

Patents

1 Intellectual Property

- An expression of ideas
 - Brand
 - Invention
 - Design
 - Song
 - Computer Program
- Governed by laws concerned with your right to control who has access to your ideas and what they can do with your ideas

2 Intellectual Property Rights (IPR)

- Copyright, Designs and Patents Act 1988 <http://www.legislation.gov.uk/ukpga/1988/48/contents>
 - Copyright
 - Design rights: protects 3-D & 2-D objects.
 - Patents (Today's Lecture)
- Trade Marks Act 1994 <http://www.legislation.gov.uk/ukpga/1994/26/contents>
 - Trademarks registration (e.g. domain name issues)
 - A domain name can qualify as a trademark, if it is used in connection with a website that offers services to the public
 - (yahoo.com, ebay.com, amazon.co.uk ...)
 - * must be a *distinctive* name
 - * *not* "common" terms, as dictionary.com, healthanswers.com

3 Brief History of Patents in the UK

- 'Letters patent'
 - An open document where the Crown granted a monopoly
 - * to skilled individuals with new techniques for the production / sale of goods
 - * Weaving of woollen cloths (1331)
- 'Patent'
 - First recorded patent 1449 for the manufacture of coloured glass by John Utyman. Was first used in Eton College.
- Statutes of Monopolies 1624
 - An Act of the Parliament of England (to reduce the Crown abuse)
 - The basis for the UK's intellectual property law
 - Restricted patents to inventions
 - * 14 years in length
 - * stipulated that the patent should not cause harm to trade
 - * <https://www.uh.edu/engines/epi2002.htm>

4 Patent Law in the UK

- Patents Act 1977
 - The foundation of our current patent laws based on the European Patent Convention (1973)
 - * Signed by 27 countries
 - <https://www.epo.org/law-practice/legal-texts/html/epc/1973/e/ma1.html>
- Copyright, Designs and Patents Act 1988
 - <http://www.legislation.gov.uk/ukpga/1988/48/contents>
- Regulatory Reform (Patents) Order 2004
 - http://www.legislation.gov.uk/uksi/2004/2357/pdfs/uksi_20042357_en.pdf
- Patents Act 2004
 - <http://www.legislation.gov.uk/ukpga/2004/16/contents>

5 Modern Patents

- Most countries have patent laws for the protection of ‘inventions’
 - New
 - * Not been “thought” of before, whether previously patented or not
 - Non-obvious
 - Protection for a “reasonable” period of time
 - * Use
 - * Manufacture
 - * Import
 - * Sell
- A patent can be also:
 - an “improvement” of an existing patent
 - an innovation that provides a “new use” for an existing invention

6 Patent laws in the UK

- In the UK, patents last for at most 20 years
 - To get the full 20 years, a renewal fee must be paid every year, starting 5 years after the filing date.
- An invention can be registered for a patent if it:
 - is new
 - involves an inventive step-invention-shouldn’t be obvious
 - is capable of industrial application (technical effect)
 - * not an idea or theory, a discovery, a work of art
 - is not in an area specifically excluded by the Patent Act 1977.

6.1 Areas specifically excluded

- Scientific theories and mathematical methods
 - Gravity and floating point arithmetic
- Aesthetic creations
 - Literary, dramatic, musical or artistic work
- Presentation of information
- A newly discovered animal or plant
- A method of medical treatment or diagnosis
- A scheme / rule / method for performing a mental act, playing a game or doing business
- *Some* computer programs
- Against public policy or morality

7 Requirements for patent

- The inventor must not disclose information about the invention before the date of the patent application.
- Nobody, including the inventor, should use the invention before the patent application date.
- Officials at the Patent Office must search existing patent and literature.

8 Benefits of patent protection

- the right to stop others from copying / manufacturing / selling / importing your invention
- make money by selling / licensing your invention
- safely discuss your invention with others
- others gain advanced knowledge of technology and can prepare and develop new inventions / patents

9 Obtaining a patent

- Applying for patent can be expensive and time consuming. The World Intellectual Property Organisation (WIPO) offers a simplified process.
- The invention must be novel. The date of the patent application is crucial.
- Full patent specification must follow within 12 months of the initial application.
- Full patent specification needs to be prepared by a specialist patent attorney.
- Can take several years!
- Should you get a Patent? <https://www.gov.uk/guidance/before-you-apply-for-a-patent>
- Guidance to Patent: <https://www.gov.uk/guidance/patents-step-by-step>
- Before you apply for a patent:
 - check if your idea / invention can be called “truly novel” / if it has already been patented / can be considered as obvious
 - Novelty search (or: Patentability search)
 - * done by you and/or professionals (specialized patent examiners)
 - UK Intellectual Property Office: <https://www.gov.uk/government/organisations/intellectual-property-office>
 - US Patent and Trademark Office: <http://www.uspto.gov/>

- Application for a patent to the Intellectual Property Office
 - Full description of the invention
 - Drawings
 - A set of claims defining your invention
 - Summary of all the technical features

10 Enforcing a patent

If people infringe on your patent, they may challenge you for many things

- Challenges:
 - no inventive step
 - prior art (background art, state of the art)
 - * all information, in any form, publicly known before your application
 - information kept secret (usually) does not count as prior art (“trade secret”, “confidential / classified information”)
 - * however, they *may* claim “prior user rights” - been using before patent was granted,
 - and thus gain the right to continue using the invention
 - Resolving challenges
 - * ask for a non-binding opinion (e.g. by the Intellectual Property Office)
 - * mediation (professional patent attorneys)
 - * hearings (to resolve a dispute between inventor and IPO or someone else)

11 Software Patents

- In the USA patents are granted to software if:
 - it is part of a product that is itself eligible for a patent
 - it controls a process that has some physical effect
 - it processes data that arise from the physical world
- In Europe
 - European Patent Office (EPO) <https://web.archive.org/web/20180312052803/https://www.epo.org/news-issues/issues/software.html>
 - Under the EPC, a computer program claimed “as such” is not a patentable invention (Article 52(2)(c) and (3) EPC). Patents are not granted merely for program listings. Program listings as such are protected by copyright. For a patent to be granted for a computer-implemented invention, a technical problem has to be solved in a novel and non-obvious manner.
- Software patents have been controversial.
- The argument for and against software:
 - For: it is illegal and unfair that something is patentable if implemented in hardware but is not patentable if implemented in software
 - Against: the software industry has been very productive and successful mainly due to the efforts of small companies, where Patents are not helpful to them.
- Many patents that are granted are ‘bad’. Much software was written before the software patents were thought possible.

12 A few Patent myths

- No point in getting a patent, can't sue big companies.
- Can get worldwide patent
- The patent police can protect my invention
- A patent will make me lots of money

13 You should be able to:

- Describe in detail patent rights and how to obtain protection in the UK
 - Include the influence of European directives
 - Include some discussion of how the USA approaches patenting of software
- Explain why there is confusion in the software development industry about when and when not to apply for patents.
- Useful videos & training material for Patents:
 - <https://duo.dur.ac.uk/bbcswebdav/institution/E-tutorials/Intellectual%20Property%20Rights/index.html>