

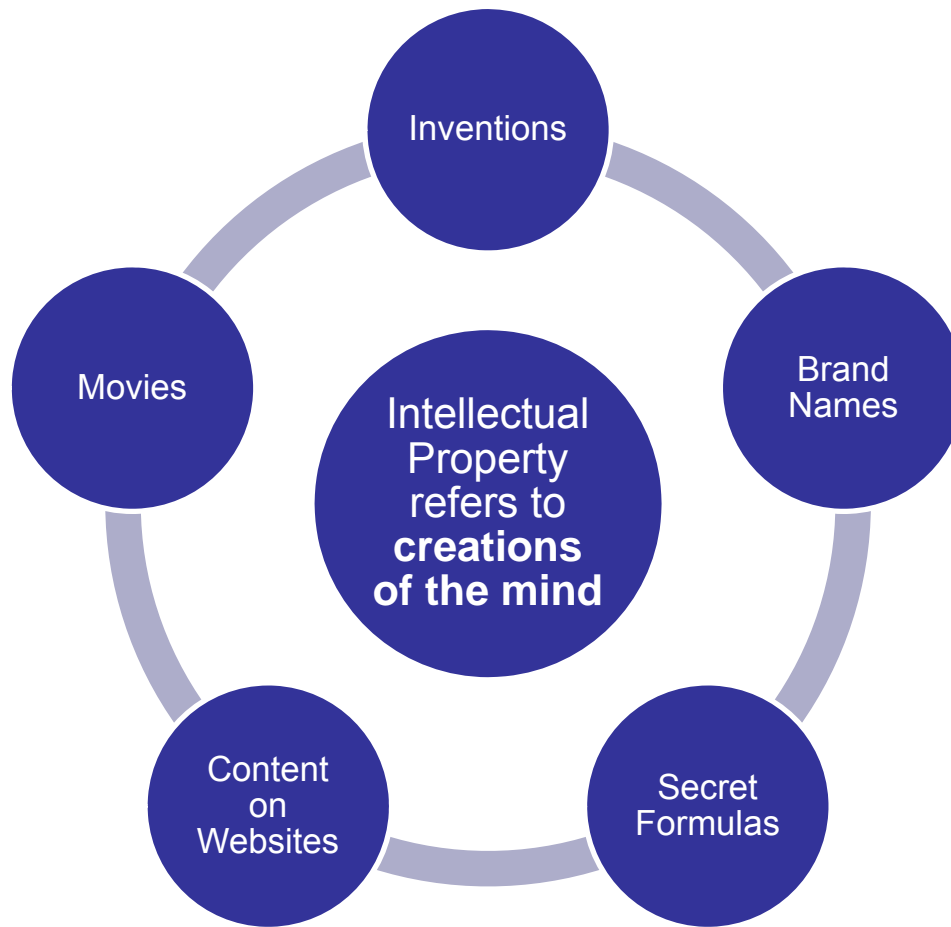
Intellectual Property Overview

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Intellectual Property



Types of Intellectual Property

Patents

- Inventions

Trademarks

- Identify source of a product or service

Copyrights

- Expressions of ideas

Trade Secrets

- Secret information with commercial value

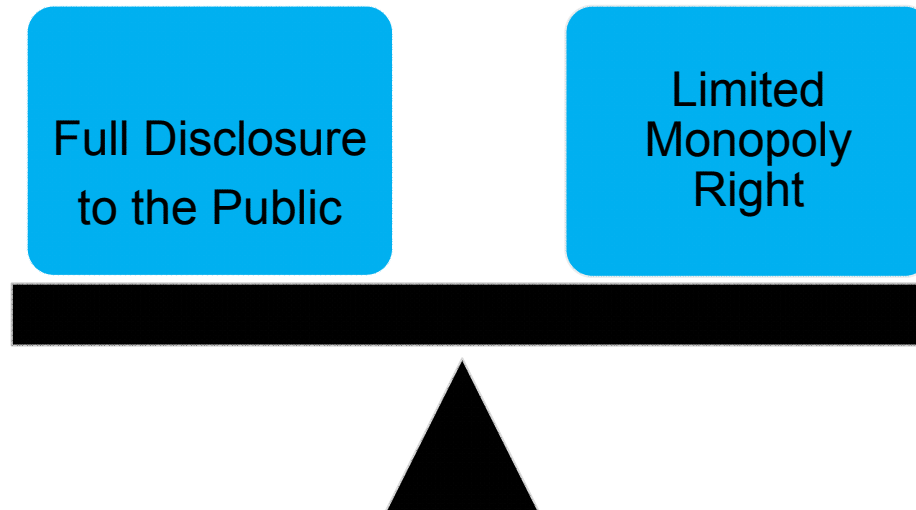
What is a Patent?

- Limited property right to **exclude** others from making, using, or selling an invention.

- Does **not** give the right to practice your invention.

What is a Patent?

Key to Patent Rights = BALANCE



Types of Patents

- Utility Patents
 - Protect the way an invention works
 - 20 year term from filing date
 - Provisional and Non-provisional applications
- Design Patents
 - Protect ornamental appearance
 - 15 year term from issue date
- Plant Patents
 - Protect new varieties of asexually produced plants

