Requirement Specification15

Created	@November 10, 2021 2:34 PM
Last Edited Time	@December 13, 2021 3:18 AM
Type	Technical Spec
Status	
Created By	
Last Edited By	
Stakeholders	

Course Information: BLG411E Software Engineering - Fall 2021

Report Name: Requirement Specification

Project Title: Training Platform

Group Name: Group 2

Group Members:

- Ertuğrul Bektik - 150200709
- Mehmet Eymen Ünay - 040190218
- Saadet Sena Erdoğan - 150200731
- Umut Emre Bayramoğlu - 150200730

Introduction

1.1 Goal

The goal of this document is to build a connection between the system description and design model of Training Platform Application. This document forms a basis for the software design by stating the customer's wishes. This document overviews the both

functional and non-functional system requirements, associated use cases and their diagrams, user types as well as user scenarios.

1.2 Table of Contents

Introduction
- 1.1 Goal
- 1.2 Table of Contents
- 1.3 Organization of the Document

System Requirements

Use Cases
- User Types
- User Scenarios
- Use Case Diagram
- Whole System Use Case Diagram
- Software Functionality Use Case Diagrams
- Use Cases

1.3 Organization of the Document

In section 2, both functional and non-functional requirements are listed. Later on, based on the application's aim and scope user types are extracted. Considering the events that will be handled by the application, user scenarios are created. Using the listed requirements, both use case diagrams and use cases are formed.

System Requirements

Functional Requirements List

# FR No	Actor	Use Case	Priority
1	Manager	CRUD operations on employees	HIGH
2	Manager	CRUD operations on trainings	HIGH

# FR No	Actor	Use Case	Priority
3	Manager	Create offline training by entering the training name, description, category, target employee group, and selecting the video recordings that are located in local machine of manager	HIGH
4	Manager	Add seperate videos to a created trainings. And these videos can have different features such as video title, video description	HIGH
5	Manager	Create online trainings by entering the training name, description, target employee group, class capacity, meeting link and meeting date	HIGH
6	System	Notify target employee group when this group assigned to a training	HIGH
7	Manager	Send notification to participants of a training	HIGH
8	Manager	Generate reports about ongoing and completed trainings	HIGH
9	Employee	Sign-in with email and password	HIGH
10	Employee	Sign-out	HIGH
11	Employee	Update password using forgot-password logic	HIGH
12	Employee	List all trainings assigned to him/her	HIGH
14	Employee	Track his/her progress (when and for how long did he/she watched trainings)	HIGH
15	Manager	Track employee's progress (when and for how long did he/she watched trainings)	HIGH
16	System	Notify employees about their assignment's due date periodically	HIGH
17	Employee	Give feedback by using created feedback form for each completed training	MEDIUM
18	Company	Register to system with company registration form and use the system for their own purpose	LOW

# FR No	Actor	Use Case	Priority
19	Manager	Choose which employees will be assigned to trainings individually (addition to employee role based assignment system)	LOW
20	Employee	Make requests for relevant trainings	HIGH
21	Manager	Approve or reject training requests	HIGH
22	System	Check if user is from the company while signing up	MEDIUM
23	System	Show relevant information about the training to manager in approval screen	HIGH
24	System	Generate class list and export for online trainings	MEDIUM
25	Employee	Watch videos of instant trainings	HIGH
26	Manager	Create assignments	HIGH
27	System	Prevent users from registering when an online training's capacity is full	HIGH

Non-Functional Requirements List

# No	Type	Description
1	Data Integrity	The system should be consistent. For instance, the class capacity of training must not be exceeded in case of multiple participation requests at the same time.
2	Reusability	Codebase should not be smelly and should stick to swe principles so that reusable modules can be developed.
3	Usability	The interface of website should be user-friendly and meet Google's Material Design principles.
4	Accessibility	The unexpected downtime of a microservice needs to affect other services as little as possible.
5	Reliability	Managers can generate reports 99% of time without any failure.
6	Data Integrity	The system should be continuously integrated.

# No	Aa Type	Description
7	Security	The server should determine the privileges of different user groups and grant required authority for that user group.
8	Performance	The load time of offline training videos should not be more than two seconds.
9	Performance	The load time of website should not be more than one second.
10	Security	The software must ensure the security of manager/employee personal data.

Use Cases

User Types

- Manager: Managers are the highest rank people on this application. They have the ability to approve or reject an employee's enrollment request for a training. However, they are only responsible of their own employees. They can request for progress report regarding to their employees. Other than that, they can perform employee processes.
- Trainer: Trainers can create trainings. Other than that, they can perform employee processes.
- Employee: Employees can browse suited trainings, request enrollment to these trainings. They can participate to both online and offline trainings if the requirements are met.

