

Comments On The Detailed Description (DD)

Drafting Assignment

I. General

- A. Many people are really making the effort here and it shows.
Thanks for all your hard work!
- B. Writing the Detailed Description (DD) is not as purely creative as claim drafting, but it's long and grinding and you have to be precise and very , very thorough – remember that you will NEVER have a chance to supplement your disclosure. With the DD, you are aiming for completeness and stocking your arsenal with every potential claim limitation that you may need to fall back on.
- C. The present invention disclosure is designed to have several issues that arise frequently in practice. There are gaps and there are aspects of the disclosure that are fine for the inventor's purposes, but not satisfactory for yours. It's not designed to be the easiest thing in the world to write. It is designed to try and get you to think and stretch. I think that a number of people are beginning to rise to the challenge and start recognizing and filling in gaps. This invention is about a 7 on a difficulty scale of 1-10 and should be pretty representative of what you might encounter in practice.
- D. I did not mark every error every time – some repeated errors were numerous. Consequently, just because it's not marked doesn't mean its right. If one instance is marked, check your DD for others.
- E. AWK= Awkward
UNK = Unknown
H= How?
AB = No antecedent basis

II. Things to think about

- A. It sure helps to have a plan of attack (ICOA), right?
- B. Now that you have written the DD, you would probably have asked the inventor many additional questions during the inventor interview, right? It was only when you got really into writing the DD that you realized that you might not have some needed information. What questions would you ask? How can you be better prepared next time?
 - Advice - Read the invention disclosure more thoroughly/aggressively – at the data level - before the inventor interview and recognize the weak points of the disclosure so that you could question the inventor more specifically? More specific and exacting knowledge of the control aspects of the innovation so that you can recognize what you don't know sooner?
 - Mentally form an overall “data flow” of how you think the application will go when you read through the invention disclosure the first time and then ask questions to flesh out it out.
- C. Recognize the importance of figures. You are really crafting your disclosure around the figures. Consequently, the first step is to try to figure out the point of novelty, then figure out what you have to show in order to enable it, then think about what figures you would like to use for that enabling disclosure. Also, the ORDER of the figures can make a big difference in making your explanation understandable to the Examiner or a jury. See Setup vs. Operation below.
- D. Recognize that when you discuss a Figure, it can be overwhelming if you attempt to discuss every aspect of its functionality at once. However, you can walk through a simple embodiment or function and then come back to explain more complicated aspects. Possibly with a series of flowcharts. Again, see Setup vs. Operation below.
- E. Now that you have written a complete DD:
 - 1. What problems did you catch during your writing?
 - 2. How would you have structured your DD differently?
 - If you had to start over, what would you start with as first figure?

- F. Would you have picked different claim terms after you wrote the DD?
(I think I noticed significant claim changes – good job!)
Did you then take the time to modify your claims and go with the new claim terms? Don't let your initial claims lock you into a bad disclosure.
- G. Do you have a different idea about what “the invention” actually is?

III. Formalities

- A. Increase readability by using concept joiners like “also”, “additionally”, “Thus” and “Consequently” to connect your concepts rather than just reciting bullet points. Also, link to earlier and later figures that describe the elements that you are referencing in more detail. “As described further below with regard to Figure X”. “For example” is also effective
- B. Recite embodiments using positive, but not limiting language.
No=“The X needs ...”, “entire”, “must be”, “all X”
More examples from this year - all, necessary, all the possible, every data, needed, any
- C. When drafting, ignore the number grammatically. That is, always include the “the” in “the transceiver 420”
 - This also means that you can't have “the transceiver 420” and “the transceiver 430” because they are indistinguishable. Instead include a differentiator in the term like “server transceiver” and “AR display transceiver”
 - This got really confusing when people would just write “data” or “the data” instead of naming each data element something different.
- D. Try to keep sentences short with clear subject and predicate. Avoid pronouns – just repeat the noun.
- E. Drawings
 - Pencil drawings are OK, but they must be legible. Some drawings had serious legibility issues. Please note that if there is even a question about legibility, then the PTO may take the

position that you have not disclosed sufficiently and not allow you to rely on the figure. This is a difficult rejection to overcome.

- All letters and numbers must be at least 1/8 inch
- Margins of at least 1 inch
- Figures 1A, 1B – Examiners often don't like and will cause you to re-number
- Lead lines must not be straight (confuse with structures)

F. It seems like people really increased their understanding of the invention – and ability to track the controlling data – and thus the quality of their enablement – when they completed the flow charts.

IV. Not Getting Where You Want To Go

A. Not A Disclosure

- We need an affirmative, explicit disclosure if the Examiner is going to allow us to incorporate a term in the spec into the claim.
- BAD: “will” “would” “can” “could” “possibility” “should” “intended to”
“One alternative embodiment could be ...” (as opposed to IS)
Ex - Can't claim “can be any integer”
- Not Affirmative. Does not illustrate that we had the necessary possession of the invention to meet the written description requirement.
- Also not disclosure – “any of a variety of ways”, “May be any number” “could be greater or lesser” “this is just one example” – it is the only one that you disclose, so it is the only one that you can CLAIM! You can disclose other examples and ranges, though.
- Very questionable disclosure - “exists” or “creates” – unless you enable how the creation takes place – also “based on” or “generates”
- “Not limited to” is not a disclosure – nothing is limiting unless you say it is limiting.

