

Patent Quality

How to examine patents qualitatively and effectively

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Abstract

The Strategic Framework of the USPTO 2007 [USPTO07] states as objective #1:

Provide high quality examination of patent applications.

This work tries to identify quality hindering aspects in patent examination and presents some suggestions for possible improvements.

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1 Quality of Patents

Many people and companies openly pretend, that there are many many *bad quality patents* issued by the USPTO. Most of the time they

refer to so called *trivial patents*, which are patents that seem to be either obvious or to be already known for a long time. Even the USPTO openly admits, that such patents should never had been issued.

Well, in my opinion, the real problem is not with these few *trivial patents*, but that bad patents get issued all over the time, lots of which are not obvious in the first place, and lots of which seem to be new at first sight – especially patents in the field of software very often only *seem* to be *qualitative*. To prove my attacks against the USPTO, and to suggest a simple solution, I wrote this paper.

1.1 Check for novelty and inventive step

Whether an invention is new or not can not be determined automatically. There is no such thing as some kind of program that just returns "yes, that's new" or "nope, that's already publicly known since Christmas 1497".

Instead of the, the USPTO employs examiners, who are supposed to check if an invention is new or not. So please tell me, is "Adapting client data states to a server data state via comparison of timestamps." new or is this already known? You can answer this with yes or no, but there is probably no common consensus on the answer. All we can do, is to search for these words with e.g. google and patent databases, and hope to find

a match. But wait, what's about the same invention, that was just explained using different words? How can we find that one? And what's about the same invention that was just not used on computers, but has been known for a long time to e.g. pupils and students in classrooms? What if a student compares the words on the blackboard, written by his teacher, to his own notes, and then *adapts* his own notes in such a way that it equals the text on the blackboards. Does this count as the same invention? Do you think there might be more other implementations of this method? I'm sure there are. I just can't come up with many of them by myself.

This is one of the most big problems: Single persons examine patents on their own, while more people would probably come up with much more different ideas, especially the most important ones: Where to look for comparable method in the first place at all.

Once these ideas are known, checking for prior art (to check novelty) and checking the state of the art (to check the inventive step) are pretty much straight forward, and can probably be done very well by a single examiner.

1.2 Where to look for comparable methods in the first place?

This is the most important step in examining a patent correctly. In march 2006, the paper 'HowTo Search for Prior Art in the Internet' [Kech06a] showed which steps should be involved in a very qualitative patent examination:

While trying to understand the patent itself can be done by a single person pretty well, the second step, *identify related projects*, is just what above was described with *the basic idea where to look for*, and thus probably can not be done well by a single person on its own. Profiling this examination process showed [Kech06c], that this is also the step with the most un-

known amount of necessary time. It's mathematically a never ending step, except if you find some prior art and void the patent. So for issuing a patent, exactly this step has to be improved.

1.3 Examination

To decide novelty or inventive step, in the first place an understanding of the patent, as well as the state of the art to check against, needs to be well understood by the examiner. Currently one examiner not only tries to identify related projects on his own, but he/she also tries to decide the inventive step and the novelty, no matter which field of science the currently used possible prior art is. This is of course extremely hard for every examiner. You for example can't expect a physician to fully understand Slovenian grammar, which in this example might use the same methods for hundreds of years.

So here again, a single examiner seems to be the wrong way. For testing a patent against the state of the art in specific projects, for each field of science a specialized examiner should take the burden.

2 Suggestion

2.1 Examination by who

The hereby suggested process for patent examinations is shown in figure 2.1. Examiner A1 stands for any examiner, that is comfortable with the field of science in which the patent was filed.

The second step, identifying related projects and searching for places with similar processes, as described in A1's summary, must be done by as many different examiners as possible. It is also of major importance, that those examiners are from different fields of science to get the best results.

