School of Computing and Information Technology
University of Wollongong

Session: **Autumn 2018**
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CSIT115/CSIT815 Data Management and Security
Laboratory 2
5 March 2018

Scope

This laboratory is related to conceptual modelling of a sample database domain.

Important messages

Please read the messages listed below before implementation of a task included in a specification of Laboratory 2.

More implementation related information can be found in "How to … ?" Cookbook available through Moodle or at:
`http://www.uow.edu.au/~jrg/115/COOKBOOK`.

The outcomes of Laboratory 2 are due by **Saturday, 17 March, 2018, 10.00 pm (sharp).**

Laboratory 2 contributes to 2% of the total evaluation in the subject.

A submission procedure is explained at the end of this document.

Only one submission of Laboratory 2 is allowed and only one submission per student is accepted. Please make sure that you submit the correct files.

A submission that contains an incorrect file attached is treated as a correct submission with all consequences coming from the evaluation of the file attached.

Compressed (zipped, rared, tared, etc) files will not be evaluated.

A submission marked by Moodle as "late" is treated as a late submission no matter how many seconds it is late.

A policy regarding late submissions is included in CSIT115/815 Subject Outline.

Tasks

Task1 (2 marks)

Read the following specification of a sample database domain.

A large supermarket would like to record the contents of the customers' baskets.

The contents of the baskets are recoded at the checkouts together with a unique timestamp when a basket transaction is finalized. A timestamp consists of a complete date (year, month, day) and time (hour, minute, second, millisecond) recorded with a precision to a single millisecond.

A timestamp can be used to distinguish the different types of baskets. At the moment the supermarket would like to distinguish between the autumn, winter, spring, and summer baskets and between the day time and night time baskets.

A basket consists of products.

A product is identified by its barcode and it is described by a name, category and price. The total number of items of each product included in a basket must be recorded.

Information about some of the customers who got supermarket discount cards is recorded at the checkouts together with the amount of discount for an entire basket.

A customer with a discount card is identified by a unique number of discount card, first and last name.

Your task is to create a conceptual schema of the sample database domain given above and to draw such schema in a notation of UML simplified classes of objects explained to you during the lecture classes in CSIT115. No other notation will be accepted !

To create a conceptual schema use a methodology explained to you in a presentation 04 Conceptual Modeling. First, read through the specification listed above and find all classes of objects. Next, read through the specification again and find all attributes. Next, read through the specification again and find all associations, link attributes, and association classes. Next, read through the specification again and find identifiers and qualifications. Finally, read through the specification and find generalizations. Entire process described above must be included in the outcomes from the implementation of this task.

To create the fragments of conceptual schema obtained after each iteration use a diagram drawing tool UMLet.

Remember to use `CSIT115-815Palette` palette !

Technically, to follow a design methodology explained to you in a presentation 04 Conceptual Modeling can include the fragments of database specification listed above into a Word document and then insert into the document the fragments of diagrams and the

final diagram as `bmp` file obtained from File->Export as … option of UMLet. A structure of the file should include the specification of a sample database domain with the fragments of text with the UML simplified class diagrams representing a solution expanded step by step. When ready convert Word document into `pdf` format and save it as a file `solution1.pdf`.

Deliverables

A file `solution1.pdf` with a description of a process of conceptual modelling together with the final design of a conceptual schema. Submission of a file with a different name and/or different extension and/or different type scores no marks.

Submission

Note, that you have only one submission. So, make it absolutely sure that you submit correct files with the correct contents. No other submission is possible !

Submit a file **`solution1.pdf`** to Moodle in the following way:

(1) Access Moodle at **`http://moodle.uowplatform.edu.au/`**
(2) To login use a **`Login`** link located in the right upper corner the Web page or in the middle of the bottom of the Web page
(3) When logged select a site **`CSIT115/DPIT115/CSIT815 (S118) Data Management & Security`**
(4) Scroll down to a section **`Submissions`**
(5) Click at a link **`In this place you can submit the outcomes of Laboratory 2`**
(6) Click at a button **`Add Submission`**
(7) Move a file **`solution1.pdf`** into an area **`You can drag and drop files here to add them`**. You can also use a link **`Add`**...
(8) Click at a button **`Save changes`**
(9) Click at a button **`Submit assignment`**
(10) Click at the checkbox with a text attached: **`By checking this box, I confirm that this submission is my own work,`** ... in order to confirm the authorship of your submission
(11) Click at a button **`Continue`**

It is expected that a problem included within **Laboratory 2** will be solved **individually without any cooperation** with the other students. If you have any doubts, questions, etc. please consult your lecturer or tutor during lab classes or office hours. Plagiarism will result in a **FAIL** grade being recorded for that assessment task.

End of specification