

Legal Aspect of ICT: Intellectual Property Right Management

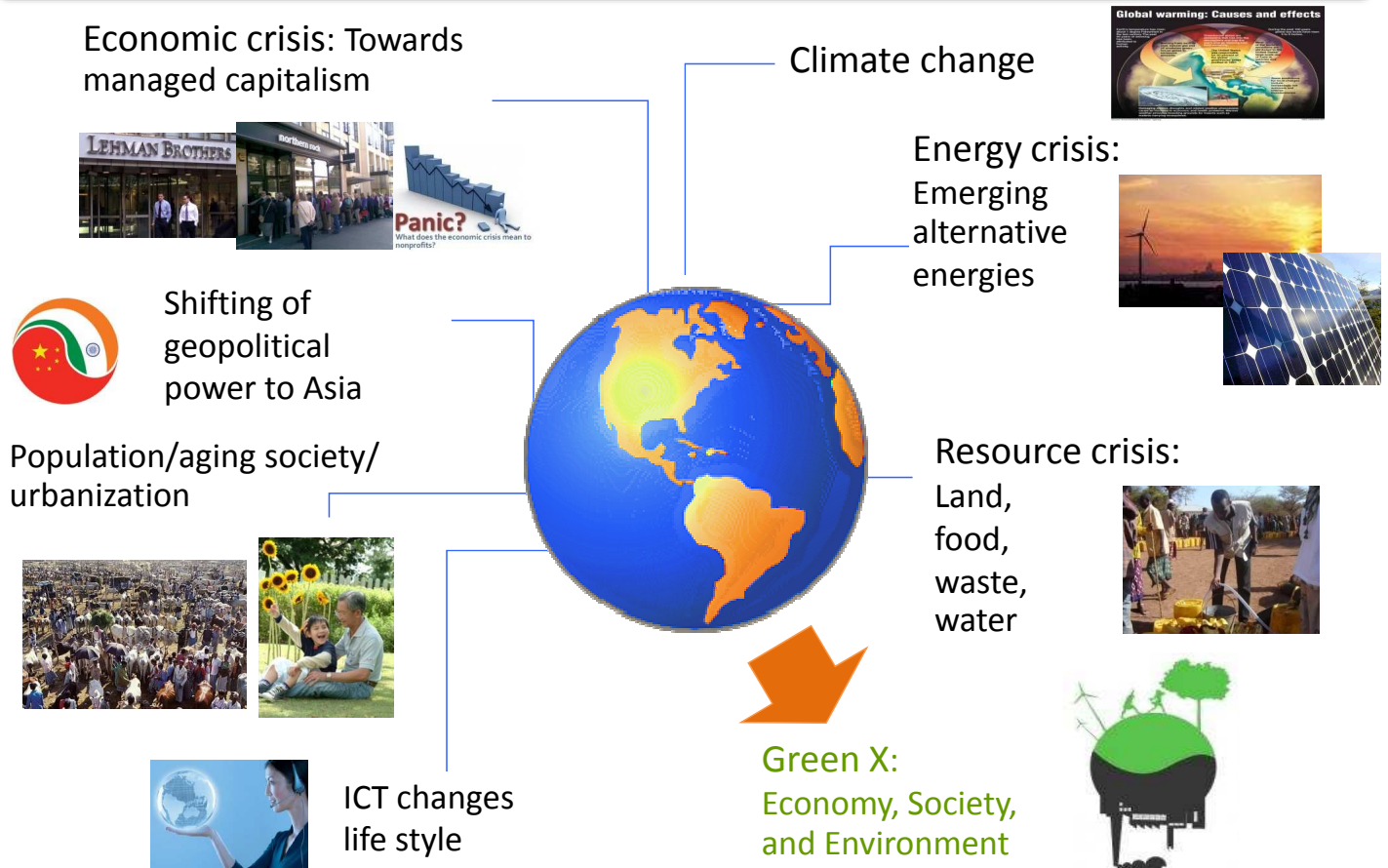
Orakanoke Phanraksa, Ph.D.

August 31st 2012
Pullman Bangkok King Power Hotel

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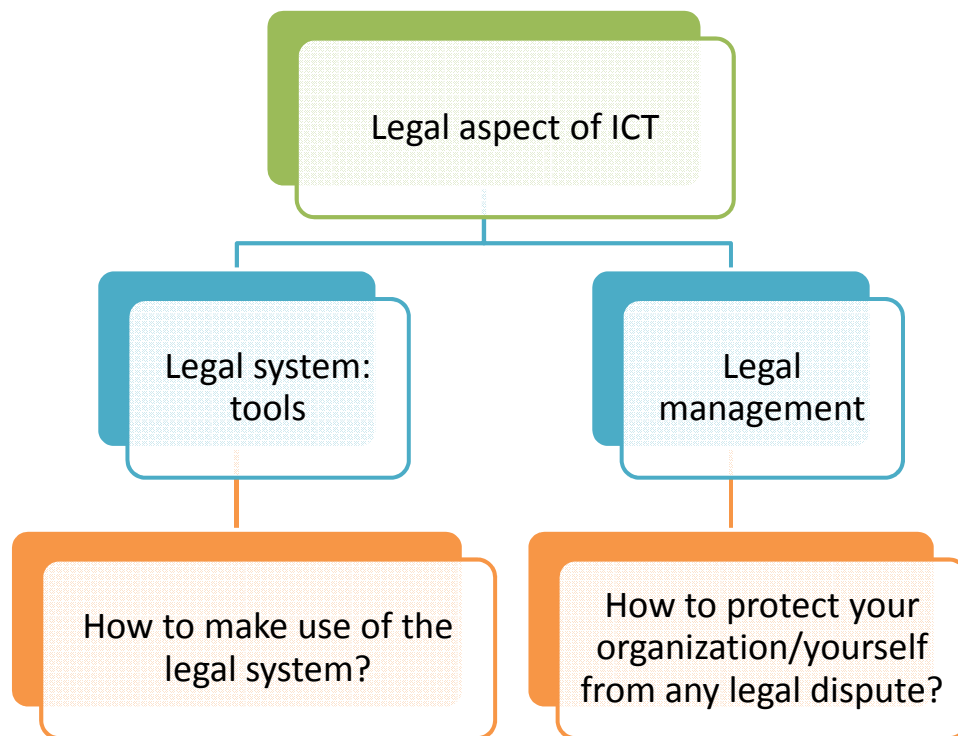
Global Trends



