

UNITED STATES PATENT AND TRADEMARK OFFICE

Adventures in API-land

Background

- USPTO launched the Open Data Portal (ODP) in 2015 to raise awareness of the importance of USPTO data and making it more readily accessible for customers.
- With the rapid increase of patent and trademark data and customer demand, USPTO needed to reimagine and modernize how it does public data dissemination to **improve customer experience while reducing cost.**

Generative Research



**Stakeholder/
User Interviews**



**Research
Artifacts**



**Vision
Workshop**

Stakeholder/User Interviews

Research Overview

WHAT WE SET OUT TO DISCOVER

Conducted user and stakeholder interviews to gain an understanding of the current state experience, important pain points, and challenges relevant to the delivery of data dissemination services.

WHO WE SPOKE TO...

External Users

- Researchers
- Resellers
- Attorneys

USPTO Stakeholders

- Leadership
- Product Owners
- Technical Leads
- Data Enthusiasts
- Dissemination

SNAPSHOT OF DATA & FINDINGS

- 30 Interviews Conducted
- 87 Actionable Insights
- 27 Supporting Themes
- 21 Opportunities for Ideation
- 4 User Mindsets

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Insights

Integration:
Integrating data sources and services to build trust while reducing cost.

Experience:
Shifting towards data that's easy to find and request regardless of skillset.

Analysis:
Presenting users with adjustable datasets vs. fixed bulk formats.

Thresholds:
Enabling self-service options for users to work within system constraints.

External:
Reframing dissemination customers as value creators vs. cost generators.

Outreach:
Aligning internal data groups to organize shared initiatives and goals.

Collaboration:
Aligning internal data groups to organize shared initiatives and goals.

Prioritization:
Communicating dissemination's mission-critical role to gain buy-in.

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Analysis: Presenting users with adjustable datasets vs. fixed bulk formats.

BACKGROUND

Users want the ability to tell USPTO systems exactly which datasets they need, including the type of data, timeframe, format, and file extension. Some dissemination services can filter results when searching for individual documents but not bulk datasets, leading to additional download burdens on the system and user frustration with the time and investment spent in parsing through unwanted data.

OPPORTUNITIES

How might we preview available datasets to let users know what they can get?

How might we provide filtering options so that users can target specific datasets?

How might we enable users to manipulate datasets and put them in formats they need?

Research Artifact: User Mindsets

One Data Portal | Research Read Out 7

Data Mindsets Collectors

VALUE STATEMENT

"I want to leverage data as an asset."

VARIABLES

- Broad Scope
- High Complexity

USER SCENARIOS

EXPERIENCE:
Identifying ways automate and manage ingesting large datasets directly from USPTO sources.

ANALYSIS:
Validating datasets are accurate and up-to-date across a large variety of systems and sources.

THRESHOLDS:
Determining ways to obtain large quantities of data as real-time as possible.

