

Protecting IP in Blockchain Technology

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2018

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&Parr**

What we'll talk about

- Types of IP protection
- Challenges in obtaining blockchain patents
- Who is obtaining patents for blockchain technology?
- Licensing considerations

What do we mean by blockchain technology?

- Not just cryptocurrency
- Any application that involves reading data from (or writing data to) a blockchain
- Key elements of a blockchain:
 - Database
 - Immutable
 - Distributed

Intellectual Property: A refresher



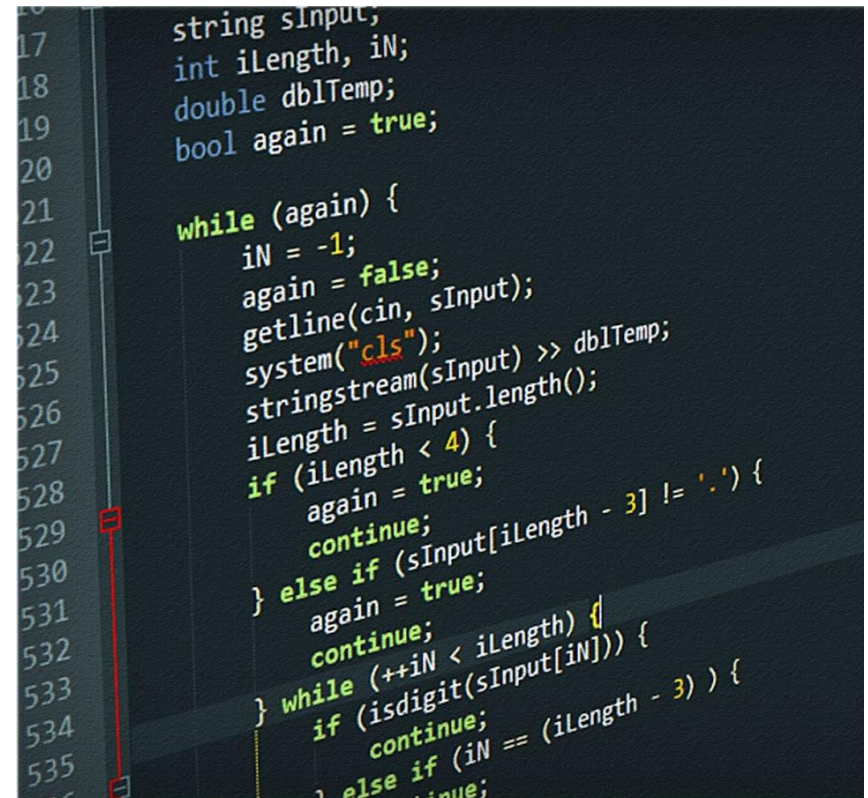
Trademark

- Exclusive right to use a mark in relation to specific goods or services
- Right to prevent others from using confusingly similar marks
- Protects “goodwill” related to source
- Must be distinctive in the field



Copyright

- Exclusive right to produce or reproduce the work
- Long term
- Examples: software code, marketing materials, etc.
- BUT:
 - No protection against independent creation
 - No protection for “functional” features



```
16 string sInput;  
17 int iLength, iN;  
18 double dblTemp;  
19 bool again = true;  
20  
21 while (again) {  
22     iN = -1;  
23     again = false;  
24     getline(cin, sInput);  
25     system("cls");  
26     stringstream(sInput) >> dblTemp;  
27     iLength = sInput.length();  
28     if (iLength < 4) {  
29         again = true;  
30         continue;  
31     } else if (sInput[iLength - 3] != '.') {  
32         again = true;  
33         continue;  
34     } while (++iN < iLength) {  
35         if (isdigit(sInput[iN])) {  
36             continue;  
37         } else if (iN == (iLength - 3)) {  
38             continue;  
39         }
```

Industrial Design

- Shape, configuration, pattern or ornamentation
- Examples: computer icons, animations, “look-and-feel” of apps
- Exclusive right to make, use or sell



Trade Secret

- Exclusive right to use secret for as long as the information remains out of public domain
- Requires positive measures to maintain secrecy
- Vulnerable to independent discovery
- Limited enforceability against third parties
- Often the only early-stage protection available



Patent

- Exclusive right to make, use, sell or import
- 20-year term
- Protection against independent discovery



Requirements for a patent

- Original and new
- Not obvious
- Useful
- Correct subject matter

Allowable Subject Matter

- US:
 - “Any new and useful **process, machine**, manufacture, or composition of matter, or any new and useful **improvement ...**”
- Canada:
 - “Any new and useful art, **process, machine**, manufacture or composition of matter, or any new and useful **improvement ...**”

Exceptions

- US:
 - **Abstract ideas**
 - **Mere algorithms**
 - Laws of nature
 - Natural phenomena
- Canada:
 - Scientific principles and **abstract theorems**

What is an abstract idea?