User Scenarios

Manager: Rachel

Employee: Amy

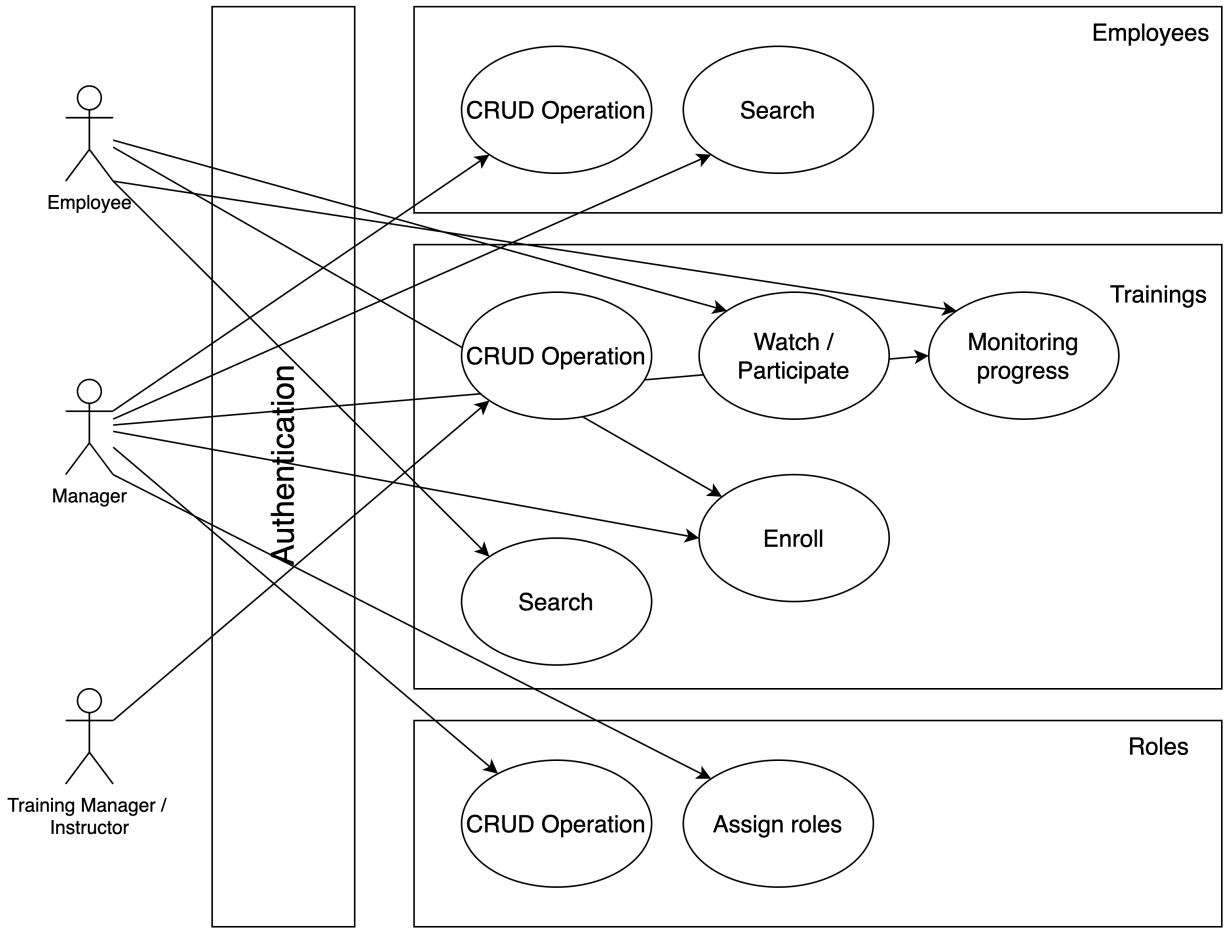
Training Manager / Instructor: Ron

- Amy wants to access her account.
- Rachel wants to access her account.

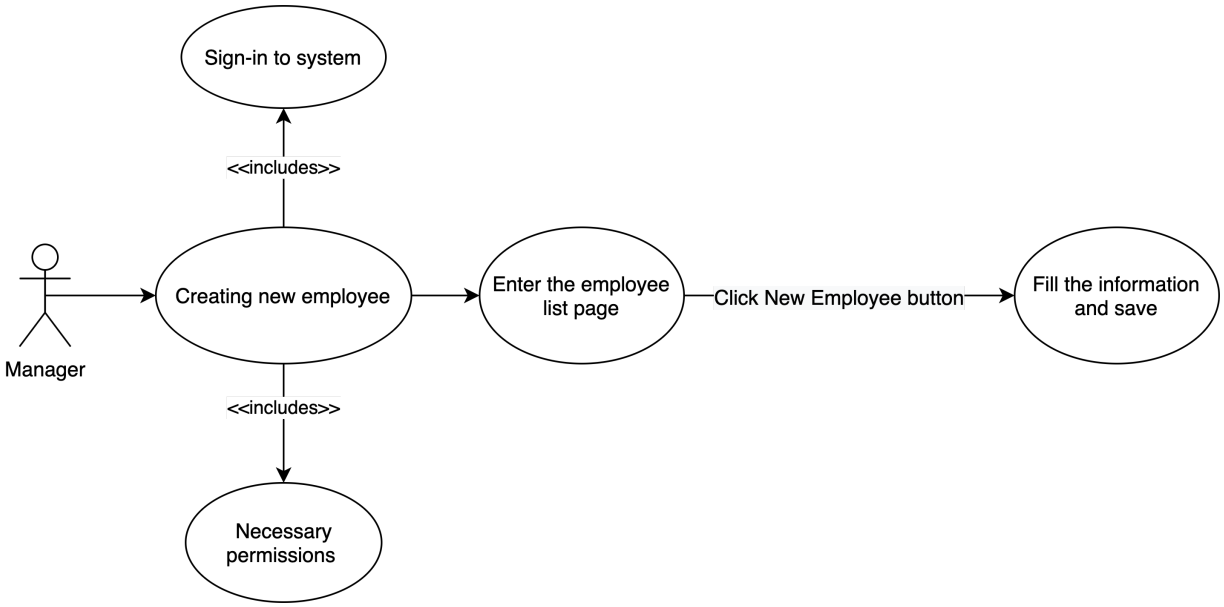
- Ron wants to access his account.
- Amy wants to list all the new assignments assigned to her by her manager, Rachel.
- Amy wants to see if Rachel has approved her wish to enroll in a specific training.
- Rachel monitors the progress of her employees.
- Amy wants to list all the trainings available for her.
- Amy wants to list all the trainings she enrolled before and then select among them to continue watching a lesson from an offline training.
- Amy wants to enroll a specific training and asks for Rachel's approval.
- Amy wants to access the Zoom link for a specific online training she enrolled before.
- Amy browses online trainings by their categories. She sees that she is suitable for that training and then checks the quota. Since there is still room left, she enrolls.
- Amy completes a training and now she wants to give feedback to the trainer.
- Ron creates a new offline training which can consist of different number of lessons. He sets the target employee group, uploads the videos from his local machine.
- Ron creates a new online training. He sets the capacity and creates Zoom links.
- Ron exports the participants' list for his training.
- Rachel signs out.
- Amy signs out.
- Ron signs out.
- Rachel forgets her password and resets it.
- Amy forgets her password and resets it.
- Ron forgets her password and resets it.
- Amy is notified when her manager assigns a new training for her.
- Amy is notified when deadlines for her enrolled trainings are approaching.

