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Patent Strategy, Applicability & Litigation

FOR INSTITUTIONS OF HIGHER EDUCATION
TECHNOLOGY TRANSFER OFFICES

Our Presenters

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Thompson Coburn

Kevin Kercher, Partner
Thompson Coburn

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Patent Strategy

Why search?

OFFENSIVE

- You want to get your own patent on a new development
- Search will provide guidance as to your prospects for getting a patent
- This is known as a “patentability” search

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Why search?

DEFENSIVE

- Check whether any outside parties hold patent rights that could impact your ability to practice a technology (e.g., make, use, sell, offer to sell or import a technology)
- Often referred to as “Freedom to Operate” or “Noninfringement”

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Why search?

DEFENSIVE

- Different focus than patentability searches.
  - Defensive searches focus on the “claims” of a patent or published patent application
  - Patentability searches focus on the full technology description found in a patent or published patent application
  - Thus patentability searches are not necessarily good indicators of “freedom to operate” and defensive searches are not necessarily good indicators of “patentability”
- Once again, searches are helpful barometers but not infallible.

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Patents vs. Published Patent Applications

Patents

- Issued patents are actual patents that have been issued by the USPTO.

Published Patent Applications

- These are patent applications that have been published by the USPTO. A published patent application alone does not provide the applicant with any enforceable rights.

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Patents vs. Published Patent Applications

- A published patent application may later mature into a patent
- The USPTO website requires separate searches for patents and published patent applications

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Patents vs. Published Patent Applications

- Patentability Searches:
  - Patents and published patent applications that qualify as "prior art" can equally be used by an examiner to reject your patent application
- Defensive Searches:
  - Patents are the primary focus
  - However, published patent applications are still relevant as they provide an indication of what may be patented in the future

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Keyword Searching

- Search any desired section of a patent or patent application using one or more keywords

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Assignee Searching

- Search to find all patents or published patent applications that are owned by a particular party
- This mode of searching has many holes. Examples of holes include:
  - Patentees do not always keep ownership records at the USPTO up-to-date
  - If you are looking for patents owned by a particular company, you may not know the name of the legal entity that the company uses to own its patents

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Assignee Searching

- USPTO website provides two modes for searching patent owners:
  - Using the “AN/” field in “advanced search” queries
  - Using the “Patent Assignment Database” link from the main start page of the search process
  - “Patent Assignment Database” records are more up-to-date than the “AN/” records, but you can join “AN/” searches with other keyword or classification searches to further refine a search

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Class/Subclass Searching

- USPTO classification system is a “Dewey Decimal” system for patents
- Different class numbers identify different technologies at a high level
- Different subclass numbers identify subclasses of a particular technology “class”
- You can perform searches within particular class/subclasses using the “CCL/” field in an “advanced search” query

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Advanced Search Queries

- Searchers can combine keyword searching, assignee searching and class/subclass searching using field limiters and Boolean operators
  - e.g., “spec/click and an/amazon$ and ccl/705/$”
  - Note: “$” is a right truncation operator

REMEMBER: Separate queries are needed to search both the patent database and the published application database

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Patent Strategy Considerations

- Ownership
- Infringement (borrower / others)
- Validity/Enforceability
- Encumbrances
- Transferability
- Foreign rights
- Licenses (inbound / outbound)
- How Valuable is the IP

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Patent Strategy Considerations

- Patents
  - Protect novel inventions, to encourage investment in new technologies and designs
- Why get a patent?
  - Prevent competitors using commercially-valuable innovations
  - Keeps customers from shifting to competitors

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Patent Strategy Considerations

- Types of Patents
  - Utility Patents (expire 20 years from filing)
    - Products and other articles of manufacture
    - Machines
    - Chemical compositions
    - Methods and processes
  - Design Patents (expire 14 years from grant)
    - Ornamental appearance of manufactured articles

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Patent Strategy Considerations

