

**An Introduction:
Intellectual Assets Management
for Postgraduate Researchers
in Computer Science**

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- Explain the main concepts relating to Intellectual Property as relevant to postgraduate Computer Science researchers
- Explore how knowledge of IP can be of use and benefit to postgraduate researchers in Computer Science

Overview

- 4 types of Intellectual Property
- Most relevant for Computer Science researchers:
 - patents and copyright
- Software patents: The current position
- How can IP bring commercial benefit to the inventor/author?
- Why Comp Sci postgrad researchers should know about IP

- Patents
- Trade Marks
- Designs
 - UK registered/unregistered
 - Community registered/unregistered
- Copyright



Copyright – CDPA 1988

- Applies to aesthetic works (music, literature, films, performances etc)
- “Aesthetic works” includes software & games for games consoles
- Lasts for 70 years from death of author
- Only protects against copying, does not protect underlying idea – so need evidence of copying in order to enforce rights
- No need for registration – subsists automatically upon creation of the qualifying work.

Copyright & Programs – what is ‘copying’?

- Examples of ‘copying’:
 - storing any work in a computer
 - executing a computer program
 - displaying work on a monitor
- Examples which are not usually ‘copying’ (by lawful user):
 - conversion into or between computer languages/codes = adaptation, not copying; ok to decompile if purpose is to create interoperable software
 - Back-ups for lawful purposes
 - Copying/adapting for debugging purposes

- Selection & arrangement of the contents is protected
- Database right
 - an automatic right
 - protects against the unauthorised removal and re-use of the contents

Patents

- Protects inventions
- Technical in nature rather than aesthetic
- Monopoly right – not just anti-copying



- UK Patents Act 1977
- Criteria for patentability:
 - Novel (new – compared to ‘prior art’)
 - Inventive (can’t be obvious modification of something known)
 - Industrial applicability
 - Mustn’t fall within the excluded categories

It is hereby declared that the following (among other things) are not inventions for the purposes of this act, that is to say, anything which consists of -

- (A) A discovery, scientific theory or mathematical method;
- (B) A literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;
- (C) A scheme rule or method for performing a mental act, playing a game or doing business, or **a program for a computer**;
- (D) The presentation of information;

but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing **as such**.

- What does 'as such' mean?
- Computer programs often relate to other excluded subject matter; application software for playing a game, or doing business, or presenting data...
- UK patents not granted for
 - computer implementation of something which is excluded (not technical)
 - straightforward computer implementation of a known process (not inventive)

So can you get a UK patent for software?



- Yes!
- Just because an invention is implemented in software, does not mean it is automatically excluded from patentability
- As long as invention avoids the 'as such' exclusion then usual patenting criteria apply

Aerotel/Macrossan case, 4-step test:

- (i) construe the claim (i.e. what does it mean?)
- (ii) identify the contribution (what does the invention add to the relevant field?)
- (iii) ask whether the contribution falls solely within the excluded subject matter
- (iv) check whether the contribution is technical in nature

AT&T/CVON Case (High Court)

Judge provided 5 'signposts'

Does the invention:

1. have an effect on a process carried on outside the computer?
2. operate at the level of the architecture of the computer, i.e. is the effect produced irrespective of the data being processed or the application being run?
3. cause the computer to operate in a new way?
4. increase the speed or reliability of the computer?
5. solve the perceived problem rather than merely circumvent it?

Claim 1.

