

Massachusetts Institute of Technology
Department of Electrical Engineering and Computer Science

6.035, Fall 2005

Handout 4 — Paper Discussion

Wednesday, September 7

One of the new features of 6.035 this year is that we will be expecting you to read papers we hand out, then come and discuss the paper one-on-one with one of the professors or TAs. This section will describe what we are expecting to accomplish with this new feature and what we are expecting from you when you read the paper and discuss it with us.

What we are expecting to accomplish

Papers are the primary means of communicating current research results. Unlike standard instructional materials such as textbooks, papers are usually written by the person or group doing the research, and often only a short period of time after the research has been completed. Papers therefore tend to reflect the perspective of the person doing the research, and this perspective may differ from the perspective of others in the field. If the paper was written soon after the research was completed, the impact of the research and the full structure of the field may not yet be known. The paper may be missing key concepts that others will later find crucial to understanding the paper in its proper context.

Some of the papers we will give you to read will be perspective papers written specifically to present the perspective of a researcher about research performed years earlier. Here the emphasis is not on new results, but on understanding the importance of the research in the overall context of a field that may have developed significantly since the research was performed.

We therefore believe that when you read a paper, it is important to keep your own perspective in mind and interpret the results in light of your knowledge of how the field has developed after the paper was published. And appreciate any of the author's insights that come through in the paper!

What we are expecting from you

Basically, we expect you to read the paper and be prepared to for two areas of discussion: the facts and your opinion of the research. Many papers present a technique for doing something (in this course, typically some aspect of compiler construction or programming languages) and then some experimental results the authors obtained by trying the technique out in some experimental setting. Together, the technique and the experimental results are the objective facts of the paper. We expect you to know the facts and be able to present them.

Once you understand the facts, you need to develop an opinion of the research and be able to discuss and potentially defend that opinion. Here are some questions that may help you form your opinion:

1. Do you like the research? Did you find the techniques presented fun and interesting?
2. What is the context of the research? What was the state of the art in the field before the research was performed, and how did the research change things?

3. Did anything surprise you about the paper? Are there any insights you obtained from reading the paper that you can generalize or apply in other areas?
4. Do the experimental results allow you to evaluate the proposed technique? Would you have liked to see different data or a redesigned experiment? What constraints or goals shaped the experiments that the authors did perform?
5. Do the authors understand the wider ramifications of their research? What is their perspective on the research, and do you have a different perspective?
6. How have things changed since the paper was written? Has the research become more interesting and relevant over time? Have others built on the research, or was the entire effort rendered irrelevant by future developments?
7. How important will the research be in the future?