



JURISTAT DRAFTING

APRIL 2017

Introduction

Claims are the most important components of patent applications, not only because they define the contours of the eventual patent, but also because they have the most influence on where (and by whom) an application will be examined. In our research, we have found that the importance of claim language in determining classification far outweighs that of either its title or its description. Unsurprisingly, an application's classification can have a serious impact on the difficulty of prosecution.

When a patent application is submitted to the USPTO, it is sorted into a class and subclass based on the subject matter claimed in the application. The USPTO then uses this class and subclass designation to route applications to the appropriate tech center and art unit group. Thus, applications get sorted to a class and subclass based on whatever type of technology is claimed in the application before they are routed to an art unit. For this reason, when it comes to drafting claims, Juristat focuses primarily on class rather than art unit or art unit group.

What if there was a way to influence an application's classification?

The purpose of classification is two-fold: to allow researchers, attorneys, and patent-seekers to find patents by subject matter, and, eventually, to allow the USPTO to assign patent applications to an art unit and examiner with the most relevant expertise. While this is a very high-level description of the process, assigning applications to classes and subclasses is an intricate and highly technical process that applicants have very little control over. Because certain classes are more difficult than others, this assignment can have an enormous effect on the length and cost of prosecution.

But what if there were a way for practitioners to know where their application was most likely to land at the USPTO and how difficult prosecution would be before

they filed it? What if there were also a way to influence this outcome to the applicant's advantage? Well, now there is, and it's better than ever before. *We call it Juristat Drafting.*

How Juristat Drafting Works

Juristat Drafting is a drafting tool that allows users to predict and influence where their application is most likely to land at the USPTO. It works by examining the language written in the user's patent claims and comparing that language to the language used in the eight million patent applications currently in the Juristat database. It then identifies significant words in a user's claims and compares those words to similar significant words in patent applications that have already been classified. The general idea behind this strategy is that significant words in similar applications will result in a similar classification.

Juristat Drafting finds the most significant words in a user's claims by using the "term frequency-inverse document frequency" (TF-IDF) method. "Term frequency" is the number of times a particular word appears in a single document. This is the first step in determining how significant a word is, but because a certain number of words are very common and appear in almost every claim--like "the" and "a"--term frequency alone will not tell us how significant a particular word is in a patent claim. This is where inverse document frequency comes into the picture. "Inverse document frequency" is a measure of how common or uncommon a particular word is across all documents in a group of documents. Words that are found in every document across a group of documents are likely to be less important than words that are found in only one or two of the documents in the group.

Term frequency and inverse document frequency are used together to determine the true significance of a particular word. A word obtains a high TF-IDF score, and is thus significant, when the term is used many times in a single document, but not very often across all documents in the group. A word obtains a low TF-IDF score,

and is thus insignificant, if it is used many times in both a single document and across all documents in the group.

Once Juristat Drafting determines the most significant terms, it will then compare those words to similar words in other applications that have already been classified. If a particular word has a high TF-IDF score in the user's claims and the same or similar word has a high TF-IDF score in another application that has already been classified, Juristat Drafting assumes the words are similarly significant in each application. Juristat Drafting will then assign the words a numerical score—the closer the match between the two words, the higher the score. We can then assume that if those significant words caused other claims with similar language to be routed to a particular class, then they will result in a similar classification for the user's claims.

This is how Juristat Drafting knows what claim language the user needs to manipulate to influence the classification of the application.

A Use Case

To demonstrate how Juristat Drafting works in practice, we'll use it with an e-commerce claim to reduce our chances that it will be sorted to an *Alice*-heavy class.

The claim we'll use is as follows:

A method comprising: determining, by a computer, an issuer identifier for an issuer in a plurality of issuers, the issuer identifier usable to generate a portable device identifier for a portable device issued by the issuer; determining, by the computer, an issuer credential for the issuer, the issuer credential usable to derive a portable device credential that is associated with the portable device; storing, by the computer, the portable device identifier, the portable device credential, and one or more commitment parameters associated with one or more commitment programs in a host; and determining one or more eligible commitment programs based on the portable device identifier and the portable device credential.

