

NED UNIVERSITY OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER & INFORMATION SYSTEMS ENGINEERING



Software Modeling and Design Competition

Sample Questions

PHASE-I

Problem

Example application focuses on a commodity trading environment. We assume that the application supports trading and related activities at a single location. For purposes of analysis, we are concerned with two functions: the act of monitoring *and* gathering market information, and the act of completing a commodity trade.

The main users of the systems are the traders, who perform individual *trades* from their desks, mostly over the phone.

Traders are supported by personal workstations, connected to larger corporate servers (or administrators in our parlance). Traders rely on many sources of market information, some informal and some formal; the workstation is used to convey some of this market information, which is provided by the system of interest in two forms: *pricing* information and market news, from both wire services and financial information providers. Pricing information includes current prices of specific commodities (e.g. oil) for different time periods. Market news includes press releases, demand and supply forecasts, wire stories, etc. The system must collect, filter, and disseminate this news to traders.

A trader executes a trade after completing a negotiation with another trader (called counterparty in commodities parlance). To complete the trade, a formal *contract* must be generated specifying the terms of the deal (e.g. volume, price, quantity, delivery date, mode of transportation, or combination thereof). In addition, the trader's position in the commodity being traded must be updated appropriately. The position is captured in a schedule often known in the industry as a *slate*, which gives a summary of all agreed to receipts and deliveries for a given <commodity, location, month> combination, as defined by all contracts pertaining to that combination. Receipts and deliveries of a trade are called its *legs*.

Derive Specification for the above scenario.

PHASE-II

Problem

Company has several holiday homes in their possession and it rents them to employees. Company wants an information system that would allow room reservation on the net.

Employee will be able to reserve a room in desired holiday home for himself and his family members. Besides he can review his reservations and be able to cancel them.

Holiday home manager will be able to do same things as employee - manager will be able to add new reservation (ie. for people that doesn't have access to the net and would like to reserve by phone), review reservations and cancel any reservation. Manager will also be able to edit info about particular holiday home.

Administrator will have the same access as the manager and he is responsible to add and edit ciphers.

Everyone must log into the system before they can use it.

Draw ERD or any UML Diagram for the above scenario according to the situation suited.

Best Of Luck!