The George Washington University
School of Engineering and Applied Science

E-Commerce Lecture Series
March 29, 2001
What is Intellectual Property?

“Intellectual Property” (IP) refers to creations of the human mind that are protected by state and federal law in a fashion similar to real property (i.e., land). IP rights include:

- Trade Secrets
- Trademarks
- Copyrights
- Patents
Why Protect IP?

• Promotes Creativity and Contributes to Economic and Social Development

• Protects Moral and Economic Rights of IP Creators and Governs Public Access

• Basic Fact: Unlike Land, Mere Possession Does Not Protect it Once it Has Been Expressed
Legal Basis for IP Protection

“Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their writings and discoveries.”

- U.S. Constitution
  Article I, Section 8, Clause 8.
  (“The Patent and Copyright Clause”)
The Patent Rights

A Patent is a grant by the United States Federal Government that entitles the owner (e.g., an individual inventor or company) to exclude others from:

- Making
- Using
- Selling
- Offering to sell
- Importing into the United States an invention.

**Term**: 20 years from the date on which the application for the patent was filed in the United States.
Patent Requirements

A Patent Is Granted to the First Inventor Of:

- Novel
- Useful; and
- Nonobvious

Process (Method), Machine, Article of Manufacture or Chemical Compound, or Improvements of the same.
Why Patent?

- Commercial Advantage over Competitors
- Exercised by the Owner:
  - Directly by Making or Selling the Invention, or
  - Indirectly by Licensing Others to Make or Sell the Invention
- Financial Reward for Bringing Innovative and Useful Products into the Marketplace
- Recoup Dollars Spent on R&D
- Stop Unfair Competition by Those Who Compete by Imitation
- Provide Valuable Trading Cards to Help Assure Freedom to Operate
When to Patent?

In U.S., There Is a One-year Statute of Limitation to File Which Begins from the Earliest:

- Printed Publication (e.g., Publishing a Paper or Disseminating over the Internet)
- Sale (Selling a Product or Service That Embodies the Invention),
- Offer for Sale
- Public Use (Putting the Invention into Public Use)

- Most Other Countries Require Absolute Novelty and Offer No Grace Period.

- Thus, If World-Wide Patent Protection Is Sought, Must File Before Any Publication, Sale, Offer for Sale, or Public Use.
The U.S. Patent and Trademark Office (FY99)

- Over 3,000 Scientists and Engineers (Called “Patent Examiners”) Organized into Six "Technology Centers":
  - Biotechnology, Organic Chemistry & Designs
  - Chemical and Material Engineering
  - Transportation, Construction & Agriculture
  - Mechanical Engineering, Manufacturing & Products
  - Communications and Information Processing
  - Physics, Optics, System Components & Electrical Engineering

- 143,686 Patent Applications & 240,308 Trademark Applications Filed
- 169,154 Patents Granted & 87,774 Trademarks Registered
- Web site: http://www.uspto.gov/
## Software: Copyrights v. Patents

<table>
<thead>
<tr>
<th><strong>Copyright</strong></th>
<th><strong>Patents</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered by U.S. Copyright Office</td>
<td>Administered by USPTO</td>
</tr>
<tr>
<td>Life of Author + 70 Years / 95 Years after Publication</td>
<td>20 Years from U.S. Filing Date</td>
</tr>
<tr>
<td>Automatic Protection upon Fixing Work in a Tangible Medium</td>
<td>Must Formally Apply with PTO</td>
</tr>
</tbody>
</table>

**Exclusive Rights Include:**
- Reproducing, distributing, displaying, transmitting, and preparing derivations
- Protects Against Copying of a Specific Implementation

**Exclusive Rights Include:**
- Making, using, selling, offering to sell, importing
- Protects Functionality, Operation, Architecture, Interaction (Interface & Protocols)
Patent Economics