- B. When you recite that something happens, you must recite HOW it happens, not just the end results. If data is displayed, where did that data come from? How did that data know to be transmitted? How was that data determined?
- What are the functional and structural aspects that ENABLE the thing?
 - No - “At a predetermined time”, “allows a determination to be made”, “it is processed”, “the computer implements”, “is associated with” (at least without enablement of HOW)
 - Warning Flag – watch out for the passive voice – it could be a warning sign - “X allows selections to be made”
 - May be OK for claims, not spec. Spec must ENABLE.
 - Warning Flag - “fudge words” – if you see them, look closely to see if you are really disclosing – Examples “based on”, “processes”, “a certain X”
 - Avoid any language that sounds like a human determination.
 - In general any human cognitive or emotional result is likely not an enabling disclosure.
 - “associated with”, “affiliated with”, “compiles”, “breaks it down”, “in conjunction with”
- C. Don’t use legal or claim terms in the DD
- No “said” or “plurality”
 - May not actually be a disclosure in the DD
 - NO “consist”
 - NO “via” (can actually mean “using” or “through”)
 - “the said” is not right either
- D. Watch out for “software” or “operating system” or “app”
- Can only have connection with structural elements – and none are structural. None of them can receive or transmit anything. They are not the actual function itself that you are trying to disclose.

- E. Data element vs. its contents
 - “determines a position” vs stores “position data” – can only store data
 - Name of data element vs. what it represents – name alone is not enough
 - Example – The position sensor then detects the current angular pointing position of the AR display system, records the current angular pointing position as current angular pointing position data, and transmits the current angular pointing position data to the AR processor.
 - F. In the inventor’s preferred embodiment, the positional data stays at the AR device and the server just transmits the performance metrics and ID (and only in the embodiment of the student head tracking, the head tracking info). AR pointing information stays at the AR device. It is OK to include alternative embodiments (for example where AR device pointing info is sent to the server for pointing determination), but you must disclose at least this preferred embodiment.
- V. Advice and Feedback
- A. Data structure.
 - Some students did a great job in keeping track of the data elements and combining them into data structures for ease of explanation. The figures that they did were very helpful and added clarity. That was a great example of developing a tool to make sure you have a complete disclosure.
 - B. Use of Flowcharts- also seem to have really helped with understanding – when students were rigorous with reciting each step in a flowchart. One good piece of advice is to think and write at the “data/data structure” level rather than the “conceptual” level. Or, alternatively, if you write first at the conceptual level, then go back and recite how a machine accomplishes each of the conceptual items that you have written.

- C. One good way to make sure that you have recited an enabled the process is to go through an actual hypothetical example – a sample person going the performance metric determination process with specific PM values and display settings.
- D. Strangely, no one used the figures from the Invention Disclosure or from the websites of the EEG device or AR device
- The Performance Metric chart may have been useful
 - You could take the AR glasses display and show what your display would look like on it. (Fair mention- # 944 basically did this one.)
 - Also, #0021 included pencil mockups of the glasses and EEG device – but the pictures themselves would be OK
- E. Generalized advice – when you feel that something is being fudged and it is uncomfortable/unclear, charge it head on and write something that seems to cover the ground. If nothing else, it makes the issue more apparent for the inventor to review so that they are likely to catch it before you file – you can also highlight it for their review. This is the opposite of the typical “school” instinct of attempting to hide it or gloss over it. Recognize that if you actually succeed in hiding it or glossing over it, you have probably shot yourself and your client in the foot.
- Also, the use of “human action” language or “outcome/result only” language is a very highly probably indicator that something is being fudged.
- F. Link to other figures
- Figuring out where to “break out” different parts of the system into different figures can be challenging. One tip is when there are two or more ways/options to determining an element, have a first figure where the element is taken as already having been determined – and then two later figures, each reciting one option with regard to how to determine it.

- G. Figuring out where to start –
- Several DDs were confusing because people seemed to be attempting to explain both the setup procedure and the operation procedure at the same time. It is highly recommended that you handle them individually – and make it clear when you are discussing setup vs. operation.
- H. In at least a couple of instances, I could not tell if the writer did not understand the process – or was just very confusing in their writing. The inventor will be available for you to ask specific questions so that you can be sure that you understand the invention.
- I. Let’s talk about the “Field of view”
- 4723 – pp37+ & pp53+ – Best work on “field of view” based on angular measurements. Not quite there, but definitely on the right track
 - Field of view – angular range centered on current pointing angle
 - Allows determination of something like “leftmost side of display pointing angle” and “rightmost side of display pointing angle”
 - <https://www.vuzix.com/products/compare-vuzix-smart-glasses>
 - Field of view is 19 degrees = current pointing angle +/- 9.5 degrees
 - If stored user pointing angle is in that angular range, then display – at the user pointing angle.
- J. Let’s talk about the Performance Metric determination
- First, the wording on the site mentions that the PM is determined at 0.1 Hz. Does that match what is shown in the chart? No.
 - See 944 Fig 3 – best handling of PM, but needs work. At least has individual data sets for each PM determination – and names the specific PMs (or cognitive states – which is a more accurate name)
 - You know more about the Performance Metric determination than you think you do. You know inputs, you know output, and you have a general idea of how the inputs are converted into outputs that you can disclose at a high level.
 - <https://www.emotiv.com/emotivpro/>
 - Shows 14 individual sensors and their data (also, another figure you can

use and explain)