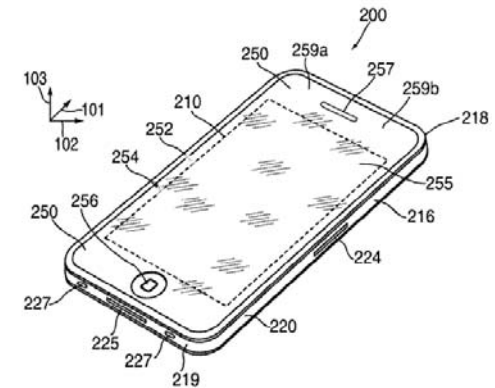


FIG. 2A

Apple U.S. Patent No. 8,551,283

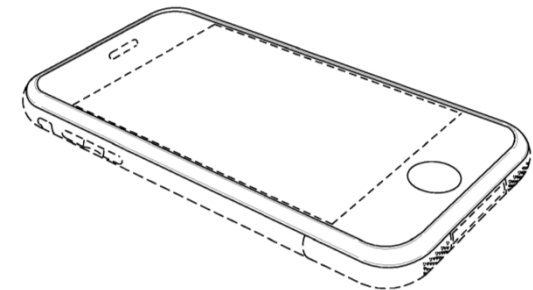


FIG. 1

Apple Design Patent No. D593,087

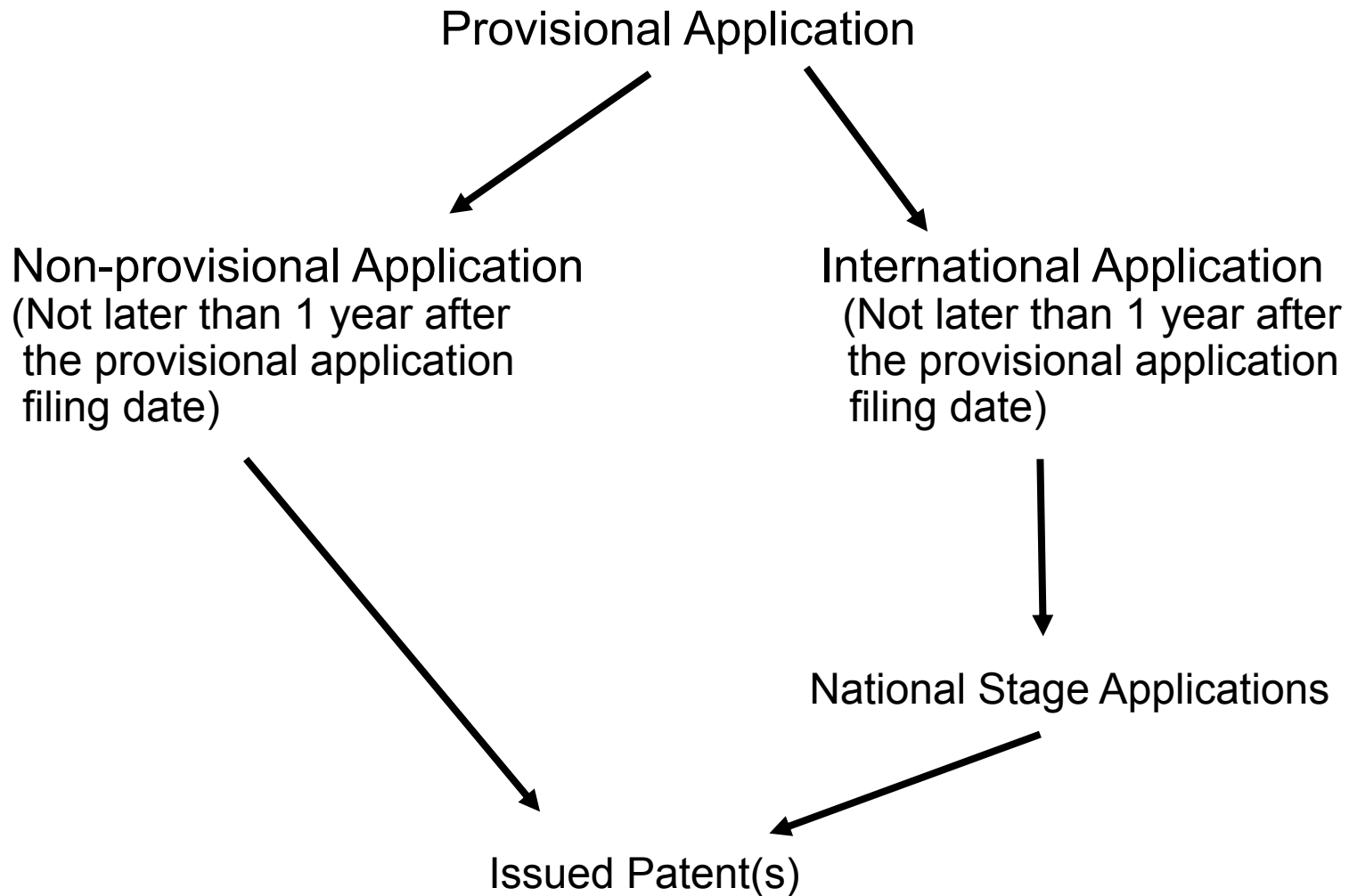
Why Protect Your Inventions

- Showcase your technology
 - ◆ Asset when looking for funding
 - ◆ Critical factor in obtaining funds for investors
- Block your competition
- Protect an area of research while you identify a product
- Licensing revenue
- Source of recognition for the inventor
- Stimulates innovation and economic growth by protecting investment

