MONASH University
Information Technology

FIT2094 Databases

2021 Semester 2

Assignment 1A - Conceptual Model - Monash Movement (MM)

Learning Outcomes: 2, 3 (see Unit Preview)

Assignment weighting 5%

Assignment marked out of 100 and released as a grade out of 5

Your task for this assignment is to design a model for a database which can be used to support the activities of a fitness center business called Monash Movement.

Monash Movement operates a number of fitness centres located in towns and cities across the country. People can join up and become a member of Monash Movement to make use of the facilities and classes which are available.

Each fitness centre is identified by a centre id. The data which is to be recorded about a centre is the centre's name, address and phone number. Each centre employs a number of staff to help it carry out its various activities. Each staff member is identified by a staff id. The staff member's first (or given) name, last (or family) name, mobile number, the date they started at the centre and role (the type of job they carry out) are recorded. One of the appointed staff members of the centre, manages the centre (a center is required to have a manager assigned before it can operate).

Each centre has a number of facilities such as Gymnasium, Spin Room, Swimming Pool, Aerobic Exercise Room, etc. Each of these facilities is identified by a facility room number. These room numbers are not unique across Monash Movement, room numbers are reused within each centre, they are however unique within each centre. For a facility we wish to record the facility name, a description of the facility and its capacity (the number of participants it can accommodate). Each centre has at least one facility.

As part of its business activities, each centre runs paid formal classes which members can sign up for. A class, within a centre, is identified by a unique numeric centre assigned class number (these class numbers are not unique across Monash Movement - for example every centre will have a class number, say 10). The class description (eg. HIT), the start date and time, and the maximum number of participants are recorded. The number of

sessions for each class and the class cost are also recorded. Some classes only run one session, others run several sessions in which each session will be run on the same day and time each week. Only the start date and time of the first session in each class is recorded. Each class makes use of a particular facility within the centre. If the class repeats, it always uses the same facility. Classes are run by qualified staff members of the centre. A given class may be run by a single staff member or by several staff members.

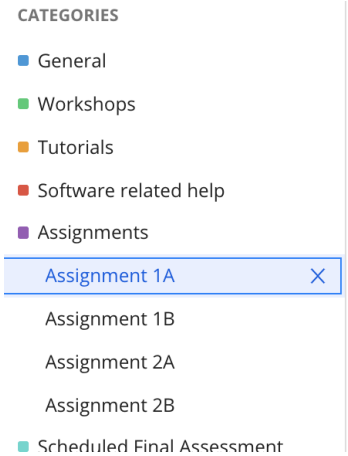
For each member signed up, Monash Movement identifies the member with a unique member number, these member numbers are unique across Monash Movement. They also wish to record the member's name, their address, their phone number and the date which they joined Monash Movement. Monash Movement is interested in recording whether a new member was referred (recommended to join) by a current member. Monash Movement members are required to nominate a particular centre as their home centre. Although they have a home centre, members are entitled to enrol for the classes run at any of the Monash Movement centres.

Monash Movement wishes to record which members sign up for which classes. Members who have enrolled in a particular class are required to pay for the class before the class actually begins, the date the member paid is recorded. Payment is a once off payment for the class, covering all sessions. If a class has more than one session and a member does not attend some sessions, the cost of the class does not change.

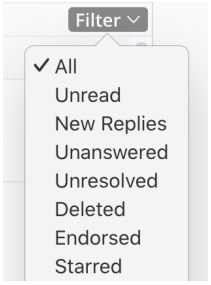
Qualified staff at each centre offer fitness assessments to members - these are optional, a member may not complete any assessments or they may complete several. The date the assessment was completed and the staff member who ran the assessment are recorded (only one assessment per member can be completed on any one day). The fitness assessment records the members weight, blood pressure, BMI and VO2Max.

REMEMBER you must keep up to date with the Moodle Ed Assignment 1A forum where further clarifications may be posted (this forum is to be treated as your client).

To view Assignment 1A only posts, select the Assignment and then the Assignment 1A forum from the Categories list in the left panel.



Once selected you can Filter the posts via the Filter option at the top of the list of posts:



Please be careful to **ensure you do not post anything which includes your reasoning, logic or any part of your work to this forum**, *doing so violates Monash plagiarism/collusion rules* and has significant academic penalties.

You are free to make assumptions if needed however they must align with the details here and in the assignment forums and must be clearly documented (see the required submission files).

TASKS

Please **ENSURE** you include your **name and ID on every page of any document you submit**. If a document is a multipage document, please also make sure you include page numbers on every page.

GIT STORAGE

All working files, as you work on this assignment task, ***must be stored in GIT and must show a clear history of development***. Your work for this task **MUST** be saved in your working directory in your Assignment 1A folder and ***regularly pushed to the FIT GitLab server*** to build this history of development. Any submission with less than two pushes to the FITGitLab server will incur a grade penalty of 10 marks (a 10 mark deduction).

Students must regularly check that their pushes have been successful by logging in to the web interface of the FIT GitLab server; you must not simply *assume* they are working. Before submission, via Moodle, you **must** log in to the web interface of the GitLab server and ensure your submission files are present on the GitLab server.

