# Gym System

Use Case Documentation
CS414 Fall 2018

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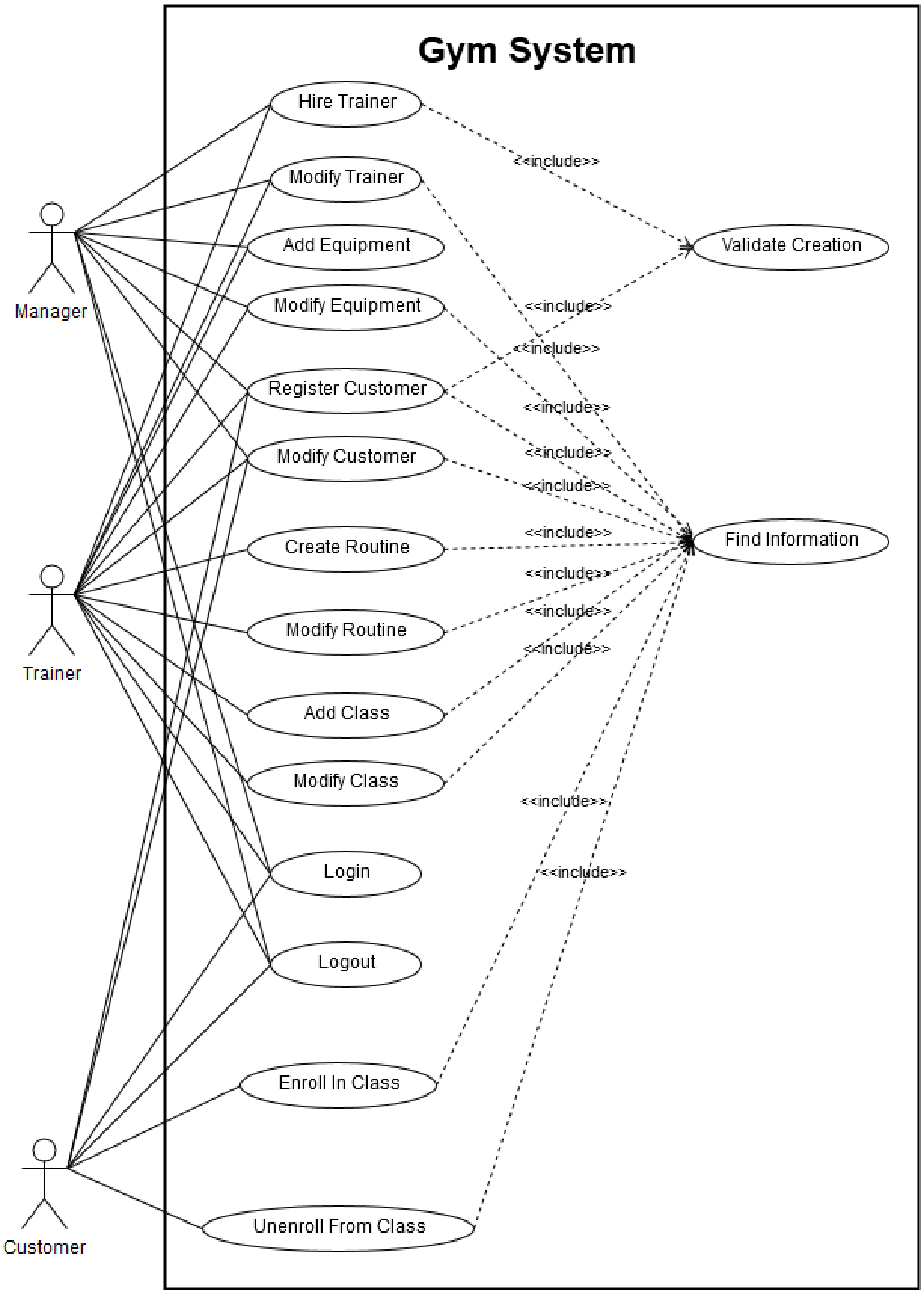
## Overview of Project

### Gym System

**Overview**: This project will provide a solution to support the management of a chain of indoor gymnasiums. The Stakeholders include the Managers, Trainers employed at the gym as well as Customers that attend classes and are enrolled at the gym. The new system will allow Managers to manage the Trainers, Customers and Equipment and allow Trainers to Manage Classes and Routines. The new system takes existing protocols that the gym uses via forms to manage these resources.