- These are the specific inputs
- Chart from invention disclosure – shows the specific output. You also know:

“Performance metrics data is displayed in the application on a scaled axis from 0 to 100. Exported data files for Performance Metrics contain both the scaled and non-scaled versions of the data.”

- You also know:

<https://www.emotiv.com/knowledge-base/what-are-the-detections-based-on-how-were-the-algorithms-created/>

- “Our detection suites are based on several different experimental datasets collected from volunteers in our own experiments.”

<https://www.emotiv.com/our-technology/>

- “EMOTIV offers three different kinds of detection algorithms, all of them built on extensive scientific studies to develop accurate machine learning algorithms to classify and grade the intensity of different conditions.”

- “We continue to improve and refine our performance metrics algorithms as well as build new detections.”

- “These detections were developed based on rigorous experimental studies involving volunteers for each state, where subjects were taken through experiences to elicit different levels of the desired state. They were wired up with many additional biometric measures (heart rate, respiration, blood pressure, blood volume flow, skin impedance and eye tracking), observed and recorded by a trained psychologist and also self-reported. EMOTIV performance metrics have been validated in many independent peer-reviewed studies.”

So, for example, you could say something like”

“The Focus cognitive parameter quantization dataset represents a machine learning determined data transformation that receives the input sensor data (described above) and determines the Focus cognitive parameter data (as also described above). The Focus cognitive parameter quantization dataset was determined based on data derived from multiple experiments wherein subjects were induced into a Focus cognitive state (as verified by independent biometric determination including one or more of heart rate, respiration, blood pressure, blood volume flow, skin impedance and eye tracking) and correlations between the presence and extent of the induced Focus cognitive state and the received input sensor data were determined and recorded as the Focus cognitive parameter quantization dataset.

Further, the accuracy of the Focus cognitive parameter quantization dataset in converting the received input sensor data to the desired Focus cognitive parameter data has been validated in multiple independent peer-reviewed studies.”

F. Claims – Claims seem to be considerably better than last time, but in many cases a little more work is needed.

H. Several of the applications had some nice features:

- Feel free to review the DDs of other students– you can adopt strategies, wording, and even whole figures from other students, you just have to write/type it in yourself – not copy/paste. This is required because making you type it in wedges the wording and process better in your memory and makes you more able to repeat it when called on to do so in the future. To put it another way – typing it in yourself (and drawing the figure yourself) is really the only way that you learn.

- See the Sample DD - 944

944 - Fig 10-12 - Best classroom setup – also see interfaces

0021- Fig 13 – included rendition of AR device

Can also use image right from their website

<https://www.vuzix.com/products/blade-smart-glasses-upgraded>

4723 – pp37+ & pp53+ – Best work on “field of view” based on angular measurements. Not quite there, but definitely on the right track

Next Assignment - Full Patent Application Ready to File! and completed Filing Paperwork

This is the full patent application, including all sections and complying with all PTO requirements

A. Due date – April 2nd , Start of class (3pm)

B. Draft

1. Background
2. Summary
3. Brief Description of Drawings
4. Abstract
5. Add Validation section to DD

C. Revise

1. Claims

Know that when you turn in the full patent application at the next assignment, the claims will be your official claims just as if you had filed them at the PTO. If there is a problem with the claims, then expect a summary rejection from the PTO. We are going for realism and will be as picky as the average Examiner (which is very picky) and looking for an excuse to reject you without mercy.

2. Detailed Description (DD)

All shortcomings in the DD are fair ground for rejection

3. Figures

Must comply with PTO standards as discussed in class

D. Grading

1. When grading the whole application, approximately 60% of the grade will be based on the new sections and 40% of the grade will be based on the DD and claims. Consequently, amend your DD and/or claims to improve them.

E. Fair Warning!

You will be stuck with the patent application that you turn in for the remaining two office actions. Consequently, make sure that the DD includes everything that you think you might need.

F. Completed filing paperwork (Also to be sent to Jackie)

As a “class participation” assignment, complete the following filing documents for your patent application. The documents are available electronically at the PTO’s website or may be printed out from the class materials and filled in by hand. The filing documents should conform to your actual patent application. For example, the fee calculation should reflect your actual number of claims and the attorney docket number should be your secret code. All documents must include everything necessary for them to be accepted by the PTO.

1. ADS
2. Fee transmittal
3. Declaration
4. Power of Attorney
5. IDS

Your attorney number and your signature are your secret code. Your correspondence address is the law school’s address and your firm name is Pat, Ent, & Win. The filing date for the application is April 2nd – the date you will be submitting the application to me (really Jackie by e-mail) as the PTO.