Textbook Inventory System (TIS)
Subprocess: Textbook Master List (TML) Processing

The External Entities you identified for the TIS are (some of) the TIS ACTORS. Other ACTORS will probably be identified as you “drill down” or decompose the high level process diagram into subprocess diagrams.

Each of the information flows identified in the TIS Context Level DFD has to be entered into the system. (Common sense, right?) Entry may be manual or automated (fully “workflowed”). In either case there is a story to be told – a text narrative – describing how the information flows (the arrows on the Context Level DFD) gets into the TIS: who does it, when, why and how?. In the case of the TML the instructor is going to write the story based on his experience. In an actual RFP or system design situation, you – the domain experts – will interview the people involved (likely new ACTORS), compile a file of all the actual documents, electronic or paper that are the source of the TMS, detail the actual pieces of information (fields) to go into the system, and write the “story” describing how the ACTORS interact with the system (the system interface) and get the information into the system.

The story is just the beginning. You will parse the story into a USE CASE and from the story and the USE CASE(s), construct and ACTOR-INTERACTION diagram(s) and an ACTIVITY DIAGRAM(s). (From the file of information bits that are compiled to make up the TML you will construct the database schema and the INTERFACE SCREENS and ACTIONS, but that’s another exercise.)

At the end of each semester, the department secretaries distribute a textbook form to all the university instructors. The forms are pre-filled out with the courses the instructors will be teaching next semester and the books and materials that were used the last time the course was taught. The instructors (usually late and reluctantly) enter any changes onto the forms and give the forms back to the department secretaries. The department secretaries then enter the individual instructor forms into another paper form, the TML. The secretaries turn the TML in to the bookstore on the due date, sometime well before the semester the books are for. Book clerks in the bookstore enter the TML’s into the TIS. Often times the TML’s are incomplete (the instructors did not fill out their individual forms before the due date). The TIS must generate missing book reminders for every instructor who has not filled out a form – these must be generated on demand and are sometimes, to some professors, repeatedly issued. (What information must be stored in order to generate a reminder?) The reminder messages are sent to the department secretaries who drop them in the “snail mail” folders of the professors. When the professors finally do fill out their forms, the department secretary sends these directly to the bookstore via interoffice mail. The additional information is entered into the system by book clerks at the book store. If no form is received by the order date, the DEFAULT CONDITION is to assume the same books and the same number of students for the course as when the course was last given.

1. Construct USE CASE(s) and Actor Interaction Diagrams for the TIS
2. One of the outputs of the Context Level DFD is a set of Purchase Orders to publishing companies. What information must be present on the various forms to make this possible? Make a brief list of this information.

3. How much of the processing of the TML actually directly impacts the TIS as the narrative implies it now functions? All too often the only aspect of the system that the IT department concerns itself with is the actual interaction with the computerized system. However, this can be a very myopic view. This is where you, the domain expert, have a major contribution to make.

4. If you were doing a BPR on this process, how might you change it? Start with a revised process narrative, then generate the new USE CASE(s) and Action Diagrams.