School of Computing and Information Technology
University of Wollongong

Session: **Autumn 2019**
Lecturer: **Janusz R. Getta**
**Tianbing Xia**

# CSIT115/CSIT815 Data Management and Security
## Laboratory 2

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**Scope**

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

The outcomes of the laboratory work are due by **Saturday 23 March 2019, 7.00 pm (sharp).**

**Please read very carefully information listed below.**

This laboratory contributes to 3% of the total evaluation in a subject CSIT115 and it contributes to 3% of the total evaluation in a subject CSIT815.

A submission procedure is explained at the end of specification.

This laboratory work consists of 1 task.

It is recommended to solve the problems before attending the laboratory classes in order to efficiently use supervised laboratory time.

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 the subject outline.

A submission of compressed files (zipped, gzipped, rared, tared, 7-zipped, lhzed, … etc) is not allowed. The compressed files will not be evaluated.

All files left on Moodle in a state `"Draft(not submitted)"` will not be evaluated.

An implementation that does not compile due to one or more syntactical errors scores no marks.

It is expected that all tasks 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 the assessment task.

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**Tasks**

**Task 1 (3 marks)**

Read the following specification of a sample database domain.

*The following describes the contents of a database to be designed for an international travel company.*

*An international travel company consists of a number of branches located all over the world. A branch is identified by an address, that consists of a country name, city, street, and building number. The branches are also described by a phone and fax numbers, email address, and local name. An address, phone number, fax number, and email address are unique for all branches. All branches located in the same country have unique local names.*

*A branch has a number of employees. An employee is described by an employee number which is unique within a branch, first and last name, date of birth and position occupied at a branch. An employee works at one branch only. It may happen that two or more employees each working in a different branch have the same employee number.*

*The branches offer the travel opportunities, later on called as "trips" to the customers. A trip is described by a unique name, total price, and short description. A trip consists of a departure location, zero or more of intermediate stops and a destination location. The stops have unique numbers within a trip. A departure location, destination location, and locations of intermediate stops are described by a unique name for example, Singapore Airport or Central Railway Station in Sydney.*

*The customers looking for the exciting travel trips are described by the first and last name, and unique phone number.*

*The customers book the trips. A booking is described by a booking date and planned departure date.*

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.

If you still do not understand how the problem should be solved please check the sample solutions of similar tasks available in ARCHIVES folder. For example, access the files at:

https://www.uow.edu.au/~jrg/115/ARCHIVES/2018-AUTUMN/LABORATORIES/LABORATORY2/Laboratory2.pdf

https://www.uow.edu.au/~jrg/115/ARCHIVES/2018-AUTUMN/LABORATORIES/LABORATORY2/solution1.pdf

You can find more examples in 2016, 2017, and 2018-SPRING folders.

If you still do not understand how the problem should be solved then ask your tutor during a laboratory class and/or your lecture during his office hours.

**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.

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**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/CSIT815 (S119) 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`**

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*End of specification*