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The client – a professional working relationship (1)

- Discuss client's objectives and requirements
- In light of this explain services TISC can provide - state of the art search, patentability, invalidity, infringement, freedom to operate – and what is entailed
- Explain strengths of services – eg structured and flexible worldwide access to enormous volumes of detailed technical data across all technical fields
- Explain potential shortcomings – eg no guarantee that every reference will be found; challenges in certain specialised fields
The client – a professional working relationship (2)

- Discuss client's knowledge of prior art, names of competitors
- *Agree what you will search for*
- Explain that you will go back to client if necessary before search is complete – eg too many hits, too few hits, clarification required
- Report: record subject matter searched for, where search made; list of patents found (citations), analysis of citations – relevance, content (page and line or column numbers, figure numbers), and, if relevant, information on publication date, legal status etc
Searching - some general points

- Searching patent databases is as much an art as a science
- You have immense amounts of free data and very powerful search tools at your fingertips, enjoy using them and experimenting with them
- Although you will need to develop a clear knowledge and understanding of these tools, careful analysis, judgement and feel are themselves vital
- Results will be affected by:
  - subject matter .. whether simple or complex; mature or just developing
  - available tools and fields
  - available search terms (words, names) and classifications
  - above all by the searcher and his or her methodology
Approach to searching - preparation

- Prepare (or scope the search):
  - (a) in terms of what you are going to search for – eg through discussion with clients, from a quick (online) review of the technology etc,
  - (b) in terms of how you are going to carry out the search, eg from a preliminary look at the International Patent Classification (IPC), from an online look at synonyms, from a careful choice of words in your search query etc
  - (c) which databases to search,
    - eg infringement search -> domestic patents, ie PhilPat
    - patentability search -> patents worldwide eg Patentscope (WIPO), Espacenet (EPO), and USPTO, plus PhilPat (and maybe NPL)
Carrying out the search

- Don’t get bogged down by unnecessarily looking through vast lists of hits:
- try different techniques for refining the search, you can always go back and broaden your search if necessary
- try limiting search to titles, abstracts or claims as appropriate; scan titles and/or abstracts
- a quick and dirty search may strike lucky

- Learn as the search proceeds and adjust your search in the light what you find and what you learn, ie this should be an iterative process
Mistakes

- Take great care to avoid errors, esp
- typos
- mistakes in search syntax; don’t complicate unnecessarily, the more complex the syntax the greater the chance of error
- misapprehensions about what a particular database covers eg in Espacenet full text search is possible only for EP and WO documents.

- Be alert therefore to the reasons behind unexpected results – eg zero hits
Developing a search strategy – search tools and fields

- Which search tools to use? eg
  - Words (synonyms, some are more likely to be in the text than others)
  - Classifications
  - Names eg patent owner
  - Dates
  - Citations

- Which fields to search? eg
  - title, abstract, claims, full text
  - bibliographic data
Words v Classifications – Words: pros and cons

Words:

*Pros* – can be used in most databases; easy to use; infinitely flexible; can use singly or in specified combinations/orders/separations; can search full text in some databases or restrict to titles/abstracts/abstracts (why?)

*Cons* – need to be aware of language, synonyms (cellphone, cell phone, mobile phone), alternative spellings (eg US v UK, color and colour), typos and specialised industry terms; can easily generate false drops (eg try - bicycle AND stand); can be imprecise in some arts and generate too many hits (eg for electric circuits - control AND temperature)
Words v Classifications – Classifications: pros and cons

Classifications:

**Pros** – independent of language, synonyms, alternative spellings, terminology, quirky vocabulary and typos; comprehensive and detailed; *a spot-on classification term can be the quickest and best way in*

**Cons** – can be complex and challenging to understand beyond an elementary level; may not have any terms which are a good fit for a particular search; may be applied with varying skill and accuracy by different authorities; may generate too many hits if used at a general level; may not be universally applied (only IPC is)
Words **AND** Classifications

Can use words to find classifications by doing a quick and dirty word search and looking at the classifications that have been applied to the best hits

Can use the two **in combination** eg

- A classification term covering the desired technique but at too general a level can be searched in combination with word(s) directed to the particular technique
Words AND Classifications - a simple illustrative example

