Individual Assignment: Research Paper

For this assignment, you have to write a conceptual research paper. This is like a little teaser to see whether research in requirements engineering might be interesting for you to pursue in the future. If you work in industry and already know that this won't be the case, then it is a good exercise for presenting a novel idea or concept to a professional audience and convince them.

Please send me your **topic idea** (one to three sentences) by **April 22nd** in a short email.

You may come up with a new "invention" or innovation in requirements engineering. This could be a new technique, a new modeling notation, a novel approach for a particular domain, a new tool, a novel integration of existing techniques, or any other new "thing" created as a result of your readings and experience in the class. Be sure that what you propose is not something that has already been proposed by someone else in the literature. Your innovation should be described in a short paper (**five pages**, single spaced, 10 point font size, 3000-3500 words). The innovation does not have to be fully demonstrated or evaluated, but the concept and novelty should be clear.

For writing a good research paper, remember the following:
- The **outline** should roughly include the following sections:
    1. Introduction (what is your motivation, why do you think this topic is worth being addressed by research, what is the potential impact of your contribution in practice) *about 0.5 pages*
    2. Background of your work (what are you basing your ideas on, what is the most important related work that other people have done on this topic) *about 1 page*
    3. Concept (describe your idea, and while doing so please reference related work and work you are citing where you got those ideas from) *about 1.5 pages*
    4. Exemplary evaluation (provide a small example if you can and describe how your approach should be evaluated, for example "Figure 1 provides an illustration of my idea and the next step would be to evaluate it with a company in the aerospace domain to see whether it scales up to the performance requirements they have in practice.") *about 1.5 pages*
    5. Conclusion (one or two sentence summary of your presented idea and why it should matter to the world, and what is future work that could follow up on what you just presented) *about 0.5 pages*
- Research your **literature**: Conceptual research is often only as good as the literature search that was done. You can have a great idea anytime, but often someone else had it before you and if you ignore that you are wasting your time. So check who else has done work on this topic.
    1. Scholar.google.com and the CSULB library search engines are your friends!
    2. If that doesn't help, try normal search engines, but make sure you cite where you get information from and check how reliable those sources are.
    3. If you really don't find anything, shoot me an email and ask.
- Figures and **graphics**: Use figures to illustrate concepts if that is helpful. Cite them if you are taking them from somewhere else.

Deliverables:

1. A single pdf file per student should be submitted to via Beachboard in the Dropbox.
2. Make sure the first page includes your name and student ID.
3. Five pages, single spaced, 10 point font size, 3000-3500 words

Evaluation:

- Is the concept novel and innovative?

- Is it clearly delimited from related work?

- Is the idea well explained?
- Does the paper follow the suggested outline (introduction, background, concept, example/evaluation, conclusion) and provide all the content asked for in there?