# Systems Analysis & Design

## Contest Overview and Components

Teams will be given a business problem statement to analyze and design. Any widely used methodology may be used such as Object Oriented Analysis, Structured Analysis, Information Engineering, Prototyping, etc. The business model does not have to be fully implemented; however, the system design that allows user prototyping with screen/window/web page interaction will be considered in the over-all grading. This contest is software and methodology independent.

Teams will be given the problem statement at the beginning of the contest time. Time will be allowed to read the problem statement and ask any questions in a common session. Once the question and answer time has closed, no further questions will be answered. At the end of the contest period, each team will be asked to copy their solution for judging.

Depending on the methodology chosen, use these guidelines for preparation as they will be used for judging:

| | *%* | **Structured/Info. Engineering** | **Object-Oriented Approach** |
|---|---|---|---|
| **Information Flow** | ***40*** | Decomposition, DFD's, Dependency and Process Action Diagrams. | Use Case Diagrams, Use Case Descriptions, Sequence and/or Activity Diagrams |
| **Information Structure** | ***40*** | Entity Relationship Diagrams (ERD's) and Data Constraints | Class Diagrams (for objects in persistence storage) and State Charts (State Machine Diagrams) |
| **Prototyping** | ***20*** | Windows, Screens and/or Web Pages | Windows, Screens and/or Web Pages |
| **Overall** | ***100*** | | |

*Note*: The Prototype does not have to execute on a computer. The prototype may be prepared using any number of software packages such as Word, Paint, Access, Visual Studio, Photoshop, to name a few. Arrange your interface screens in a hierarchical or logical order that represents a user dialog with the interface screen/s. Sample data should be included on your screens.

More points will be given for a prototype that appears to be working for a given transaction or test scenario.

## Team Composition

Your team may be made up of 1-2 students.

## Skills

The problem statement will allow multiple analysis and design methodologies, which may include:

- Structured analysis
- Object-oriented analysis
- Information engineering
- Rapid application design and prototyping
- Any other widely accepted methodology

*NOTE*: Competitors are expected to utilize ONE and ONLY ONE Analysis and Design approach. Using a combination of components from both the Structured/Information Engineering approach and the Object Oriented approach should be avoided and will be reflected in judged score.

# Scoring

To be distributed with the problem statement at the beginning of the contest time. General guidelines are in the Contest Overview above.

# Schedule

For this contest, contestants will have a total time of 2½ hours for the contest overview, contest work and turn in. See contest schedule for contest time and place.

# Resources

Teams must provide own business modeling software. This includes any CASE, I-CASE or other model-based development product. Example tools include: Oracle Designer/Developer, Unified Modeling Language, Visible Analyst, CA Cool Gen, Cool Jex, etc.

Solutions must be submitted as Microsoft Word or PDF files.