CSE490T/590T
Intellectual Property Law for Engineers

Instructor: Ben Dugan
Lowe Graham Jones PLLC

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Course Overview

- Who am I?
- Who are you?
- Why are we here?
- Where are we going?
- How are we going to get there?

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Who am I?

- Currently:
  – Member of Lowe Graham Jones, PLLC
- Previously:
  – JD from UW 2005
  – Lecturer in Dept. of CSE at UW
  – Chief Architect at VocalPoint/Loquendo
  – MS CS from UW 1995

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Course Topics (Proposed)

1. (Today) Introduction to course; survey of intellectual property law
2. Patent law overview, how to read a patent
3. Patent Process & Lifecycle, patent preparation & prosecution
4. Claim drafting
5. Interpreting claims
6. Noninfringement, invalidity, designing around
7. Copyright & open source software
8. Copyright continued
9. Open
10. Open

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Intellectual Property

- What is intellectual property?
- What is property?
- Why should you care?
- Primary legal regimes for protecting IP?
  - Patent
  - Trademark
  - Copyright
  - Trade Secret

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IP News: Patent Transactions

- Nortel Patent Portfolio Sale, 6000 Patents
  – Google Bids $900M, $1.9B, $2.6B, $3.14B… and lost
  – Winning bid: $4.5B to Apple/Microsoft/RIM
  – $750K per patent
- Google buys Motorola Mobility for $12.5B
  – Access to 17,000 patents
- Microsoft buys portfolio from AOL
  – $1.1B for 800 patents plus license to 300 still held by AOL
  – $1.25M per patent
  – 2 weeks later sells 650 of these to Facebook for $550M…
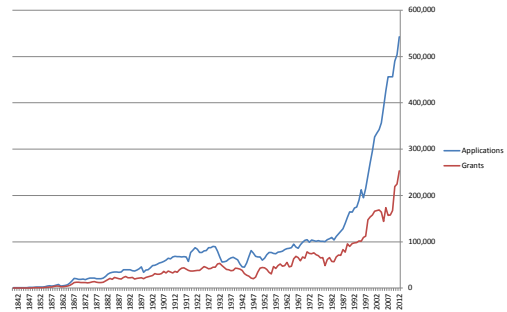
More IP News

- Patent reform: America Invents Act of 2011
  – Fully implemented as of March 16, 2013

- Litigation
  – Oracle v. Google: Java patent and copyright issues
  – Mobile phone "patent war": Apple, Motorola, Samsung, HTC, etc.

- Trivia Question: How many patents does Twitter have?
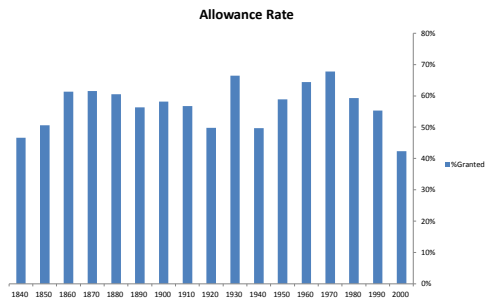
Yearly Patent Filings and Grants

% Applications Granted by Decade

Patents – Legal Basis

- Constitutional basis in Art. I, Sec. 8, Clause 8:

To 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

- Patent Act: Title 35 of US Code
- Code of Fed. Regulations: Title 37

Patent Basics

- Subject matter: process, machine, manufacture, or composition of matter (or improvement thereof)
  "Anything under the sun made by man." *Diamond v. Chakrabarty*
- Conditions: new, useful, non-obvious
- Exclusive rights: make, use, sell, offer for sale, import the invention
- Duration: 20 years (from filing)

Patent Policy

- Quid pro quo:
  - Inventor discloses invention and enriches public knowledge
  - Government grants a limited monopoly
- Idea is to encourage investment in inventive activity, by enabling inventors to exploit fruits of their labor
- Getting scope/duration right:
  - Too broad/long → patent stifles innovation
  - Too narrow/short → system under-incentivizes innovation

Patent Policy - Limitations

- Patents have a limited duration: 20 years from filing
- Scope is limited in various ways:
  - Some subject matter is off limits: laws of nature, abstract ideas, natural phenomena
  - Inventions must be new
  - Inventions must be non-obvious to one having skill in the art at the time the invention was made
- The scope of an individual patent is <u>defined by its claims</u>
  - The claims determine validity and infringement

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Patent Policy – Claims

- A claim is a single sentence the defines the metes and bounds of the invention. Example:

An apparatus for cutting a lawn, comprising:

an electric lawn mower;

a solar panel configured to provide power to the electric lawn mower; and

a motion controller configured to autonomously navigate the electric lawn mower about a lawn.