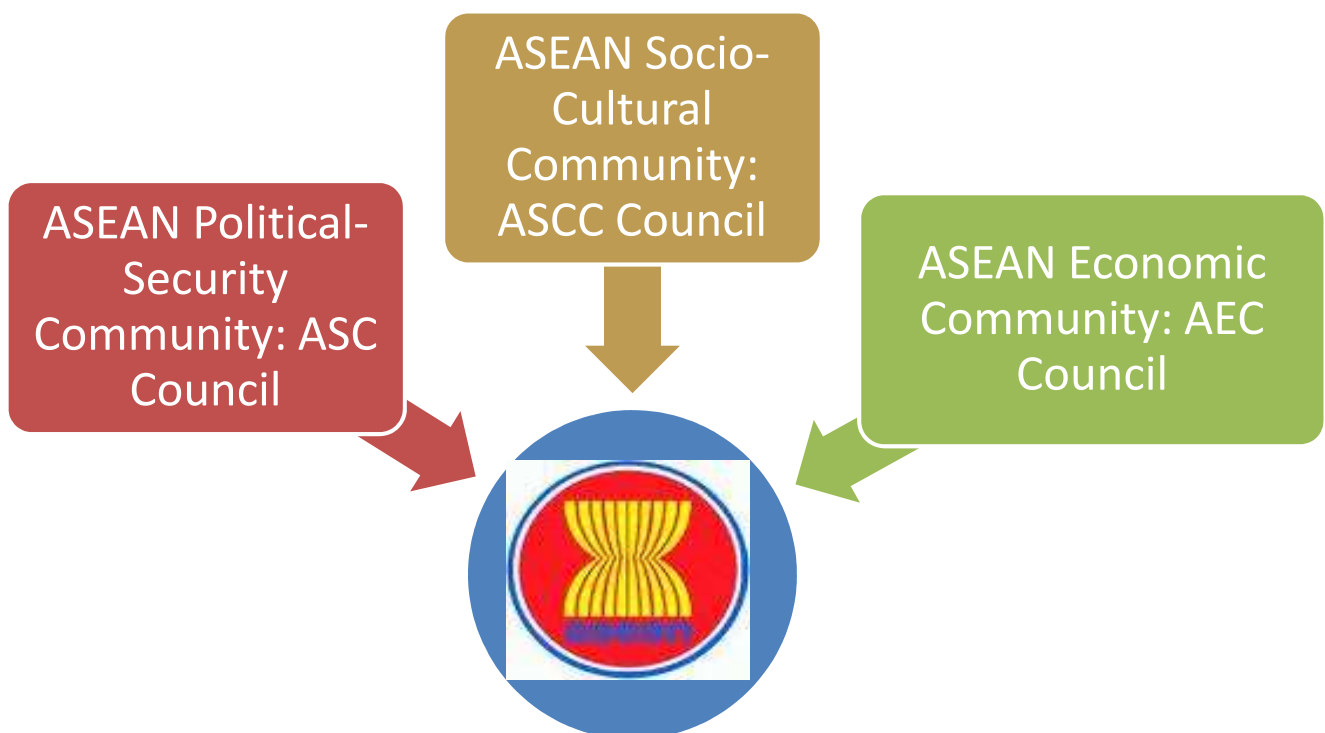
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Laws and ICT: Why is it important?



ASEAN Community

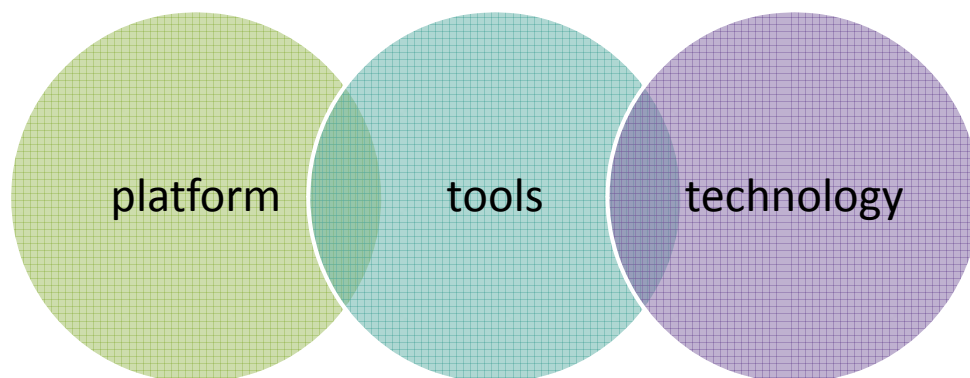


Why should we concern about AEC?: IPR aspect

- Free movements of goods and services within ASEAN in 2015
- Goods and services: ICT & IP
 - Creation
 - Protection
 - Utilization
 - Enforcement

