

Intellectual Property (IP) and Patents

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What is Intellectual Property (IP)?

- **It is the concepts and ideas which come from an individual's intellect and the rights that that person has in those ideas**
 - It is the intellectual know how and creative output of individuals or the employees of a company
- **Ideas and concepts are intangible (not physical)**
- **IP rights protects the application or expression of these ideas and concepts in commercial setting**

What is Intellectual Property (IP)?

- **If you invent something or have a good idea to make something work better or provide an advantage there is usually some way of getting IP protection while you exploit it**
 - Reward for intellectual effort in doing something new
- **IP is often used to refer to a class of rights available for protection of intellectual effort which has commercial value**
 - patents, designs, copyright, trademarks

What IP Rights are available

- **IP rights comes in various flavours**
 - Patents Functionality (i.e. how things work)
 - Designs Visual Appearance
 - Copyright Choice of expression of information
 - Trademarks Brand – badge of origin
 - Plant Breeder's Rights Stable plant breed
 - Circuit Layout Original layout
- **Additionally confidentiality laws and contract terms exist to prevent breaches of confidence**
 - Trade Secrets relies on maintaining confidentiality

Registered Rights and Default Rights

- **Some IP Rights are registered rights.**
 - These have a formal application process, typically involving an examination process
 - They typically provide strong rights
 - e.g. Patents, Designs, Registered Trademarks ®, PBR's
- **Some IP Rights are default/automatic rights**
 - These come into existence through use
 - e.g. Copyright, Common Law Trade Marks™, Circuit layouts, Trade secrets/Confidential Information
- **Some IP may be protected by several modes**
 - Common law™ and Registered Trade Marks®

What do IP rights provide?

- **Owner retains a limited term monopoly to exploit IP**
 - prevent others from using, manufacturing, importing, selling, licensing or otherwise exploiting the protected IP
 - IP can be licensed to others (i.e. a royalty), or assigned (sold) as a revenue source
- **IP provides security to justify commercialisation or marketing costs**
 - Manufacturers & investors need assurance of future monopoly to invest in R&D manufacturing and support costs
 - Some distributors will only put the effort in to distribute and market a product if they have an exclusive license

General Process for obtaining IP

- **Market Research/Business Plan - make decision to file**
- **Lodge application**
 - establishes priority date and allows public use and promotion
- **Publication**
 - Details of the application are published (public on notice)
- **Examination of the application**
 - Application assessed against prior art and other established criteria to determine validity
 - Final scope of IP negotiated (and republished)
- **Acceptance/Grant**
 - Owner can only enforce IP once granted (their responsibility)
 - Third parties may challenge validity
 - Fees must be paid to maintain registration

Patents

- **A patent is a legal document (*Letters Patent*) which provides the owner with an exclusive right to “exploit” the invention defined in the patent specification for a fixed term**
 - Standard term is 20 years
 - A patent is a piece of property which can be bought and sold.
- **Patents protect functionality**
 - Products, systems, methods, compounds etc

Uses and Benefits of Patents

- **Exclusive manufacturing rights**
 - profit from an idea without competition
 - Recoup R&D and manufacturing costs
 - improve or maintain market share
- **Licensing tool**
 - Licence use to other manufacturers (royalty)
- **Commercial bargaining tool**
 - Can be used to negotiate cross licences in a dispute
- **Increases the value of a company**
- **Increases likelihood of survival for start-ups**
 - Attracts investment and raises the sell price

