PSU CS 533 Concepts of Operating Systems
Fall 2019 (K.L. Karavanic)
FINAL Reading List

Please read papers prior to the listed class dates

Topic 1: OS Structure (Weeks 2-4)

Due Week 2 (Oct 9):


Due Week 3 (Oct 16):

• Paul Barham, Boris Dragovic, Keir Fraser, Steven Hand, Tim Harris, Alex Ho, Rolf Neugebauer, Ian Pratt, and Andrew Warfield. 2003. Xen and the art of virtualization. In Proceedings of the nineteenth ACM symposium on Operating systems principles (SOSP '03). ACM, New York, NY, USA, 164-177.


• Manco, Filipe et al, My VM is Lighter (and Safer) than your Container, SOSP 2017

Due Week 4 (Oct 23):

• Philip Levis, Experiences from a Decade of TinyOS Development. 10th USENIX Symposium on Operating Systems Design and Implementation (OSDI ’12).

• Felix Xiaozhu Lin, Zhen Wang, and Lin Zhong, K2: A Mobile Operating System for Heterogeneous Coherence Domains. ASPLOS ’14, March 1–4, 2014, Salt Lake City, Utah, USA.

Topic 2: Resource Management and Scheduling

Due Week 4 (Oct 23):


Due Week 5 (Oct 30):


• Eli Cortez (Microsoft); Anand Bonde (Microsoft Research); Alexandre Muzio (ITA, Brazil); Mark Russinovich, Marcus Fontoura (Microsoft); Ricardo Bianchini (Microsoft Research), Resource Central: Understanding and Predicting Workloads for Improved Resource Management in Large Cloud Platforms. SOSP 2017.

**Topic 3: Synchronization**

*Due Week 6 (Nov 6):*


• Sanidhya Kashyap, Changwoo Min, and Taesoo Kim, Scalable NUMA-aware Blocking Synchronization Primitives. USENIX ATC 2017.

• Kashyap et al, Scalable and Practical Locking with Shuffling. SOSP 2019.

**Topic 4: Security**

*Due Week 7 (Nov 13):*


• John Criswell, Nathan Dautenhahn, Vikram Adve, "Virtual Ghost: protecting applications from hostile operating systems." Proceedings of the 19th international conference on Architectural support for programming languages and operating systems (ASPLOS ’14), March 2014.

**Note Week 8 (Nov 20): Project Meetings ** No Quiz ** No Assigned Readings **

**Topic 5: Consistency and Fault Tolerance**
Due Week 9 (Nov 27):


**Topic 6: Memory and Storage**

Due Week 10 (Dec 4):

- Jian Xu, Lu Zhang, Amirtsaman Memaripour, Akshatha Gangadharaiyah, Amit Borase, Tamires Brito Da Silva (UC San Diego); Andy Rudoff (Intel); Steven Swanson (UC San Diego), NOVA-Fortis: A Fault-Tolerant Non-Volatile Main Memory File System, SOSP 2017

**Final Project Presentations (Week 11)**

*All groups will present their final projects during the final exam slot.*

*Please notify Prof. Karavanic if you have a conflict with another final exam.*