Science service

- ICT to our normal life:
 - Example: science service connected to healthcare

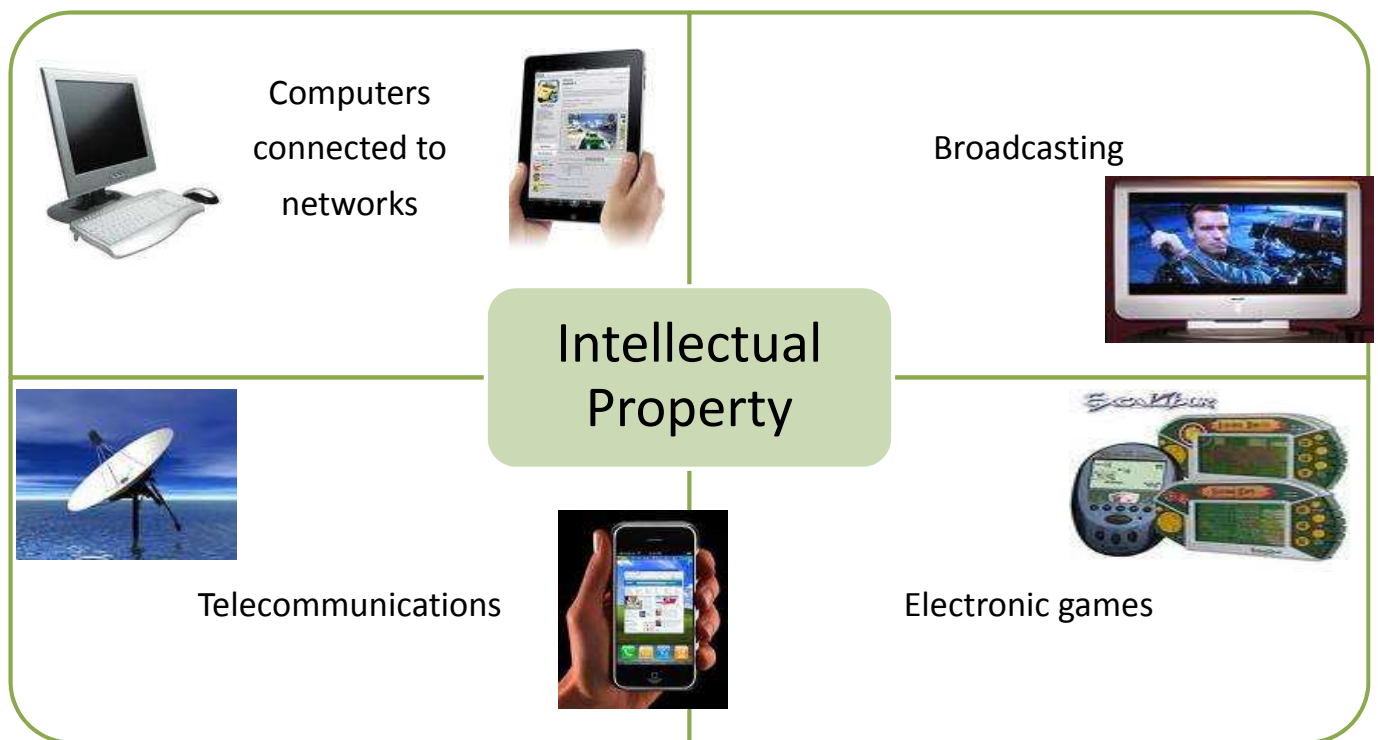


Discussed issues

- 1) The interface between ICT , Intellectual Property and relevant laws
- 2) Overview of Intellectual Property Rights
Selected IPRs:
 - Patent
 - Copyrights
- 3) IP Laws responding to the Digital Technologies & the Internet