- Patent Issues
  - Cost
    - $10 K to $20 K (to start)
    - $10 K to $20 K (to secure rights)
    - Time (2 to 3 years)
    - $$$$$$$ (foreign rights)

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Patent Strategy Considerations

- Patent Issues
  - Ownership
    - At formation, transfer all IP to the company
      - code, domain name, etc.
    - After formation, ensure IP created is assigned to company (IP assignment agreement). Independent contractors – have them assign IP to your company.
    - Liens/security agreement

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Patent Strategy Considerations

- Seeking Patent Protection
  - Search (novel and not obvious)
  - Subject Matter
  - Time
    - Less than one year from public showing
    - Foreign rights
    - First to file
- Freedom to Operate
  - Infringement Risks

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Patent Strategy Source Information

- Public Domain Data
- Commercial Data Sources
- Industry Organizations and Trade Shows
- Competitor Websites

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Public Domain Data

- U.S. Patents and Applications (since March 15, 2001)
  - http://www.uspto.gov/patft/index.html
- PCT Patent and Trademark Applications
  - http://ipdl.wipo.int

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Patent Applicability

Patents and Patent Applications: Strengths & Drawbacks

- Serious Interest in the Technology
- Information Available Nowhere Else
- Well-organized Information
- Delay

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Patents and Patent Applications: Types of Searches

- Owner Search
- Inventor Search
- Subject Matter Search

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Patents and Patent Applications: Useful Information

- Inventor Information
- Assignee Information
- Filing Date
- Subject Matter Classifications
- References Cited
- Subsequent Citations

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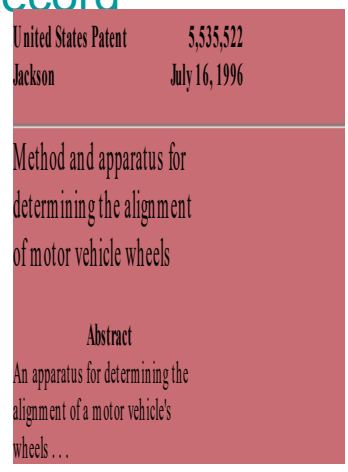
Patents and Patent Applications: Typical Record



United States Patent 5,535,522
Jackson July 16, 1996

Method and apparatus for determining the alignment of motor vehicle wheels

Abstract

An apparatus for determining the alignment of a motor vehicle's wheels . . .

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Patents and Patent Applications: Typical Record

Inventors:	**Jackson; Bernie F.** (23485 Summit Rd., Los Gatos, CA 95030)
Appl. No.:	**122550**
Filed:	**September 29, 1993**
PCT Filed:	**September 3, 1993**
PCT NO:	**PCT/US93/08333**
371 Date:	**April 19, 1994**
102(e) Date:	**April 19, 1994**
PCT PUB.NO.:	**WO94/05969**
PCT PUB. Date:	**March 17, 1994**
Current U.S. Class:	***33/288***; 33/203.18; 356/155
Intern'l Class:	G01B011/275
Field of Search:	33/288,286,203,203.18 ,203.19,203.2 356/155

References Cited [Referenced By Twenty-Two Patents]

U.S. Patent Documents

4180915	Jan., 1980	Lill et al.	33/288.
5048954	Sep., 1991	Madey et al.	356/155.

Foreign Patent Documents

2948573	Jun., 1981	DE	33/288.

Primary Examiner: ***Fulton***; Christopher W.
Attorney, Agent or Firm: Hamrick; Claude A. S.

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Patents and Patent Applications: Analysis

Filed:	**September 29, 1993**
PCT Filed:	**September 3, 1993**
PCT NO:	**PCT/US93/08333**
PCT PUB.NO.:	**WO94/05969**
PCT PUB. Date:	**March 17, 1994**

Level of activity
Importance of technology

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Patents and Patent Applications: Analysis

Current U.S. Class:	***33/288***; 33/203.18; 356/155
Intern'l Class:	G01B 011/275
Field of Search:	33/288,286,203,203.18 203.19,203.2 356/155

New technological area for this company?
Broadening or narrowing technology compared to previous patents?

