IN605 Data Model Assignment

**Learning Outcomes**

At the successful completion of this course, students will be able to:

1. Apply the normalization rules to the creation of a relational database.
2. Construct an appropriate data and database (ERD) model for a specified problem and build the corresponding database

# Overview

Design use cases and a conceptual data model for the development of a database for the Dunedin Ice Hockey Club. This assignment is worth 20% of your final grade. This assignment may be done in pairs.

The assignment has 100 marks. It is due at **11:59pm Friday 1st May** A late penalty of 10 marks per day is applied for each day the assignment is late (00:01am 2nd May counts as a day!)

# Deliverables

A ***single*** document should be submitted to M:\Assessments Swallow Box\IN605Databases2\IN605DB2-DesignAssignment. (yes there will be marks deducted for multiple files!)

* Use cases (30%)
* A conceptual data model (60%)
* Data dictionary (10%)

# Requirements – Learning Outcomes 1, 2

You will interview Krissi as the requirements for the Dunedin Ice Hockey Club. Ask the lecturer follow up questions if you require more information, a discussion document is available on the I: drive (DesginAssignmentFAQ.doc). Further information can be found at <https://www.icehockeyotago.co.nz/home>

From this interview and any discussion, identify and document the use cases and create a suitable data model. I recommend that you use the “seven question” processes discussed in week two. However your final report should be formatted with the following sections:

* Title page
* Main objectives
* Use Cases
* Data Model
* Data Dictionary

## Title Page

This should be a single page clearly indicating the course name, the assignment name and your name.

## Main Objective

Identify the main objectives of this database. This should be a maximum of a page detailing what the database is designed to do and stipulating anything that you wish noted as being explicitly ***not*** in scope.

## Use Cases

Develop use cases (diagram and explanatory text) for the tasks outlined in the interview.

## Conceptual Data Model

Design a conceptual model of the data used in this organisation.

You should:

* Use the ERD diagram’s as covered in this course. Use crows-feet to indicate optionality & cardinality.
* Show the class and attributes in a box. It is not necessary to show a third section which indicates methods
* Include verbs/descriptions on the relationship line when it is needed.

## Data Dictionary

Create a data dictionary for each class. This should take the form of:

* The table name (major heading – bold)
* A separate line for each attribute on which you should identify:
  + the attribute name
  + the attribute data type – be generic and descriptive (‘String’ rather than varchar(20), ‘Integer’ rather than smallint, longint, etc). This may be a general description rather than a standard datatype (eg “graphic”, “audio file” etc)
  + A short description or explanation. This is not necessary for all attributes – include where the name, on its own, may not explain the purpose or use of the field.

Marking Rubric

This is given as an indicative guide. The detail may be adjusted at any stage.

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| CATEGORY | Perfect  100% | Excellent  90% | Good  75% | Satisfactory  55% | Needs Improvement  30% | Attempted  15% |
| Objectives | 10) Clear comprehensive yet concise description of the major objectives - no issues at all | 9) Clear comprehensive yet concise description of the major objectives | 7.5) Good coverage of the objectives. Possibly unclear about certain issues or not concise. | 5.5) Reasonable description of objectives. Missing or unclear about some issues. Or not concise | 3) The objectives were not clearly or adequately described | 1.5) Real attempt is evident but is not adequate |
| Use Case | 20) Comprehensive documentation of actors and tasks with excellent description – no issues at all | 18) Comprehensive documentation of actors and tasks with excellent description | 15) Good set of actors and tasks are identified. Explanations are clear | 10) Adequate identification of actors and classes. Some gaps evident. Descriptions lack completeness | 6) Insufficient identification of actors, tasks and/or inadequate descriptions | 3) Real attempt is evident but is not adequate |
| Classes | 30) Comprehensive set of classes have been identified. No redundancy. – no issues at all | 27) Comprehensive set of classes have been identified. No redundancy.  Sub-types must be well designed | 22.5) Good set of classes. Little redundancy. 3NF should not be difficult.  Reasonable identification of subtypes | 17) Reasonable set of classes. Some redundancy. Substantial revision to move to 3NF at Logical level | 10) Insufficient identification of classes | 4.5) Real attempt is evident but is not adequate |
| Relationships | 30) Excellent identification of relationships. Cardinalities are well designed | 27) Good identification of relationships. Cardinalities are well designed | 22.5) Good identification of relationships and cardinality. | 17) Reasonable identification of relationships. Some problems with relationships and/or cardinality | 10) Inadequate relationships developed | 4.5) Real attempt is evident but is not adequate |
| Data Dictionary | 10) Excellent identification of attributes and data types with very clear descriptions – no issues at all | 9) Excellent identification of attributes and data types with very clear descriptions | 7.5) Reasonable identification and definition of attributes | 5.5) Attributes are adequately identified | 3) Poor selection or definition of attributes | 1.5) Real attempt is evident but is not adequate |