Trade Secrets – Protecting Know How

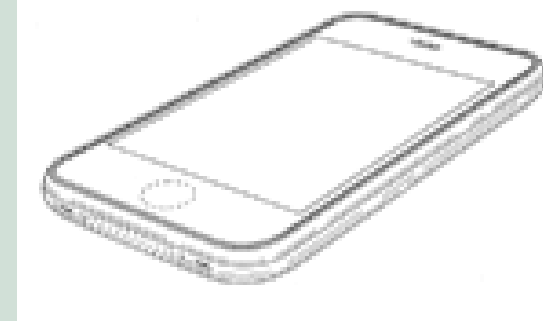
- **Trade secrets are propriety knowledge or confidential information relating to products, methods, business operations, client databases etc**
 - Most common form of IP found in workplaces
- **Not directly protectable**
 - Protected by laws against breach of confidence, contractual clauses, fiduciary duties, etc
- **A secret is only a secret whilst it remains a secret...**
 - The value is lost if the secret is made public, or if it can be reverse engineered from the product
 - Implement measures to control who knows the secret and how it is to be kept secret

Trade Secrets – Protecting Know How

- **Trade secrets can be used to protect products**
- **Can be useful protection if it is difficult to reverse engineer or if there is a clear first to market advantage**
 - Cheaper than patents
 - Hard to maintain over a long time period
- **Can be used alongside patents in complex products**
 - Some aspects can be patented, other aspects can be protected via trade secrets

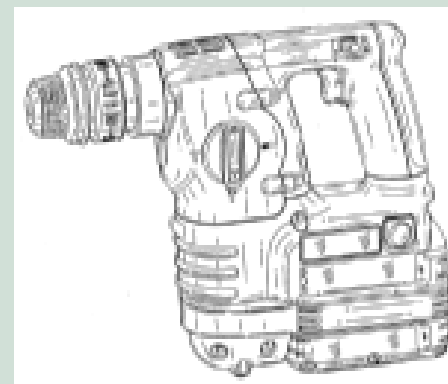
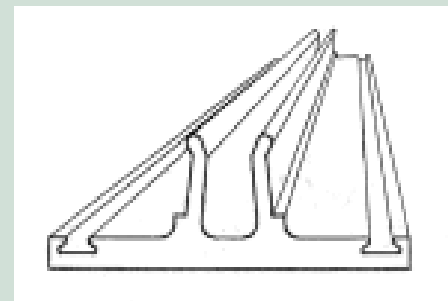
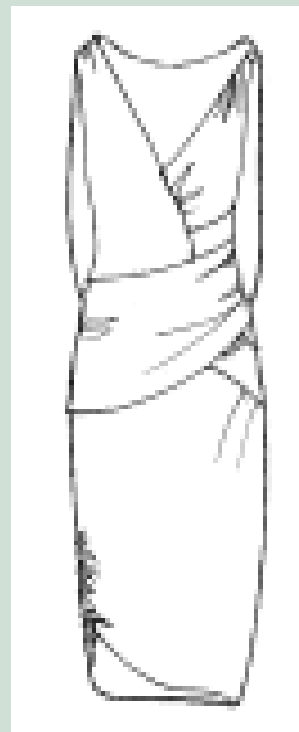
Designs - Protecting how things look

- **Designs protect visual appearance**
 - i.e. how you choose to make something look
 - Shape, configuration, pattern, ornamentation
 - visual feature may (but need not) serve a functional purpose
 - 10 year monopoly
- **Does NOT protect functionality, the feel of the product nor materials used in the product**
- **Design must be new and distinctive**
 - Test is against any prior published information anywhere
 - Prior use or public disclosure in AU is fatal (must file before use)



Examples of Suitable Subject Matter for Registered Designs

- metal extrusions used in industry
- domestic appliances
- mobile phone housing or case
- tools
- soft toys
- furniture
- clothing
- fabric pattern

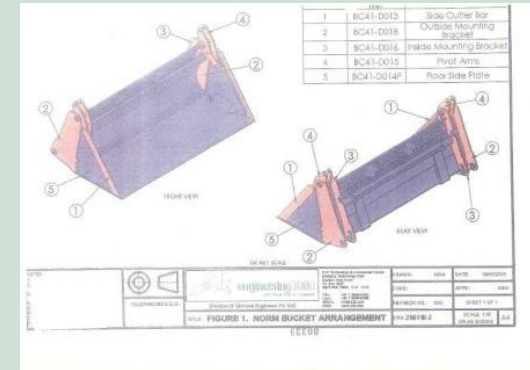


Australian Design System

- **Design is registered after formalities check**
 - Must include one or more representations
- **Published within 6 months**
- **No formal examination by default**
 - Quick registration,
 - Not enforceable until examined and certified
 - Exam can be requested by anyone
 - Examination assesses newness and distinctiveness
- **Registration + Examination cost is approximately \$1500 per design**