**Actors**: The primary Actors are the Managers, Trainers and Customers. Managers are able to Hire and Modify Trainers, Add and Modify Equipment, and Register and Modify Customers. Trainers are able to Register and Modify Customers, Add and Modify Workout Routines, and Add and Modify Classes. Customers can have Workout Routines Added and Removed from their accounts, as well as Enroll and Unenroll from available Classes.

## Use Case Diagram



### Use Case #1

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| **Use case id:** | 1 |
| **Use case name:** | Hire Trainer |
| **Overview:** | Creates a Trainer and adds the Trainer to the Gym System. |
| **Actors:** | Manager {Initiator}, Trainer. |
| **Pre-Conditions:** | Manager exists in the system and is logged in. |
| **Main flow:** | 1. Manager chooses “Hire Trainer”.<br>2. System prompts the user for details about the Trainer.<br>3. Manager enters the Trainer’s first name, last name, address, phone number, email, health insurance provider, work hours and qualifications.<br>4. Include (Validate Creation).<br>5. System returns the new Trainer Details and notifies that creation of Trainer has been successful.<br>6. System returns to main selections. |
| **Post-Conditions:** | The Trainer is created with their information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No partial information is kept for the new Trainer and no Trainer is created.<br>3a. Manager does not enter a health insurance provider, work hours or qualifications for new Trainer.<br>1. Manager leaves these fields blank.<br>2. System accepts certain fields for Trainer Creation that are not complete, these being the exceptions. |

### Use Case #2

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| **Use case id:** | 2 |
| **Use case name:** | Modify Trainer |
| **Overview:** | Modifies an existing Trainer in the Gym System. Allows the information about Trainer to be updated or deleted from the System. |
| **Actors:** | Manager {Initiator}, Trainer. |
| **Pre-Conditions:** | Manager and Trainer exists in the system and the Manager is logged in. |
| **Main flow:** | 1. Manager chooses “Modify Trainer”.<br>2. Manager enters the Trainer’s first name and last name or id and selects Search.<br>3. Include (Find Information)<br>4. Manager updates information about the Trainer or chooses to delete the Trainer from the System.<br>5. System updates the Trainer with relevant modifications.<br>6. System returns to main selections. |
| **Post-Conditions:** | The Trainer is modified with new information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No information is updated about the Trainer.<br>4a. Manager leaves blank the fields for a health insurance provider, work hours or qualifications for the Trainer.<br>1. Manager leaves these fields blank.<br>2. System accepts certain fields for Trainer Creation that are not complete, these being the exceptions.<br>4b. Fields for first name, last name, address, email or phone number are blank.<br>1. System prompts user to enter incomplete information and does not log changes until information is entered.<br>4c. Fields contain invalid data in the first name, last name, address, email or phone number fields (e.g. letters in phone number or numbers in a name). |

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| | 1. System prompts user to enter valid information in these fields and does log changes until valid information is entered. |

### Use Case #3

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| **Use case id:** | 3 |
| **Use case name:** | Add Equipment |
| **Overview:** | Adds a new Equipment and adds it to the Gym System. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}. |
| **Pre-Conditions:** | Manager exists in the system and the Manager is logged in. |
| **Main flow:** | 1. Manager chooses "Add Equipment".<br>2. Manager enters the Equipment's name, picture. Quantity defaults to 1. Manager may change quantity if necessary.<br>3. System creates new Equipment data for the information entered.<br>4. System returns to main selections. |
| **Post-Conditions:** | New Equipment is added to the System and available to use in workout Routines. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No partial information is kept for the new Equipment and no Equipment is created.<br>2a. Manager leaves blank the fields for a picture.<br>1. A placeholder image that says "No Image Available" is used for the picture.<br>2b. The name field is left blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>3a. Equipment name already exists in the System.<br>1. System notifies the Actor that the piece of Equipment being entered already exists.<br>2. Information is still displayed that the Manager entered and the Manager can modify it or cancel the addition. |

### Use Case #4

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| **Use case id:** | 4 |
| **Use case name:** | Modify Equipment |
| **Overview:** | Modifies an existing piece of Equipment in the Gym System. Allows the information about Equipment to be updated or deleted from the System. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}. |
| **Pre-Conditions:** | Manager exists in the system and the Manager is logged in. Equipment exists in the System. |
| **Main flow:** | 1. Manager chooses “Modify Equipment”.<br>2. Include (Find Information).<br>3. A list of all Equipment in the Gym System is displayed.<br>4. Manager selects the Equipment name that will be modified.<br>5. Include (Find Information).<br>6. Manager updates information about the Equipment or chooses to delete the Equipment from the System.<br>7. System updates the Trainer with relevant modifications.<br>8. System returns to main selections. |
| **Post-Conditions:** | The Equipment is modified with new information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No partial information is kept for the Equipment modifications and no Equipment is modified.<br>6a. Manager leaves blank the fields for a picture.<br>1. A placeholder image that says “No Image Available” is used for the picture.<br>6b. The name field is left blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>6c. Equipment name already exists in the System.<br>1. System notifies the Actor that the piece of Equipment already exists. |