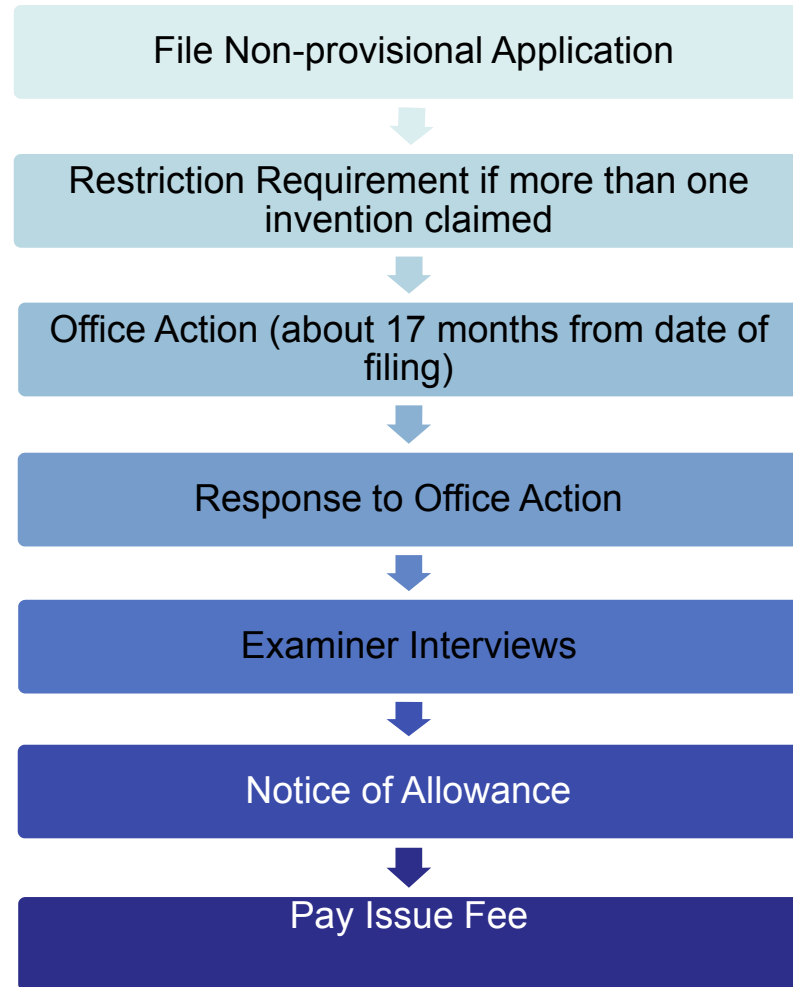
Provisional Patent Application

- Provides filing date
 - A “placeholder”
- No patent rights—not examined
- Abandoned automatically after one year
- Has simpler filing requirements
 - Claims are not required
- Lower filing fees
- Patent pending once application is filed

Typical Patent Filing Strategy



Patent Prosecution



Parts of a Patent Application

- ◆ Specification
 - Must provide sufficient information to allow one skilled in the art to make and use the invention

- ◆ Claims
 - Define the invention being protected

- ◆ Drawings
 - Required if necessary to understand the invention

What Can Be Patented?



“. . . anything under the sun that is made by man.”

U.S. Supreme Court in *Diamond v. Chakrabarty*, 447 U.S. 303 (1980)

What Can Be Patented?

- ◆ Anything new and useful
- ◆ Methods, Machines, Compositions of Matter, Manufacture
- ◆ Mathematical algorithms, laws of nature, and ideas?
 - No

Requirements for Patentability

Utility



Novelty



Non-Obvious



Description/
Enablement



Requirements for Patentability

- Utility: invention must be useful
- Novelty: not already known
- Non-Obvious: must not be obvious to a person having ordinary skill in the art
- Invention must be described and enabled in the application

Prior Art

- ◆ Information or knowledge publically available before the filing date of the application
- ◆ Printed Publications
 - U.S. patents and published applications
 - foreign published patent documents
 - poster presentations
 - handouts at meetings
 - abstracts
 - material posted on the internet
 - articles, books
 - thesis or dissertation

Prior Art

- ◆ “Otherwise Available to the Public”
 - Oral Presentation
 - Lecture or speech
 - Demonstration at a trade show

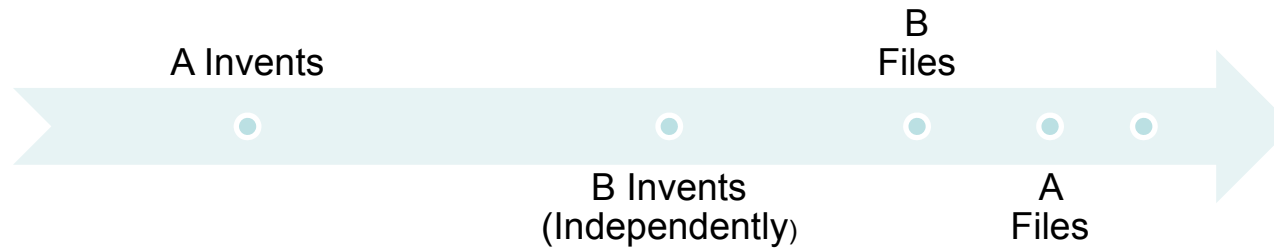
- ◆ The public disclosure must be enabling