- Search statement: “A toothbrush incorporating a reservoir of toothpaste”

- Examination of the IPC shows that sub-class A46B deals with brushes and that A46B11 and A46B13/04 and 13/06 specifically deal with “brushes with reservoir or other means for applying substances”

- Hence search the combination of those IPC terms with the word “toothpaste”
Words **AND** Classifications - another example

- In order to avoid false drops, a word search can be directed exclusively to a particular art by using it in combination with, for instance, an appropriate IPC subclass.
- Example: the word “beam“ can relate either to optics or to civil engineering.
- To restrict the search to optics, use your chosen words in combination with IPC G02B (Optical, elements, systems or apparatus).
- To restrict the search to civil engineering, use your chosen words in combination with IPC E04B (Building) or E01 (Construction of Roads, Railways or Bridges).
Words - synonyms

- Often your own technical knowledge and experience will give you synonyms
- Some synonyms may turn up during your search
- In some technical areas you may need to do a formal search for synonyms (see case study 2 below)
When to stop

State of the art searches:
- How far you go will depend very much on the nature of the query and the extent of the material you find. A limited number of hits can be analysed thoroughly; where there is a great deal of prior art, it is reasonable to adopt a broader brush approach.

Patentability and validity searches:
- If you’ve knocked out all of the claims, or have reached a point where the claims diverge widely from a central idea and it is not clear which is the preferred direction, it is legitimate to stop.
- Remember, for novelty, only one comprehensive document is required to knock out a claim.
- If on the other hand you’ve found little or nothing, there may be a temptation to keep going on and on. Here you will need to use experience and common sense – some ideas are actually new!

Freedom to operate searches:
- This type of search is the most likely to have a clear defined end-point.
Case Study 1

- Some (even many) searches are very straightforward, in which case don't over-complicate – eg the toothbrush search noted above
- The client states that he has had the idea of incorporating a reservoir of toothpaste in the toothbrush, he's never seen anything like it in the store, and can he get a patent for it?
- As already noted, the search statement reads: “A toothbrush incorporating a reservoir of toothpaste“
- And the search begins with the combination of International Classification terms A46B11 or A46B13/04 or A46B13/06 and the word “toothpaste”
Results ... 219 for Criteria:IC:("A46B11" or "A46B13/04" or "A46B 13/06") and toothpaste

23.12.2010 A46B 11/02 PCT/AU2009/000757 VASILJKOVIC, Zelko VASILJKOVIC, Zelko A single-use toothbrush having a head and handle, bristles on one side of the head, a reservoir of toothpaste associated with the head the contents of which can be moved into connection with the bristles so that when the brush is to be used, the toothpaste may be moved from the reservoir to be in contact with the bristles from which it is spread into the users mouth. The handle of the toothbrush may be hollow and adapted to receive and retain mouthwash.
Search in PhilPat

- Can use AND logic and select field, therefore search: *toothpaste* and *A46B each* in Abstract/Bibliographic field
- 6 hits including:
  - **Title**: TOOTHBRUSH WITH SELF-CONTAINED TOOTHPASTE
    - Issue Date: 3/19/2007 Filing Date: Patent/Registration No.:220070017UM Publication Date: Inventor/Maker/Designer: SHU WANG Category: Utility Model
  - **Title**: COMBINATION TOOTHBRUSH AND TOOTHPASTE DISPENSER
    - Issue Date: 9/3/1984 Filing Date: Patent/Registration No.:000005603UM Publication Date: Inventor/Maker/Designer: VENERANDO S. YAMBAO Category: Utility Model
Case study 2

- However some searches are much more complex and require more detailed analysis.

- Your client has developed a formulation for a pharmaceutical which he believes is new and inventive. Based on his extensive experience in the field, he has submitted some draft claims for you to search.
Draft claim 1 submitted by client

1. A pharmaceutically acceptable tablet comprising:
   - (i) a core of carboxymethyl cellulose, lactose or sucrose
   - (ii) coated on the core, particles comprising an active ingredient and an excipient comprising lactose and carboxymethyl cellulose, ethyl cellulose, or methyl cellulose
   - (iii) coated on the particles a mixture of sodium stearate and hydroxypropylmethyl cellulose
   - (iv) at least one layer of sodium carbonate, potassium carbonate, Mg(OH)2, or Ca(OH)2 encasing the core to form a pill,
   - (v) an enteric coating on the pill
Draft claims 2, 3 and 4 submitted by client

