CIS 640 – Advanced Topics in Computer Systems: E-Commerce Systems

Spring 2000

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Time: MW 3-4:30

Description: E-commerce is one of the fast growing areas of computer and network applications. Although E-commerce systems consist of many components depending on their purposes, there are a set of principles and concepts that are important in developing reliable E-commerce systems. The purpose of this course is to identify and study the principles and concepts needed for building fault-tolerant, scalable and secure E-commerce systems. This course will cover relevant selected topics, such as secure document management, high-performance servers, large system testing, dynamic and interactive web-application architectures, e-auction systems, etc. Students will be required to participate in class discussions and to do class presentations. In addition, there will be a significant group project, in which each group will design and implement a toy E-business or E-auction system.

The topics to be covered are:

- Document management and exchange issues such as authentication, limited copying, digital watermarks, security
- Systems issues such as high-performance and reliable servers, web caching, thin-client architecture, security
- Software engineering issues such as component based programming (CORBA, DCOM), testing, bias testing, security testing, formal modeling of web based systems,
- identify the important areas of the E-commerce system that requires better understanding.

Textbooks: There are no required textbooks. Papers will be copied and handed out in class. The following books are suggested for background reading.

- Web Security
- E-commerce solution

Grading: The grades will be based on the following: class participation, in-class presentation and programming project. The project will be to design and implement a working E-commerce system in a group of six people.