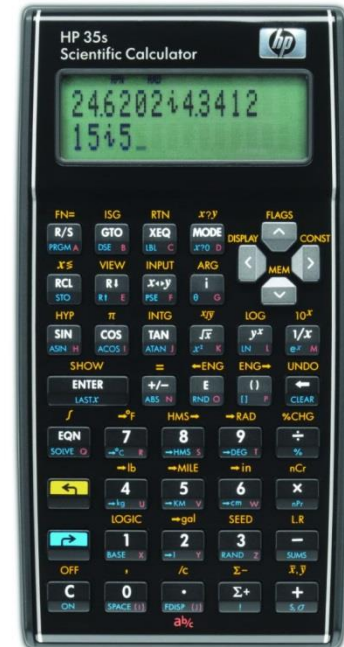
- Fundamental economic practices
 - Hedging
 - Creating a contractual relationship
- An idea “of itself”
 - Obtaining and comparing data
 - Using rules to identify options
 - Organizing information
- Methods of organizing human activity
- Mathematical relationships and formulas

Isn't every idea abstract at a certain level?

- US:
 - Are there elements that amount to “significantly more” than the abstract idea?
- Canada:
 - Considering the problem being solved, are there any “essential” elements used to solve the problem beyond the abstract idea itself?



The problem for blockchain technology



Overcoming the calculator stigma

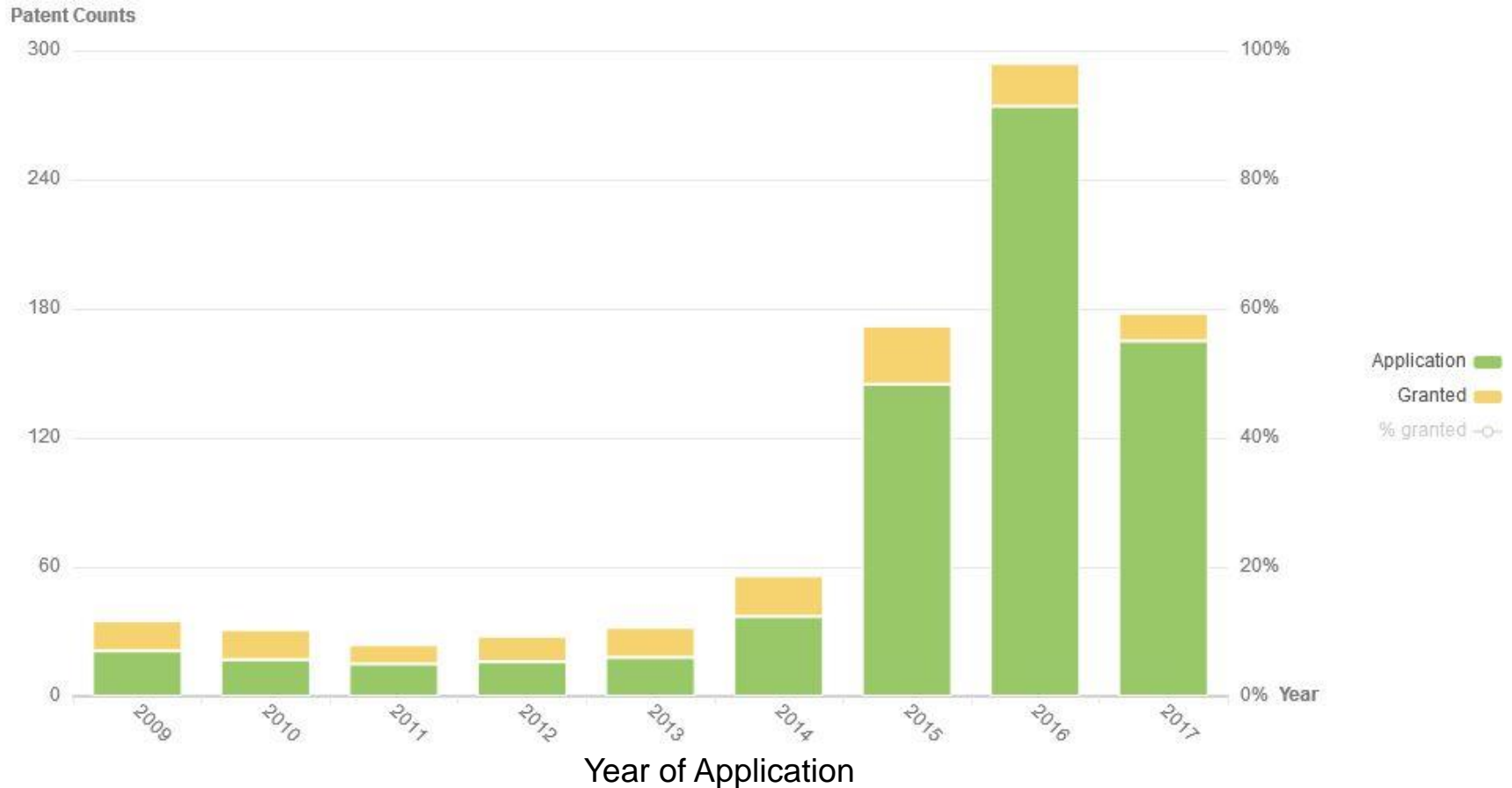
- Are you making a better calculator?
 - Faster, more efficient, more secure?
- Are you using the calculator to improve some other technology or technical field?
- Is there a real-world effect?
 - What actions are caused by operation of invention?
 - What hardware is engaged?
 - Is the effect confined to a particular useful application?