1) THE INTERFACE BETWEEN ICT, INTELLECTUAL PROPERTY & OTHER RELEVANT LAWS

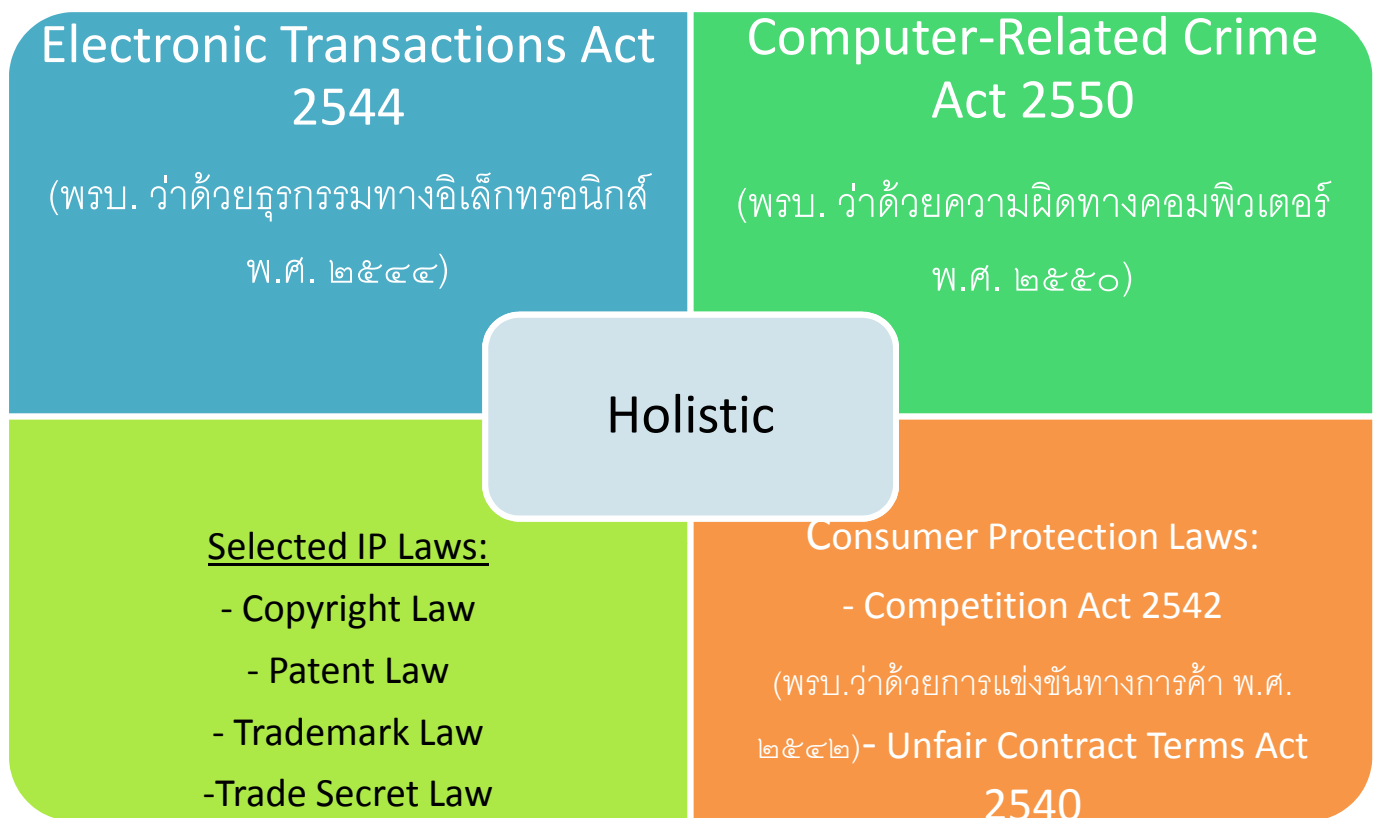
Digital Era



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Interface between ICT, IP and relevant Laws



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ICT Laws in Thailand

- Electronic Transactions Act B.E. 2544 (2001)
 - Paper based documents = Electronic information
- Computer-Related Crime Act B.E. 2550 (2007)
 - Objectives: to set out
 - The offences against the computer related crime,
 - The authority of competent officials, and
 - To impose duty to retain traffic data on service provider.
 - Brief character of the law:
 - Criminalize illegal access, interception, interferences of computer system & computer data.

2) OVERVIEW OF INTELLECTUAL PROPERTY RIGHTS

IPs around us

Morning



Lunch



Evening



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How many IPs?



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Copyright Orakanoke 2010

Automatic response to and sensing of user activity in portable devices

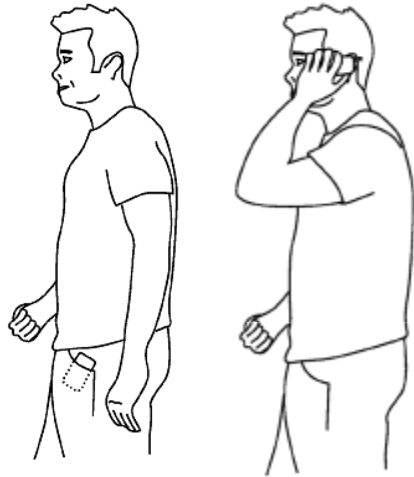
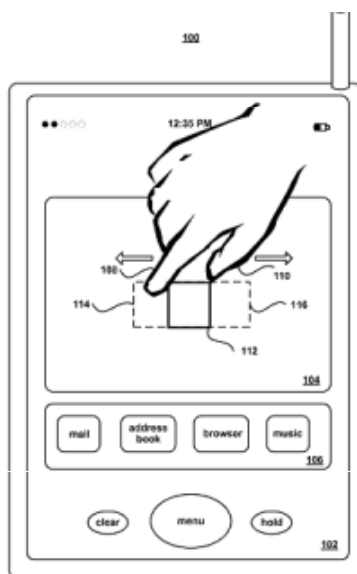


FIG. 9C

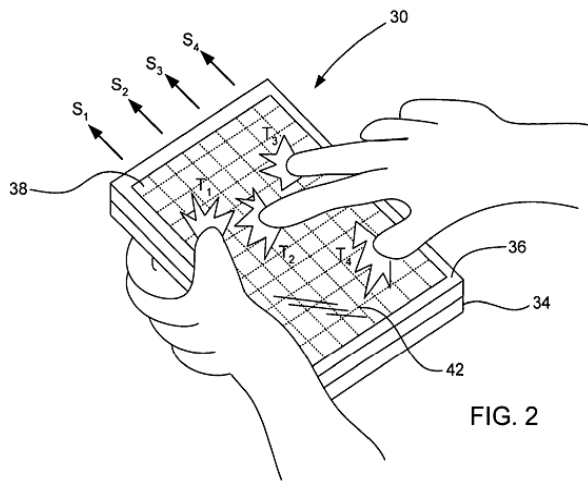
- ออกสิทธิบัตรเมื่อ 15 ธันวาคม 2009 (US 7,633,076)
- คຸ້ມครองสิทธิในโทรศัพท์มือถือ ที่มี proximity sensor
- ตัวตรวจจ็ับว่ามีวัตถุมาอยู่ใกล้กับตัวเซนเซอร์หรือไม่
- ตัว proximity sensor จะมีไดโอดเปล่งแสงออกมาและมีตัวตรวจจ็ับแสง
- เมื่อมีวัตถุเข้ามาใกล้แสงที่ปล่อยออกมาจะสะท้อนวัตถุกลับไปหาตัวตรวจจ็ับแสง ทำให้สามารถรู้ถึงระยะทาง และอัตราเร็วของวัตถุได้)
- Ambient Light Sensor (ALS) (คือตัวตรวจจ็ับปริมาณแสงโดยรอบว่ามีปริมาณมากหรือน้อยเพียงใด) สำหรับตรวจสอบว่าผู้ใช้โทรศัพท์ยกโทรศัพท์ขึ้นแนบหูและกำลังโทรออกหรือไม่ ถ้าตรวจพบเครื่องจะหยุดรับการป้อนอินพุตจากจอสัมผัส และควบคุมกำลังไฟที่จ่ายให้โทรศัพท์ เช่น ปรับลดความสว่างหน้าจอโทรศัพท์

“Portable electronic device with multi-touch input”