Copyright – protect choice of expression

- **Copyright protects how you choose to express information**
 - Includes literary works, dramatic, musical, artistic works (2D and 3D), works of artistic craftsmanship, product packaging, manuals, plans, models of buildings, buildings, etc
- **Prevents reproduction of a *substantial* part**
 - What is substantial will depend upon the work
 - The factual content is *not* protected
- **Very long term – life of author+70 years**
 - No formal protection required in AU, but some countries require registration



Designs/Copyright overlap

- **Artistic works generally lose copyright if they are applied industrially (more than ~50 articles)**
 - Must instead seek design protection
- **Exception is if the work is a building, model of a building or a work of artistic craftsmanship**
 - Artistic craftsmanship only applies to designs which are relatively unconstrained by functional considerations
 - Will not be the case if the design is required to satisfy utilitarian considerations
- **Dual protection is sometimes available in cases where 2D pattern applied to a surface of an article**
 - copyright in 2D pattern, design protection for article

Designs/Copyright example

- **Consider 2D plans for a table, and a table**
 - Visual appearance of the table is registrable as a design (10 years)
 - Drawing of the plan for the table is an artistic work protected by copyright (life+70)
 - Copyright prevents direct copying of the 2D drawing or indirect copying via the 3D table
 - However copyright is lost if the design is commercially applied unless the table is work of artistic craftsmanship (big hurdle)

Burge vs. Swarbrick (HCA 17 [2007])



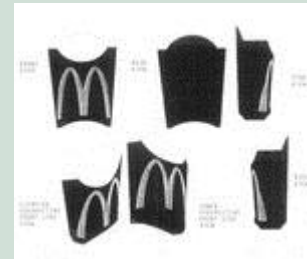
- **Swarbrick designed yachts**
- **Made a plug and moulding**
 - Plug = full scale model of yacht
 - Plug industrially applied
 - ~30 yachts made
- **Burge given moulding by Swarbrick**
 - started making yachts from mouldings
- **Swarbrick alleged copyright infringement**
 - argued mouldings/plug were works of artistic craftsmanship
- **High Court agreed with Burge that they weren't**
 - Their design was dictated by functional or engineering considerations so no infringement found



Trade Marks – badge of origin



- Trade Marks distinguish the source of goods and/or a services to users and potential users
- The mark must be distinctive (ie not descriptive)
 - Adding logo's can enhance distinctive
- The mark must be different from other competitors marks
 - Must not be deceptively similar
 - Aim is to protect consumers (prevent confusion)
- Word, phrase, logo, sign, shape, sound...
 - Anything that acts as a badge of origin



+210 others...

Trade Marks – Types of Protection

- **Common Law Trade Mark TM**
 - Rights obtained through use in the marketplace
 - Protection obtained by gaining reputation in a particular geographical location
 - Only available in some countries
- **Registered Trade Mark [®]**
 - Rights obtained by registration at IP Australia extend Australia wide
 - Much stronger and more enforceable right

TRADE MARKS

- **Registered Trade Marks last for as long as the renewal fees are paid**
 - 10 year intervals between renewals
 - Rights to a common law trade mark only last as long as the reputation exists.
- **Trade Marks can be a very valuable asset as they help to differentiate your product from those of others even if there is no other form of protection on that product.**
 - Value of brand may well increase over time
 - Do use the mark consistently to build the brand
 - Protect the mark by using the mark as registered

Trade Marks

- **SEARCH before using a trade mark**
 - IP AUSTRALIA (ATMOSS)
 - www.ipaustralia.gov.au
 - Australian Company and Business Name
 - www.asic.gov.au
 - US Trade Mark WEB SITE
 - www.uspto.gov
 - The internet
- **Consider seeing a Trade Mark Attorney**
 - The Attorney can provide advice on registrability and the right to use your chosen mark.