The task to complete:

Using LucidChart (or your choice of diagramming tool), prepare a **FULL conceptual model** (Entity Relationship Diagram) using crow's foot notation for Monash Movement (MM) described above.

- For this FULL conceptual model, include:
    - identifiers (keys) for each entity
    - all required attributes, and
    - all relationships. The cardinalities as *min and max*, using crows foot notation, must be shown for all relationships on the diagram.
- Attributes must be modelled as listed in this case study ie. there is no requirement to break down composite attributes
- **Surrogate keys must not be added to this model**.

Your model must conform to the FIT2094-FIT3171 ERD standards listed in tutorial 3, failure to do so will incur grade penalties.

Submission Requirements

Assignment 1A:

Due: Thursday 26th August (Week 5) 4 PM (AEST)

The following files are to be submitted and **must exist** in your FITGitLab server repo:

- A **single page pdf file** containing your full final conceptual model. Name the file **mm_conceptual.pdf**. This file must be created via File - Export/Download As/Print to a PDF from your drawing package (**do not use screen capture**) and **must be able to be accessed with a development history via GIT**. You can create this development history by downloading your PDFs and committing/pushing to GIT as you work on your model.
- A PDF document containing any assumptions you wish to make your marker aware of (create the document in MS Word or Google Docs and save it as PDF). Name the file **mm_assumptions.pdf**. If you have made no assumptions, submit the document with a single statement saying "No assumptions made". **The source document, as an MS Word document, must be available in your GitLab account** (for Google Docs simply download as Microsoft Word before adding to your repo).

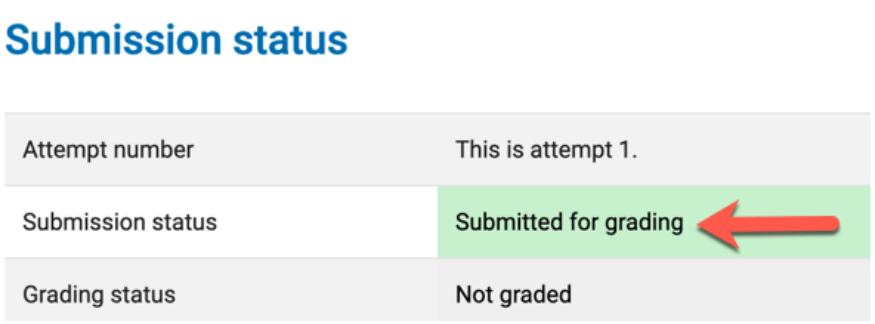
These **two PDF files must be submitted via Moodle before the due date/time** (times are expressed in Aust/Melbourne local time). Do not zip these files into one zip archive; submit two independent PDF files.

Late submission will incur penalties of 5 marks deduction per 12 hours or part thereof late. Submissions are not accepted beyond 7 days late.

Please note we **cannot mark any work on the Git Server**; you need to ensure that you submit correctly via Moodle since it is only in this process that you complete the required student declaration without which work **cannot be assessed**.

It is your responsibility to **ENSURE** that the files you submit are the correct files - we strongly recommend after uploading a submission, **and prior to actually submitting in Moodle**, that you download the submission and double-check its contents.

Your assignment **MUST** show a status of "Submitted for grading" before it will be marked.



If your submission shows a status of "Draft (not submitted)" it will not be assessed and **will incur late penalties after the due date/time**.

Please ***carefully*** read the documentation under "Assignment Submission" on the Moodle Assessments page.

Marking Rubric

	Outstanding (HD)	Adequate (Range P - D)	Not Adequate (N)
Identified the required Entities [30 marks]	• All/most entities identified. • All/most keys are correctly identified. • No "extra" entities included	• Majority of entities identified. • Majority of keys are correctly identified.	• None or few entities identified. • None or few keys are correctly identified
Identified the correct attributes for each Entity [30 marks]	• All/most required attributes identified and placed in correct entities. • No "extra" attributes included	• Majority of required attributes identified and placed in correct entities.	• None/few required attributes identified and placed in correct entities.
Identified the required Relationships [10 marks]	• All/most required relationships identified. • No "extra" relationships included	• Majority of required relationships identified.	• None/few required relationships identified. .
Identified all Cardinalities for every relationship [20 marks]	• All/Most of depicted relationships cardinalities are correctly identified.	• Majority of depicted relationships cardinalities are correctly identified.	• None/few of depicted relationships cardinalities are correctly identified.
Able to correctly use the required notation convention and be consistent in its usage. [10 marks]	• All notations in the model are consistent and follow FIT2094-FIT3171 ERD standards.	• Most notations in the model are consistent and follow FIT2094-FIT3171 ERD standards.	• Few notations in the model are consistent or follow FIT2094-FIT3171 ERD standards.
Able to correctly push the model to FITGitLab server with a development history of at least two pushes.			**If less than two pushes showing a clear development history** a ***grade deduction of 10 marks applied***.