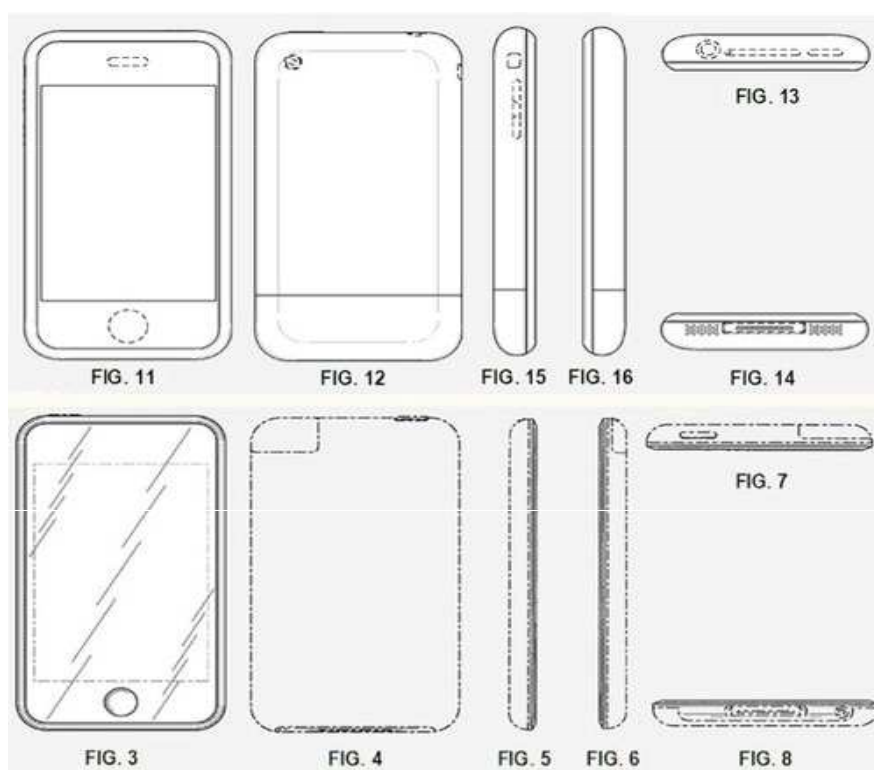
- ออกสิทธิบัตรเมื่อ 12 ตุลาคม 2010 (US 7,812,826)
- คຸ້ມครองสิทธิในวิธีการ อุปกรณ์ และสื่อบันทึกที่มีโปรแกรมคอมพิวเตอร์ สำหรับการ “Pinch-to-Zoom” สำหรับการควบคุมการย่อ ขยาย หมุน เคลื่อนสไลด์ วัตถุ เช่น รูปภาพ ไอคอน ปุ่มควบคุม เป็นต้น บนจอสัมผัสแบบ multi-touch การควบคุมจะขึ้นอยู่กับ การเคลื่อนไหวของนิ้วมือบนหน้าจอ

“Multipoint Touch screen”



- ออกสิทธิบัตร 16 กุมภาพันธ์ 2010 (US 7663607 B2)
- คุ้มครอง หน้าจอสัมผัสแบบ Capacitive สำหรับตรวจจับการสัมผัสหลายจุด (T1,T2,T3,T4) บนหน้าจอในเวลาเดียวกัน

Design patent



TRADEMARKS

**U.S. TRADEMARK NO. 3,886,196
ON A DIAL ICON**



**U. S. TRADEMARK NO. 3,889,642
ON A CHAT ICON**



**U.S. TRADEMARK NO. 3,886,200
ON A SUNFLOWER ICON**



**U.S. TRADEMARK NO. 3,889,685
ON A SETTINGS ICON**



**U.S. TRADEMARK NO. 3,886,169
ON A NOTEPAD ICON**



**U.S. TRADEMARK NO. 3,886,197
ON A CONTACT LIST ICON**



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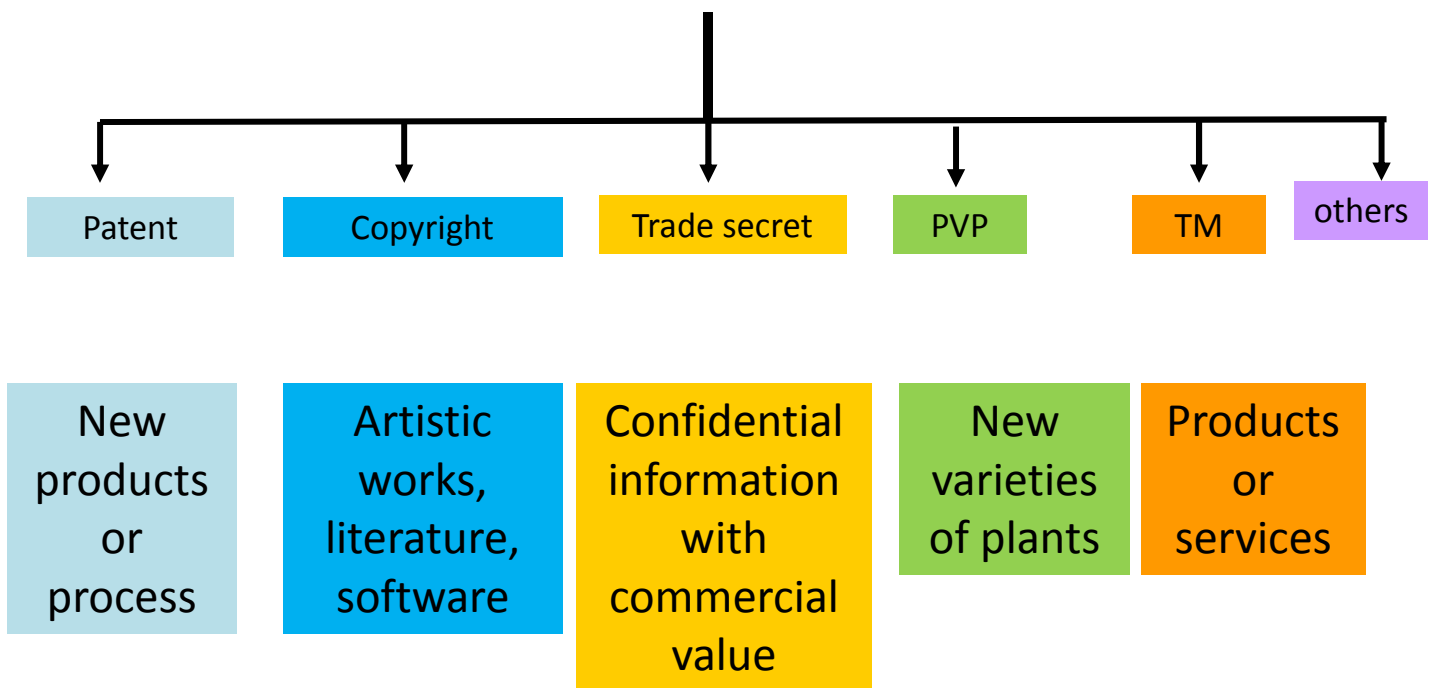
Types of IPs under Thai IP Laws