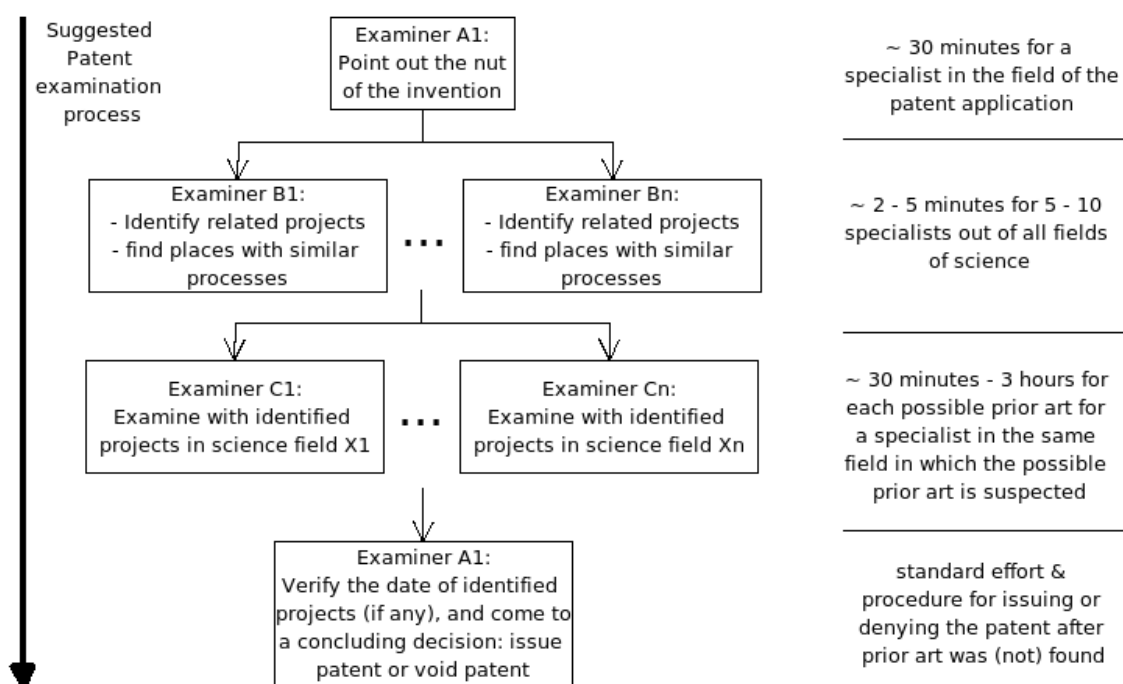


Figure 1: Suggested Examination Procedure

In the third step we need again specialized examiners, but now for the field of the in step two identified projects. Only such experts can qualitatively judge about the state of the art in this field at a given date in history.

In the fourth step, almost every examiner should now be able to decide whether the patent is new and whether the inventive step is there or if the patent can not be issued.

2.2 Effort

Even if this suggested examination procedure involves many different examiners, this process does not consume effectively more manpower than the conventional way. The necessary time for step one is unchanged - as the step itself is unchanged too. Step two is new, but this is a very short one. It makes only sense to think 2-5 minutes about a patent to identify related

stuff. It's about the very first impressions people have about this when they read the summary from step one. If in this step say 20 examiners take a look at a single patent, then the whole manpower consumed is 20 times 4 minutes in average. I'm sure a single examiner currently would think much longer on each single patent to come to the same results.

Step 3 is a new step, but can be done much more quickly, as only experts for the field of question are involved. They surely perform much quicker in e.g. chemistry than the original examiner A1, who is e.g. a computer scientist, would do.

The last step is probably the same as it has always been. It is also straight forward and contains the same formal stuff as it does already.

2.3 Motivation

Examiners should have some kind of accelerating incentive to ensure high quality patents. This could be achieved by giving some kind of points or credits to examiners for single steps. For example each identified related project in step two could earn the appropriate person one point. In step three each identified project should also earn the appropriate specialist one point.

If this process is fully supported by adapted software, then later on, the really relevant discoveries from step two as well as from step three should be rewarded with two or three extra points for the person that found it.

2.4 When to apply

These whole bunch of new steps for examiners has one big problem: Too expensive.

Luckily that doesn't mean that this solution is total crap, it just shows us, that this won't become the standard procedure. Probably the best way to apply these quality improving steps, is to keep examination just the way it is already, but whenever a patent is about to be issued, then this procedure should be used to ensure quality.

2.5 Shifting costs

To fully employ this procedure, some will say that there is not enough money. But maybe there should just be way more stimulation for patent applicants, to prove the patent for novelty themselves. A possible solution for this might be, that patent costs depend on whether prior art is found or not during the examination period. Maybe each applied patent, that couldn't be issued due to prior art, should cost \$3000,- extra.

However, to try to understand and analyze the consequences of such a change, I will leave to you. Have fun speculating about it!

References

- [Kech06a] Jan Kechel
HowTo Search for Prior Art in the Internet
osapa.org/wiki/index.php/HowTo_search_for_Prior_Art_in_the_Internet
- [Kech06b] Jan Kechel
Example Prior Art search
osapa.org/wiki/index.php/Example_Prior_Art_search
- [Kech06c] Jan Kechel
HowTo profiling
osapa.org/wiki/index.php/HowTo_profiling
- [USPTO07] United States Patent and Trademark Office
Strategic Framework of the USPTO
www.uspto.gov/web/offices/com/strat2007/