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| | 2. Information is still displayed that the Manager entered and the Manager can modify or cancel the addition. |

## Use Case #5

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| **Use case id:** | 5 |
| **Use case name:** | Register Customer |
| **Overview:** | Creates a Customer and adds the Customer to the Gym System. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}, Customer. |
| **Pre-Conditions:** | Manager or Trainer exists in the system and is logged in. |
| **Main flow:** | 1. Actor chooses “Register Customer”.<br>2. System prompts the user for details about the Customer.<br>3. Actor enters the Customer’s first name, last name, address, phone number, email, and health insurance provider.<br>4. Include (Validate Creation).<br>5. System returns the new Customer Details, sets Membership to Active as default.<br>6. Include (Find Information)<br>7. A list of Workout Routines is generated and available options in the System can be selected to be added to the newly-created Customer. Actor can choose none and bypass.<br>8. System notifies that creation of Customer has been successful.<br>9. System returns to main selections. |
| **Post-Conditions:** | The Customer is created with their information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No partial information is kept for the new Customer and no Customer is created.<br>3a. Actor does not enter a health insurance provider for a new Customer.<br>1. Actor leaves this field blank.<br>2. System accepts certain fields for Customer Creation that are not complete, these being the exceptions. |

### Use Case #6

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| **Use case id:** | 6 |
| **Use case name:** | Modify Customer |
| **Overview:** | Modifies an existing Customer in the Gym System. Allows the information about Customer to be updated or deleted from the System. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}, Customer. |
| **Pre-Conditions:** | Manager, Trainer and Customer exists in the system and the Manager or Trainer is logged in. |
| **Main flow:** | 1. Actor chooses “Modify Customer”.<br>2. Actor enters the Customer’s first name and last name or id and selects Search.<br>3. Include (Find Information)<br>4. Actor updates information about the Customer or chooses to delete the Customer from the System. A list of available Workout Routines is generated and the Actor can be selected to be added to the Customer.<br>5. System updates the Customer with relevant modifications.<br>6. System returns to main selections. |
| **Post-Conditions:** | The Customer is modified with new information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No information is updated about the Trainer.<br>4a. Actor leaves blank the field for a health insurance provider Customer.<br>1. Actor leaves these fields blank.<br>2. System accepts certain fields for Customer Creation that are not complete, this being the exception.<br>4b. Fields for first name, last name, address, email or phone number are blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>4c. Fields contain invalid data in the first name, last name, address, email or phone number fields (e.g. letters in phone number or numbers in a name). |

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| | 1. System prompts user to enter valid information in these fields and does not proceed to next step until valid information is entered. |

## Use Case #7

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| **Use case id:** | 7 |
| **Use case name:** | Create Routine |
| **Overview:** | Creates a Workout Routine and adds the Routine to the Gym System. |
| **Actors:** | Trainer {Initiator}. |
| **Pre-Conditions:** | Trainer exists in the system and is logged in. |
| **Main flow:** | 1. Actor chooses “Create Routine”.<br>2. System prompts the user for details about the Workout Routine.<br>3. Include (Find Information).<br>4. Actor enters the name of the Routine.<br>5. System creates new Workout Routine.<br>6. System prompts the user for details about the Exercises in the Routine. System prompts the user for the  number of sets to perform (defaults to 1), duration (in minutes) of each set or the number of repetitions per set. A list of the equipment needed to perform the routine is presented and selectable (optional).<br>7. System adds the Exercise to the Routine.<br>8. System prompts the Actor Yes/No if they want to add another Exercise to the Routine. If Actor selects yes, repeat Step 6 onward to 8.If no, process to next step.<br>9. System returns to main selections. |
| **Post-Conditions:** | The Workout Routine is created with the information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No partial information is kept for the new Workout Routine and no Workout Routine is created.<br>4a. Trainer leaves the field for name blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>4b. Duplicate name of Workout Routine already exists in the System. |