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Patents and Patent Applications: Analysis

U.S. Patent Documents

4180915	Jan., 1980	Lill et al.	33/288.
5048954	Sep., 1991	Madey et al.	356/155.

Foreign Patent Documents

2948573	Jun., 1981	DE	33/288.

Number of references
Technological area of references
Dates of references

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Patents and Patent Applications: Analysis

- Patent Counts
- Patent Family Analysis
- Citation Analysis
- Patent Renewal Rates

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Patents and Patent Applications: Analysis

- Patent Counts
  - Temporal
  - Compared to competitors
  - Compared by technology

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Technology profiles of three selected firms—sol-gel technology

SEIKO-EPSON
- Glass manufacture by sol-gel process (71%)
- *Production and modification of silicon dioxide or hydrate* (35%)

CORNING INCORPORATED
- Compounds of beryllium, magnesium, aluminum, calcium, strontium, barium, radium, thorium, and rare earths (25%)
- *Compounds of zirconium, hafnium* (25%)
- Forming glass hollow-ware (25%)
- "Other" glass-forming processes (25%)
- Electrical and electronic applications of glass (25%)
- Melting and casting of ceramics (25%)
- *Oxide ceramics, including "technical" ceramics* (25%)
- Electronic oxide ceramics (25%)
- "Other" oxide ceramic preparation (25%)
- Antiperspirants (25%)

AT&T
- Manufacture of guiding structures for fiber optics (83%)
- Manufacture of glass by sol-gel process (33%)
- Glass fiber manufacture (33%)
- Optical applications of glass fibers (33%)

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Patents and Patent Applications: Analysis

- Patent Family Analysis
  - Competitor's strategy revealed
  - Economic potential estimated
  - Measure of technological activity
  - Number of unique assignees
  - Life-cycle of technology

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Number of firms with more than one patent family tabulated by year of first and last priority application nitric acid production

First Year of Activity	Last Year of Activity					
	Pre-1975	1975-78	1979-82	1983-86	1987-90	TOTAL
Pre-1975	10	12	5	3	0	30
1975-78	0	1	1	2	0	4
1979-82	0	0	0	1	0	1
1983-86	0	0	0	0	0	0
1987-90	0	0	0	0	0	0
TOTAL	10	13	6	6	0	35

Life-Cycle Stage	Activity	Concentration
Emerging	Low, Increasing	High
Growing	High	Decreasing
Maturing	Stable	Stable
Obsolete	Low, Decreasing	High, Increasing

Modified Campbell life-cycle stage analysis framework

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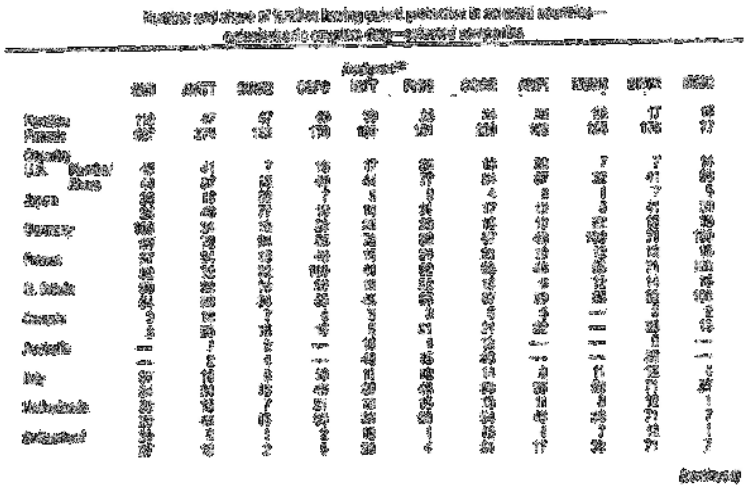

