Introduction Writing Exercise

April 26, 2007

Goal: Write a draft of the introduction for your project report.

I have a narrow view of what an introduction should look like. It should be approximately one page long, not much longer, consisting of the big picture into which your work fits, the statement of the problem, challenges in solving it, the contributions you make, your insight, and then a description of the rest of the paper at a high level. I suppose it's more of a checklist, but the pieces have a natural ordering.

The introduction you produce in this exercise is non-binding. You could even write the introduction for a completely non-existent paper, but I don't recommend it.

What to turn in at the end of class

As a project group, turn in your report title and the first sentence of each paragraph of the introduction.

You may turn in the whole thing you come up with, but I don't expect you'll have an introduction clean enough that you'll want evaluated. I'll be paying attention primarily (or only) to the first sentences.

Paragraph One:

What is the big picture? For example, would you like to see better cooperation? scalability? performance? Who needs better diagnostic or management tools? Has someone identified the problem you're working on in another paper? (The desires of funding agencies seem taboo in introductions of real papers; I'd extend that restriction to include the desires of faculty.)

Paragraph Two:

What is the problem? What is it that you address (or come close to) and that keeps the big picture from being pretty? How would the world be better if the problem were solved? "Better" can be in performance (of course), in flexibility, in design ideas like separating policy from mechanism, in ease of use, etc.

Paragraph Three:

What are the challenges? Why have people not solved this before? What primitives or mechanisms would one need to assemble a solution? Can prior attempts at solutions not be deployed incrementally? Are existing tools mismatched to the "real" problem?

Paragraph Four:

What contributions do you make (or plan to)? "We. . . show, find, design, prove, measure, evaluate, validate, develop, compare. . . ," would be good ways to start sentences.

Paragraph Five:

What is your insight? What makes what you (will) have written interesting? What nugget of wisdom does the rest of the paper investigate? Is it just your philosophy (e.g., power to the people!) that distinguishes you from other attempts to solve the problems?

Contributions and insight may be interleaved within the same paragraph or paragraphs in your actual introduction. I expect that one of the sentences you turn in will begin "Our insight is," even if you intend to put that statement inside a paragraph that combines describing contributions you make with describing the brilliance that made those contributions possible.

Paragraph Six:

What do you think the organization will be? Will section 2 be related work (common in incremental papers or papers in areas where there is much relevant related work)? Or will it be more detailed motivation (common when the problem is new and the reader must be convinced that it is a real problem.

Finishing touches:

The first sentence of every paragraph should tell a story; rework the paragraphs a bit so that they do. Add a paragraph here and there, perhaps if there are two major challenges, two major problems, two parallel efforts in the contribution, etc.

Notes

Do not use "e.g.," "i.e.," or "etc."

Let numbers (if you have them) speak: don't say "our approach is more scalable than Smith's" without quantitative comparison (fine if you fake numbers for the draft to be filled in later).

You're enouraged to disagree with me if you're right. If you think this template is bogus, find the paper you thought was the best-written of the bunch you read in this class (or elsewhere) to use as a template.