Patents

- **Patents protect functionality**
 - Products, systems, methods, compounds etc
- **The philosophy behind the patent system is that in exchange for teaching the public something new the owner of the patent is given the right to benefit exclusively from the invention for a limited period of time.**
 - System designed to encourage innovation
 - First patents issued by Venice in 1400's
 - AU system dates back to (and directly references) UK Statute of Monopolies of 1623

Section 6 of the Statute of Monopolies, 1623

Proviso for future Patents for 14 Years or less, for new Inventions.

Provided alsoe That any Declaracion before mencioned shall not extend to any tres Patents and Graunt of Privilege for the tearme of fowerteene yeares or under, hereafter to be made of

*the sole working or makinge of **any manner of new Manufactures** within this Realme,*

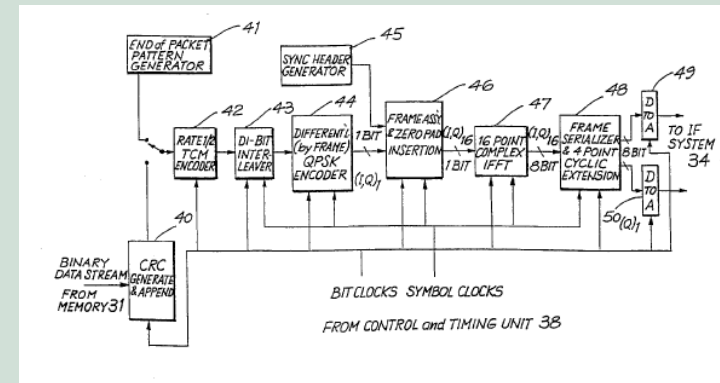
*to the **true and first Inventor** and Inventors of such Manufactures, which **others** at the tyme of makinge such tres Patents and Graunts **shall not use,***

*soe as **alsoe they be not** contrary to the Lawe nor mischievous to the State, by raisinge prices of Commodities at home, or hurt of Trade, or generallie inconvenient;*

*the **said fourteene yeares to be from the date of the first tres Patents** or Grant of such priviledge hereafter to be made, but that the same shall be of such force as they should be if this Act had never byn made, and of none other.*

Patents – Protecting how things work

- **Patents protect functionality**
 - Products, methods/processes
 - 20 year monopoly term
- **Must meet several independent validity criteria**
 - Subject matter, novel, inventive, useful, industrially applicable
- **Best directed to what makes the product or process commercially valuable**
 - Process is long and expensive (5 yrs, ~20k per country)
 - Get advice early to identify patentable aspects



Patents – Validity Requirements

- **Subject matter must be patentable**
 - Different countries exclude different subject matter
 - Human cloning, medical treatments, software, business methods...
 - Artificially constructed state of affairs of economic benefit
- **The invention must be novel (new)**
 - Has anyone attempted to solve the same problem using the same product/process?
- **The test is against any public information, anywhere, in any language**
 - However it must be a clear disclosure to destroy novelty
 - “Requires the accuracy of a sniper, not the firing of a shotgun”
 - Public use or public sale, prior to filing can invalidate

Patents – Validity Requirements

- **The invention must be non-obvious (ie inventive!)**
 - Problem/Solution approach
 - Identify the problem
 - What would the typical worker in the field do to solve the problem?
 - What documents would they consider, and where would it lead them (what does it teach or motivate them to do)?
 - Would they be plainly led to the solution based on public information and their background knowledge
 - Does the proposed solution overcome some hurdle or provide some advantage?
 - Have you identified the real or underlying problem?
- **It must be useful and industrially applicable**
 - Specific substantial credible use