Exceptions / Grace Period

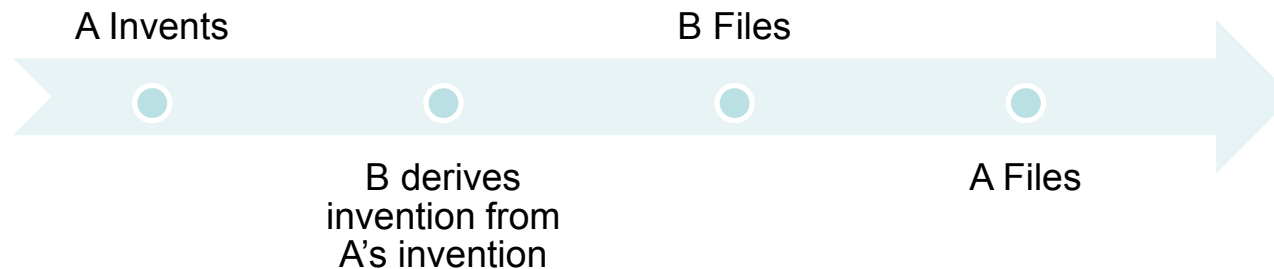
- ◆ United States
 - One year grace period
- ◆ Most foreign countries/regions (for example: Europe)
 - Absolute novelty

Common Pitfalls

- ◆ U.S. is now a First to File country



- ◆ In the former First to Invent system, **A** receives the patent because **A** invented first; however, in a First to File system **B** receives the patent because **B** filed the invention first.



- ◆ A receives the patent if A can show that B obtained the invention from A.

Common Pitfalls

- ◆ If the inventor allows other people to know about the invention before a patent application is filed, the inventor may lose his/her patent rights.
- ◆ Do not disclose the invention without an executed confidentiality or non-disclosure agreement.
- ◆ General rule: No public disclosure until a patent application is filed.

Laboratory Notebooks

- ◆ Serve to document critical dates
- ◆ Establish rights in derivation proceedings
- ◆ Establish exceptions to prior art rules
- ◆ Story of invention in litigation

Inventorship

- Determining who is an inventor is a legal determination
- The inventor must contribute to the conception of the invention
- Inventors are not the same as co-authors of a paper, students in a lab, or supervisors
- Wrong inventorship can invalidate a patent

Prior Art Searching

- ◆ Patent Office Search
 - www.uspto.gov
- ◆ Internet Searches
 - <https://patents.google.com>
- ◆ Library: text books, reference books, trade journals

- Application process
- Search for patents**
- Accessing Published Applications
- Authority Files
- Filing Year by Application Serial Number
- Understanding Patent Classifications
- Withdrawn Patent Numbers
- Learn about patent classification
- Filing online
- Checking application status
- Responding to Office actions
- Patent Trial and Appeal Board
- Petitions

Search for patents

New to Patent Searching? See this important information about searching for patents:

[How to Conduct a Preliminary U.S. Patent Search: A Step by Step Strategy - Web Based Tutorial \(38 minutes\)](#)

- [The Seven Step Strategy](#) - Outlines a suggested procedure for patent searching
- [A detailed handout of the Seven Step Strategy](#) with examples and screen shots.