VALUES & ATTRIBUTES

- Business Savvy
- Automation
- Monetization
- Awareness

One Data Portal | Research Read Out 24

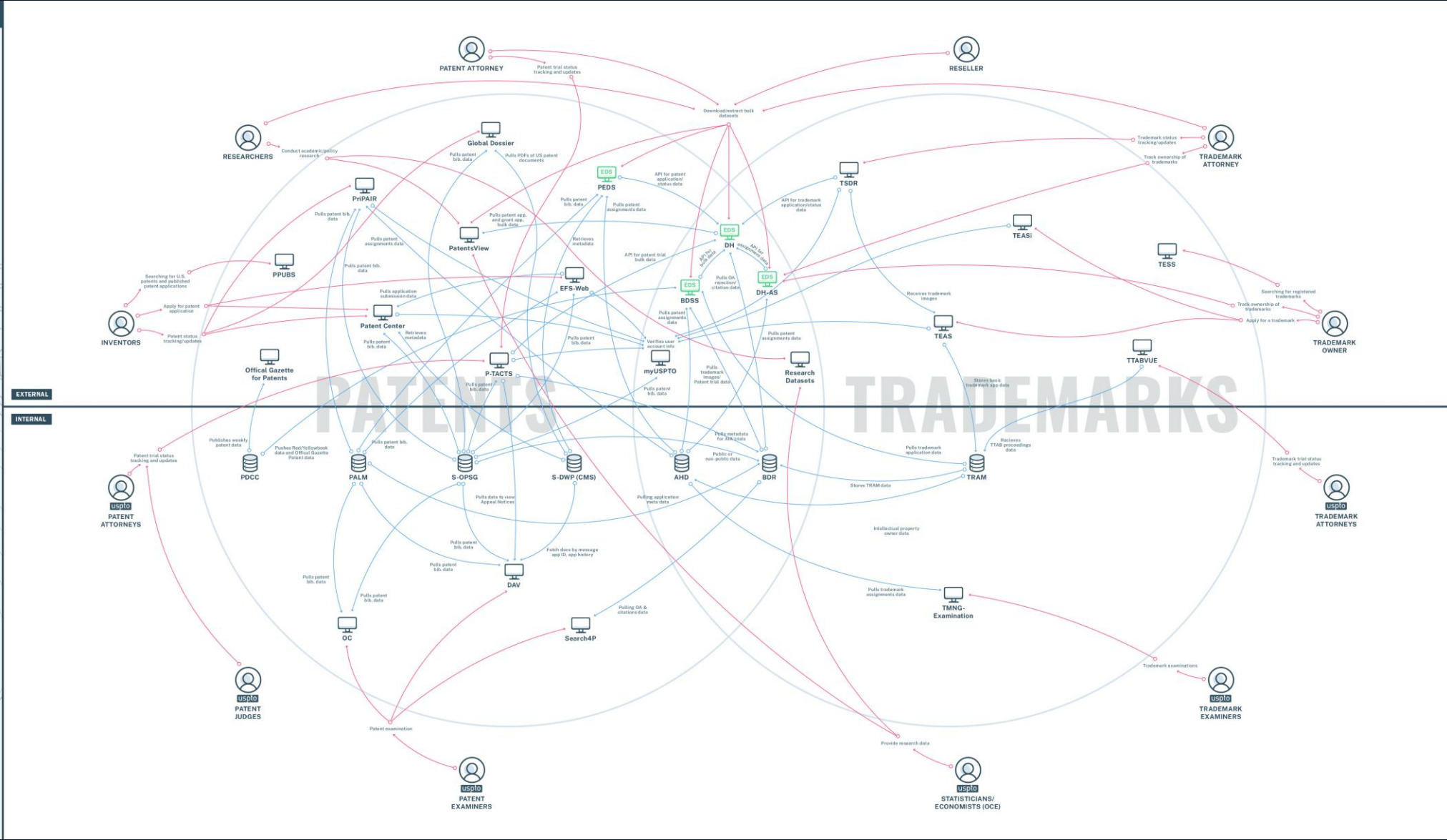
Research Artifact

uspto PUBLIC DATA DISSEMINATION ECOSYSTEM MAP



Interface and Database Descriptions

- Interfaces**
- Public Data through System (BDS)**: Provides a single repository for new public bulk data of patent grants, published patent applications, trademark applications, and research datasets.
 - Developer Hub (DH)**: Open Data Portal. Provides USPTO public data in both Server APIs to promote development of new data and analytics products and services.
 - Desktop and Application Viewer (DAV)**: Desktop tool for patent examiners to manage and process patent applications.
 - Electronic Filing System Web (EFS-Web)**: Web-based patent applications and document submission system (being replaced by Patent Center).
 - Global Dossier**: Provides consolidated access to global foreign patent family data and enables new actions such as EDS, SPS, WPS, and EPO. Applications can be filed for applications through multiple patent offices at the same time.
 - myUSPTO**: A single place to actively manage intellectual property portfolio, track patent applications and grants, check trademark registrations and statuses, and access services in governmental USPTO systems.
 - Official Correspondence (OC)**: Provides a single place to manage all correspondence with the USPTO, including patent applications and grants, trademark registrations and statuses, and correspondence that goes back to the patent applicant.
 - Official Gazette for Patents**: Published each Tuesday in electronic form only and contains bibliographic data, patent claims, representative claims, and a listing of applicant of each patent issued that week.
 - Patent Trademark Assignment Search (PATAS)**: Provides a historical record of changes affecting the transfer of ownership rights of patents and trademarks.
 - Patent Trial and Appeal Board (PTAB)**: System designed for the Patent Trial and Appeal Board (PTAB) for the resolution of electronic, oral, or written proceedings. Required to create a MyUSPTO account.
 - Patent Center**: Provides independent inventors, independent patent attorneys and agents, and other patent professionals with self-service tools for managing patent applications and prosecution history for pending patent applications. Includes USPTO systems including EFS-Web, Patent, PATAS, and Trademark.
 - Patent Examination Data System (PES)**: Provides public users the ability to search, view, and download patent prosecution data for all publicly available patent applications in bulk.
- Databases**
- Assignments Invention Database (AID)**: Database that stores historical records of changes affecting intellectual property or rights of ownership to an intellectual property.
 - Big Data Platform (BDP)**: Database that stores historical records of changes affecting intellectual property or rights of ownership to an intellectual property.
 - Patent Data Capable Connector (PDCC)**: Database capable connector used by USPTO.
 - Patent Application Listing and Monitoring (PALM)**: Data management system for the retrieval and/or update of the computer record of each patent application.
 - Service - Document Workflow for Patents (S-DWP/CMS)**: Data management tool that provides document services to users through multiple interfaces (web, mobile, and other).
 - Service - One Patent Service Gateway (S-OPSG)**: Self-governed and self-service tool for USPTO patent applications replacing PALM and other systems.



