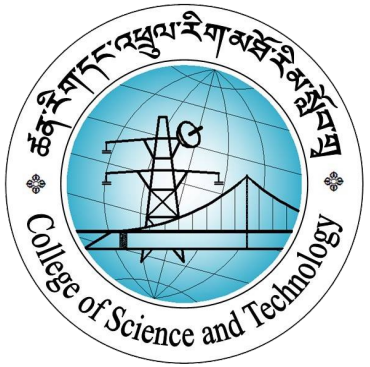

Bachelor of Engineering in Information Technology

ITM301 Professional Practices in IT

Unit III: Intellectual Property

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Overview

- Intellectual Property
- Trade Secrets
- Trademarks
- Patents
- Copyright
- Fair Use
- US and DMC Act
- Software Protection
- Open Source Software

What is Intellectual Property?

- Any unique product of the human intellect that has commercial value.
  - Books, songs, movies
  - Paintings, drawings
  - Inventions, chemical formulas, computer programs
- Intellectual property ≠ physical property

Protecting IP

Two competing goals:

- *Benefiting the society* — want inventions to reach the public domain without delay
- *Rewarding the creators* — want to promote future inventions

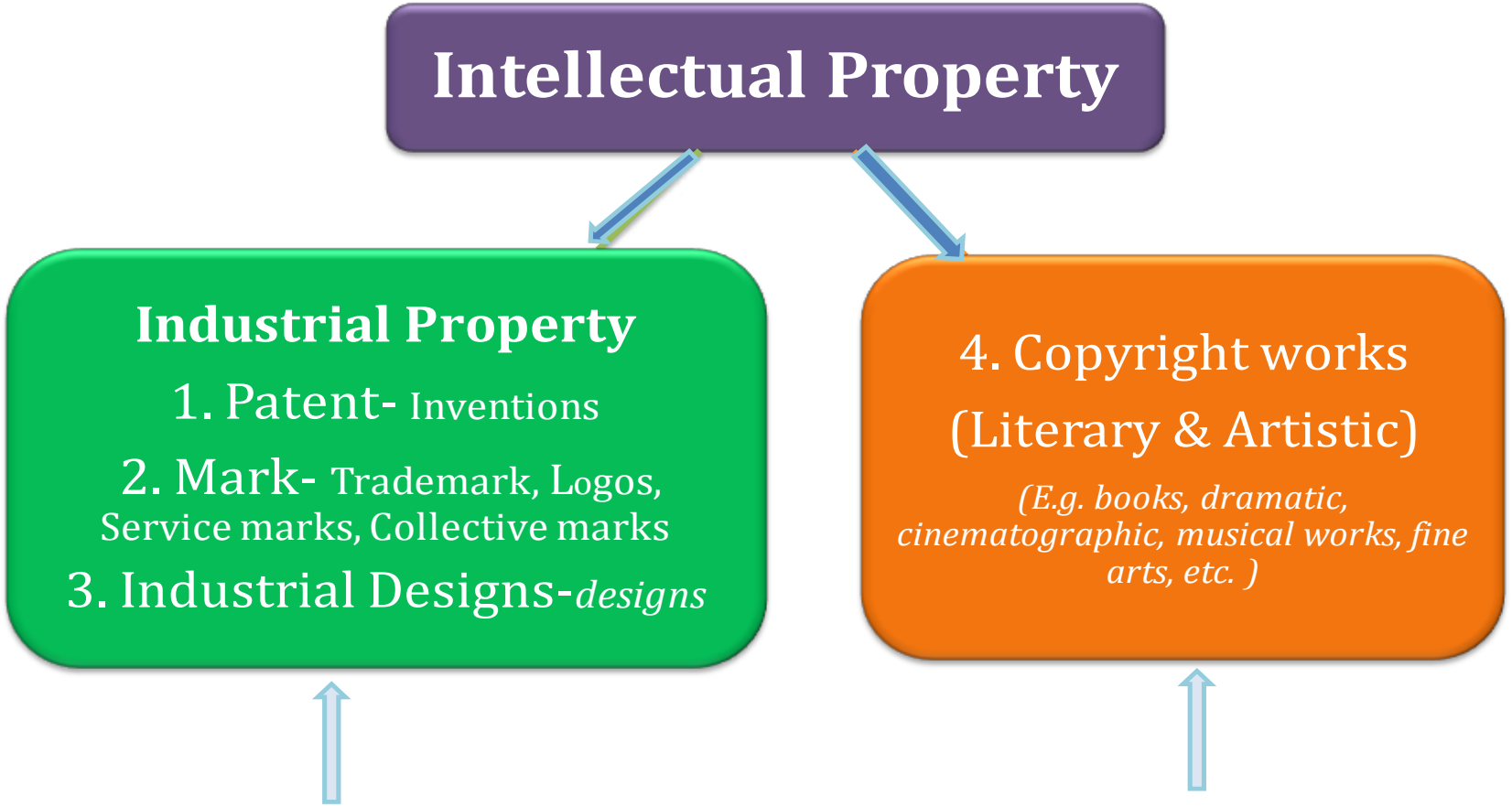
Solution:

- Gov't grants *limited* ownership rights to IP creators

Protection Types*:*

- Trade Secrets, Industrial Design, Trademarks, Patents, and Copyrights

IP in Bhutan


Intellectual Property
Industrial Property
1. Patent- Inventions
2. Mark- Trademark, Logos, Service marks, Collective marks
3. Industrial Designs-designs
4. Copyright works (Literary & Artistic)
(E.g. books, dramatic, cinematographic, musical works, fine arts, etc.)
The Industrial Property Act of the Kingdom of Bhutan, 2001
The Copyright Act of the Kingdom of Bhutan, 2001

Trade Secrets

A **trade secret** is a confidential piece of IP that provides a company with a competitive advantage.

- *E.g.*
  - the formula for Coca-Cola syrup
  - the internal design of a system
  - customer lists

***Protections**:*

- Owners must take active measures to keep their trade secrets from being discovered
  - Locked boxes
  - Non-disclosure agreements (NDA) and non-compete clauses
- The Uniform Trade Secrets Act (UTSA)
  - Imposes civil liability for misappropriation of trade secrets

Trademarks

- A **trademark** is sign distinguishing goods or services of one undertaking from those of other.
  - – marks used to distinguish certain goods as those produced by a specific enterprise
  - E.g. Dell, Frooti

- ***Protections****:*
  - Company can sue for improper use of its trademark
  - However, if a trademark name becomes common noun, trademark may be lost.
- *E.g.* *aspirin, escalator, thermos, xerox, yo-yo*

Types of Trademark

- **Collective mark: -** Marks used to distinguish goods/services produced or provided by members of an association.
  - E.g. Melinda apple, Darjeeling tea
- **Service marks**: marks used to distinguish certain services as those provided by a specific enterprise
  - Bmobile, TashiCell
- **Well-known marks**: marks that are considered to be well-known in the market
  - Apple, Samsung
- **Certification Marks**: marks used to distinguish goods/services that comply with a set of standards and have been certified by a certifying authority
  - E.g. Made in Bhutan, ISI

Functions of Trademark

- ***Origin Function***: identify source of goods and services
- ***Choice function***: enable consumers to choose goods and services
- ***Quality function***: Consumers choose a particular trademark for its known quality
- ***Marketing function***: trademark plays important role in marketing and advertising
- ***Economic function***: valuable asset which can be licensed, franchised and assigned

Marks that cannot be registered

- Descriptive
- Contrary to public order or morality
- Common to trade
- Identical/similar to well-known marks
- Deceptive
- Cause confusion
- Marks identical/similar with official signs
- Forbidden by rule of law

Patents

A protection granted for inventions

A public document that provides detailed description of invention.

- Provides owner with exclusive right to the invention
- Owner can prevent others from making, using, or selling invention for 20 years

Patentable Inventions

- *New/novel* – not known anywhere in the world prior to filing for registration
- *Inventive step* – not obvious or a simple adaptation or combination of existing products
- *Industrially applicable*

Exclusion from Patent protection

- Discoveries, scientific theories and mathematical methods
- Schemes, rules or methods for doing business, performing purely mental acts or playing games
- Methods for treatment of the human or animal body by surgery or therapy
- Inventions, commercial exploitation of which would be contrary to public order or morality

Copyright

- Applied to all original literary, dramatic, musical, and artistic works
- When created original work, it is protected automatically
- Protects:
  - Literary works – books, speeches, magazine and newspaper articles, novels, stories, poems, essays, plays, textbooks
  - Musical works – musical compositions, lyrics, songs and ring tones
  - Films and multimedia products: movies, videos, games, TV programs and cartoons
  - Dramatic and choreographic works
  - Artistic works – drawing, paintings, photographs

Copyright

- Provides owner of an original work *following* rights
- Economic Rights
  - Exclusive right to reproduce, broadcast, translate, adapt, distribute
- Moral Rights
  - Protect works against distortion or mutilation
- Related Rights or Neighbouring Rights
  - Performers, producers of phonograms, broadcasting organizations
- Duration: life + 50 years

Fair Use

Under some circumstances, it is legal to reproduce a copyrighted work without permission.