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| | 1. System prompts user to enter a unique name and does not proceed until information is entered.<br>6a. Trainer does not select anything from equipment or leaves the number of repetitions per set blank.<br>1. Trainer leaves either field blank.<br>2. System accepts certain fields for Workout Routines that are not complete, these being the exceptions.<br>6b. Trainer leaves the field for duration blank and number of repetitions blank.<br>1. System prompts user to enter incomplete information in at least one of these fields and does not proceed until information is entered.<br>6c. Duplicate name of Exercise already exists in the System.<br>1. System prompts user to enter a unique name and does not proceed until information is entered. |

### Use Case #8

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|---|---|
| **Use case id:** | 8 |
| **Use case name:** | Modify Routine |
| **Overview:** | Modifies an existing Workout Routine in the Gym System. Allows the information about Workout Routine to be updated or deleted from the System. |
| **Actors:** | Trainer {Initiator}. |
| **Pre-Conditions:** | Trainer exists in the system and the Trainer is logged in. |
| **Main flow:** | 1. Actor chooses "Modify Routine".<br>2. Include (Find Information).<br>3. A list of all Workout Routines in the System is displayed.<br>4. Trainer selects the Workout Routine that will be modified.<br>5. Include (Find Information).<br>6. Trainer updates information about the Workout Routine or chooses to delete the Workout Routine from the System.<br>7. System updates the Workout Routine with relevant modifications.<br>8. System returns to main selections. |
| **Post-Conditions:** | The Workout Routine is modified with new information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No information is updated about the Workout Routine.<br>6a. Trainer does not select anything from equipment or leaves the number of repetitions per set blank.<br>1. Trainer leaves either field blank.<br>2. System accepts certain fields for Workout Routines that are not complete, these being the exceptions.<br>6b. Trainer leaves the field for name blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>6c. Trainer leaves the field for duration blank and number of repetitions blank. |

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| | 1. System prompts user to enter incomplete information in at least one of these fields and does not proceed until information is entered. |

### Use Case #9

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| **Use case id:** | 9 |
| **Use case name:** | Add Class |
| **Overview:** | Creates a Class and adds the Class to the Gym System. |
| **Actors:** | Trainer {Initiator}. |
| **Pre-Conditions:** | Trainer exists in the system and is logged in. |
| **Main flow:** | 1. Actor chooses “Add Class”.<br>2. System prompts the user for details about the Class.<br>3. Fields for entering the day of the week the class is on, start time of class, end time of class and number of attendees (defaults to 1).<br>4. Include (Find Information).<br>5. A list of available Trainers is generated to select an Instructor from. These are Trainers who have available hours indicated by the user in step 2.<br>5. System creates new class from the information entered.<br>6. System returns to main selections. |
| **Post-Conditions:** | The Class is created with the information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No partial information is kept for the new Class and no Class is created.<br>3a. Trainer leaves the fields for day of the week, start time or end time of class blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>3b. Information entered for the fields for day of the week, start time or end time already have a class that occupies these fields.<br>1. System prompts user to enter different dates for the class. |

## Use Case #10

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| **Use case id:** | 10 |
| **Use case name:** | Modify Class |
| **Overview:** | Modifies an existing Class in the Gym system. Allows the information about Class to be updated or deleted from the System. |
| **Actors:** | Trainer {Initiator}. |
| **Pre-Conditions:** | Trainer exists in the system and the Trainer is logged in. |
| **Main flow:** | 1. Actor chooses “Modify Class”.<br>2. Include (Find Information).<br>3. A list of all active Classes in the System is displayed.<br>4. Trainer selects the Class that will be modified.<br>5. Include (Find Information).<br>6. Trainer updates information about the Class or chooses to delete the Class from the System.<br>7. System updates the Class with relevant modifications.<br>8. System returns to main selections. |
| **Post-Conditions:** | The Class is modified with new information in the system. |
| **Alternate Flows:** | All: System fails at any point.<br>1. No information is updated about the Workout Routine.<br>6a. Trainer leaves the fields for day of the week, start time or end time of class blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>6b. Trainer attempts to enter information for the fields for day of the week, start time or end time already have a class that occupies these fields.<br>1. System prompts user to enter different dates for the class. |

### Use Case #11

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|---|---|
| **Use case id:** | 11 |
| **Use case name:** | Enroll In Class |
| **Overview:** | Enrolls a Customer in a Class in the Gym system. |
| **Actors:** | Customer {Initiator}. |
| **Pre-Conditions:** | Customer exists in the system and is logged in. |
| **Main flow:** | 1. Actor chooses “Enroll In Class”.<br>2. Include (Find Information).<br>3. A list of classes that have spots available with their relevant times is presented to the user.<br>4. Customer selects class to enroll in.<br>5. Customer is enrolled in class. Customer is added to the attendees of the selected Class.<br>6. System returns to main selections. |
| **Post-Conditions:** | The Customer is enrolled in the Class. |
| **Alternate Flows:** | All: System fails at any point.<br>1. Customer is not enrolled.<br>3a. No Classes are available to the Customer.<br>1. System notifies the Customer that there are currently no available Classes for the Customer to select.<br>2. System returns to main selections. |