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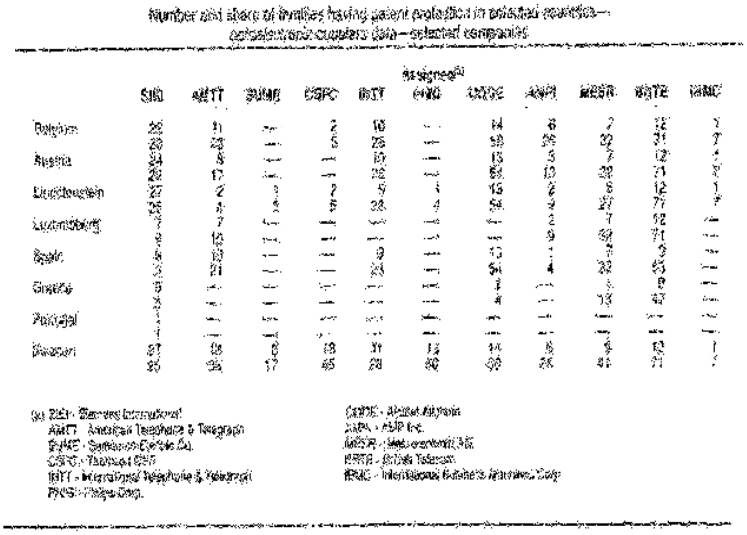

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Patents and Patent Applications: Analysis

- Citation Analysis
  - References cited
  - Subsequent citations

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Patents and Patent Applications: Analysis

- References cited
  - Number cited
  - Dates of cited references
  - Owners of cited references

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Patents and Patent Applications: Analysis

- Subsequent citations
  - Number and timing of subsequent citations as measure of importance
  - Owners of subsequent citing patents as measure of competition
  - Technology cycle time

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Patents and Patent Applications: Analysis

- Particular areas of technology
- Not well-classified in the PTO
- Searchable field

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Patents and Patent Applications: Non-Patent References Example

Other References

PCT International Search Report re PCT/US00/12367, mailed Aug. 11, 2000.

Malkin, Robert A. et al., The Effect of Inducing Ventricular Fibrillation with 50-hz Pacing Versus T Wave Stimulation on the Ability to Defibrillate, PACE, 21:1093-1097 (May 1998).

Schwartz, P.J., et al. "Autonomic Mechanisms in Ventricular Fibrillation Induced by Myocardial Ischemia During Exercise in Dogs with Healed Myocardial Infarction. An Experimental Preparation for Sudden Cardiac Death." PubMed Abstract of Circulation Apr.; 69(4): 790-800)1984.

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Non-Patent References

- Search for articles by inventor
- Search for other articles by author
- Search for articles by institution

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Non-Patent References - Example

http://www.ncbi.nlm.nih.gov/PubMed

Frequency analysis of ventricular fibrillation in Swine ventricles

Valderrabano M, Yang J, Omichi C, Kil J, Lamp ST, Qu Z, Lin SF, Karagueuzian HS, Garfinkel A, *Chen PS*, Weiss JN.

Division of Cardiology, Department of Medicine, ***Cedars-Sinai Medical Center***, Los Angeles, CA, USA.

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Industry Organizations and Trade Shows

NEWS
FOR IMMEDIATE RELEASE
Contacts: John Piscopink / ***AIAG*** / 248-213-4646

AIAG Develops Standard for RFID Tire Traceability in Record Time
SOUTHFIELD, Mich., Feb. 20, 2002 - In a demonstration of industry responsiveness and cooperation, the Automotive Industry Action Group's (AIAG) Automatic Identification Data Collection Work Group has released its revised *Tire and Wheel Label and Radio Frequency Identification* (RFID) standard. . . .

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Competitor Websites

Our Patented Technology

Advanced Technology Developed for the U.S. Military

Developed by *Sandia Laboratory* with the *National Renewable Energy Laboratory*, and used by the Department of Defense for destroying toxic organic compounds that are hazardous to human health and the environment, This powerful air sterilization technology is a quantum leap in air purification, and is now available for in home patient use.

