COSC 6360   FINAL EXAMINATION   MAY 9, 2005

This exam is **closed book**. You can have **two pages** of notes. UH expels cheaters.

1. *Advantages and disadvantages.*   (5 points each)

   a) What is the main advantage of *stateless servers*?

   b) What is the main advantage of RAID-5 over RAID-4?

   c) What is the main advantage of *NFS safe asynchronous writes*?

   d) What is the main advantage of *asynchronous log writes* in a journaling file system?

   e) What is the main disadvantage of *asynchronous log writes* in a journaling file system?

   f) What is the main advantage of implementing the cleaner of a log-structured file system as a *user process*?

2. Which techniques are used by FarSite to guarantee the availability and the integrity of (a) directory data and (b) file contents ? (2×5 points) How do these techniques affect the availability of (a) directory data and (b) file contents ? (2×5 points)

3. How do *leases* differ from *callback*s? (10 points) Would it make sense to replace callbacks by leases (a) in AFS and (B) in Coda? (2×5 points) (**Hint**: *I expect different answers!*)

4. What is the purpose of Kerberos authenticators? (5 points) How do they achieve their purpose? (5 points)

5. What is the function of the *i-node map* in a log-structured file system? (5 points) Where is it stored on disk? (2×5 points)

6. What does LOCKKS do to limit the frequency of polls? (5 points)