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Main Intellectual Property (IP)



What is a patent?

- A patent is a set of legal rights granted to an inventor by State or by regional patent office, acting for several states.
 - Rights to exclude others from commercially exploiting the invention for a limited period, in return for the disclosure of the invention, so that others may gain benefit of the invention.
- Two main objectives:
 - Reward the inventors by providing them the exclusive rights for a limited period,
 - Promote dissemination and transfer of technology to the public.

Top 10 corporate patent owners (Jan 1, 1969-Dec. 31, 2004)

Company	Number of patents
IBM	42,591
General Electric	31,293
Canon Kabushiki Kaisha	28,202
Hitachi	26,369
Toshiba	22,888
NEC	17,626
Eastman Kodak	19,780
Matsushita Electrical Industrial	19,611
Mitsubishi Denki Kabushiki Kaisha	18,985
Sony	17,604

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Who owns the most patents?

Rank	Grants	Company names	Country
1	6180	IBM	U.S.
2	4894	Samsung Electronics Co. Ltd KR	Korea
3	2821	Canon K K JP	Japan
4	2559	Panasonic Corp JP	Japan
5	2483	Toshiba Corp JP	Japan
6	2311	Microsoft Corp	U.S.
7	2286	Sony Corp JP	Japan
8	1533	Seiko Epson Corp JP	Japan
9	1514	Hon Hai Precision Industry Co. Ltd. TW	Taiwan
10	1465	Hitachi Ltd. JP	Japan

Reasons for patenting your invention

- Exclusive rights:
 - patent provides the exclusive rights which usually allow you to use and exploit the invention for 20 years from the date of filing.
- Strong market position:
 - prevent others/competitors from commercially using your patented invention-reducing competition and establishing yourself in the market as a pioneer player.

Reasons for patenting your invention (cont')

- Promote opportunity to enter into a new market:
 - if you choose not to exploit it yourself, you may license or sell the right to commercialize it to another party.
- Increase in negotiating power:
 - A patent portfolio will enhance your bargaining power. It may be done through licensing agreement, in particular cross licensing.
- Honor to a patentee:
 - Reflect high level of specialization of your expertise.

Key words about the patent system

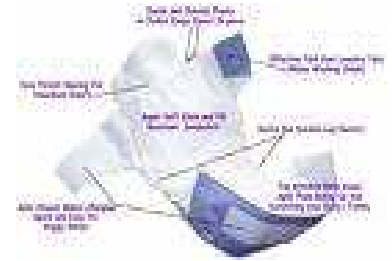
- Patent is a territorial basis system.
 - Your invention gets protected only in the country where you file for a patent protection.
- It is the first-to-file system. (first come first serve.)
- What is it about the Patent Cooperation Treaty (PCT)?
 - Conventional filing system vs. PCT Filing

Types of patents under the Thai Patent Act

- Patent invention relates to **technical or functional** aspect.
 - product
 - process
- Product design relates to **ornamental** aspect
 - Ornamental appearance of articles of manufacture or machine such as shape or configuration, composition of lines or colors

Invention

- Products
 - machine, apparatus, device, tool, article, compound



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Invention (cont')

- Process
 - Example: method, means, extraction
 - Natural rubber life extension process

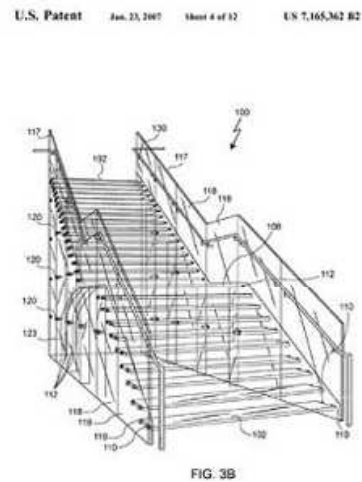


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Product design

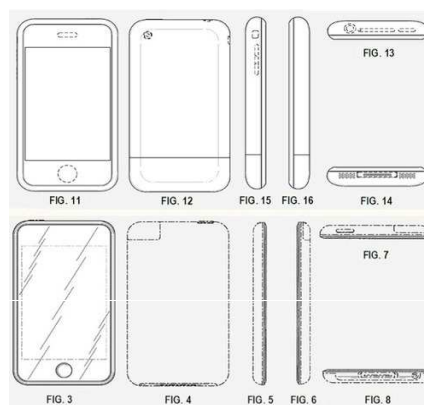
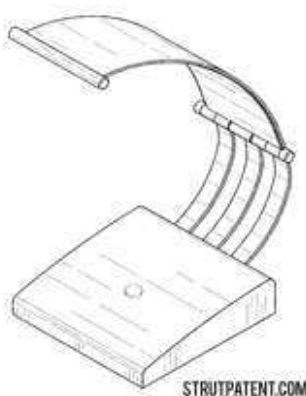
- Focus on ornament aspect
- Ornamental appearance of articles of manufacture or machine