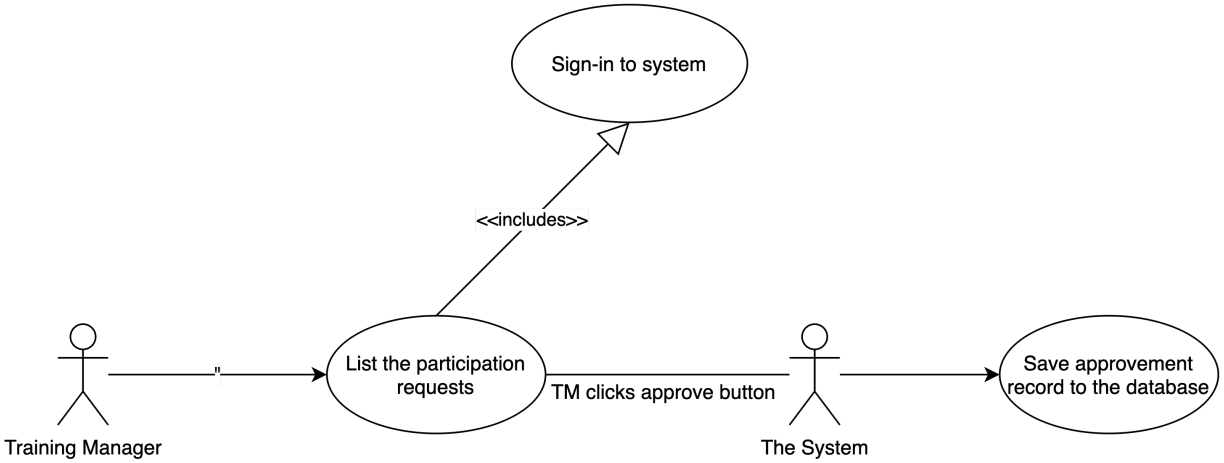
Use Case Diagram

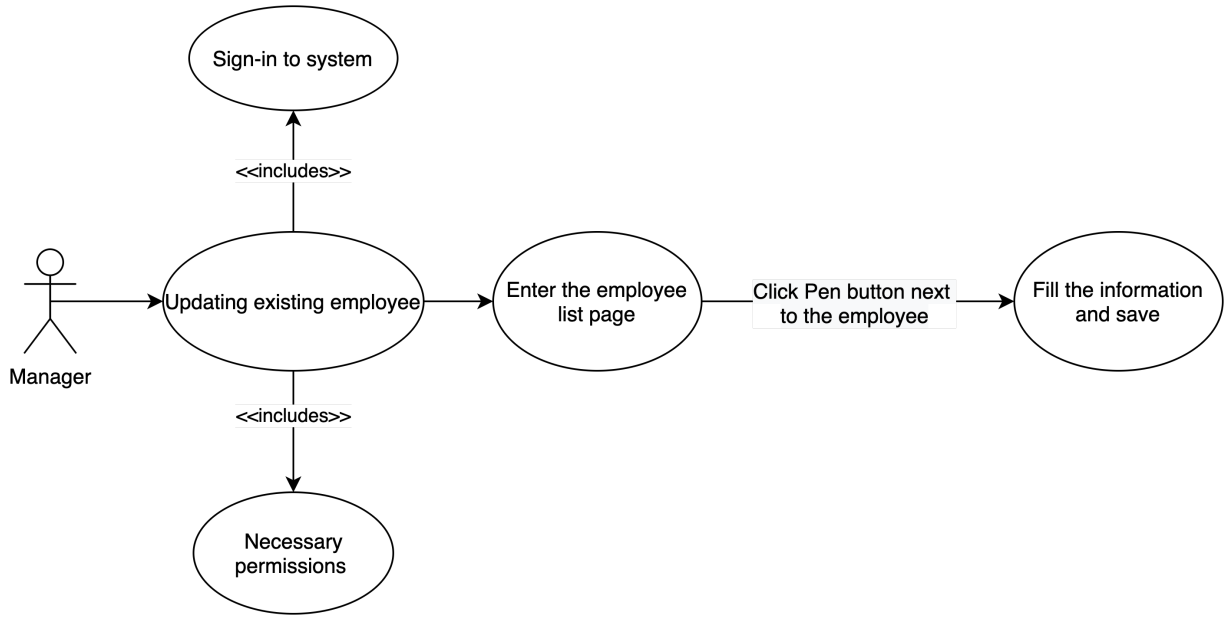
Whole System Use Case Diagram

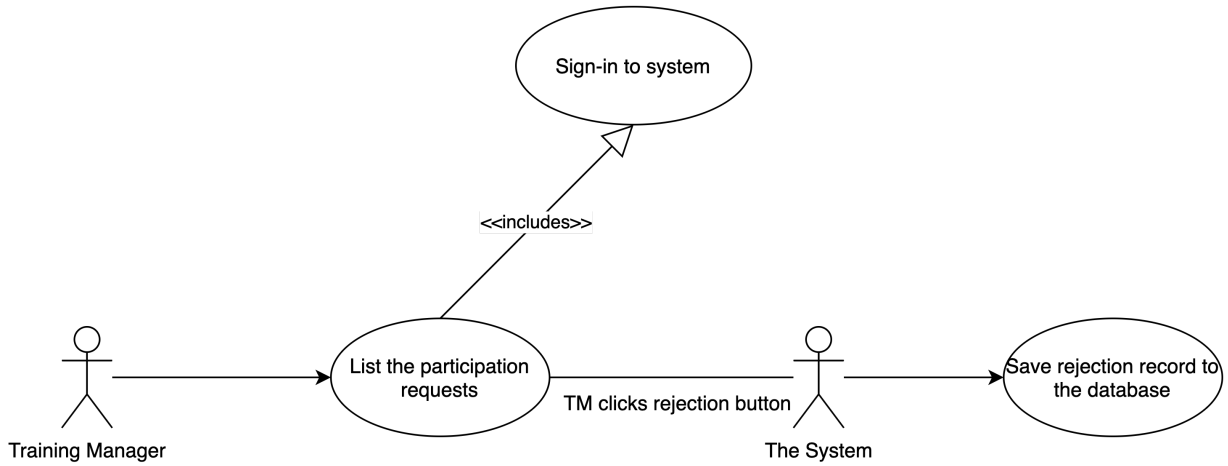


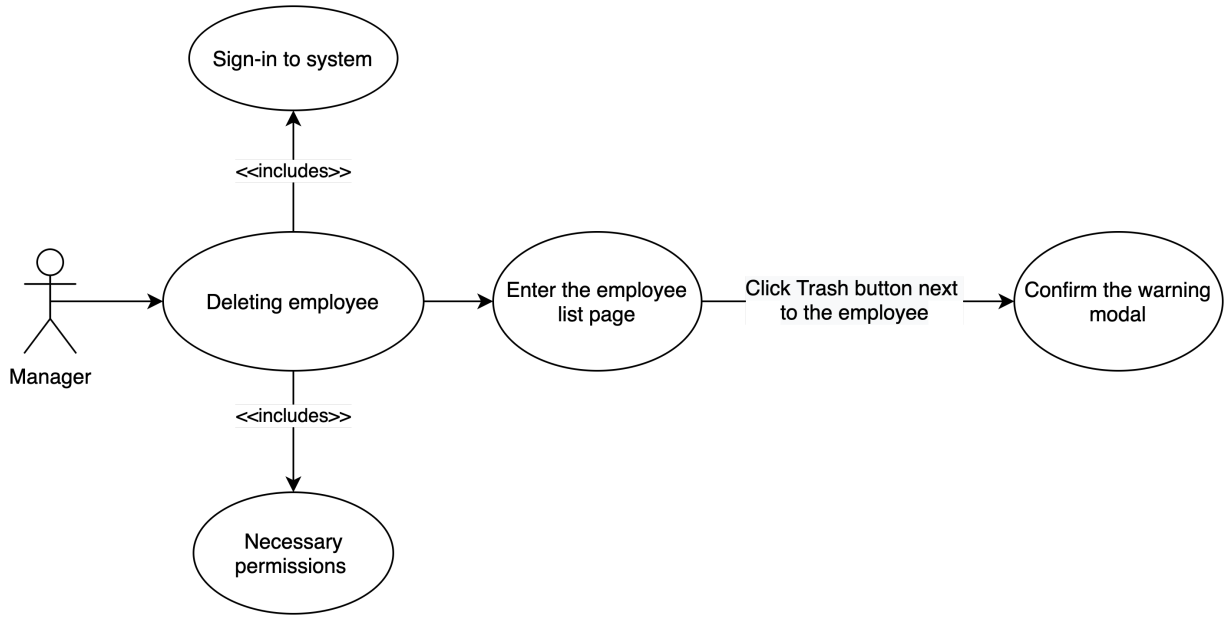
Software Functionality Use Case Diagrams

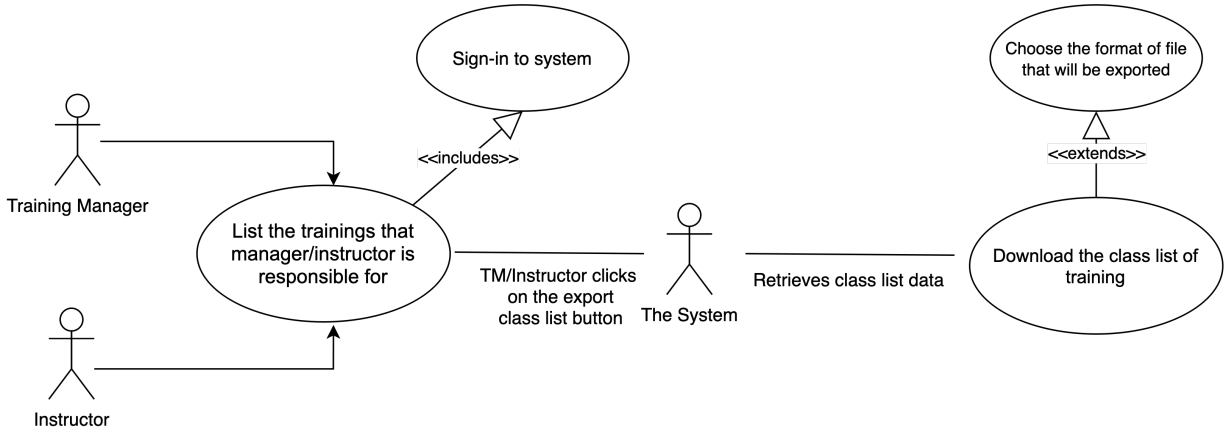

Sign-in to system
<<includes>>
Manager
