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Patent Check List
Computer Implemented Inventions

☐ **Determine the closest prior art**. Identify the item of prior art (e.g., a patent or scientific publication) disclosing *technical effects* most similar to the invention (often it has the greatest number of common features with the invention).

☐ **Technical Effect.** Does the invention affects the way a computer operates: saving memory (e.g. file compression), increasing speed, improving the security of a process, improving the rate of data transfer, etc.?

☐ **Establish the objective technical problem.** Identify how to modify or adapt the closest prior art to achieve the specific *technical effects* of the invention that are not in the closest prior art.

☐ **Check obviousness.** Would a skilled person in the art starting from the closest prior art knowing the objective technical problem arrive at the claimed solution in an obvious way?

☐ **Usefulness**. Software methods are patentable if the invention produced a "useful, concrete, and tangible result". Is the patent useful? Can the usefulness be quantified?

☐ **Industrial application**. Does the patent has an industrial application? European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application [1].

☐ **Technical character**. The invention must be of "technical character". It must relate to a technical field [2], must be concerned with a technical problem [3], and must have technical features in terms for which protection can be defined in the claim [4].

☐ **Architecture**. Is the overall computer architecture of the system within which the software will exist described? (see Note 1)

☐ **Main Method.** Does a single flowchart that depicts the overall working of the software exist? (see Note 2)

☐ **Submethods**. Did you prepare a series of flow charts that show with detail the various routines and subroutines that together connect to deliver the functionality of the system enabled by the software? (see Note 2)

References
[1] European Patent Convention (EPC) Art. 52(1)
[2] … Rule 42(1)(a)
[3] … Rule 42(1)(c)
[4] … Rule 43(1) (see F-IV, 2.1)
Notes
1. Google "software architecture diagram" to find examples
2. Google "flowchart patent software" to find examples

XXX Categorization for Microservice Applications

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1 ABSTRACT

About 150 Words.

- o Used for indexing purposes in patent databases.
- o Describe in simple terms the type of object that the patent protects

2 FIELD OF THE INVENTION

Microservice applications' analysis using real-time distributed traces and spans, online model learning, and machine learning.

3 BACKGROUND

Identify the problem that the invention solves. Keep it short. **About 250 to 350 Words.**

Avoiding jargon as much as possible

- What is the *scope* of this invention? Where it applies? Who are the potential customers?
  - o Microservices and distributed tracing: the context
- What *problem* the invention solves?
  - o Do not cite the invention
  - o E.g., How to efficiently cluster spans
- How was the problem previously solved by other solutions? Or simply it was not solved?
  - o Existing solutions use Naïve clustering
- In which ways existing solutions to the problem were not fully satisfactory?
  - o E.g., existing solutions are too slow
- How the invention solves the problem?
  - o How this new approach differs from existing solutions?
  - o What features make it different from existing solutions?
- Lay groundwork for "*Non-obviousness*"
  - o Unexpected results, solution to long-standing problem
  - o Other scientists tried to invent this and failed. Use examples
  - o E.g., research were able to develop technique for data mining: but failed
  - o We obtained non-obvious results: the *solution*

4 SUMMARY

Briefly summarize the invention. Keep it short. **About 250 to 350 Words.**

The invention

- Relate the advantages to new features

  - o How the advantages provided by the invention are related to innovative features of the invention?

  - o How the novel features of the invention provide the advantages when compared to existing solutions?

  - o The disclosed [THING] does [RESULTS].

- It may be used by [EXAMPLEs].
- Identify the major components using general language.

Continue with Non-Obviousness

- Unexpected results, Solution to Long-Standing Problem, Other inventors tried and failed. Use examples.

Consistently emphasize any close interrelationships between the invention (the new part) and the larger system (most of the overall system will be old technology).

- For example, emphasize how the improvement to this sub-feature will materially enhance the performance or commercial appeal of the overall system.

5 SYSTEM DESCRIPTION

About 3000-4000 Words.

- Describe a complete example of operation of the invention
    - Illustrate the working cycle using flowcharts
    - Input, processing and output
    - It is important to be quite verbose when describing the example
- Figures
    - Prepare a set of figures to be used in describing the invention.
    - Simple figures, black and white, no shades of gray
    - Describe each figure individually

6 CLAIMS

Written by the patent attorney

Patents versus Papers

Paper

- Report scientific advances
    - Hypothesis, proposing an experiment to test it, executing the experiment, collecting data and analyzing the data to evaluate the hypothesis.

Patent

- Describe a system to produce an object that presents advantages with respect to previously existing systems with the same objective
- Novelty has not to be proven in a scientific way as in a paper.
- Patents are made of words and drawings