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Product design (cont')

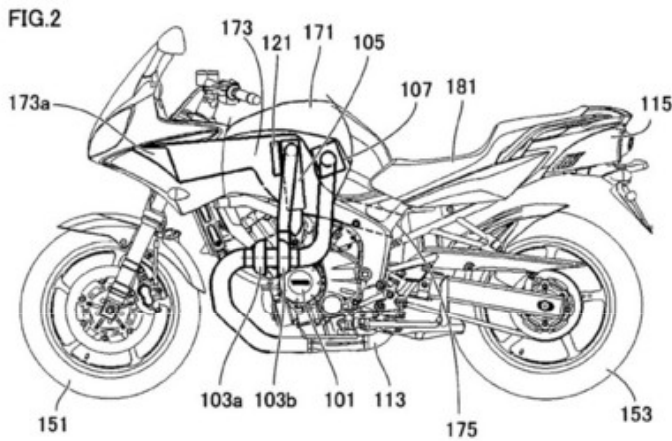


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Patent vs. product design

Invention



Product design



Exclusion from patentability

- Plants and animals other than microorganisms, and essentially biological processes for the production of plants and animals, other than non-biological and microbiological processes;
- Discoveries of materials or substances already existing in nature;
- Scientific theories or mathematical methods;
- Computer program
- Methods of treatment for humans or animals or diagnostic methods (but not products for use of such methods)
- Invention that contravenes public order or morality

Conditions of Patentability

- 1) New, Novelty
- 2) Inventive Step, Non-obviousness
- 3) Industrial Application, Utility

What would stop you from meeting the first patentability criteria?

Forms of Disclosure



■ The disclosure of an invention may take place mainly in three ways:

- By a description of the invention in a **published writing or publication** in other forms;
- By a description of the invention in spoken words given public, or so called "**oral disclosure**";
- By the use of the invention in the public, or by putting the public in a position that enables any member of the public to use it, or so called "**disclosure by use**".



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Term of patent protection

- Patent invention: 20 years from the filing date
- Product design: 10 years from the filing date
- Petty patent: 6 years + 2 + 2 year renewals, totally ten year protection from the filing date

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Copyrights

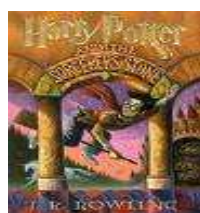
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The original works of authorship include:

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- Books
- Motion pictures and other audiovisual works
- Musical works
- Pictorial, graphic and sculptural works
- Choreographic works
- Sound recordings
- Computer programs



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Copyright protection does not extend to:

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- Idea
- Procedure
- Process
- System
- Method of operation
- Concept
- Principle
- Discovery
- Constitution & Legislation
- Regulations of the Ministry, department of other governmental units
- Judicial decisions
- Factual information

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Exclusive rights of the copyright owner:

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- Right of reproduction and adaptation
- Right of communication to the public
- Right of commercial rental (computer programs, motion pictures or sound recordings)
- Right to authorize others to do the above
- Right to give benefits of the copyrighted work to others

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Limitations on exclusive rights ("fair use")

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- Research or study and not for profit purpose;
- Use for personal benefit, family members, close relatives;
- Comment, criticism, with acknowledge of the ownership of copyright in such work;
- Reporting the news through mass media;
- Reproduction, adaptation in part of a work, or making a summary by a teacher or an educational institution so as to distribute or sell to students in a class or in an educational institution provided that the act is not for profit;
- Use of the work as part of questions and answers in an examination.

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Fair use (cont')

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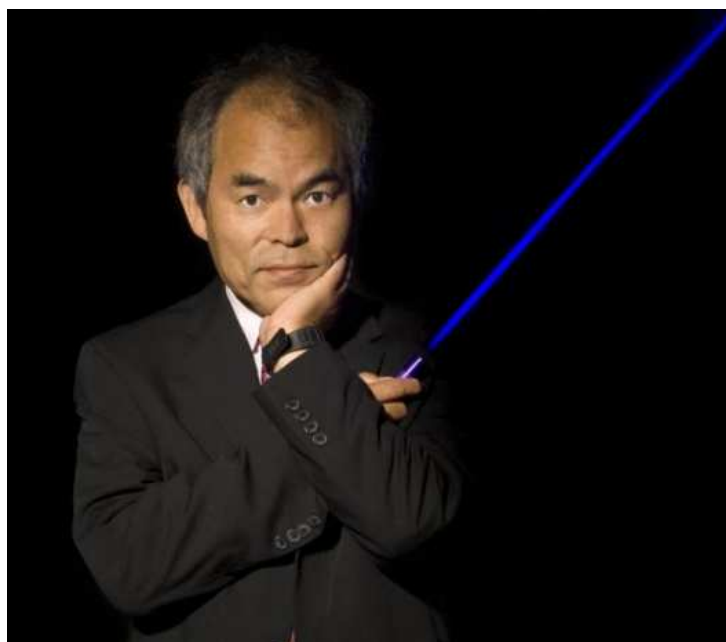
However, the above activities must not conflict with a normal exploitation of the copyright and must not unreasonably prejudice the legitimate interest of the copyright owner

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Concerns and awareness: commonly found!

- Ownership
 - Patent Law: “inventor”
 - In-house research
 - Institutional policy
 - Employment Contract: An employer owns the patent, invented by its employee inventor.
 - Contract research
- Ownership
 - Copyright Law: “creator”
 - In-house work:
 - Institutional policy
 - Employment Contract: An employee owns the copyright works if no explicit language under the employment contract.
 - Work for Hire

Do you know him?