Creating new employee
Enter the employee list page
Click New Employee button
Fill the information and save
<<includes>>
Necessary permissions

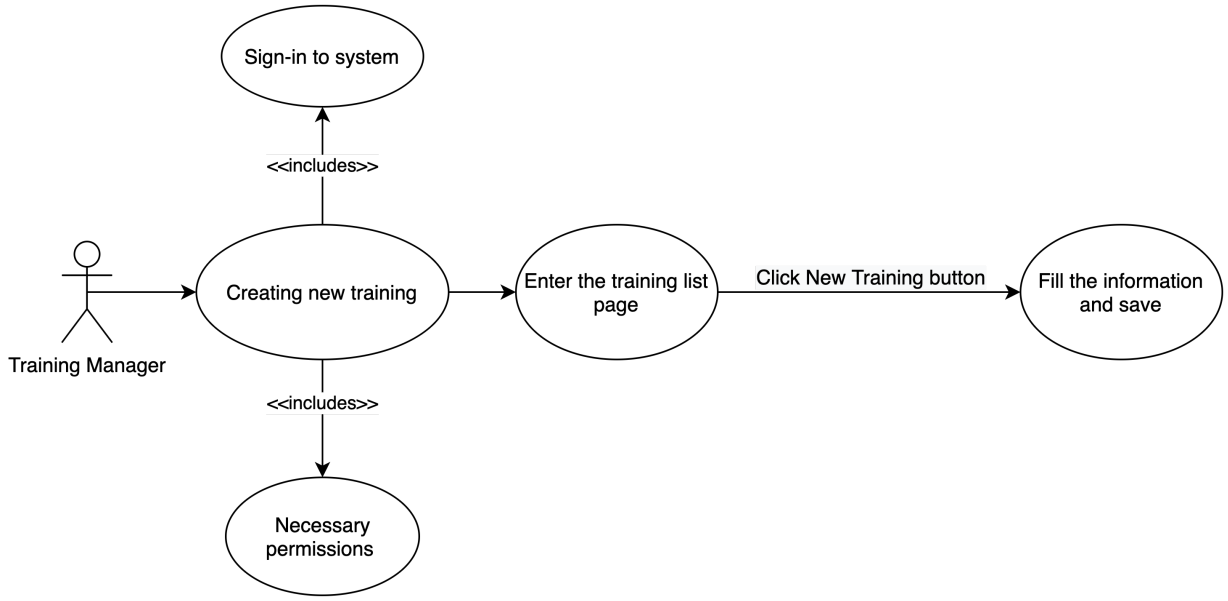

Sign-in to system
<<includes>>
Training Manager
"
List the participation requests
TM clicks approve button
The System
Save approvement record to the database