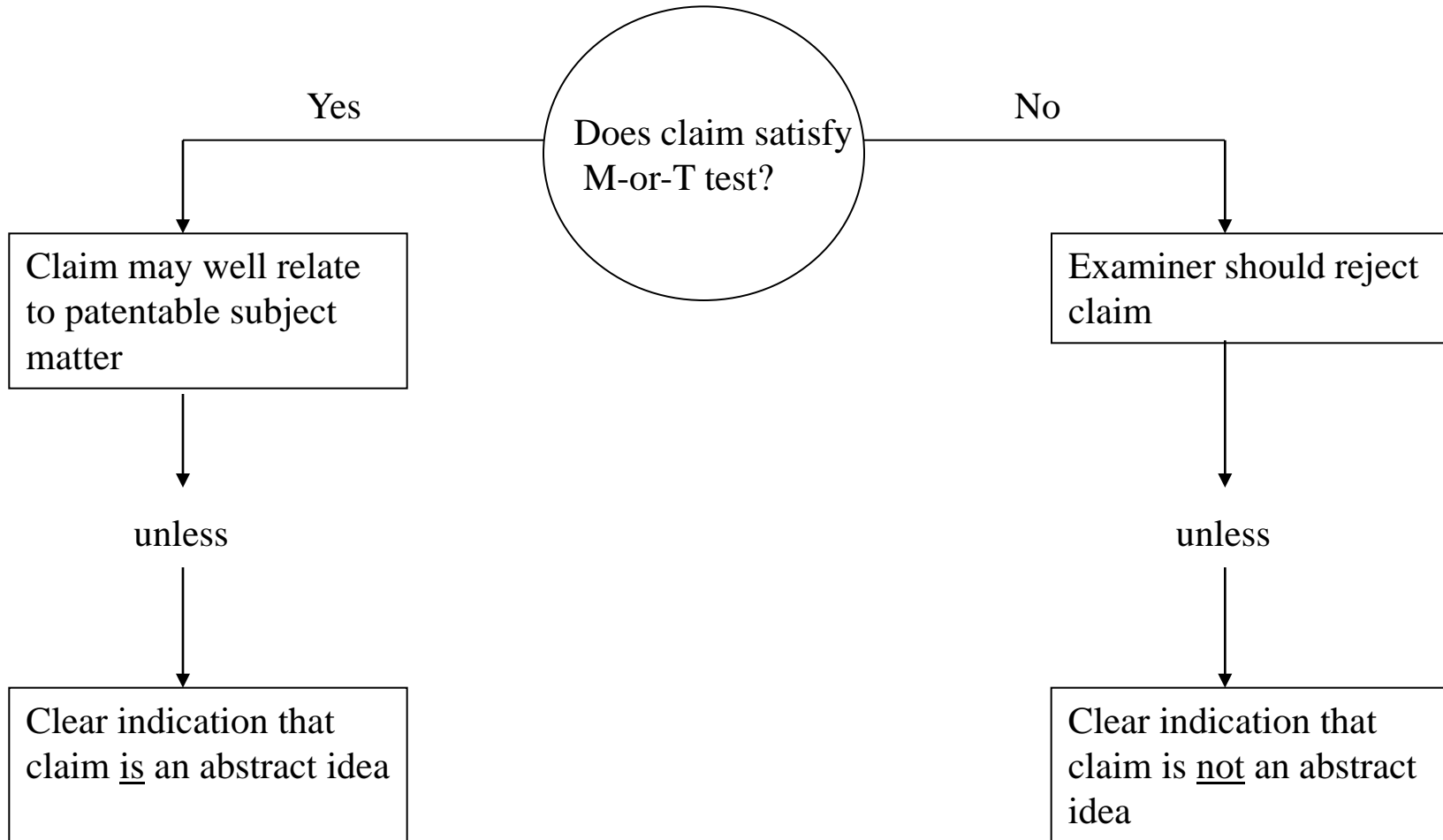
A system for providing individual users access to audio/visual content which has been broadcast to a plurality of users on a scheduled basis, the system comprising means for storing the content, means for processing the content to produce a downloadable file; means for enabling a user to download the file, and means for enabling a user to view the content being adapted to open and/or play the downloaded file only within a fixed time period after the schedule broadcast time of the content

- Article 52, European Patent Convention (EPC)
 - same exclusions from patentability as UK
 - so can't have a patent for a computer program 'as such'
- But computer-implemented invention is patentable if it provides a 'technical effect', e.g.
 - improved control of robotic arm
 - more efficient management of memory
- Non-technical or commonplace features of invention are ignored when assessing inventive step - software-related applications more likely to be rejected on grounds of obviousness than non-patentable subject matter

Software Patents – The US Position

- 35 U.S.C. § 101: A patent can be obtained for any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof
- Exceptions:
 - laws of nature
 - physical phenomena
 - **abstract ideas**
- The 'machine-or-transformation' test: A process is patentable **only** if
 - It is tied to a particular machine or apparatus; **or**
 - It transforms a particular article into a different state or thing

Since Supreme Court's *Bilski* Decision



Basic patenting issues to consider



- Is it new?
 - Consider conducting a prior art search
 - UK & Europe: first-to-file
 - US: first-to-invent (evidence may be important)
- Disclosure
 - don't tell/show anyone until patent application is filed
 - unless covered by non-disclosure agreement
 - US: 12 month grace period from disclosure
- Who owns the invention?
 - UK & Europe: if created in course of normal duties, employer owns invention
 - Contracts?

So how is knowledge of IP of use to me?

- Can't enforce or exploit your rights if you aren't aware that you have them!
- Prevents inadvertent self-sabotage of rights (e.g. disclosure of patentable invention)
- Helps you to avoid infringement of other people's IP rights
- Encourages you to maximise on your IP rights - commercial and professional benefits
- Knowledge of IP is attractive asset to prospective employers

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