

# TAKE HOME ASSIGNMENT#1

[C#1,2,3,4,5, NETWORK & APPLICATIONS]

Due Date: November 1, 2004 (5x200=1000 points)

CS 6/75995 ST: INTERNET-BASED APPLICATIONS

Fall 2004, Department of Computer Science, Kent State University

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1. (HTTP conversation) For this assignment I have hidden a HTML page in my Website under URL <http://www.cs.kent.edu/~javed/internetbook/webbook/test-page.html>. Outline the HTTP 1.1 requests and responses that must be carried out between the Browser and the server before this document can be retrieved. List the key fields with their values, and provide an explanation of the dialogue. (You need to read HTTP 1.1 specification. The RFC can be found in the webbook).
2. Explain the advantages and disadvantages of multithreading in the server design. Explain what strategies can be used for concurrency control?
3. Explain the basic cookies mechanism. Explain how it can help in maintaining states across user sessions. Explain the mechanism by which too much use of cookie discovered by Bent, Rabinivitch et. Al. [SER02] degrades web performance. What might be the solution?
4. Explain the advantage and disadvantages of ICP and CARP.
5. Explain the basic mechanism of the Greedy Delete and Greedy-Insert family of replica placements algorithms in a CDN explained by Tang & Xu [CDN01]. What are the time complexities of these strategies?