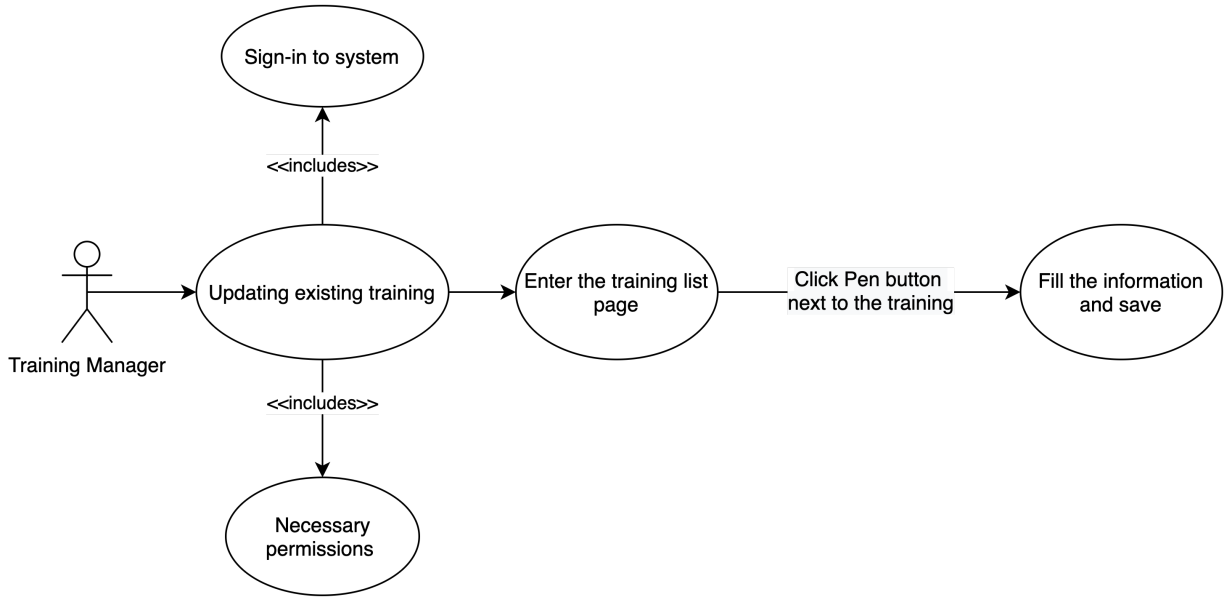

Sign-in to system
<<includes>>
Manager
Updating existing employee
Enter the employee list page
Click Pen button next to the employee
Fill the information and save
<<includes>>
Necessary permissions

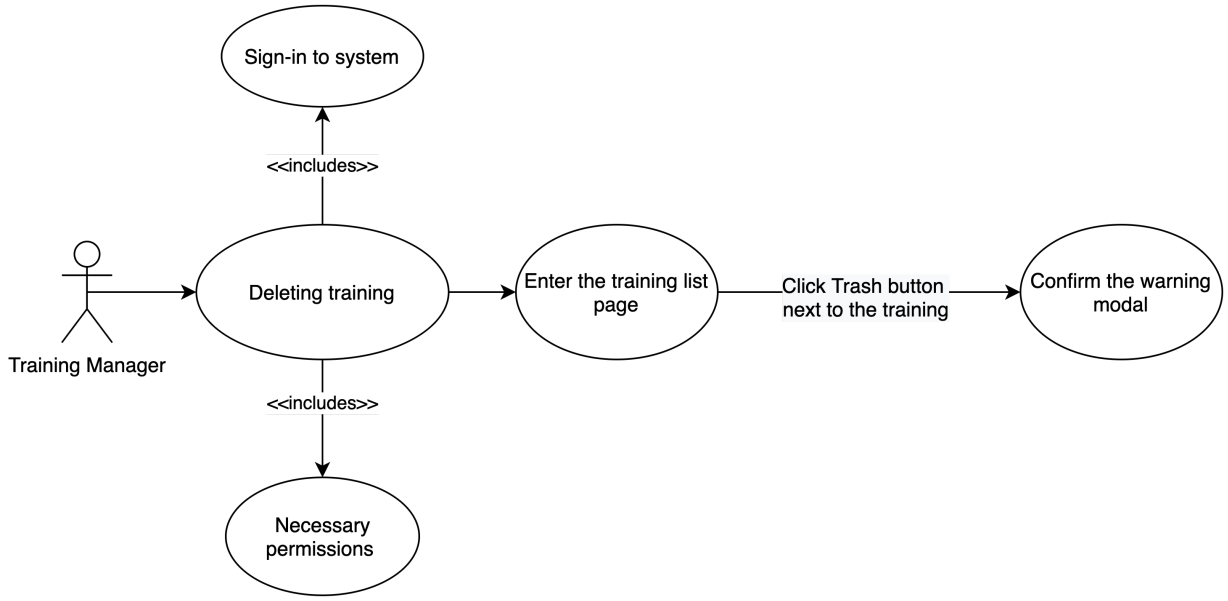

Sign-in to system
<<includes>>
Training Manager
List the participation requests
TM clicks rejection button
The System
Save rejection record to the database