Patentable Subject Matter

- **A threshold requirement is that an invention must be patentable subject matter**
 - Different countries have different views on this
 - “mere human discovery is unpatentable unless there is a practical means of carrying out that idea so as to add to the sum of human art”
- **Courts in the US and Au have narrowed what is patentable subject matter**
 - patent offices are taking an aggressive approach

Australian Law

NRDC case

- **The High Court NRDC case was a watershed case in defining what is patentable subject matter**
 - NRDC discovered that a known herbicide was actually selective – it would not kill legumes
 - Patented method of application – plant legumes, apply this herbicide = increase yield
- **For the High Court, what was required was ‘an inquiry not into the meaning of a word so much as into the breadth of the concept which the law has developed by its consideration of the text and purpose of the Statute of Monopolies’.**
- **The High Court held that it is sufficient for a product to result in ‘an artificially created state of affairs’, leading to ‘an economically useful result’.**

Examples of Patentable Subject Matter

- **New products, new combinations and new processes**
- **Improvements on existing products or methods**
- **Mechanical devices and articles**
- **Chemical and pharmaceuticals, and processes**
 - new methods of making known chemicals & pharmaceuticals
- **Biotechnology**
- **Medical Devices**
- **Electronic devices and systems**
- **Some computer related/software methods & systems**
 - Some business methods/systems if they require a technical implementation or aspect, or solve a technical problem

NOT PATENTABLE

Things that have been or are deemed to be not patentable:

- **schemes, plans and discoveries**
- **human beings, and human cloning**
- **in some countries methods of surgery**
 - but the apparatus may be patentable
- **perpetual motion machines**
 - do not exhibit the laws of known physics
- **copyright works (particularly artistic works)**
- **new uses of known materials**
 - but not if the feature was unknown
- **In some countries - computer programs (code only)**

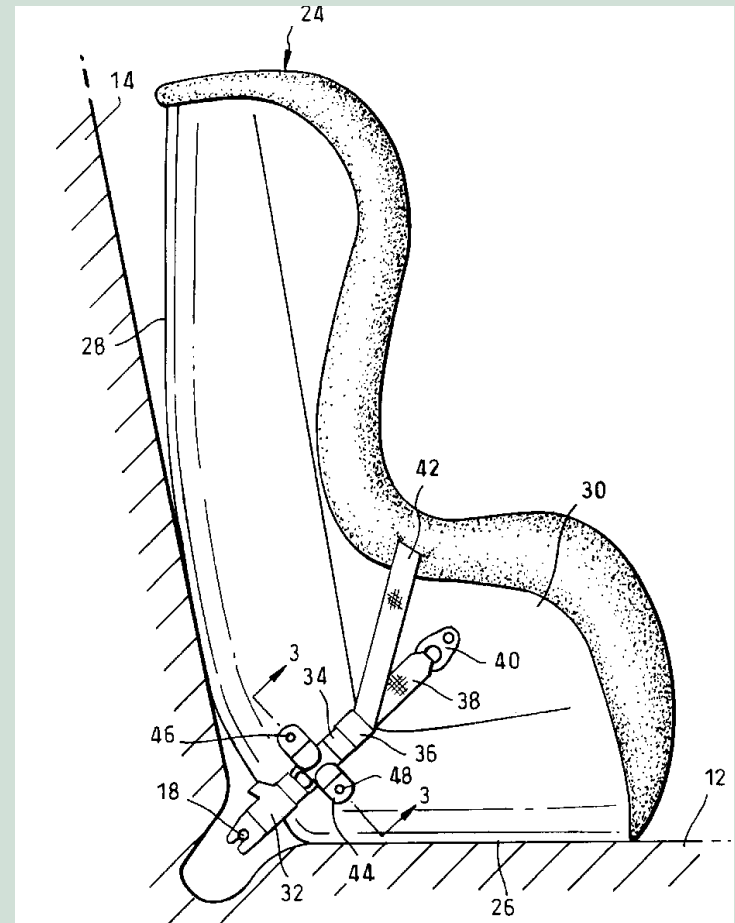
PATENTABLE

Examples of patentable subject matter

US 6209957 B1 Child Safety Seat

A strap extends from a strap anchorage mounted on the side zone and located on the opposite side of the strap guide to the abutment zones.

