

**CMSC 735**  
**Assignment 4**

November 5, 2002  
Due November 19, 2002

**Consider the following company background:**

MT&T has been developing telephony software for many years. They have been using a waterfall model for development, with inspections after every development phase and unit, system, and acceptance test phases. The design approach has been data flow diagrams and functional decomposition. They have been collecting data on resources expended (effort spent by person, by phase and by activity on a weekly basis), defects (fault and failure data from inspections, testing, customer operation of the system, which include various error, fault, and failure classes), process conformance and domain understanding, and various product characteristics, such as size and complexity.

MT&T wishes to build baselines for its effort distribution with its current data. Write a GQM goal to specify how to perform this task for that company. Develop an abstraction sheet for the goal and define the most effective models and metrics they can use for the task. Offer a plan for presenting the data to management.

MT&T has decided to change its design process from functional decomposition to object oriented design to improve reuse with the hopes of lowering their overall cost. They use it on a pilot project. Write a GQM goal and the major accompanying models to help them determine if the new method is cost effective. Use an abstraction sheet. The models should be realistic based upon the company's history and maturity. Provide any accompanying models needed for support as well as the metrics. However, be sure there is data/ information to support the models. Offer a plan for interpreting the data and presenting the results to management.

Limit your answer to a maximum of three pages.