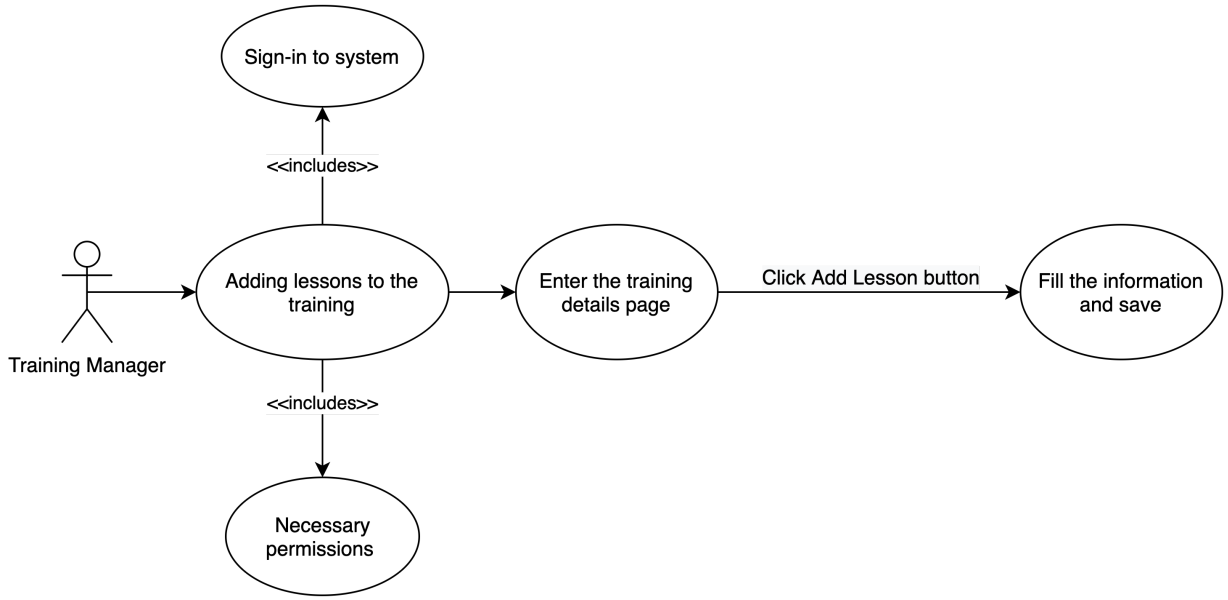

Sign-in to system
<<includes>>
Manager
Deleting employee
Enter the employee list page
Click Trash button next to the employee
Confirm the warning modal
<<includes>>
Necessary permissions

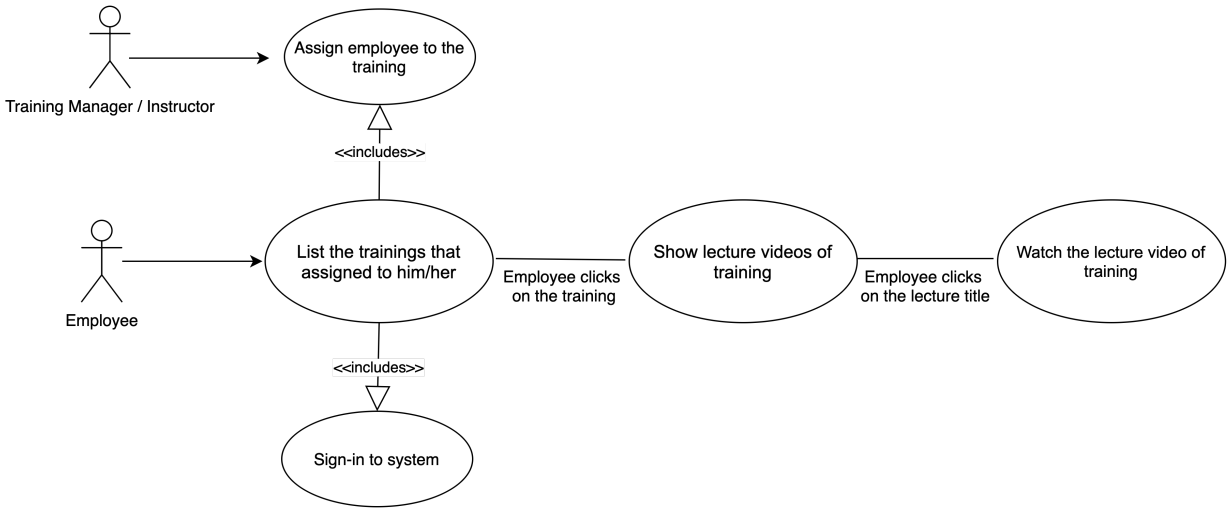

Sign-in to system
Choose the format of file that will be exported
<<includes>>
<<extends>>
Training Manager
List the trainings that manager/instructor is responsible for
TM/Instructor clicks on the export class list button
The System
Retrieves class list data
Download the class list of training
Instructor

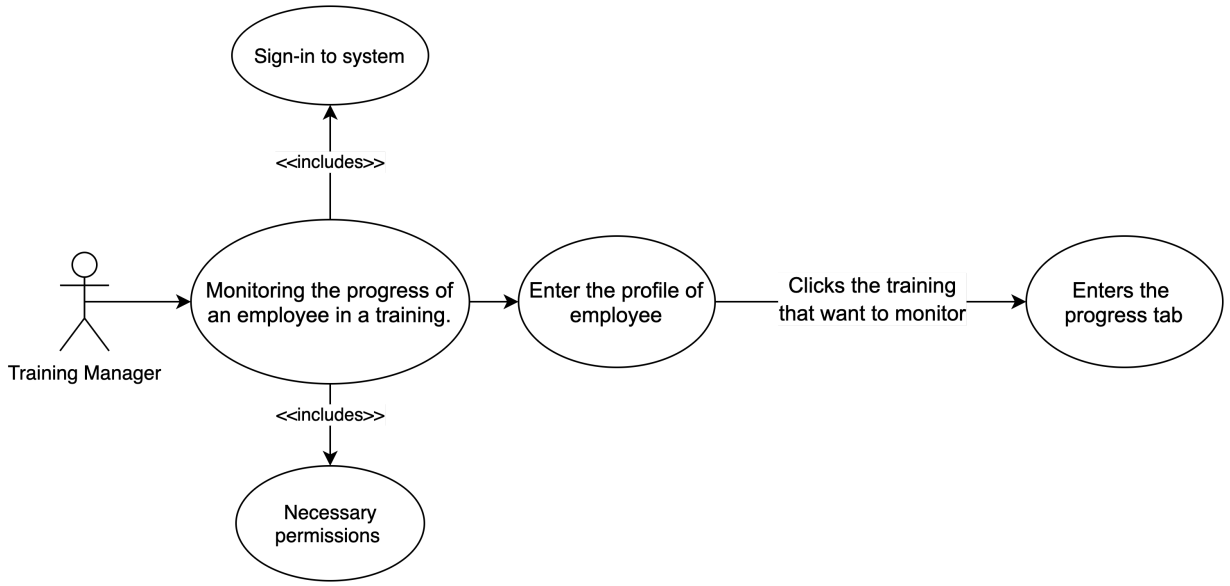

Sign-in to system
<<includes>>
Training Manager
Creating new training
Enter the training list page
Click New Training button
Fill the information and save
<<includes>>
Necessary permissions