The strap extends through each strap guide to a releasable connector for engagement with an anchorage on the vehicle seat. The strap has an adjustment mechanism located on the opposite side of the strap guide to the releasable connector for adjusting the length of strap between such releasable connector and the corresponding strap guide.



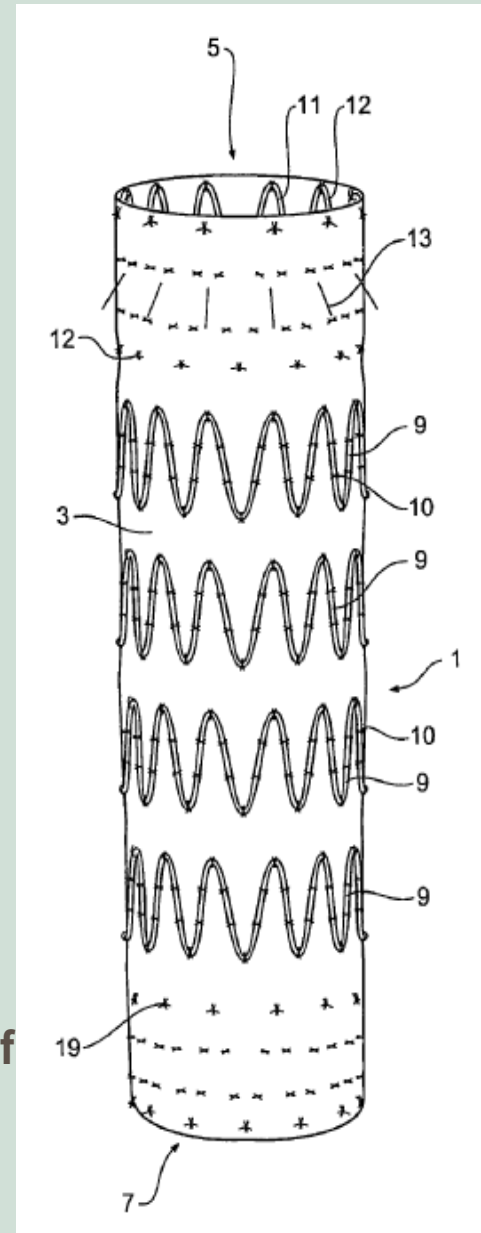
PATENTABLE

Example of patentable subject matter

Thoracic aortic aneurysm stent graft

US Patent 7,232,459 Greenberg et al

A thoracic stent graft (20) has a tubular bio-compatible graft material body (22) with a lumen therethrough with a proximal end (26) and a distal end (27). There is a sealing stent (28) at the proximal end of the tubular body with an anchoring device which may be a barb (30) affixed to the sealing stent. A distal attachment stent (34) with barbs (36) can be affixed to and extend from the distal end (27) of the graft material body. Intermediate stents (24) are provided along the length of the body. The thoracic stent graft can be in one or two portions.



Patents for Biotechnology

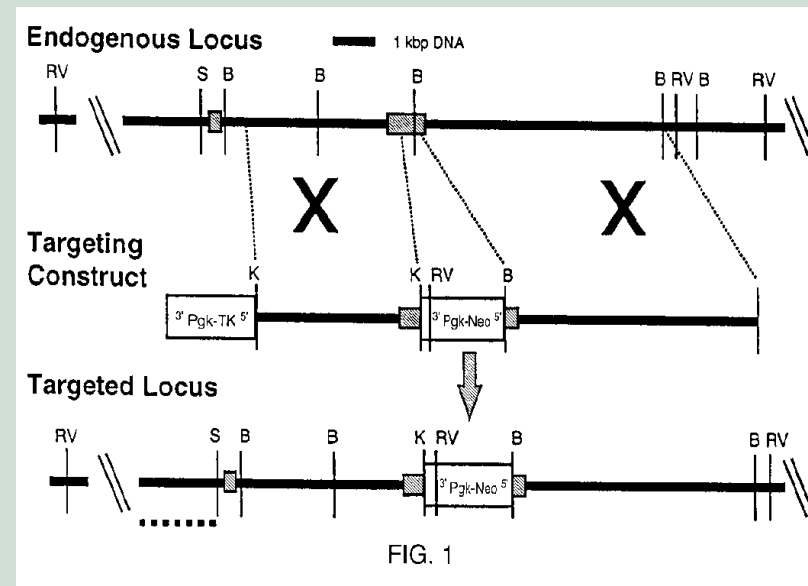
Types of inventions that can be protected