Patents may be searched using the following resources:

- [USPTO Patent Full-Text and Image Database \(PatFT\)](#)
- [USPTO Patent Application Full-Text and Image Database \(AppFT\)](#)
- [Global Patent Search Network \(GPSN\)](#)
- [Patent Application Information Retrieval \(PAIR\)](#)
- [Public Search Facility](#)
- [Patent and Trademark Resource Centers \(PTRCs\)](#)
- [Patent Official Gazette](#)
- [Common Citation Document \(CCD\)](#)
- [Search International Patent Offices](#)
- [Search Published Sequences](#)
- [Patent Assignment Search](#)

USPTO Patent Full-Text and Image Database (PatFT)

Inventors are encouraged to search the USPTO's patent database to see if a patent has already been filed or granted that is similar to your patent. Patents may be searched in the USPTO Patent Full-Text and Image Database (PatFT). The USPTO houses full text for patents issued from 1976 to the present and PDF images for all patents from 1790 to the present.

Searching Full Text Patents (Since 1976)

Customize a search on all or a selected group of elements (fields) of a patent.

- [Quick Search](#)
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1976 to present [full-text]

Examples:

ttl/(tennis and (racquet or racket))
 isd/1/8/2002 and motorcycle
 in/newmar-julie

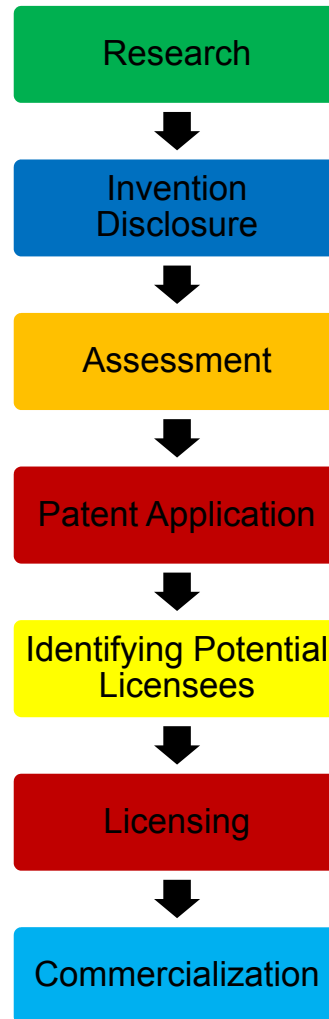
Patents from 1790 through 1975 are searchable only by Issue Date, Patent Number, and Current Classification (US, IPC, or CPC).
 When searching for specific numbers in the Patent Number field, patent numbers must be seven characters in length, excluding commas, which are optional.

Field Code	Field Name	Field Code	Field Name
PN	Patent Number	IN	Inventor Name
ISD	Issue Date	IC	Inventor City
TTL	Title	IS	Inventor State
ABST	Abstract	ICN	Inventor Country
ACLM	Claim(s)	AANM	Applicant Name
SPEC	Description Specification	AACI	Applicant City
CCL	Current US Classification	AAST	Applicant State
CPC	Current CPC Classification	AACO	Applicant Country
CPCL	Current CPC Classification Class	AAAT	Applicant Type
ICL	International Classification	LREP	Attorney or Agent
APN	Application Serial Number	AN	Assignee Name
APD	Application Date	AC	Assignee City
APT	Application Type	AS	Assignee State
GOVT	Government Interest	ACN	Assignee Country
FMID	Patent Family ID	EXP	Primary Examiner
PARN	Parent Case Information	EXA	Assistant Examiner
RLAP	Related US App. Data	REF	Referenced By
RLFD	Related Application Filing Date	FREF	Foreign References
PRIR	Foreign Priority	OREF	Other References
PRAD	Priority Filing Date	COFC	Certificate of Correction
PCT	PCT Information	REEX	Re-Examination Certificate
PTAD	PCT Filing Date	PTAB	PTAB Trial Certificate
PT3D	PCT 371c124 Date	SEC	Supplemental Exam Certificate
DDDD	Date Published Document Data	ITRN	International Registration Number

