IMS2501: Second Year Studio
Week 6 : Studio Activity

These notes are available on the IMS2501 Web site via http://www.sims.monash.edu.au
Please contact your tutor if you require assistance with these exercises. Tutor email address and consultation times are available on the subject’s Web page under Staff.

Objective of session
- To provide the “studio” with an update of your progress to date
- To understand the process of translation from a class diagram to a relational database design and to apply that understanding to your assignment case study.
- To begin to plan the development your user interface design.

Assessment
This session will not be assessed

Activity 1 – Project Management Presentation [60 mins]
At regular intervals (weeks 3, 6, 9, 12) each team will report informally on their progress to the rest of the project teams, at a 10 minute presentation.

Key topics to be covered during the presentation include:
- the issues faced by your team e.g., project feasibility, quality, functionality, standardisation, integration of functions, risks, team problems, etc.;
- how you have attempted or will attempt to resolve these issues;
- project progress;
- lessons learnt.

These presentations will help develop project management and presentation skills by:
- showing the types of problems encountered by other teams;
- showing how other teams deal with issues;
- providing opportunities for feedback from studio staff and class members;
- simulating the types of presentations that would be normal in industry.

Activity 2 – Relational data model design [170 mins]
Working as group initially, perhaps working individually later when you have partitioned the model into sections, translate your class model into a relational database design. You can use the process outlined in a paper by Blaha, M.R., Premerlani, W.J. & Rumibaugh, J.E. called “Relational Database Design Using an Object-Oriented Methodology” published in the Communications of the ACM. (Vol.3 No.4, April 1988). You will find a copy of that paper in the University Library’s ACM Press on-line database. You might like to get yourself a copy of that paper during the studio session. Barry Atkinson has prepared a wonderful summary of the process that you will find useful.

First, view the mapping from the domain model to the database design as a process that involves the creation of 3 data models at different levels: a high level model (logical model), a middle level model and a low level (physical model).
High-level model
Essentially your domain model is a conceptual data model. Review all the associations and make sure you have the association cardinalities noted and correct. Also ensure that the attribute lists for each of the classes is complete.

Middle-level model
Begin to create a data structure diagram. Do this by changing each of your classes to tables and associations to relations. When you do that make sure each table’s primary key is identified. Identify null fields (if any) and make sure tables have the foreign keys required to implement the relational joins. Change the “data domains” from the class model into attribute types.

When your data structure diagram is nearly complete look for many-to-many relationships and normalize them. Look for other tables that might require normalization.

Low-level model
In this stage you will create a data definition in appropriate format for target DBMS. You will need to turn the tables of your middle level model into files, design appropriate lengths for each data type, implement any constraints (limits on acceptable data input) and finally create appropriate indexes.

Activity 3 – Interface design [30 mins]
(Made a wild guess at the time that might be left after you have completed your relational design – if you don’t get that done, finish working on it just before studio ends to at least spend some time thinking about your interface design).

As a team work through your use case models and identify the major interfaces (forms) required for your system. Allocate team members to work on those screen designs and related storyboards for process walkthroughs and if there is time begin work on those tasks. Do this task well your group will need to have developed some standards for the design of your forms – relating to the use of colors, fonts, placement of items on screen etc. Discuss the requirements of your application as a group and begin work on the development of these standards. Surf the web for examples that might help you understand the nature of these standards. Ask your tutor to help if you can’t might good examples. By the end of the session make surf you at least have a plan for how the screen design standards, forms and storyboards will be created for case study.

Activity 4 – Reflective Journal Entry [10 mins]
Send an email to your tutor and studio academic with subject heading "IMS2501 Reflective Journal Entry – Student ID". Express your concerns, your progress and team’s progress to date.

Preparation for next week
- Just keep working on your project and the upcoming submissions.