- **proteins**
- **monoclonal antibodies**
- **peptide fragments**
- **recombinant proteins (non-natural)**
- **genetically altered plant and animal varieties (non-human)**
- **cells e.g. micro-organisms**
- **Isolated DNA sequences (cDNA, RNA)**
 - AU view is that isolated DNA sequences are patentable
 - US view is that isolated DNA sequence are not patentable but cDNA, provided it was not an identical sequence, was patentable

Patentable

Example of patentable subject matter

- US Patent 6,677,501
Gabel , et al. (Pfizer)
P2X7 receptor-deficient mice and uses thereof
- The invention provides non-human, genetically-modified mammals and genetically modified animals cells having a functionally disrupted P2X7 receptor *gene*. Also provided are methods for producing genetically modified mice in which one or both P2X7 R alleles have been functionally inactivated.



- **You can't patent an *abstract* idea or concept but you can often patent software/executable instructions for *applying* the idea/concept**
 - Need to define features or limitations to tie it to an apparatus or transformation of data (concreteness)
- **Various tests used around the world**
 - Is there a change or a result in something and does this have economic significance or value?
 - Does it solve a technical problem in relation to a process outside of the computer?
 - Must still meet novelty/inventiveness requirements

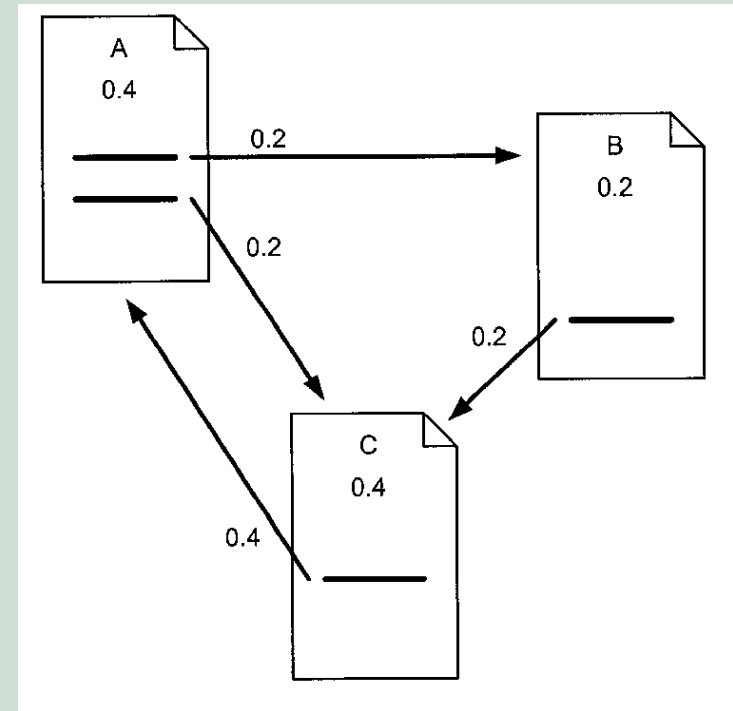
Examples of patentable software

- **Types of software that can be protected**
 - code which enables hardware to perform more efficiently
 - software to control a physical system
 - a new algorithm which enables signals to be processed more efficiently
 - an algorithm which enables a computer to plot a smoother curve on the screen
 - An online system for recognition of prior learning
- **This is a dynamic area of patent law.**
 - Seek advice!!