Claims Editor ⓘ

A method comprising: determining, by a computer, an issuer identifier for an issuer in a plurality of issuers, the issuer identifier usable to generate a portable device identifier for a portable device issued by the issuer; determining, by the computer, an issuer credential for the issuer, the issuer credential usable to derive a portable device credential that is associated with the portable device; storing, by the computer, the portable device identifier, the portable device credential, and one or more loyalty parameters associated with one or more loyalty programs in a host; and determining one or more eligible loyalty programs based on the portable device identifier and the portable device credential.

Classify

USPC ⓘ

- ▼ 705 53% ▲
- ▼ 726 14% ▲
- ▼ 235 7% ▲
- ▼ 713 5% ▲

Keywords ⓘ

loyalty	2,333	↗
issuer	1,812	↗
identifier	1,069	↗
programs	704	↗
usable	472	↗
portable	438	↗

← 1/1

When we input our claim into Juristat Drafting, it immediately gives it a 53% chance of being assigned to Class 705. It also tells us that the keywords most strongly associated with this class are "loyalty," "issuer," "identifier," "programs," "usable," and "portable." The numbers next to each word are based on that word's TF-IDF score similarity with words previously classified applications. The higher the score, the more strongly correlated to that particular class the word is.

Classification Results

Available Classification Types: Art Unit Tech Center **USPC** CPC

Click on a USPC to see its keywords. Export to CSV

Warning: The USPTO transitioned from USPC to CPC on January 1st, 2015.

USPC	Title	Probability ⓘ	Alice ⓘ	Allowance ⓘ	Avg. Office Actions ⓘ
705	DATA PROCESSING: FINANCIAL, BUSINESS PRACTICE, MANAGEMENT, OR COST/PRICE...	53%	72%	37%	2.8
726	INFORMATION SECURITY	14%	14%	78%	2.2
235	REGISTERS	7%	4%	78%	1.8
713	ELECTRICAL COMPUTERS AND DIGITAL PROCESSING SYSTEMS: SUPPORT	5%	9%	76%	2.1

Delving a little deeper into the classification results, we see that Class 705 is reserved for applications touching on data processing, which makes sense for our claim. We also see that applications in this class have a 72% chance of receiving an *Alice* rejection and that the allowance rate is only 37%. Based on this information,

we're going to need to tweak the language in our claim to reduce the chance that it will be assigned to this class. Juristat Drafting can also show users the most likely classifications for art unit, tech center, and CPC class.

Show 30 Similar Applications and 100 Significant Cited Art

Additionally, Juristat Drafting will display similar applications and significant prior art, but only if the user is interested in seeing them.

Most Similar Published Applications				
Score ▾	Application	USPC	Assignee	Title
61.38	US14094363	705	VISA U.S.A.	NETWORK CENTRIC LOYALTY SYSTEM
43.23	US15165277	<i>Unknown</i>	IBM	REISSUE OF CRYPTOGRAPHIC CREDENTIALS
42.76	US14439955	713	IBM	Reissue of cryptographic credentials
42.04	US13831581	713	MICROSOFT CORP.	MINIMAL DISCLOSURE CREDENTIAL VERIFICATION AND REVOCATION
41.21	US14719350	713	IBM	BACKUP AND INVALIDATION OF AUTHENTICATION CREDENTIALS
40.02	US14255396	713	IBM	METHOD FOR DERIVING A VERIFICATION TOKEN FROM A CREDENTIAL
37.91	US13173634	705	IBM	Privacy-sensitive sample analysis
35.65	US12364292	235	<i>Unknown</i>	SMART CARD PERSONALIZATION IN A MULTISTATION ENVIRONMENT
35.59	US14323049	726	APPLE, INC.	Configuration of accessories for wireless network access
35.57	US13464484	235	XROMB INC.	System and method of loading a transaction card and processing repayment on a mobile device

According to Juristat Drafting, these are the 30 applications whose claim language is most similar to ours. Clicking on the application number link will bring up an Application Report for that application.