Employee inventors: reasonable compensation

- Shuji Nakamura vs. Nichia Corporation
- Involved technology:
 - Blue-light-emitting diodes (LED), invented by Mr. Nakamura
- Disputed issue:
 - Reasonable value to employee invention

IP LAWS RESPONDING TO THE DIGITAL TECHNOLOGIES & THE INTERNET

- 1) Digital Right Management (DRM)
- 2) International Treaties
- 3) State Law

Digital Right Management (DRM)

- **Digital rights management (DRM)** is a term for [access control](#) technologies that are used by hardware manufacturers, publishers, [copyright](#) holders and individuals to limit the use of digital content and devices.
- DRM technologies attempt to control use of digital media by preventing access, copying or conversion to other formats by [end users](#).

Source: http://en.wikipedia.org/wiki/Digital_rights_management

Common terms used interchangeably with DRM

- Digital Right Management (DRM)
- Technological Protection Measures (TPM)
- Technological Measures
- Technological Safeguards
- Access Control Device
- Copy Control Device

Technological Protection Measures (TPM)

- **Types of TPM**

- Encryption
- Watermarking
- Fingerprinting
- Regional Coding, i.e., content scrambling system (CSS)
- Password

- **Types of Works Usually protected by TPM**

- Software
- Motion pictures
- Music
- Electronic books
- Electronic databases

TPM as access control or copy control device



“Circumvention of TPM is prohibited”

Use of Technological Safeguards

- To promote electronic commerce in copyrighted works.
- Work can be circulated safely over the Internet.
- Work can be accessible only to authorized users.
- TPM is used by copyright holders to control the access and use of copyrighted works in digital form.
- To prevent large-scale copyright infringement over peer-to-peer networks.

International Treaties

WIPO Copyright Treaty of 1996 (WCT)

- WIPO Internet Treaties:
 - (1) WIPO Copyright Treaty,
 - (2) WIPO Performances and Phonogram Treaty
- Entered into force in 2002
- Responded to the challenge posed by the digital technologies and the Internet.

WIPO Copyright Treaty 1996 (WCT)

- New subject matters protected by copyright law
 - Computer Programs
 - Databases
- Scope of rights protected by copyright law
 - Right of reproduction
 - Right of communication to the public
- Limitations and exceptions in the digital environment
- Prohibition against the circumvention of technology employed to safeguard copyrighted work in the digital networked environment

State Law : U.S. Digital Millennium Copyright Act (DMCA) of 1998

- ◎ Adequate **protection against**
 - circumvention of TPM
 - ban on circumvention devices
- ◎ Civil liability in case of willful infringement
- ◎ Criminal liability in case of willful infringement for commercial purposes
- ◎ Grants to copyright owners the right to use TPM (*access/copy control technologies*) to protect their copyrighted works

“Anti-Circumvention Provisions”

Two Categories of Control under DMCA

Access Controls	Copy Controls
• Technological measures that effectively control <u>access</u> to a work protected by copyright	• Technological measures that effectively protects a <u>copyright right</u> in a work or portion thereof

In the digital world, there is not necessarily much distinction in practice. Access controls are often applied to works and then access is allowed only for devices whose manufacturers have agreed to comply with certain copy control rules.

Prohibited Devices or Components under DMCA

- Primarily designed for circumventing,
- Knowingly marketed for use in circumvention, or
- Have only limited commercial significant purpose of use other than to circumvent

Devices such as personal computer or videocassette recorders would not fall under the prohibition

DMCA Exceptions

- Reverse engineering to create compatible software
- Nonprofit libraries/educational institutions for purposes of deciding whether to acquire a copy of a work
- Law enforcement
- Encryption research
- Protecting minors
- Computer security testing

Copyright infringement vs. Violation of the DMCA

- Violation of the DMCA is an independent claim of the copyright infringement.
- Even if the use of a copyrighted work is deemed fair, a claim of DMCA violation could be imposed.



Case Example

© DeCSS (Universal City Studios v. Corley, 273 F. 3d 429 (2d Cir. 2001))

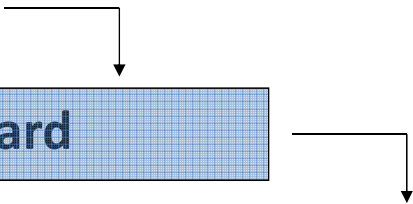
- The lawsuit was based upon circumvention of a technical control system known as the Content Scrambling System (CSS) designed to secure access to commercial DVD
- CSS is an encryption-based security system that requires the appropriately configured hardware such as a DVD player or a computer DVD drive to decrypt, and play back content on DVDs.

Case Example (cont')

© DeCSS

- DeCSS software was developed to remove CSS protection (access control) from commercial DVD, purportedly in order to allow DVDs to be played on unlicensed playback machines
- Use of DeCSS program would allow DVDs purchased in one area of the world to be played on equipment that would otherwise be geographically incompatible
- DeCSS was held in violation of making a device for circumventing access control.

Three Layers of Protection

- Copyright Law
 - Technological Safeguard
 - Law Protecting Technological Safeguard (amending the copyright law)
 - against circumvention of TPM
 - against trade in circumventing tools
- 
- ```
graph TD; A[Copyright Law] --> B[Technological Safeguard]; B --> C[Law Protecting Technological Safeguard (amending the copyright law)];
```

## Technological Safeguards and their Impacts

- Pay-Per-View, Pay-Per-Use society
- By allowing copyright owners to lock up information, education and research could be jeopardized
- Could obstruct software development and encryption research
- Imbalance between *owners' rights* and *users' rights* (privileges)

orakanoke@tmc.nstda.or.th

**THANK YOU FOR YOUR KIND  
ATTENTION**