09/06/18

Can use lecture note printouts (with our notes) on the quizes

Can work in teams(~5 people) for HW (1 submission)

Show work

* Distributed System(DS)
  + Collection of autonomous computing elements that appear to its users as a single coherent system
  + Components located at networked computers communicate and coordinate their actions only passing messages
  + Characteristic features:
    - Autonomous computing lements, a.k.a. Nodes, be they hardware devices or software processes
    - Single coherent system: users or applications perceive a single system nodes need to coollaborate
* Characteristic 1: collection of autonomous Nodes
  + Independent behavior
    - Each node is autonomous and will therefore have its own notion of time: no global clock
    - Leads to synchronization and coordination problems
  + Collection of nodes
    - How to manage group membership
    - How to you know you are communication with an authorized (non)member
  + Organization
    - Overlay network
      * Each node communicates only wiht other nodes in the system (neighbors)
      * The neighbors may be dynamic or require lookup
    - Overlay types
      * Peer-to-peer
      * Structured: each node has well defined set of neighbors
        + Could be tree
      * Unstructured: each node has references to randomly selected other nodes
* Characteristic 2: coherent system
  + Collection of nodes as a whole operates the same, no matter where, when, and how interaction between a user and system takes place
  + Examples
    - End user cannot tell where comutation take place
    - Where data is stored should be irrelevant
    - If data has been replicated or not is hidden
  + Keyword:
    - Distribution transparency
      * Approach of Unix-like OS
      * Resources are accessed through a unifying file-system interface
      * Hides difference between file, devices, memory, and network
    - Snag: partial failures
      * Only part of the system fails
      * Hiding and recovery from them is difficult, generally impossible to hide
* Missed the next ¾ of the class

09/11/18

09/13/18

Notes gone?