What won't work

- Mere instruction to “do this on a computer”
- Adding well-understood, routine and conventional acts
- Generally linking the use of the abstract idea to a particular technological environment or field of use

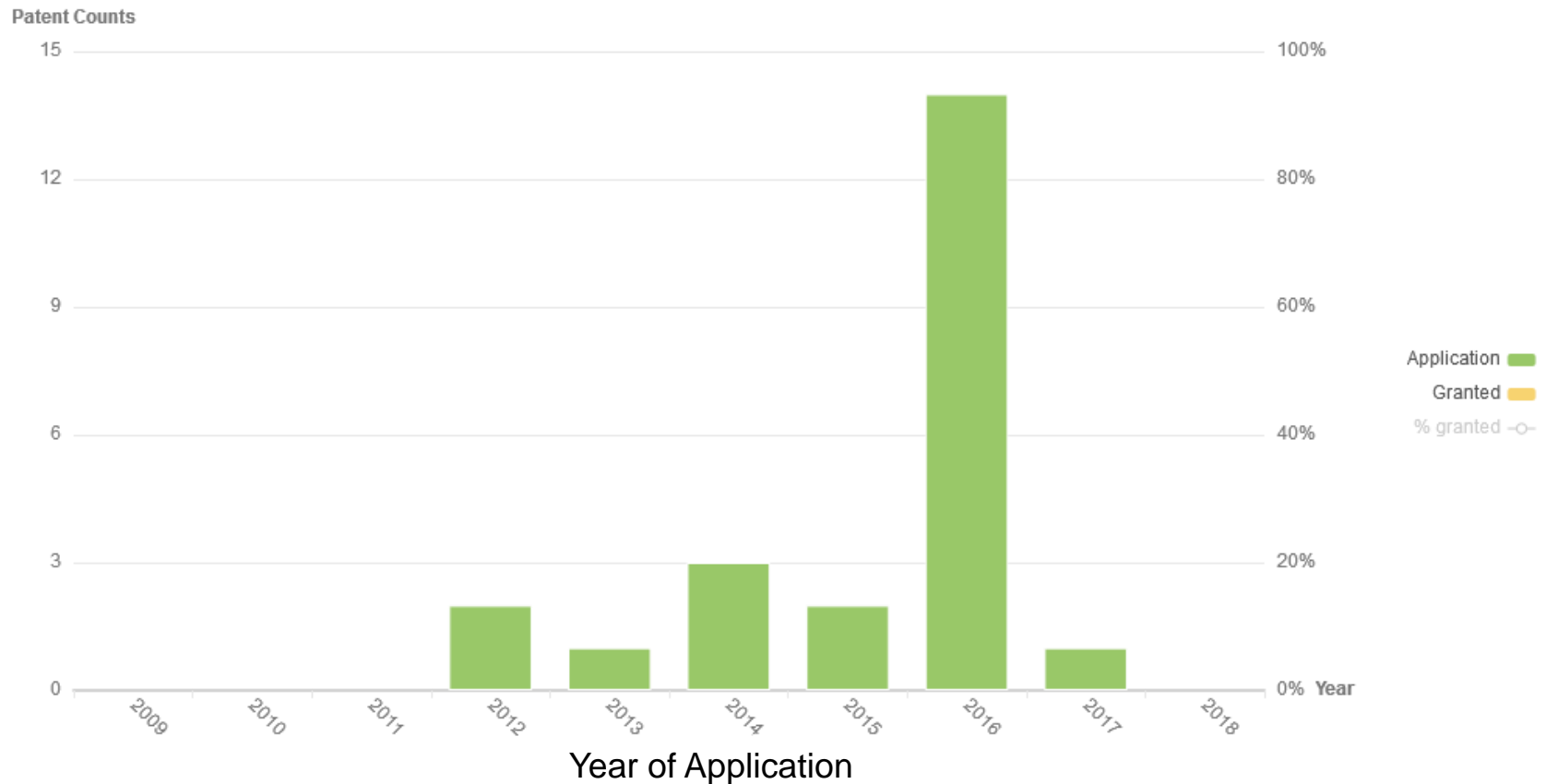
Patent trends (US)