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Why Patents Are Important

- Statutory right to exclude
- Competitive Advantage
- Licensing Revenues
- Defense Mechanism
- Bottom line: they enhance the company's value

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How Do You Know If It May Be Patentable?

- Is it new?
- Do you know of anyone else who's done it?
- It is useful?
- It is an improvement over something?
- It is non-obvious?
- Does it provide a competitive benefit?
- Would you pay $ for it

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How You Factor In

- Your everyday activities may result in patentable subject matter
- Not trying to change job flow but track what is being done

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The Road to Patentability

- The 1st step: tracking your activities
- The 2nd step: the invention disclosure form
- The 3rd step: the patent review committee
- The 4th step: the lawyer's file

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Things to Beware or Avoid

- Pre-filing outside disclosures
- Pre-filing sales or commercialization
- One-year clock
- Foreign patent considerations
  - Ownership issues when working with outside parties
  - Standards setting activities

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Pre-filing Outside Disclosure

- No Confidentiality Agreement/NDA?
- May start one-year clock to file in U.S.
- May sacrifice foreign patent rights

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Pre-filing Sale or Commercialization

- Pre-filing sale?
- Pre-filing offer for sale?
- Other pre-filing commercialization?
  - Example: Using software internally to perform work for the business or customers?
- May start one-year clock to file in U.S.
- May sacrifice foreign patent rights

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One-Year Clock

- Applicants have one year from a triggering event to file a patent application with the USPTO
- Otherwise, there is a LOSS OF RIGHTS and the invention is DEDICATED TO PUBLIC!

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One-Year Clock

- BUT WATCH OUT FOR FOREIGN PATENT RIGHTS!
- Taking advantage of the U.S. one-year clock may sacrifice foreign patent rights

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Foreign Patent Considerations

- Many foreign patent systems (e.g., Europe) do not provide the one-year clock
- Any pre-filing public disclosure triggers a loss of rights
- If foreign patent protection may be desirable, file U.S. patent application before any non-confidential disclosure or commercialization occurs!

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Development Efforts with Outside Parties

- Outside vendors may assist with development work, coding, consulting, etc.
- Will want agreements in place that make it clear your corporation is to be the owner of all patent rights arising from the work

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Development Efforts with Outside Parties

- Absent such agreements, outside parties could end up as co-owners of patent rights if any of their ideas work their way into the inventions

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Standards Setting Activities

- If your organization participates in a standards setting organization (SSO) that is related to the invention, special considerations may apply

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Standards Setting Activities

- Encouraging an SSO to adopt a standard that would be encompassed by your patent or patent application may create patent misuse/antitrust complications

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STANDARDS SETTING ACTIVITIES

- If this may occur:
  - Review SSO membership rules/regulations
  - Consult legal counsel

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What Details go into a Patent Application?

- Quid Pro Quo of the patent system
- Statutory requirements:
  - Enabling disclosure
  - “Written Description” of the invention
  - “Best Mode” for carrying out the invention

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What Details go into a Patent Application?

- Standard for Enablement:
  - Does the patent application enable a "person having ordinary skill in the art" to make and use the invention without "undue experimentation"?

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What Details go into a Patent Application?

- Patent application must describe in detail how the invention would work and be implemented
- But, do not need to actually build the invention

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What Details go into a Patent Application?

- Flowcharts
- Diagrams
- Descriptions of data and data associations
- Exemplary use cases
- Other details?
  - Alternative arrangements, etc.