PATENTABLE

Example of patentable subject matter

- US 6285999 B1
- Method for node ranking in a linked database
Lawrence Page (Google)
- A method assigns importance ranks to nodes in a linked database, such as any database of documents containing citations, the world wide web or any other hypermedia database. The rank assigned to a document is calculated from the ranks of documents citing it.



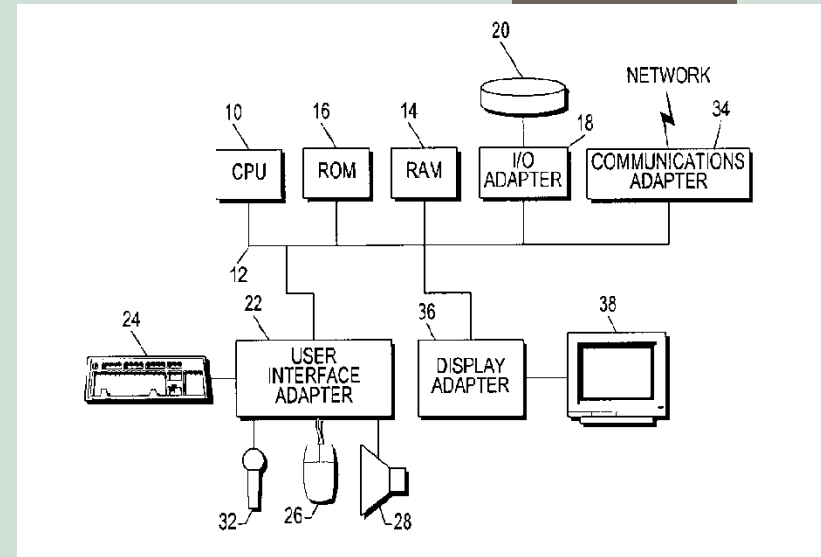
Patents for Business Methods

- **Business method patents are a class of patents which disclose and claim new methods of doing business.**
 - e-commerce, insurance, banking, etc
- **Hard to obtain protection for**
 - Must demonstrate a concrete, tangible, physical, or observable effect
 - schemes, abstract ideas, mere intellectual information without physical consequences will be rejected
 - Typically need some form of (inventive) technological implementation

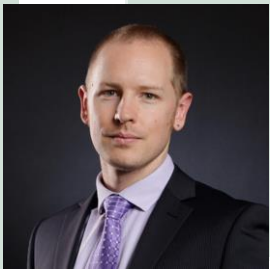
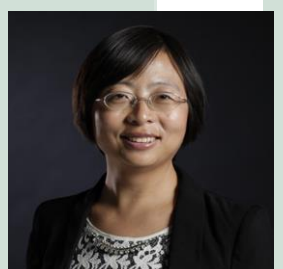
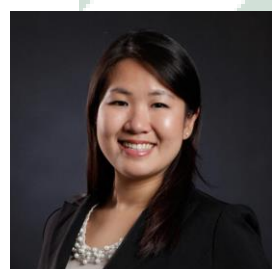
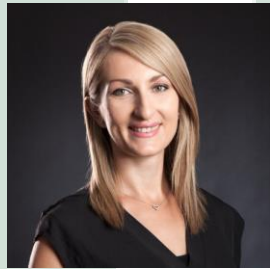
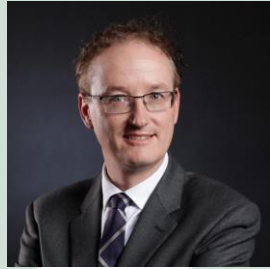
PATENTABLE

Example of patentable subject matter

- US Patent 5,987,140
Rowney , et al. (Verizone)
- System, method and article of manufacture for secure network electronic payment and credit collection
- Secure transmission of data is provided between a plurality of computer systems over a public communication system, such as the Internet.



Any Questions?




great ideas
come to us