Gym System

Design Model Document
CS414 Fall 2018
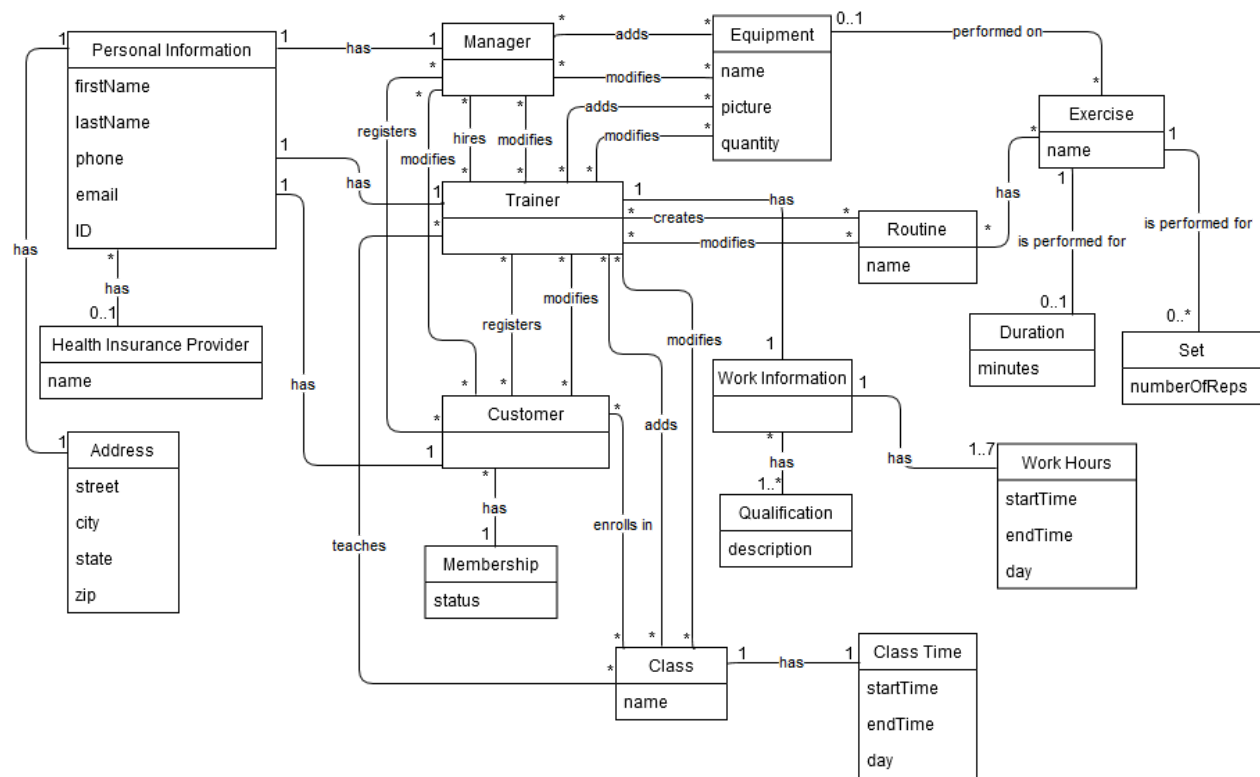
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Domain Model

Glossary

Name	Descriptions/Associations	Attributes
Personal Information	**Description**: Information used amongst different user types in the gymnasium system that defines information about said user. **Associations**:1 Personal Information has 1 Health Insurance Provider. 1 Personal Information has 1 Address. 1 Personal Information is required by 1 Manager, 1 Trainer or 1 Customer.	1. firstName: String, first name of user. 2. lastName: String, last name of user. 3. phone: int, phone number of user. 4. Email: String, email address of user. 5. ID: String, unique username associated with user.
Address	**Description**: An address is contact information that is used amongst different user types in the gymnasium system about their residence and point of contact. **Associations**: 1 Address is required by 1 Personal Information.	1. street: String, street number and address 2. city: String, name of the city 3. State: String, name of the state. 4. zip: int, the zip code
Health Insurance Provider	**Description**: The name of the Health Insurance Provider. Multiple users may have the same Health Insurance Provider. **Associations**: If the user has Health Insurance, then 1 Health Insurance Provider is required by the Personal Information.	1. name: String, the name of health insurance provider.
Manager	**Description**: A Manager is the supervisor of the gym. The Manager can hire/modify trainers, register/modify customers and add/modify	