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Sample Invention Disclosure Questions

Provide diagram(s), flowchart(s), or any drawings that illustrate the invention, together with explanatory text

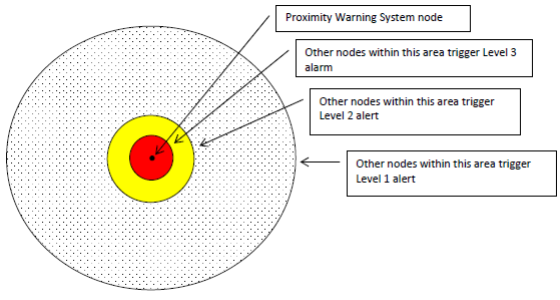

Figure 1: Alerting thresholds

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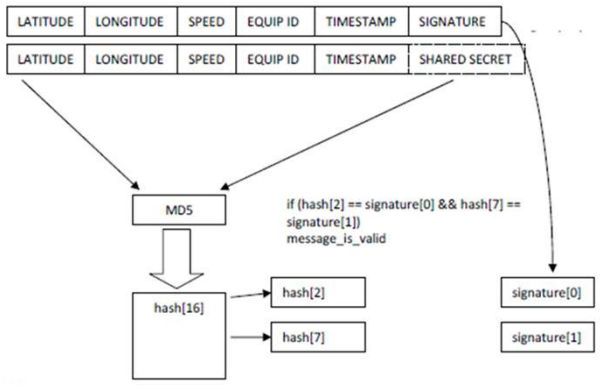
Sample Invention Disclosure Questions

Provide diagram(s), flowchart(s), or any drawings that illustrate the invention, together with explanatory text



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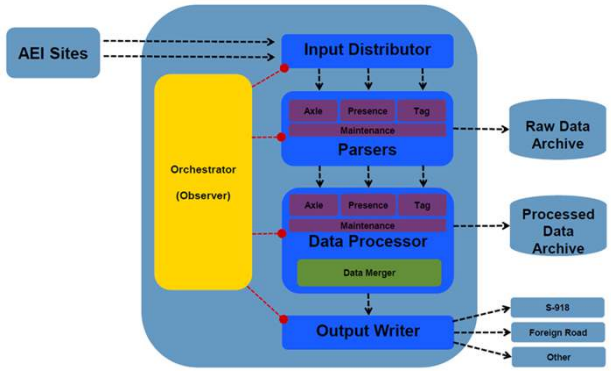
Sample Invention Disclosure Questions

Provide diagram(s), flowchart(s), or any drawings that illustrate the invention, together with explanatory text



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Sample Invention Disclosure Questions

- Describe the end uses and/or markets for the invention Use Cases?
- Who would the customers be?
- What industries/fields would have a need for the invention?

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Sample Invention Disclosure Questions

- What is the approximate date on which you conceived of the invention?
- Could be useful for later patentability issues
- Do not destroy evidence you may have of invention (notebooks, computer files, etc.)

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Sample Invention Disclosure Questions

- Has the invention been built, prototyped, or otherwise reduced to practice?
- Could be useful for later patentability issues
- Do not destroy evidence you may have of reduction to practice

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Sample Invention Disclosure Questions

- Have you publicly disclosed the invention? If yes, what was the earliest date on which such a disclosure occurred?
- Here we want to identify potential statutory bars

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Sample Invention Disclosure Questions

- Are you aware of anyone publicly disclosing the invention? If yes, what was the earliest date on which such a disclosure may have occurred?
- Here we again want to identify potential statutory bars

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Sample Invention Disclosure Questions

- Do you have any confidentiality/non-disclosure agreements in place with anyone to whom you have disclosed the invention? If yes, please provide copies of the signed agreements.
- As before, we want to identify potential statutory bars and also identify potential competing ownership issues

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Sample Invention Disclosure Questions

- Has the invention been offered for sale or sold? If yes, what was the earliest date for such an offer for sale or sale?
- Again, this question should identify potential statutory bars

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Sample Invention Disclosure Questions

- Has the invention been used to internally to work on company projects or produce results for customers? If yes, what was the earliest date for such an activity?
- As before, this will provide assistance in identifying potential statutory bars

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Sample Invention Disclosure Questions

- Were any personnel involved in any aspect of developing this invention not obligated to assign?
- If yes, please provide copies of any agreements that may exist with them
- Want to identify potential competing ownership issues

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Litigation Finance & Litigation Insurance: A Joint Strategy Discussion

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Any Questions?

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