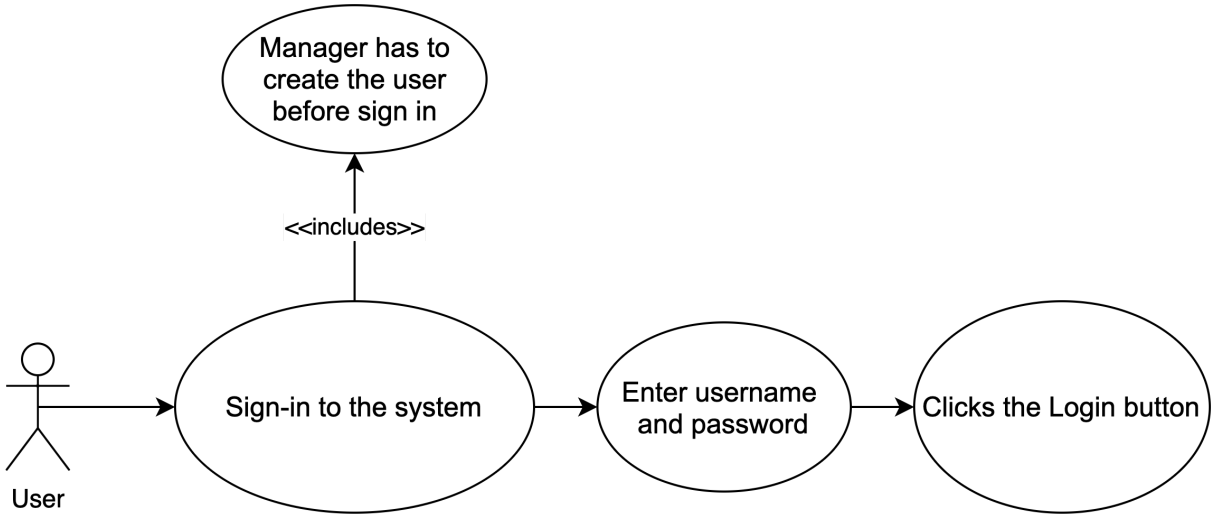

Sign-in to system
<<includes>>
Training Manager
Updating existing training
Enter the training list page
Click Pen button next to the training
Fill the information and save
<<includes>>
Necessary permissions

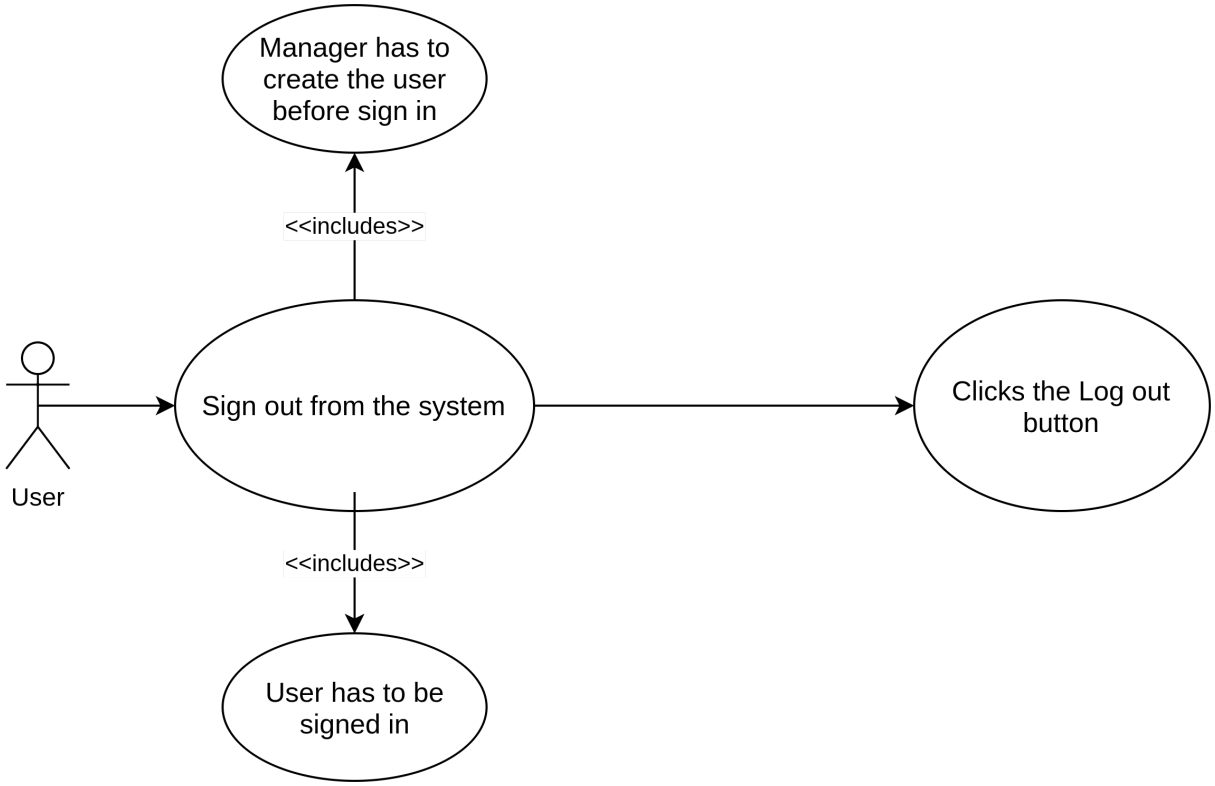

Sign-in to system
<<includes>>
Training Manager
Deleting training
Enter the training list page
Click Trash button next to the training
Confirm the warning modal
<<includes>>
Necessary permissions