Research Artifact

BROAD SCOPE

" I think about data at scale."

" I want to understand data that's out there."



Explorers



Collectors

" I want to leverage data as an asset."

LOW COMPLEXITY

" I look for guidance."

HIGH COMPLEXITY

" I leverage my expertise."

Seekers



" I want to know more about a dataset."

Builders



" I want to make something with data."

NARROW SCOPE

" I think about specific data needs."

Vision Workshop

RESEARCH TAKEAWAYS

IN STEPS

VIABILITY ON HOMEPAGE

- MAKE THINGS EASY TO GET TO
- ABILITY TO USE GENERATIVE AI FOR UX
- INTEGRATING DATA + SERVICES
- UPDATING DATA STANDARDS
- TRACKING CHANGES IN DATA COMMENTS ...
- ACCEPTING DATA + MANAGING LINEAGE
- MISSING: MISSING CUSERS OF DATA
- CUSTOMER SERVICE → NO SLA
- OUTREACH + CALLS
- SOME OF THE SIMILAR REQUESTS ARE HARD TO FULFILL
- ADAPTABLE INDEX US TO RESOLVE UNUSABLE DATA

EXPERIENCE PRESENTATION ON INTERACT

ONLY SPIN PICKLES!!

C. MAJ - JAKE THOMPSON - HARRY WILSON - FOR A MINUTE

LINE IT YOUR WAY!

MINDSETS

- EASY TO USE SERVICE
- EXCLUSIVE ACCESS
- SIMPLICITY VS COMPLEXITY
- LEADERS AT PENDING SERVICES
- DATA ACCESS
- USERS ACCOUNTS
- THROUGHS
- COMMUNICATION
- SCHEMAS + STANDARDS
- CONFIDENCE + SECURITY OF DATA
- DETERMINED
- SUCCESS WORDS
- WHAT IS THE SYSTEM GOING TO BE?
- WHAT IS THE SYSTEM GOING TO BE?
- WHAT IS THE SYSTEM GOING TO BE?

AI COULD HELP!

"WE SERVE 10 MILLION OF THE SAME HAMBURGERS"

Concept Poster

Create a 1/2 page concept for the One Data Portal highlighting its value and dependencies.

Concept Name: **One Data Portal**

Value Statement: **All in one!** **One singular data destination. Reduce user**

Features & Benefits:

- API Keys (many users can register for more access)
- SCAs - Knowledge Admin
- Related/Contextual Outputs
- External users (Data vendors)
- Integrate Google Big Way
- Budget
- Subscriber begin
- Simple view of data
- Running legal system
- RDR - PROS - PROS - DH - DHAS

Illustration:

System & Data Impacts:

- Time
- Money
- Scienc, Infra

Feature Concepts ("MVP" and "Should Have")

Dissemination Search

What is it?

What does this look like?

What is required to build this?

Questions:

For search, how far back in terms of years do we want users to be able to search?

For search, what are the primary data attributes do we want to search? (We need to just list, without, and hard)

Should we primarily focus on patents and then trademarks?

Which ones are we ripping apart and making it searchable?

Based on what we're looking for, it would affect the process of how we will retrieve the data.

Give everything but WHAT does "everything" mean - hard to give LOE work.

Maybe have a diagram that outlines all the data variables across the system.

1. Slightly what the data products will be doing. Data a PROS

2. Major task about this a.

Maybe organize these by "data products"

ODP UNIQUE VALUE PROPOSITION

A unified platform where customers can search any patent or trademark and select the exact data they want for single/bulk downloads.