Title, Abstract or Claims contain “blockchain,” “distributed ledger,” “bitcoin” or “ethereum”



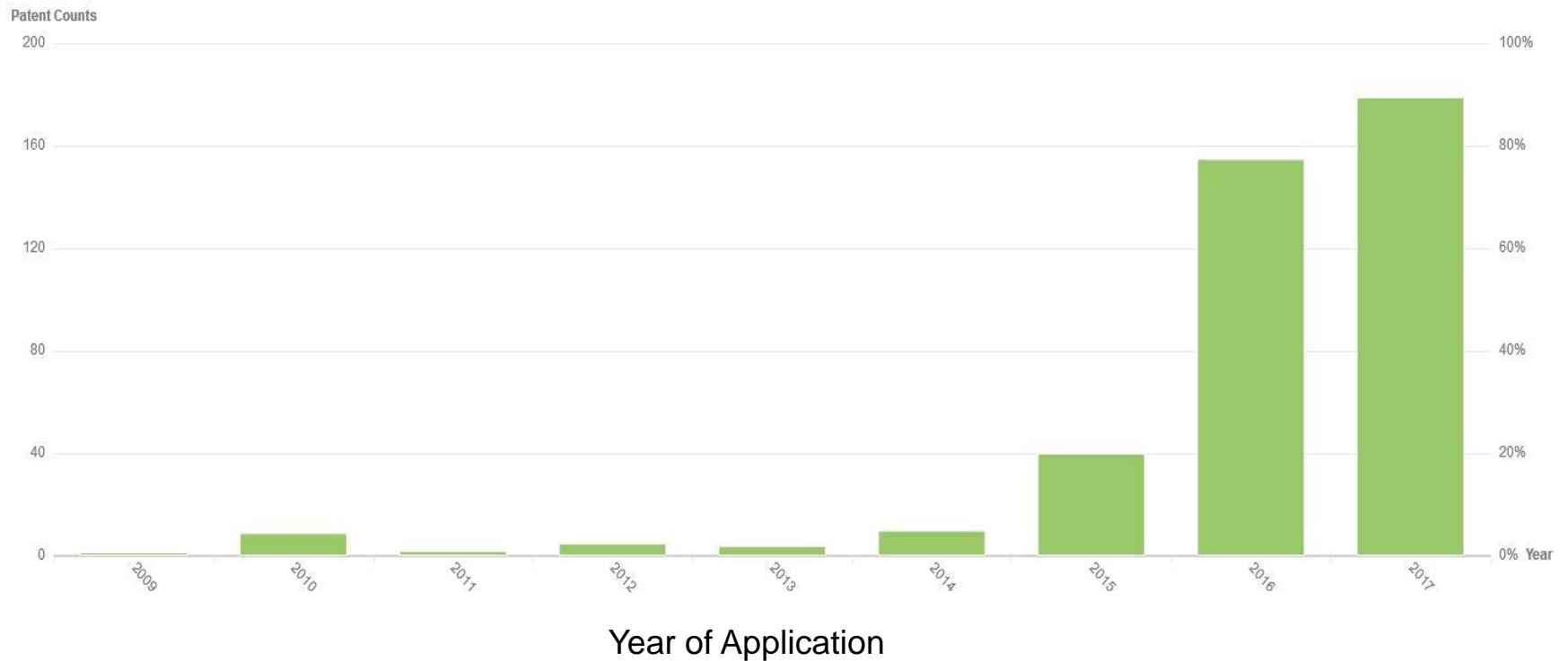
Patent trends (Canada)