Courts consider four factors:

- *Purpose and character of use*
  - Educational use is generally OK
- *Nature of work*
  - Nonfiction and non-arts work are more permissible
- *Amount of work being copied*
  - Small portions are more permissible
- *Effect on the commercial market for work*
  - Should have a negligible effect

Fair Use Examples

- A professor scan a few journal articles and post them on his class website.

  Students in class use password to access. *(OK)*

- An art professor takes slide photos of some paintings from a book, and uses the slides in her lectures. *(Maybe not OK)*

IP Protection Challenges

- Digital copies:
  - Easy to make perfect copies of CDs, DVDs
  - Easy to download books, music, and videos
  - Peer-to-peer network allow strangers to share music and other data files

- The RIAA has filed more than 26,000 lawsuits against individuals for illegal downloading since 2003.
  - Tanya Andersen (case dropped)
  - Jammie Thomas (fined $222K for sharing 24 songs)

IP Protection Challenges Cont…

Fair Use Issues:

- How to draw the line?
- How to protect legal fair use right?

Software Protection?

- Should software be copyrighted?
- Should software be patented?

Answers to the Challenges

- *Prevention* —
  - Digital IP Protection Techniques (e.g. DRMs)
- *Tracking* —
  - Digital Watermarking
- *Punishing* —
  - Extending Copyright Laws

This is an on-going process. Some of the changes are controversial.

US Copyright Laws

- First copyright law was passed in 1790 and Provided **28** (14+14) years of protection for books.

- Each subsequent revision broadened coverage scope *and* increased protection period:
  - ✓ *1831 Act* – prints and sheet music; **42** years
  - ✓ *1909 Act* – photos, recordings, movies; **56** years
  - ✓ *1976 Act* – software and databases; **75** years
  - ✓ *1998 Act* – music broadcast over the Internet; author's lifetime + **95** years

Digital Millennium Copyright Act

- Passed in 1998, but is still controversial.
  - DMCA makes circumventing copy control a felony, even if it is for fair use purpose.

    Some Consequences:
    - While making a personal copy of music CD is fair use, it is illegal to do so for movie DVDs
    - It is illegal to play a DVD on a GNU/Linux machine

  - OSP may be held liable (and face severe penalties) for copyright violations by its users
    - Viacom v. YouTube lawsuit is on-going

Software Protection

- *Utilitarian Arguments:*
  - Copying software reduces software purchases
  - Leading to less income for software makers
  - Leading to lower production of new software
  - Leading to fewer benefits to society

- *Rights-Based Arguments:*
  - Programming is hard work that only a few can do
  - Programmers should be rewarded for their labor
  - They ought to be able to own their programs

Software Copyrights

- Included in 1976 copyright law revision
- What gets copyrighted?
  - Expression of idea, not idea itself
  - Object code, not source code
  - (Companies treat source code as a trade secret.)
- Examples of violations:
  - Copying a program to give or sell to someone else
  - Preloading a program onto the hard disk of a computer being sold
  - Distributing a program over the Internet

Software Patents?

- Software is patentable if it contains a mathematical formula and implements it in a structure, which performs a patentable function.
- Patents are not to be given for things that are obvious or are already in common use.
  - But it is hard to determine what is “obvious.”
  - *Result:* Some bad patents have been issued

Software Patent Examples

- Data compression schemes:
  - GIF, JPEG, MP3, RSA
- Internet tools:
  - pay-per-click ad, plug-in browser
- User interfaces:
  - progress-bar, force-feedback (in game controller)

Criticisms of Software Patents

- Cost is too high.
- Traditional copyright has provided sufficient protection.
- Most software patents cover trivial inventions or trivial extensions of existing technologies.
- Lack of patent application disclosure – Patent applications are published 18 months after they are filed.

Open-Source Software

Opposite answer to proprietary software.

- No restrictions preventing others from selling or giving away software
- Source code included in distribution
- No restrictions preventing others from modifying source code
- No restrictions regarding how people can use software

Copyleft: (e.g. GPL)

- Free to modify and redistribute as long as the same rights apply to everyone receiving the software

Open-Source Benefits

- Programs belong to entire community
- Eliminates tension between obeying law and helping others
- Gives everyone opportunity to improve program
- New versions of programs appear more frequently
- Shifts focus from manufacturing to service

D Criticisms of Open-Source

- Without an “owner,” incompatible versions may arise
- Without critical mass of developers, quality can be poor
- Relatively weak graphical user interface
- Poor mechanism for stimulating innovation – no companies will spend billions on new programs

Thank you