper explanation of ineligibility was interpreted as explaining why the claimed invention was directed to a judicial exception (Step 2A) and did not amount to significantly more than that judicial exception (Step 2B).

- Mere conclusory statements or boilerplate language were insufficient.

<table>
<thead>
<tr>
<th>Total Rejections (816)</th>
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<tbody>
<tr>
<td>Correct Conclusions of Ineligibility (737)</td>
</tr>
<tr>
<td>Proper Explanations (Step 2A + 2B) (554)</td>
</tr>
<tr>
<td>Step 2A – Proper Explanations (640)</td>
</tr>
<tr>
<td>Step 2B – Proper Explanations (624)</td>
</tr>
</tbody>
</table>
Findings – Drivers of § 101 Compliance with Guidance, Step 2A

Total: 763 of 816 Rejections with Correct Step 2A Conclusion

Explanations for Rejections with “Correct” Step 2A

- Total With Correct Step 2A Conclusion: 657 (86%)
- No JE Identified: 88 (12%)
- JE Identified Not Consistent With Guidance: 18 (2%)

n = 763 rejections
Findings – Drivers of § 101 Compliance with Guidance, Step 2B

Total: 737 of 816 Rejections with Correct Step 2B Conclusion

Explanations for Rejections with “Correct” Step 2B
n = 737 rejections

- Total With Correct Step 2B Conclusion: 624 (85%)
- No Identification of Additional Claim Elements: 82 (11%)
- Explanation Not Consistent With Guidance: 31 (4%)
Findings – Improvements Due to May 2016 Training

Improvement from Pre-Training to Post-Training

- Correct Rejections: Net change (%)
  - Improvement (% of total rejections): 90% → 91%
  - Statistically Significant: No
- Correct and Properly Explained Rejections
  - Improvement (% of total rejections): 62% → 74%
  - Statistically Significant: Yes
- Enhanced Clarity - Claim limitations
  - Improvement (% of total rejections): 40% → 50%
  - Statistically Significant: Yes
- Dependents Explained
  - Improvement (% of total rejections): 18% → 34%
  - Statistically Significant: Yes
Primary Study – Summary

Results:

• 90% of rejections that were made were of claims that are actually ineligible.

• 75% of those rejections of claims that are actually ineligible properly explained why the rejection was made.

• 68% of all studied rejections were correct and properly explained.
Secondary Study – Applicant’s Response and Next Office Action

Involved cases from study having Office Action issued in January – April 2016

<table>
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<th>January-April 2016 Cases</th>
<th>394</th>
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<tbody>
<tr>
<td>Responses filed</td>
<td>315 (81%)</td>
</tr>
<tr>
<td>Subsequent Office action</td>
<td>189 (48%)</td>
</tr>
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• What did applicant argue/amend?
• Was § 101 rejection maintained or withdrawn?

Can any correlations be identified?
Secondary Study – Applicant’s Response and Next Office Action

Characteristics of the next Office action:

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</tr>
<tr>
<td>Subsequent Office action</td>
<td>189 (48%)</td>
</tr>
<tr>
<td>§ 101 rejection not maintained (including where claims were cancelled)</td>
<td>86 (45%)</td>
</tr>
<tr>
<td>§ 101 rejection maintained</td>
<td></td>
</tr>
<tr>
<td>• Specifically addressed arguments</td>
<td>103 (55%)</td>
</tr>
<tr>
<td>• 78 (76%)</td>
<td></td>
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</table>
One statistically significant correlation was found between an incorrect 2A analysis and withdrawal of the 101 rejection in the next Office action:

<table>
<thead>
<tr>
<th>Did the study find the claim directed to an abstract idea?</th>
<th>How often was the rejection withdrawn in the next Office action?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>40%</td>
</tr>
<tr>
<td>No (claim was eligible at 2A)</td>
<td>76%</td>
</tr>
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</table>
Next Steps

- The Office expects to publish a case study report for this case study as well as the other case studies in the coming months.

- The Office will use the data from all of the case studies to develop new training and programs to improve patent quality.
Stakeholder Training on Examination Practice and Procedure (STEPP)
Stakeholder Training on Examination Practice and Procedure (STEPP)

- 3-Day training on examination practice and procedure for patent practitioners
- Provide external stakeholders with a better understanding of how and why an examiner makes decisions while examining a patent application
- Aid in compact prosecution by disclosing to external stakeholders how examiners are taught to use the MPEP to interpret an applicant’s disclosure
STEPP Course Descriptions

• The training is broken into three separate modules
  – Day 1 focuses on the role of an examiner and the steps an examiner would take when reading an application for the first time. Claim interpretation and 35 USC 101 and 112 are emphasized on Day 1.
  – Day 2 uses the information gathered during Day 1 to plan a search, conduct a search, and map prior art to claims using 35 USC 102 and 103.
  – Day 3 focuses on writing of an office action, including a discussion of restriction practices, as well as post-examination options such as the Patent Trial and Appeal Board (PTAB) and the Central Reexamination Unit (CRU).
## STEPP Participant Feedback

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was given ample opportunity to discuss and ask questions about the course material.</td>
<td>4.8/5</td>
</tr>
<tr>
<td>The materials aided in my learning.</td>
<td>4.8/5</td>
</tr>
<tr>
<td>My knowledge and skills increased as a result of this course.</td>
<td>4.8/5</td>
</tr>
<tr>
<td>I plan to apply the knowledge and skills learned in this course.</td>
<td>4.9/5</td>
</tr>
<tr>
<td>I would recommend this course to someone else.</td>
<td>4.8/5</td>
</tr>
</tbody>
</table>
"The course was wonderful! They should make it a requirement for all patent attorneys. Understanding the finer points of examination workflow from the USPTO side was truly eye-opening and I look forward to using the trainers' tips and experience in my own work."

-Surveyed Attendee

"It is amazing that this training is offered with no charge. I found this training to be more valuable and helpful than the training available in the private sector (which is often expensive)."

-Surveyed Attendee

"The program from my perspective as a new practitioner was fabulous. The insight gleaned into how the office operates in patent prosecution was highly beneficial."

-William Nowakowski, IPWatchdog
# Upcoming STEPP Programs

<table>
<thead>
<tr>
<th>Dates</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 10-12, 2017</td>
<td>Dallas, TX – Texas Regional Office</td>
</tr>
<tr>
<td>March 14-16, 2017</td>
<td>San Jose, CA – Silicon Valley Regional Office</td>
</tr>
<tr>
<td>May 9-11, 2017</td>
<td>Denver, CO – Rocky Mountain Regional Office</td>
</tr>
<tr>
<td>July 11-13, 2017</td>
<td>Alexandria, VA Campus</td>
</tr>
<tr>
<td>September 19-21, 2017</td>
<td>Detroit, MI – Midwest Regional Office</td>
</tr>
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Questions?