DATASETS

Datasets 3 ▾

- Pre-Grant Publications (PGPub)
- Granted Patents
- Non Pre-Grant Publications/Non Granted Patents

[Clear](#) [Refine](#)

DATES

Date ▾

PATENT/APPLICATION

- Application Type ▾
- Application Status ▾
- Entity Status ▾
- CPC Classification ▾
- Attorney Docket Number ▾
- Tech Center/Group Art Unit ▾

[Data Portal](#) > Patent Search

Patent Search

Search parameters ⓘ

Search by keywords or numbers

Applied Filters: Datasets: ([PGPub](#) ⊗ , [Granted Patents](#) ⊗ , [Non](#))

Showing 1 to 25 of 1,000,000 Results

[Download](#) [Table Columns \(9 of ##\)](#) [API Syntax](#)

<input type="checkbox"/>	Title	Application #	Filing or 371(c) Date	P
<input type="checkbox"/>	Article of footwear with fastening system	11/422,262	05 June 2006	U
<input type="checkbox"/>	Article of footwear with fastening system	11/422,262	05 June 2006	U
<input type="checkbox"/>	Article of footwear with fastening system	11/422,262	05 June 2006	U
<input type="checkbox"/>	Article of footwear with fastening system	11/422,262	05 June 2006	U

11/422,262 – Article of footwear with fastening system

[Download \(JSON\)](#) [API Syntax](#) [Maintenance Fees](#) [↗](#) [< Previous](#) [Next >](#)

Application Data

[Pre-Grant \(PGPub\) Publication](#)

Granted Patent

Documents

Continuity

Transaction History

Patent Term Adjustment History

Correspondence Address and Attorney/Agent Information

Assignments

Foreign Priority

Pre-Grant (PGPub) Publication



Application Number:
11/422,262

Filing or 371(c) Date:
05 June 2006

Application Type:
Utility

CPC:
A43C11/1493

Application Data

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Lorem ipsum dolor sit amet, consectetur adipiscing elit,

GET ▾

GET /search-fields/{client_key}

Returns a list of schema fields, as well as frequency and sample values.

Note: {client_key} is required. [Request an API key.](#)

Response

200

401

403

404

429

Successful response.

ENDPOINT

```
1 | "https://api.uspto.gov/patent-data-api"
```

REQUEST SAMPLE

```
1 | curl -X GET "https://api.uspto.gov/patent-data-api/  
search-fields/{client_key}" -H "accept: application/  
json"
```

JSON RESPONSE SAMPLE

```
1 | {  
2 |   "apiKey": "enriched_cited_reference_metadata",  
3 |   "apiVersionNumber": "enriched_cited_reference_metadata",  
4 |   "apiUrl": "https://developer.uspto.gov/ds-api/  
enriched_cited_reference_metadata/v2/records/{id}",  
5 |   "apiStatus": "PUBLISHED",  
6 |   "fieldCount": "##",  
7 |   "fields": [  
8 |     "appTypeFacet": "string",  
9 |     "applId": "string",  
10 |    "totalPtoDays": "string",  
11 |    "appFilingDate": "date",  
12 |    "appLocationDate": "date",  
13 |    "inventorName": "text_general",  
14 |    "intlFilingYear": "int",  
15 |    "appExamMdlName": "text_general",  
16 |    "ptaPteType": "string",  
17 |    "corrAddrNameLineTwo": "string",  
18 |    "appLocation": "text_general",  
19 |    "appEarlyPubNumber": "text_general",
```

Roadmap

MVP

- 🚩 ODP 1.0 Release for November 2023 (Patent Data)
- 🚩 Retire PEDS on January 2024

Central API

- Provides a central API gateway for all USPTO dissemination data services and endpoints, which allows USPTO to manage threshold limits and control cloud costs.
- Provides a single source of truth for all USPTO APIs where users can quickly locate endpoints and extract the data they need.

Dissemination Search

- Provides a central place for locating key information on patents, which helps reducing duplicative services that provide redundant data.
- Allows customers to select the data they want to download, which can reduce the burden on USPTO systems from unnecessary large dataset downloads.

Potential Feature Releases

Generative AI Assistant

- Allows USPTO to enhance the user experience by enabling customers to use natural conversation to get the data they want and allowing them to quickly make sense of USPTO data.

ODP Walkthrough

- Presents an overview of the ODP site, which can reduce the burden on manually answering questions from customers.

Data Dissemination Dictionary

- Provides a central place for customers to view and understand all USPTO data attributes and variables.

“More Like This”

- Allows users to search and do bulk downloads of patents based on similarity.



Thank you!

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