- IBM’s Yearly Income from Patent Royalties = $1B
- Xerox’s Yearly Income from Patent Royalties = $10M
- Texas Instruments’ Yearly Income from Patent Royalties = $800M
- Dell Computers Has 42 Patents Which it Used as $16B in Collateral
  - *Polaroid v. Eastman Kodak* - $925M
  - *Fonar v. GE* - $128M
  - *Honeywell v. Minolta* - $128M
The Copyright

• **Protects**: Original Works of Authorship fixed in any tangible medium

• Automatically created worldwide when work is fixed

• Protects Expression not Idea

• Individual’s Term =
  ▶ Life of Author + 70 years

Corp.’s “Work for Hire” Term =
  ▶ Min[95 years from pub., 120 years from creation]
Copyright: Exclusive Rights

- Reproduce the work;
- Prepare derivative works based upon the copyrighted work;
- Distribute copies;
- Publicly perform the work;
- Publicly display the work; and
- Publicly perform the work through digital transmission

- Beware of “Fair Use” Doctrine
Works Eligible for Copyright

- Literary works;
- Musical works, including any accompanying words;
- Dramatic works, including any accompanying music;
- Pantomimes and choreographic works;
- Pictorial, graphic, and sculptural works;
- Motion pictures and other audiovisual works;
- Sound recordings; and
- Architectural works.

- Use of © is not required, but suggested
Trade Secret

- **Definition**: Any confidential information that is valuable to a firm because it provides it with a competitive advantage

- E.g., Compilation (Customer/Supplier list), Recipe, Formula, Process, Method, Technique, etc.

- Owner must take *reasonable* steps to keep it secret

- No Examination or Registration requirements

## Trade Secret v. Patent

<table>
<thead>
<tr>
<th>Trade Secret</th>
<th>Patent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Expiration</td>
<td>20 Years from Filing</td>
</tr>
<tr>
<td>No Public Knowledge</td>
<td>Requires Public Disclosure</td>
</tr>
<tr>
<td>Minimal novelty and utility requirement</td>
<td>Statutory novelty and utility requirements</td>
</tr>
<tr>
<td>Protected by State Law</td>
<td>Protected by Federal Law</td>
</tr>
<tr>
<td>Misappropriation suit</td>
<td>Infringement suit</td>
</tr>
<tr>
<td>Competitors may Reverse</td>
<td>Competitors may not Reverse Engineer</td>
</tr>
<tr>
<td>Engineer or Later Patent</td>
<td></td>
</tr>
<tr>
<td>Must take <em>reasonable</em> steps to keep secret</td>
<td>No Duty to Enforce</td>
</tr>
<tr>
<td>Inexpensive</td>
<td>Expensive</td>
</tr>
</tbody>
</table>
Types of Trademarks

- Trademarks (e.g., Coca-Cola®, Mymark™)

- Service Marks (e.g., Jiff Lube®, MyMark™)

- Certification Marks (e.g., Good Housekeeping Seal of Approval, UL Listed)

- Collective Marks (e.g., Brazilian Nut Assoc.)
Famous Marks

Coca-Cola

Cream of Wheat
Trademarks

- **Definition**: A way (e.g., a name, symbol, color, shape, device, or combination) to identify the source of goods and/or services.

- Allows a consumer to repeat a good experience or avoid a bad experience

- **Public trade-off**: invest in goodwill (i.e., improve quality) and receive exclusive rights to get patronage (i.e., repeat customers)

- Last for 10 years, and is continuously renewable (as long as no abandonment)
Trademarks Requirements

- **Requirements**: (1) Use in Interstate Commerce; and (2) Affixation to Goods or Used in Advertisements to Identify Services; and (3) Distinctive

- **Distinctiveness**: (a) Fanciful (e.g., Kodak® Film); (b) Arbitrary (e.g., Four Rose® Whiskey); (c) Suggestive (e.g., Coppertone® Sun Tan Oil); or (d) Acquired Secondary Meaning (e.g., Chap Stick® Lip Balm)

- Generic, Misleading, Immoral/Scandalous, False connection, and similarly confusing marks are not registerable