

COSC 6360: Operating Systems MATERIALS ON THE FIFTH FALL 2019 QUIZ

The quiz will cover all the papers that were discussed in class and were not on any of the four previous quizzes. You are only responsible for the materials discussed in class as they are *summarized* in the handouts and discussed in the PowerPoint presentations. I expect you to understand these summaries and to be able to comment around them.

Always ask yourself *why* a specific technique was used and *which* problem it addressed.

Distributed File Systems

D. G. Andersen, J. Franklin, M. Kaminsky, A. Phanishayee, L. Tan and V. Vasudevan, FAWN: A Fast Array of Wimpy Nodes, *Proc. 22nd ACM Symp. on Operating System Principles*, Oct. 2009.

- *We discussed the general organization of a FAWN array and the implementation of a FAWN KD system. We discussed in some detail the organization of its in-memory hash table and the way data in flash memory are accessed. We did not cover the actual implementation of data store maintenance functions and all replication-related issues.*

Virtual Machines

C. Waldspurger, Memory resource management in VMware ESX server, *Proc. 5th Symp. on Operating Systems Design and Implementation (OSDI 2002)*. Dec. 2002 (Slides on Piazza)

- You are responsible for all the topics covered in the slides. Keep in mind we did not discuss ESX higher-level dynamic reallocation policy and concluded that its I/O page remapping technique is much less relevant today than it was then.

P. Barham, B. Dragovic, K Fraser, S. Hand, T. Harris, A. Ho, R. Neugebauer, I. Pratt and A. Warfield, Xen and the art of virtualization, *Proc. 19th ACM SOSP*, Oct. 2003. (Slides)

- *You are responsible for all the topics discussed in class as they are summarized in the slides.*

Atomic Transactions

R. Kallman, H. Kimura, J. Natkins, A. Pavlo, A. Rasin, S. B. Zdonik, E. P. C. Jones, S. Madden, M. Stonebraker, Y. Zhang, J. Hugg, D. J. Abadi: H-store: a high-performance, distributed main memory transaction processing system, *Proc. VLDB Endowment*, 1(2):1496-1499, Aug. 2008. (Slides on Piazza)

- *You are responsible for all the topics discussed in class as they are summarized in the slides.*

SOSP 2019 Paper

R. C. Aksoy, M. Kapritsos, Aegean: Replication beyond the client-server model. *Proc. 27th ACM SOSP*, Oct. 2019. (Paper and soon slides on Piazza)

- *You are responsible for all the topics discussed in class as they are summarized in the slides.*