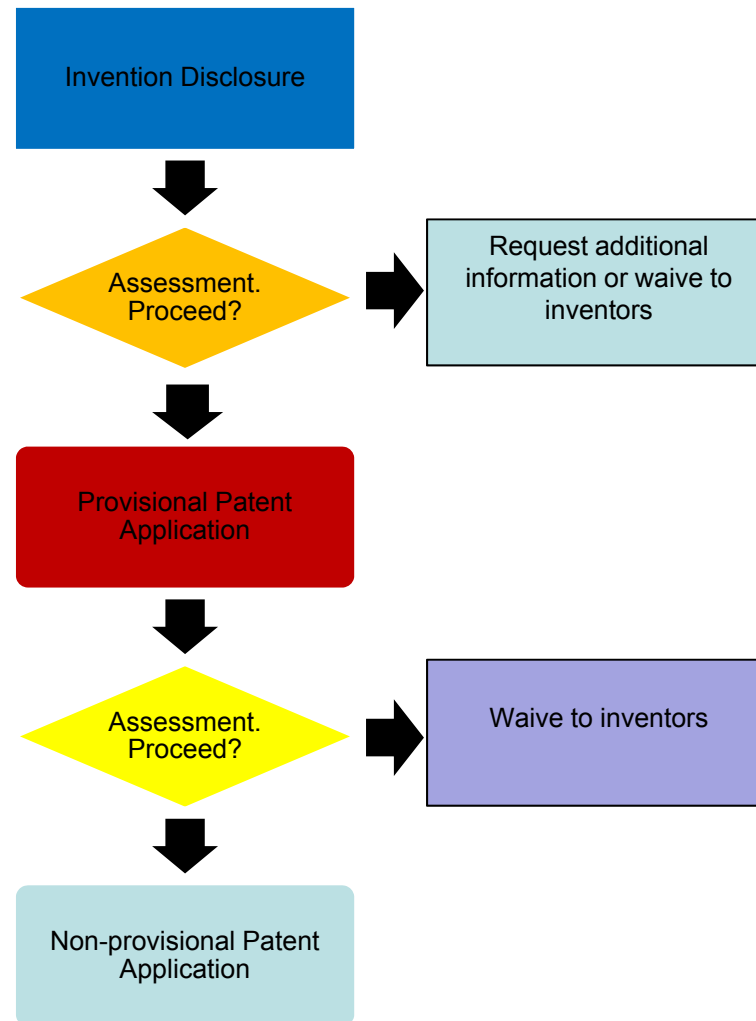
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Process of Technology Commercialization



Process of Technology Commercialization



Assessment

IP Strength

- Patentability search

Market Potential

- Market size and growth potential

Competition

- Advantages and new features

Commercialization

- Whether additional resources could improve prospect of commercialization

Market Need

- Any interest from target companies

Disclosure Form

- ◆ Report your inventions via the NJIT Inventor Portal

<https://njit-ip.ttoportal.com/Login.aspx>

No patent rights after submitting the invention disclosure form

Trade Secrets

- Secret information with commercial value
- Reasonable degree of protection
 - Physical security, limited access to material, need to know
- Recipes or formulas, business plans, customer lists, manufacturing processes
 - The formula for CocaCola (secret for more than 125 years)
 - The recipe for KFC

Trade Secrets Versus Patents

- Available for as long as the information remains confidential
 - Patent protection generally lasts about 20 years
- Could be reverse engineered or independently discovered
 - A reason to pursue patent protection
- Cannot be disclosed to the public
 - Information is disclosed in a patent application

