Project Report

Data Storage Paradigms, IV1351

Casper Kristiansson, CasperKr@kth.se

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# Introduction

# Method

### Conceptual Modeling

The goal of this task is to create a conceptual model for a music school. Casper Kristiansson created the conceptual model; he used the modelling program Astah. The model itself consist of an ER diagram (Entity-relationship model). Designing a conceptual model consist of five steps:

* Noun Identification
* Category lists
* Remove unnecessary entities
* Find attributes
* Find relations

The first step was to identify the nouns that consists in the description of the music school. The nouns that the author found would either become an entity or an attribute in the model. After this was completed, the next step was to identify more nouns using a categories list which can be found in the book “Object Oriented Development”, chapter 4. Using this method, the author can make sure that the model will consist of all the nous needed for the music school. The next step of the process was to remove unnecessary entities or rename them with better nouns.

The fourth step of the process is to find the attributes for each entity. Each entity that exists will either be a string, Boolean, number, or time. It is also important to add the cardinality and if the attribute is allowed to be without value. The last step of designing the model is to declare and find relations between entities. The entities could either have an identifying, non-identifying, or many-to-many identifying relation.

# Result

### Conceptual Modeling

The author solution to the model can exist in the figure 3.1. The conceptual model main structure is built around “Student” and “Instructor” entity. The “Lessons” entity is used for inheritance for each of the lesson types (“Ensembles”, “Individual Lessons”, “Group Lessons”).

Diagram

Description automatically generated

*Figure 3.1: The authors solution to the conceptual model.*

# Discussion

### Conceptual Modeling

When solving the task, the author made sure to punctually follow all the steps and guidelines when creating a conceptual model. When solving the task, he made sure to follow the general naming convention for all the entities and attributes as well giving each a sufficient explaining name. During this step it was also important to have a reasonable number of entities and attributes which the author made sure to thoroughly examine if each needed to exist.

When designing the conceptual model, the author made sure that he followed the guidelines for the UML notation correctly. Each attribute in the diagram has a type and a cardinality specified. When solving the last step of the task the author made sure that the entities relations are relevant and follow the desired business rules.