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What Can You Patent?

- Devices and apparatus
- Software
  – Cannot patent an algorithm per se, but can patent a computer configured to execute the algorithm, a process for performing the algorithm
- Biotech
  – Compositions of matter (e.g., chemicals)
  – Processes (e.g., for isolating or synthesizing genes or other compositions of matter)
  – Genetically modified organisms
  – Genes

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Patents – How do I get one?

- Invent something
- Prepare patent application
- File application with Patent Office
  - Pay the fee: $1600 / $800 / $400
- Wait
- Negotiate with Patent Office
- If all goes well, patent issues

- Cost: $30,000 +/- $15,000
- Time: 3 to 7 years

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Design Patents

- A design patent protects a new, non-obvious ornamental design for an article of manufacture
- Obtain a design patent via the USPTO
- Term: 14 years from issue
- Cost: substantially cheaper than utility patents

- *Design patents are frequently overlooked, but can offer substantial protection for relatively low cost*

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Copyright – Legal Basis

- Constitutional basis in Art. I, Sec. 8, Clause 8:

To 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;

- Copyright Act: Title 17 of the US Code
- Code of Federal Regulations: Title 37

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Copyright Basics

- Subject matter: works of authorship
- Conditions: original, fixed in a tangible medium of expression
- Exclusive rights: copy, distribute, perform, display, make derivative works
- Duration: life of author + 70 years

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Copyright - Underlying Policy

- Again, the idea is to encourage investment in creative activity, by enabling authors to exploit their works
- Again, there are issues with the scope and duration of protection
  - If it is too broad/long → creative activity may be stifled
  - if it is too narrow/short → creative activity may be under-incentivized

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Copyright - Limitations

- Minimum standard of originality
- Independent creation
- Subject matter limitations: ideas vs. expression:
  - In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, ... 17 USC 102(b)
- Fair use
- "Limited" term...

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Copyright - How do I get one?

- Much easier than patents: fix your work in a tangible medium of expression
- BUT: if you want to enforce in Federal Court, you must register the copyright with the Copyright Office.
- Cost: $40 per registration

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Software Copyrights

- Copyright is often the cheapest/easiest way to protect software products
- However, there are pitfalls:
  - Lack of registration
  - Independent creation
  - Protection is limited to the non-functional aspects of a program

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Trademark

- Common law basis: passing off / misrepresentation
- Federal law: Lanham Act (Title 15 of the US Code)
- Protects indicators of source for products or services, including symbols, words, logos, colors, trade dress
- Indicator must be distinctive (cannot be generic or descriptive)
- Term: If the trademark is policed, it can last indefinitely

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Trademark Policy

- Policy basis includes consumer protection, efficiency of transactions
- Limitations:
  - Fair use
  - Geographic limitations
  - Generic indicators ineligible
  - Field of use limitations
  - Requirement to police mark

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Mark Distinctiveness

- Fanciful:
  - KODAK, XEROX, LEXUS
- Arbitrary:
  - APPLE, CAMEL, RABBIT
- Suggestive:
  - FRUIT LOOPS, GREYHOUND, 7-ELEVEN
- Descriptive:
  - WINDOWS
- Generic:
  - BEER, BREAD, CAR

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Marks Not Limited to Words

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Trade Dress is Also Protectable

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Trademark - How do I get one?

- Harder than copyright, easier than patents.
  - Identify a "good" mark
  - Use the mark
  - File trademark application with the Trademark Office
  - Negotiation with Office
  - Oppositions
  - Registration certificate issues
- Cost/Time: $500-2000 and ~2 years
- Alternatives: Intent to use applications, state registrations, common law

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Trade Secret

- Protects (1) valuable business information that (2) is not generally known, and (3) which is subject to reasonable efforts to preserve secrecy
- State law basis: Uniform Trade Secrets Act
- How to get one? Easy:
  - Make a secret
  - Keep the secret – use NDAs!
- Notice the tension between patents and trade secrets

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Regimes Compared

Type	Term	Subject Matter	Cost
Utility Patent	20 years	New and useful machines, processes, compositions of matter	High
Design Patent	14 years	Ornamental designs	Medium
Trademark	Indefinite	Indicators of source	Medium
Copyright	Life + 70	Original works of authorship fixed in tangible mediums of expression	Low
Trade secret	Indefinite	Secret information	Low

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Example Products

- What sort of IP protection is available for the following:
  - A smart phone
  - A piece of software
  - A new medical device
  - A customer list
  - Your company Website
  - Documentation
  - A collection of traffic, census, demographic data

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