

CS290F - Paper Reviews for 2010.02.01

Review for: "Aspects of Networking in Multiplayer Computer Games"

J. Smed, T. Kaukoranta, and H. Hakonen. *The Electronic Library*, vol. 20, no. 2, 2002.

With some papers a reviewer can get a fairly good idea of how deeply the paper is going to investigate the content material fairly early on. Based on the length of the paper and the nature of the abstract, a reader is immediately aware that "Aspects of Networking in Multiplayer Computer Games" is going to be a "light" paper; the paper most likely isn't going to provide the gritty details of network communication in games, nor is it likely to contribute meaningful new research to the field. That said, a "light" paper does not immediately invalidate the usefulness or relative merit of the paper; this paper falls into the category of "light" but "worthwhile".

The goal of this paper is to discuss, from a very broad point-of-view, the major aspects of how networking interacts with multi-player computer games (which the paper refers to as MCGs). The paper devotes approximately a page each to the various topics of network resources, network distribution and architecture, network scalability, and network security. Each section provides a concise-yet-complete discussion of the topic in question, allowing the reader to grasp the concept at hand and move on to the next section, without getting bogged down in networking specific details and language.

One particular aspect of this paper that makes it stand out as "worthwhile" is how well the paper references other works. From the very beginning of the paper, into every topic covered by the paper, and continuing through the conclusion of the paper, citations to other works are included. This thoroughness provides two major benefits to the paper: 1) it demonstrates that the authors of the paper applied effort to accurately summarizing the discussed concepts, and 2) it provides further reading for readers that would like to follow up on specific concepts discussed in the paper -- which is exactly what distinguishes a good summary paper from a bad summary paper.

Review for: "A Traffic Characterization of Popular On-Line Games"

W. Feng, F. Chang, W. Feng, and J. Walpole. *IEEE/ACM Transactions on Networking*, vol. 13, no. 3, 2005.

Papers with the term "traffic characterization" in their title warn the reader before they've even made it to the abstract that the paper is likely going to contain lots of data analysis and discussion of various aspects of the data. "A Traffic Characterization of Popular On-Line

Games" is no exception. The primary source material for this paper is a week long packet capture of a popular multi-player game server that is comprised of half a billion packets. The major aspects that separates a good characterization of data from a poor characterization are 1) presentation, and 2) completeness. The presentation aspect is important, as it keeps the reader interested and it helps the reader to understand the information the author is trying to convey. Likewise, completeness, or thoroughness, is important, as it allows the reader to form a complete understanding of the data being presented. This paper accomplishes both aspects quite well.

After an initial summary of the game used to capture data (CounterStrike) and the characteristics of the data capture itself, the remainder of the paper is essentially fact-after-fact-after fact, for about 13 pages. This makes for a relatively dense paper, but the authors do an admiral job of discussing the meaning and impact of the facts, illustrating the facts with accessible graphs and illustrations, and relating the facts back to the real-world events that generated them. In fact, this discussion turns out to be the major contribution the paper makes, as it allows further researchers to take the ideas they discovered and use them as the basis for further work in multi-player gaming research.