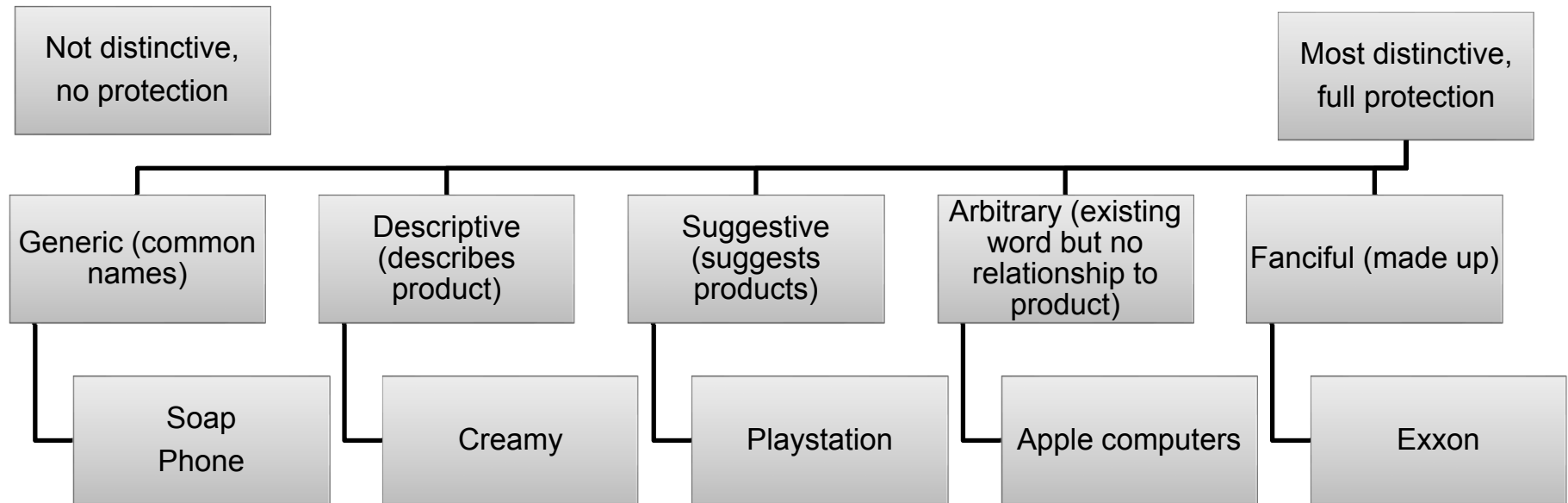
Trademarks

- Any word, name, symbol, design, sound, color, touch, smell, device



- Identify and distinguish a product or a service
- Trademarks are adjectives; not nouns or verbs
 - Ray-Ban sunglasses
- Trade name: company or business
 - Apple
- Trademark: identifies goods
 - iPhone

Selecting a Trademark



Trademark Rights

- Federal Registration: ®
- Common law rights: TM or SM
- Could be indefinite as long as trademark does not become generic
- Advantages of Federal Registration
 - Evidence of validity and ownership
 - Nationwide
 - Right to sue in federal court
 - Incontestable after 5 years of continuous use
 - Damages for infringement

Copyright

- Protects original works of authorship
 - Literary
 - Musical
 - Artistic
- Originality: independently created
- Only minimal creativity required
- Exists upon fixation of work in any tangible medium
 - No registration required

Copyright Rights

- What can you do with a copyright?
 - Reproduce
 - Derivative works
 - Distribute copies
 - Perform publicly
 - Display publicly
- Only protects expression, not idea of underlying work

Copyright Term

- Generally life of author plus 70 years
- Work made for hire: 95 years from publication or 120 years from creation, whichever expires first

Copyright Registration

- Required to bring suit for infringement
- Statutory damages and attorney fees
- Actual or constructive notice

Overlapping IP Protection

- ◆ More than one form of IP protection may apply
- ◆ Patent
 - Design patent on the bottle shape
 - Utility patent on method of fortifying drinks with vitamins
- ◆ Trademark on bottle shape and Coke
- ◆ Copyright on advertising and promotion
- ◆ Trade Secret on the formula



Issues

- Contact us for any advice
 - IP@NJIT.edu
- For what types of IP protection does work quality?
- Who owns the IP?
 - Each IP can have a different owner
 - Review NJIT Patent Policy
 - Review your employment agreement
- Develop an overall strategy for IP from the start before the product is introduced

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