### Use Case #12

| | |
|---|---|
| **Use case id:** | 12 |
| **Use case name:** | Unenroll From Class |
| **Overview:** | Unenroll a Customer from a Class in the Gym system. |
| **Actors:** | Customer {Initiator}. |
| **Pre-Conditions:** | Customer exists in the system and is logged in. |
| **Main flow:** | 1. Actor chooses “Unenroll From Class”.<br>2. Include (Find Information).<br>3. A list of classes that the Customer is currently enrolled in is displayed.<br>4. Customer selects class to unenroll from.<br>5. Customer is removed from class. Customer is removed from the attendees of the selected Class.<br>6. System returns to main selections. |
| **Post-Conditions:** | The Customer is enrolled in the Class. |
| **Alternate Flows:** | All: System fails at any point.<br>1. Customer is not enrolled.<br>3a. The Customer is not enrolled in any classes.<br>1. System notifies the Customer that the Customer is currently not enrolled in any classes.<br>2. System returns to main selections. |

### Use Case #13

| | |
|---|---|
| **Use case id:** | 13 |
| **Use case name:** | Login |
| **Overview:** | Actor logs in to the system in order to access tasks. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}, Customer {Initiator}. |
| **Pre-Conditions:** | Manager, Trainer or Customer exists in the system. |
| **Main flow:** | 1. Actor enters id and password.<br>2. System validates that the id and password match.<br>3. System logs the Actor in. |
| **Post-Conditions:** | The actor is logged in. |
| **Alternate Flows:** | 2a. The id and password do not match<br>1. System notifies that the information does not match.<br>2. System prompts Actor to enter email and password again. |

### Use Case #14

| | |
|---|---|
| **Use case id:** | 14 |
| **Use case name:** | Logout |
| **Overview:** | Actor logs out of the system. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}, Customer {Initiator}. |
| **Pre-Conditions:** | Manager, Trainer or Customer exists in the system and is already logged in. |
| **Main flow:** | 1. Actor selects Log Out.<br>2. System logs the user out. |
| **Post-Conditions:** | The actor is logged out. |
| **Alternate Flows:** | None. |

### Use Case #15

| | |
|---|---|
| **Use case id:** | 15 |
| **Use case name:** | Find Information |
| **Overview:** | Searches and returns information about Trainers, Customers, Equipment and Routine in the system requested by an Actor. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}, Customer {Initiator}. |
| **Pre-Conditions:** | Actor exists in the system and is logged in. |
| **Main flow:** | 1. Request type entered by the Actor is passed into this process.<br>2. System searches for this request type.<br>3. System returns the information about request type. |
| **Post-Conditions:** | Information about the requested type is returned. |
| **Alternate Flows:** | 2a. Request type does not exist in the system.<br>1. System returns that no information about requested type could be found. |

## Use Case #16

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|---|---|
| **Use case id:** | 16 |
| **Use case name:** | Validate Creation |
| **Overview:** | Validates and Generates the creation of a new Object in the system. |
| **Actors:** | Manager {Initiator}, Trainer {Initiator}, Customer. |
| **Pre-Conditions:** | Manager or Trainer exists in the system and is logged in. |
| **Main flow:** | 1. Information entered by the Actor is passed into this process.<br>2. System validates that the information entered is correct.<br>3. System prompts user to enter an id and password that must be greater than 6 characters.<br>4. Process attaches the id and password to the Actor. |
| **Post-Conditions:** | An id and password has been generated for the initiated Actor. |
| **Alternate Flows:** | 2a. Fields for first name, last name, address, email or phone number are blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>2b. Fields contain invalid data in the first name, last name, address or phone number fields (e.g. letters in phone number or numbers in a name).<br>1. System prompts user to enter valid information in these fields and does not proceed to next step until valid information is entered.<br>3a. id or password field are blank.<br>1. System prompts user to enter incomplete information and does not proceed until information is entered.<br>3b. id is already exists in the System.<br>1. System notifies the Actor that the id being entered already exists.<br>2. Information is still displayed that the Actor entered and the Actor can modify it.<br>3c. Password is less than 6 characters. |

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| | 1. System prompts user to enter a password greater than 6 characters and does not proceed until information is entered. |