	equipment. **Associations**: 1 Manager has 1 Personal Information. Many Managers register many Customers. Many Managers modify many Customers. Many Managers hire many Trainers. Many Managers modify many Trainers. Many Managers add many Equipment. Many Managers modify many Equipment.	
Trainer	**Description**: A Trainer is someone who is employed at the gym with Work Information that includes their qualifications and schedule. The Trainer can register/modify Customers, add/modify Equipment, creates/modifies Routines, and teach Classes. **Associations**: 1 Trainer has 1 Personal Information. Many Trainers are hired by many Managers. Many Trainers are modified by many Managers. Many Trainers add many Equipment. Many Trainers modify many Equipment. 1 Trainer has 1 Work Information. Many Trainers register many Customers. Many Trainers modify many Customers. Many Trainers teach many Classes. Many Trainers add many Classes. Many Trainers modify many Classes. Many Trainers create many Routines. Many Trainers modify many Routines.	
Customer	**Description**: A Customer is someone who uses the gym services, such as taking	

	classes. A Customer has a Membership that is either Active or Inactive. **Associations**: 1 Customer has 1 Personal Information. Many Customers are registered by many Managers or many Trainers. Many Customers are modified by many Managers or many Trainers. Many Customers have 1 Membership. Many Customers enroll in many Classes.	
Membership	**Description**: A Membership status states whether or not a Customer is currently active or not in the gym. **Associations**: 1 Membership is required by all Customers.	1. status: Membership enum, active or inactive
Work Information	**Description**: Work Information includes details about the Trainer that is useful for their schedule and qualifications. **Associations**: 1 Work Information is required by all Trainers.	
Qualification	**Description**: A Qualification is a short description of specific qualities that a Trainer performs that make them suitable to perform certain tasks in the gym. **Associations**: 1 to many Qualifications are required by many Work Informations.	1. description: String, a description of the specific Qualification of the Trainer.
Work Hours	**Description**: Work Hours are a way to store a weekly schedule of a Trainers time and days for when they are supposed to	1. startTime: dateTime, only hours and minutes of start time. 2. endTime: dateTime, only

	work. It is a set schedule for a specific day, 1 Work Hours for the given day of the week. **Associations**: 1 to 7 Work Hours are required by Work Information.	hours and minutes of end time. 3. day: DayOfWeek enum, the day of the week.
Equipment	**Description**: Equipment are machines that are used in the gym to perform routines and are part of the gym's inventory. **Associations**: Many Equipment is added by many Managers or many Trainers. Many Equipment is modified by many Managers or many Trainers. 1 Equipment may or may not be required by many Exercises.	1. name: String, the name of the equipment. 2. Picture: String, the path to the image file. 3. quantity: int, the number of this piece of equipment in the Gym system.
Routine	**Description**: A Routine consists of a series of exercises for the Customers to perform and created by Trainers. A Routine may or may not be done on Equipment, and is measured in duration or a number of sets. **Associations**: Many Routines are created by many Trainers. Many Routines are modified by many Trainers. Many Routine have many Exercises.	1. name: String, the name of the Routine.
Exercise	**Description**: An Exercise works out a specific part of the body and may or may not require equipment to perform it. An Exercise is performed for either a duration of time (in minutes) or sets of reps. **Associations**: Many Exercises are required by many Routines.	1. name: String, the name of the Exercise.

	Many Exercises may require 0 or 1 Equipment. 1 Exercise requires 0 or 1 duration. 1 Exercise requires 0 to many Sets.	
Duration	**Description**: The time (in minutes) that an exercise is to be performed. **Associations**: Either 0 or 1 Duration is required by 1 Exercise.	1. int: the number of minutes needed to perform the exercise.
Set	**Description**: A set consists of the number of reps that an exercise is to be performed in. **Associations**: Anywhere between 0 to many Sets are required by 1 Exercise.	1. int: the number of reps to perform for the exercise.
Class	**Description**: A Fitness Class that is taught by a Trainer and includes Customers participating at certain times of the day and certain days. Classes are added and modified by Trainers. **Associations**: Many Classes are added by many Trainers. Many Classes are modified by many Trainers. Many Classes are enrolled in by many Customers. Many classes are taught by many Trainers. 1 Class has 1 Class Time.	1. String: name, the name of the class.

| Class Time | **Description**: The day and time that a class is taught at.

Associations: 1 Class Time is required by 1 Class. | 1. startTime: dateTime, only hours and minutes of start time.
2. endTime: dateTime, only hours and minutes of end time.
3. day: DayOfWeek enum, the day of the week. |