NYU School of Continuing and Professional Studies
Course Title: Object Oriented Analysis and Design
Fall 2011

Homework #5:

A software company has contracted you to design an interactive project tracking application that will be used internally to improve their internal operations. The application's requirements are as follows:

- Define tasks, i.e. discrete units of work to be done.
- Tasks have a description, a start date, end date, priority, duration, percentage completion and resources.
- Tasks may be broken into sub-tasks. If a task has sub-tasks, it is referred to as a summary task. A summary task's duration is equal to the sum of the durations of all of its subtasks.
- All tasks must have at least one assigned resource. A resource may be a person or a piece of equipment. All resources assigned to a task must be allocated for utilization, up to 100%.
- The list of all tasks is known as a project plan. Project plans have names, and all plans must be authorized, i.e. contain the name of the person authorizing the plan.
- The company has two sets of users – project managers and "regular" users. Project managers define tasks and assign resources. "Regular" users are able to update the percentage completion.
- Project managers need to be able to print an entire plan, including all task-related information.
- Your solution must allow the company to store all project plans in a central repository.
- Project managers must be able to search the repository to retrieve project plans by name and add/update/delete tasks. Users must be able to search the repository to retrieve project plans by name and update the percentage completion of tasks.

Homework Submission Requirements

- Please submit a class diagram for this assignment – as usual, this is not an implementation exercise. You should assume the application has a "typical" GUI interface and interaction between user and workspace/shape will be via mouse/keyboard. These elements <u>do not</u> need to be reflected in your OO design.
- For each class, please include <u>**all**</u> fields and methods that the class must have in order to satisfy the requirements. This may be included in the diagram or may be separate.