Title, Abstract or Claims contain “blockchain,” “distributed ledger,” “bitcoin” or “ethereum”



Patent trends (PCT)

Title, Abstract or Claims contain “blockchain,” “distributed ledger,” “bitcoin” or “ethereum”



Patent trends

- Some leading applicants:
 - Bank of America
 - Mastercard
 - IBM
 - Coinbase
 - Intel
 - TD
 - Accenture

Example #1: US Patent No. 9,842,216

(12) **United States Patent**
Unitt

(10) **Patent No.:** **US 9,842,216 B2**
(45) **Date of Patent:** ***Dec. 12, 2017**

(54) **SYSTEM AND METHODS FOR TAMPER
PROOF INTERACTION RECORDING AND
TIMESTAMPING**

(52) **U.S. Cl.**
CPC *G06F 21/602* (2013.01); *H04L 9/0643*
(2013.01); *H04L 43/106* (2013.01); *H04L*
45/7453 (2013.01)

(71) Applicant: **NewVoiceMedia, Ltd.**, Basingstoke,
Hampshire (GB)

(58) **Field of Classification Search**
CPC . H04L 9/0643; H04L 43/106; H04L 45/7453;

- Enhanced security
- Improvement to a technical field
- Interaction between two servers
- Confined to a particular useful application

Example #2: US Patent No. 9,824,013

(12) **United States Patent**
Koob et al.

(10) **Patent No.:** **US 9,824,013 B2**
(45) **Date of Patent:** **Nov. 21, 2017**

(54) **PER THREAD CACHELINE ALLOCATION
MECHANISM IN SHARED PARTITIONED
CACHES IN MULTI-THREADED
PROCESSORS**

(75) Inventors: **Christopher Edward Koob**, Round
Rock, TX (US); **Ajay Anant Ingle**,

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,078,994 A *	6/2000	Carey	711/133
6,223,256 B1 *	4/2001	Gaither	G06F 12/126
			711/118
6,381,676 B2 *	4/2002	Aglietti	G06F 12/128
			711/176

- More efficient processing
- Interaction with two devices
- Confined to a particular useful application

Example #3: US Patent No. 9,807,106

(12) **United States Patent**
Daniel et al.

(10) **Patent No.:** **US 9,807,106 B2**

(45) **Date of Patent:** **Oct. 31, 2017**

(54) **MITIGATING BLOCKCHAIN ATTACK**

(71) Applicant: **BRITISH
TELECOMMUNICATIONS PUBLIC
LIMITED COMPANY**, London (GB)

(72) Inventors: **Joshua Daniel**, London (GB); **Gery
Ducatel**, London (GB); **Theo**

(58) **Field of Classification Search**

CPC H04L 63/1425

USPC 726/22

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- Enhanced security
- Improvement to a technical field
- Interaction with blockchain network
- Confined to a particular useful application

Potential uses of blockchain patents

- Offense:
 - Exclude competitors
 - Leverage with competitors
 - Potential license/royalty revenue
 - Build up/reinforce value of company for sale
- Defense:
 - “Clear the field” to prevent others from patenting the same idea
 - Cross-licensing in patent dispute

Speaking of licensing...

- Open source blockchain projects:
 - Bitcoin Core = **MIT**
 - Ethereum C++ client = **GPL 3.0**
 - Ethereum Go implementation = **LGPL 3.0**
 - Hyperledger Fabric = **Apache 2.0**
- May be more than a license to copy and modify

GPL 3.0 on patents

- Automatic patent license for any modifications contributed back
- Retribution clause
- Prohibition against patent infringement claims v. downstream recipients
 - Benefit transferable to a third party

Apache 2.0 on patents

- Automatic patent license for any modifications contributed back
- Retribution clause



Questions?

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