Significant Cited Art			
Score	Cited Art	Assignee	Title
343.14	US11940443	MASTERCARD INC.	Method And System For Using Contactless Payment Cards In A Transit System
217.68	US11897577	MASTERCARD INC.	Techniques for authorization of usage of a payment device
280.19	US11848112	VISA INC.	Loyalty program incentive determination
318.29	US11566614	VISA INC.	Bank issued contactless payment card used in transit fare collection
213.52	US11551005	Unknown	Method of making secure electronic payments using communications devices and biometric data
232.06	US11537347	SONY CORP.	System and method for presenting multiple transaction options in a portable device
409.34	US11423388	INTELLECTUAL VENTURES	System and method for mass transit merchant payment
316.25	US11398887	VISA U.S.A.	System and method for secured account numbers in proximity devices
238.03	US11346006	INSIDE CONTACTLESS S.A.	Means to deactivate a contactless device
404.76	US11318003	EBAY INC.	Method and apparatus for promoting resale of foods

Juristat Drafting can also display significant cited art from those similar applications.

Claims Editor

A method comprising: determining, by a computer, an issuer identifier for an issuer in a plurality of issuers, the issuer identifier usable to generate a portable device identifier for a portable device issued by the issuer; determining, by the computer, an issuer credential for the issuer, the issuer credential usable to derive a portable device credential that is associated with the portable device; storing, by the computer, the portable device identifier, the portable device credential, and one or more **loyalty** parameters associated with one or more **loyalty** programs in a host; and determining one or more eligible **loyalty** programs based on the portable device identifier and the portable device credential.

Classify

USPC

- 705 53%
- 726 14%
- 235 7%
- 713 5%

Keywords

- loyalty 2,333
- issuer
- identifier
- programs 704
- usable 472
- portable 438

SUGGESTIONS

- commitment 4

Since we want to get out of Class 705, we'll click the red *down* arrow to the left of Class 705. Now, when we click on the keywords to the right, Juristat Drafting will suggest alternatives words that are negatively correlated with Class 705. When using the *word suggestion* feature, we recommend using either the USPC or CPC classification settings, since the more granular the classification, the more likely Juristat Drafting is to suggest words to get our claim into or out of a particular classification.

Claims Editor

A method comprising: determining, by a computer, an issuer identifier for an issuer in a plurality of issuers, the issuer identifier usable to generate a portable device identifier for a portable device issued by the issuer; determining, by the computer, an issuer credential for the issuer, the issuer credential usable to derive a portable device credential that is associated with the portable device; storing, by the computer, the portable device identifier, the portable device credential, and one or more commitment parameters associated with one or more commitment programs in a host; and determining one or more eligible commitment programs based on the portable device identifier and the portable device credential.

Classify

USPC

705	38%
726	21%
713	9%
235	5%

Keywords

identifier	1,425
issuer	1,126
credential	462
usable	400
portable	375
commitment	278

← 1/1

Changing the word "loyalty" to "commitment" took the chance of assignment to Class 705 down to 38%, while increasing the chance of assignment to Class 726 up to 21%. This is more advantageous for our application, since Class 726 has a significantly higher allowance rate and lower *Alice* rejection rate than Class 705. Additional word substitutions could change these odds even more.

Conclusion

At Juristat, we help attorneys predict the future. This is more than a slogan; it's a promise.

With Juristat Drafting, applicants now have a degree of control over the classification of their applications in a way that was unthinkable until the very recent past. Juristat Drafting acts as a trusted assistant to patent prosecutors that can take the guesswork and uncertainty out of drafting patent claims, allowing them to give their clients greater peace of mind that their investment in a patent will pay off. With the proliferation of big data in the legal industry now in full force, obstacles to allowance are smaller than ever, and Juristat will be there for applicants every step of the way.



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