

## 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 affect 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 have 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

**Describe in simple terms the technical background and invention.** About 150 Words. Used for indexing purposes in patent databases

- Field of the invention
- Describe in simple terms and basic technical background the type of object that the patent protects
- It enables a better understanding of the invention

## 2 BACKGROUND

**Identify the technical problem that the invention solves** and provide a short summary of the key idea of the invention. Keep it short. About 250 to 350 Words. Avoiding jargon as much as possible.

The problem maybe new and introduced by the invention. If it is known existing solutions may still have limitations.

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  - Do not cite the invention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

## 3 SUMMARY

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

- Relate the advantages to new features
  - How the advantages or effects provided by the invention are related to innovative features of the invention?
  - How the novel features of the invention provide the advantages or effects when compared to existing solutions?
  - The disclosed [THING] does [RESULTS]
- Application scenarios

- The invention may be used by [LIST EXAMPLES]
- List scenarios which could make a profitable use of the invention
- Describe how the improvement of a feature will materially enhance the performance or commercial appeal of the overall system
- Identify the major components using general language
- 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).

## **4 SYSTEM DESCRIPTION**

**About 3000-4000 Words.**

- Describe the core technical features critical to the invention
  - The technical features should be inventive and solve technical problems.
  - Use technical language not “claim” language.
- Describe a complete example of operation of the invention
  - Illustrate the working cycle using flow charts
  - Input, processing and output
  - It is important to be quite detailed when describing the example
  - Describe how technical features interact and the results/effects
- Drawings
  - Prepare a set of drawings to describe and make the invention comprehensible
    - E.g., flow charts and block diagrams
  - Simple drawings, black and white, high resolution, no shades of grey in .ppt
  - Describe each drawing individually

## **5 PRIOR ART**

**Provide a description of related work.** About 300-500 words. Keep it short.

- Limitations
  - Identify the technical limitations of the prior art addressed by the invention
  - Identify the parts which are different from the invention
  - Only identify limitations which are addressed by the invention

## **6 INFRINGEMENT**

**How to detect the invention is being used by product.**

- Describe the steps to execute to detect the use of the patent in a product

## **7 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.
- Does not guarantee an industrial application.
- Sections: Introduction, related work, new method/technique, evaluation, finding, conclusions

### Patent

- Novel, non-obvious and with an industrial application.
- A solution to a given problem in the form of an application.
- 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
- New, innovative and monetizable.
- Sections: background, summary, detailed description, diagrams