Distributed Systems- Administrative Details

S. M. Ahsan Kazmi

Course Staff

- S. M. Ahsan Kazmi.
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  - Senior Lecturer (Associate Professor)
  - School of Information Science, Facility of Computer Science & Creative Technologies, The University of the West of England, UK.

  - Research Interest: 5G and beyond networks, Network virtualization, End to end Slicing, Distributed learning, Smart environments, etc.

  - Scholar Profile: https://scholar.google.co.kr/citations?user=rsAINPYAAAAJ&hl=en
  - Researchgate: https://www.researchgate.net/profile/Sm_Kazmi

Course Textbooks

- Distributed Systems: Principles and Paradigms by Tanenbaum and van Steen

  - Can be downloaded for free from the official website:

  - http://www.distributed-systems.net/index.php?id=ds2-copy

- Amazon Web Services in Action by Andreas Wittig and Michael Wittig
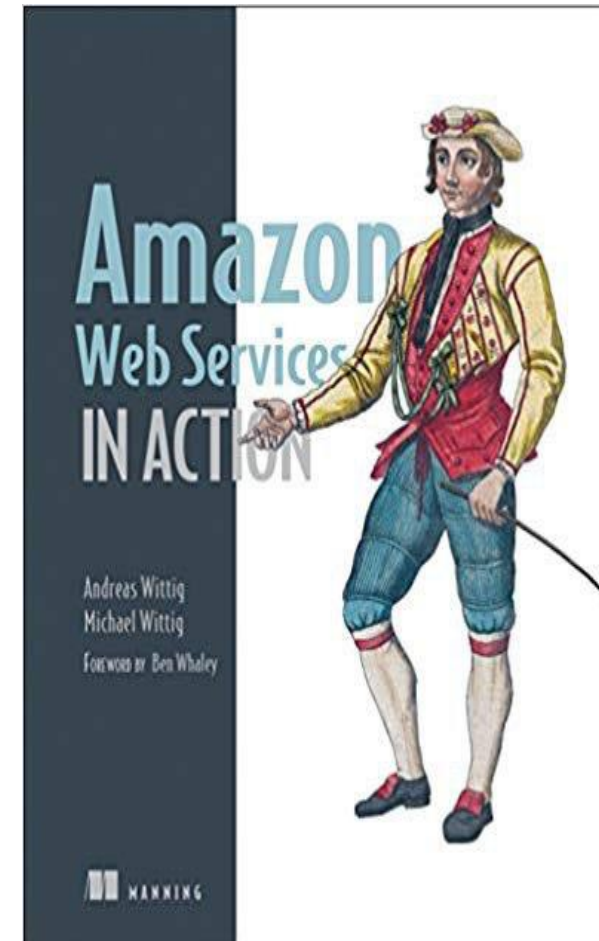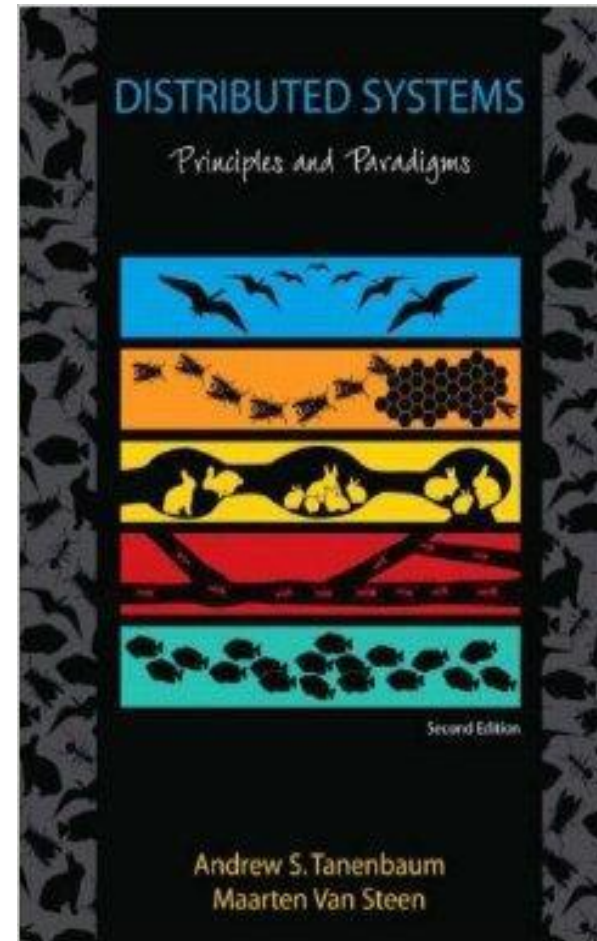
Course Grading Criteria

- Exam: 50 points

- Projects: 50 points
  - Proposal Presentation: 5 points
  - Report: 30 points
  - Final Presentation: 15 points

Course Outline

- Week 1 (26.01.2023) time:16:10-17:40
  - Administrative details
  - Introduction of Distributed Systems

- Week 2 (09.02.2023) time:16:10-17:40
  - Distributed Architectures
  - Processes and their scheduling
    - Thread/process scheduling, code/process migration

- Week 3 (16.02.2023) time:16:10-17:40
  - Introduction to virtualization

- Week 4 (24.02.2023) time: 17:50-19:20, 19:30-21:00
  - OS-level virtualization
  - Memory virtualization

- Week 5 (02.03.2023) time:16:10-17:40
  - Inter-process Communication
    - RPCs, RMI, message and stream-oriented communication

Course Outline

- Week 6 (10.03.2023) time:16:10-17:40, 17:50-19:20
  - Naming and location management
  - Canonical problems and solutions
    - Synchronization, Mutual exclusion, leader election, …
  - Consistency
    - clock synchronization, consistency issues, …

- Week 7 (17.03.2023) time:16:10-17:40, 17:50-19:20
  - Replication & Fault-tolerance
    - Caching and replication, …
  - Fault tolerance and recovery
    - Commit protocols, checkpointing, …

- Week 8 (24.03.2023) time:16:10-17:40, 17:50-19:20
  - Recovery in DS

Course Outline

- Week 9 (31.03.2023) time:16:10-17:40, 17:50-19:20
  - Exam

- Week 10 (07.04.2023) time:16:10-17:40, 17:50-19:20
  - Proposal Presentation

- Week 11 (14.04.2023) time: 17:50-19:20, 19:30-21:00
  - Coursework support

- Week 12 (22.04.2023) time:14:30-16:00, 16:10-17:40
  - Final Report submission & Presentations

Thank you!