2. The tablet of claim 1 wherein the core is **carboxymethyl cellulose**

3. The tablet of claim 1 wherein the enteric coating is **polyvinyl acetate phthalate (PVAP)**

4. The tablet of claim 1 wherein the at least one layer is of **sodium carbonate**
Preferred composition

- (i) core - carboxymethyl cellulose
- (ii) coating – lactose plus carboxymethyl cellulose, ethyl cellulose or methyl cellulose
- (iii) mixture - sodium stearate and hydroxypropylmethyl cellulose
- (iv) layer - sodium carbonate
- (v) enteric coating – polyvinyl acetate pthalate or PVAP
Search widest monopoly claimed or preferred embodiment?

- In a patent application or in a granted patent, the widest monopoly will be set out in claim 1 [though there may other independent claim(s)]

- Appendant claims will set out optional or preferred features – and may be incorporated into claim 1 in the event that claim 1 is successfully challenged

- When carrying out a patentability search (pre-grant) or a validity search (post-grant), there is a choice to be made:
  - whether to start by searching the invention in its widest aspect as set out in claim 1, or
  - whether to go straight for the preferred embodiment (if there is one)
Searching the preferred embodiment first

- If there clearly is a preferred embodiment (rather than lots of different options within a basic concept), then the advantages of starting with a search directed to the embodiment are:
  - The search will be more narrowly defined, enabling the use of more words and/or a more restrictive classification term in the search query.
  - This will lead to fewer hits and a quicker search.
  - If you knock out the embodiment, you will automatically knock out the broader claims.

- HOWEVER:
  - Ensure that you are not restricting the search to just one of a number of possible embodiments.
  - If you do not find good hits by aiming for the embodiment, you will have to do a wider search.
Search of the preferred composition in *Patentscope*

- Full text search [assume IPC not useful]:
  - Results **4860** for **Criteria**: “carboxymethyl cellulose” lactose (“ethyl cellulose” or “methyl cellulose”) “sodium stearate” “hydroxypropylmethyl cellulose” “sodium carbonate” (“polyvinyl acetate pthalate” or PVAP)

- Limit to claims:
  - Results ...**15** for **Criteria**: **CL:** (”carboxymethyl cellulose” lactose (“ethyl cellulose” or “methyl cellulose”) “sodium stearate” “hydroxypropylmethyl cellulose” “sodium carbonate” (“polyvinyl acetate pthalate” or PVAP))
Next steps

- Check hits

- If unsatisfactory, try a different approach

- Include alternatives set out in claim 1 instead of preferred compounds, and/or

- Include synonyms such as “Lactose” from Pubchem
Lactose: synonyms and search

• **Synonyms**
  - Lactose
  - Milk Sugar
  - Lactosum anhydricum
  - Laktobios
  - Milchzucker
  - Laktos
  - Nchembbio.151-cmpd4
  - CHEMBL1159651
  - 1784 FLUKA
  - Beta-D-Gal-(1->4)-D-GLC

• **Search**
  - (Lactose or “milk sugar” or “lactosum anhydricum” or laktobios or milchzucker or laktos)
Carboxymethyl Cellulose: synonyms

- **Synonyms**
  - Cellulose gum
  - Celluvisc
  - Carmellose
  - Celluvisc (TN)
  - 9004-32-4
  - Carmellose sodium (JP15)
  - CMC
  - C.M.C. (TN)
  - CHEMBL242021
  - CHEBI:487024
  - Carboxymethylcellulose (USP)
  - CID656594
  - D01544
.. and so on

- Find synonyms for
  - Sucrose
  - Hydroxypropylmethyl cellulose
  - Methyl cellulose; ethyl cellulose
What we’ve discussed

- Handling the client
- The general approach to searching:
  - *on the one hand*, the need to be clear on the factual side about search tools and syntax, and database contents
  - *on the other hand*, the need to be analytical and flexible during the actual search – the iterative approach
- Developing a search strategy; deciding what, where and how to search – in particular the strengths (and weaknesses) of using words and classifications
- And finally two contrasting case studies.