CS 286r Presentation Notes

The best presentations are clear and exciting, offering a compelling narrative while creating student interactions with the material. They describe technical results succinctly and offer concrete examples of hard concepts to facilitate understanding. They keep the audience engaged with thoughtful reading questions that smartly direct attention in advance, additional questions that are answered confidently during the presentation, and possibly more creative acts like playing a game or solving a (simple) problem as a group. Most importantly, these presentations provide an unbiased and holistic summary of and perspective on the paper that is straightforward and clear enough for the audience to easily recall the important contributions of the paper.

If a presentation can do only one of these three things the last – offering a straightforward and clear summary of the paper – is the one to do. Every good presentation will do at least this, covering the paper's ideas, results and techniques. The most critical component of this summary is technical accuracy and clarity. It is very hard for presentations to be good if they contain errors or muddle through the technical heat of the paper. Also, a deep understanding of a paper's theoretical contributions is usually the first step to unlocking its narrative. Do not be fooled by thinking a paper's own introduction is the best way to this.

Good presentations are more than straightforward and clear, however, they must also include some aspects of great presentations. Straightforwardness and clarity are just the necessary minimum and if achieved in isolation provide only an OK presentation that may also exhibit a minimum of student engagement or discomfort handling questions. Also, while straightforward and clear, OK presentations may not be put together well, appearing like a set of disconnected discussions or results in sequence rather than a narrative.

To reiterate, great presentations can create new and deeper understandings of a paper, and they will facilitate a discussion that extends the work instead of merely explaining it. But all acceptable presentations begin with a thorough technical understanding of the paper that will form the core of any intelligent discussion.

Figure 1 offers a more succinct relationship between presentation quality and features. Historically, most presentations meet the criteria for a 3 or 4. Great presentations like those described in 5 are not expected and are very rare, more likely lucky accidents than a sign of bright students. The worst presentations described by 1 never occur, but a few 2's are possible. If you focus and spend

the time preparing the course instructors will ensure you can give an acceptable presentation (a 3) that will not prevent you from getting a top grade in the class.

The following are some tips to give a better presentation:

- Plan to spend at least 8–12 hours reading the paper and preparing your presentation. Understand the results, then the purported narrative, then extract the concepts.

- Create a plan to clearly discuss the paper's formal statements. Every acceptable presentation will do this. Sometimes the brightest students will try hard to create great presentations, however, and will forget about this fundamental tenet. Do not let this happen to you.

- Be clear, simple, precise and jargon free. Explain using concrete examples that demonstrate the range of techniques and definitions. Relate definitions back to the paper to reinforce your message.

- If you are uncomfortable with something it will show. If you do not understand a result you are attempting to explain it will show. Admit what you do not know. As students you are not expected to understand everything, but the course's instructors will help you find a balance in advance and can talk you through any technical results. If you are prepared this will never be a problem.

- Every paper tells a story. Bad papers usually tell a story poorly supported by their technical results while good papers often link their narrative closely with their results. Identify and separate the paper's story from its technical work. Use your (deep) understanding of the technical work to build a new story and your presentation. Rarely should a presentation follow a paper's structure exactly. Reinforce understanding by relating new concepts both to the paper and to your developing narrative. Your presentation should not appear like a collection of unrelated results, even if the paper does.

- Encourage discussion. You and the audience are participating together in a search for meaning. Welcome questions and use them to create debate. Make the audience so comfortable with the results they can draw new conclusions. Design your reading questions so you can reference responses and so students are ready to respond to your presentation. Avoid broad questions like, "what do you think of this paper?" If appropriate, play a game or solve a problem with the class.

5 Offers a compelling new understanding of the paper. Technical results are explained clearly, succinctly and precisely. Key and novel techniques are highlighted and a broad intuition is provided about the paper's formal statements. These results are developed concretely in a novel context that revises or restructures the paper's narrative. Examples are provided when necessary, and relevant opportunities for interaction are created that show students understand the material. Questions are welcome and the presenters happily answer them. Afterwards, the audience can easily recall the paper's most salient aspects.

4 A clear presentation that explains the paper holistically and accurately. Technical results are presented in the context of a larger narrative and are readily understood. The presenters are comfortable with the material and ably field questions. The audience understands the paper better than a casual reading would suggest, possibly noticing and being able to recall especially interesting or unique parts. Not every presentation can be great; greatness usually requires a spark between the presenters and the paper, and not every paper appeals to every presenter. Every presentation can be good, however. After understanding the paper, start by attempting to create a good presentation.

3 Clear and correct but uninteresting, typically lacking a contextual narrative. The presentation has little or no ambiguity but will often appear like a set of loosely related results. Presenters can answer questions but may also be timid about them and discussion is minimal. These presentations are characterized more by their lack of success than outright failure. The audience has a hard time recalling the paper afterwards.

2 Unclear or incorrect, these presentations fundamentally fail to satisfy an audience interested in understanding the paper. Explanations of results and techniques are likely too hasty and have many ambiguities. The presentation likely includes lots of "hand-waving" and may even be misleading, incorrectly interpreting some of the paper's results. The importance of elements of the paper is almost certainly misunderstood, and the presenters may have difficulty answering questions. Sometimes, however, student discussion may be encouraged as students attempt to understand the presentation or respond to novel but poorly justified statements. In practice, these presentations are always the result of a lack of preparation. Unfortunately, misguided attempts to create great presentations that are more style than substance also often end up here instead of meeting the acceptable minimum of clarity. Focus on a clear and correct presentation of what the paper formally says above all else to avoid this trap; even the best students can fall into it.

1 Shambolic and demonstrating a fundamental misunderstanding of the paper or full of ambiguity and hand-waving. The audience regrets listening.

Figure 1: Five grades for presentations.