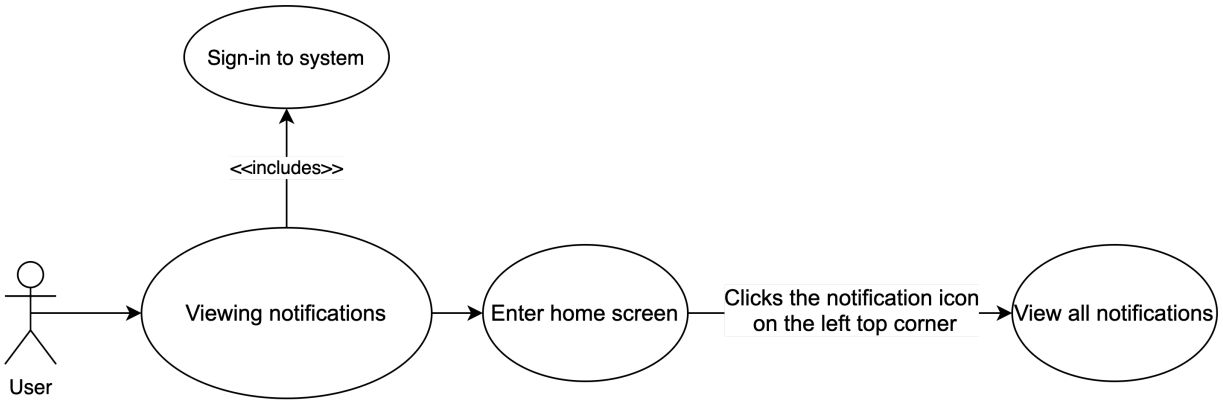

Sign-in to system
<<includes>>
Training Manager
Adding lessons to the training
Enter the training details page
Click Add Lesson button
Fill the information and save
<<includes>>
Necessary permissions

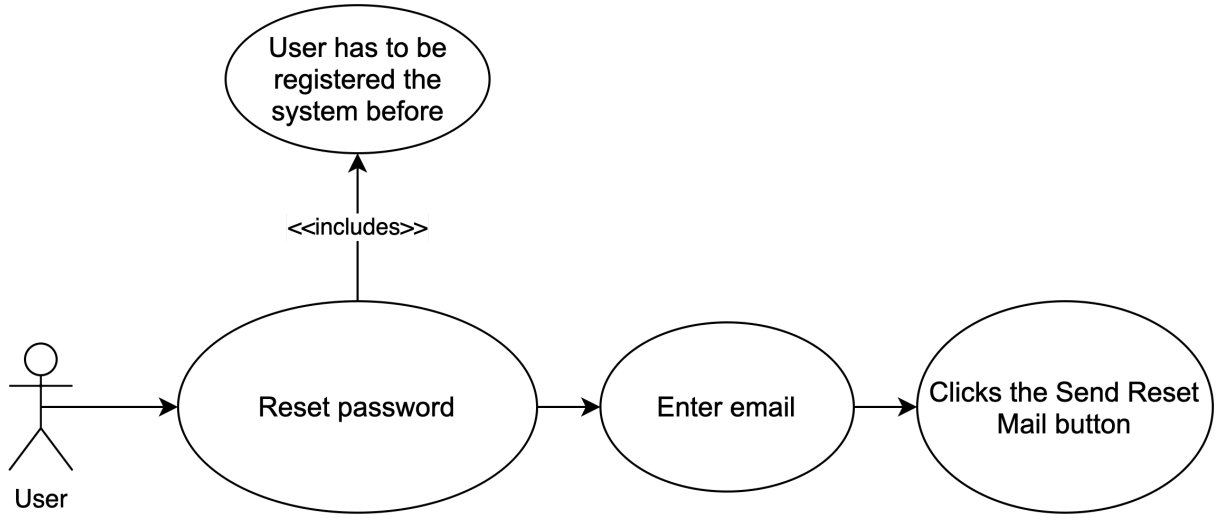

Training Manager / Instructor
Assign employee to the training
<<includes>>
Employee
List the trainings that assigned to him/her
Employee clicks on the training
Show lecture videos of training
Employee clicks on the lecture title
Watch the lecture video of training
<<includes>>
Sign-in to system

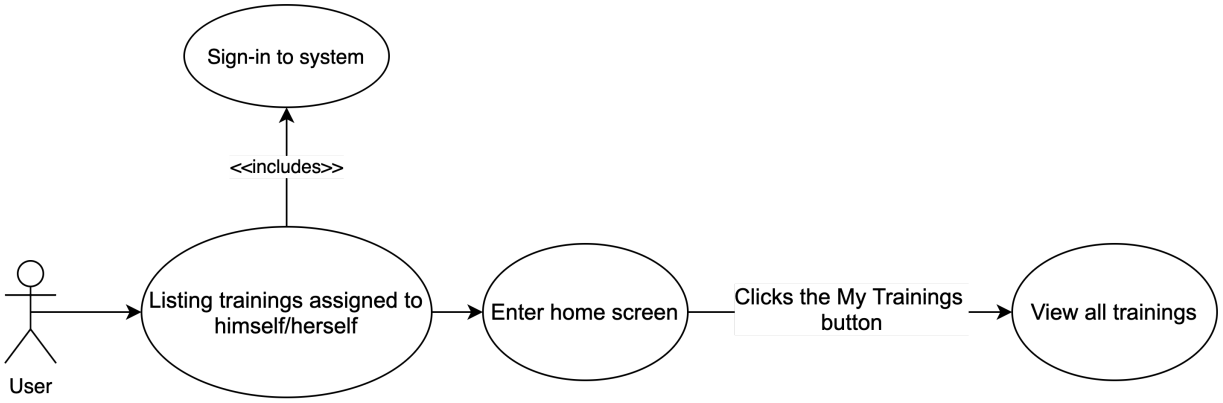

Sign-in to system
<<includes>>
Training Manager
Monitoring the progress of an employee in a training.
Enter the profile of employee
Clicks the training that want to monitor
Enters the progress tab
<<includes>>
Necessary permissions

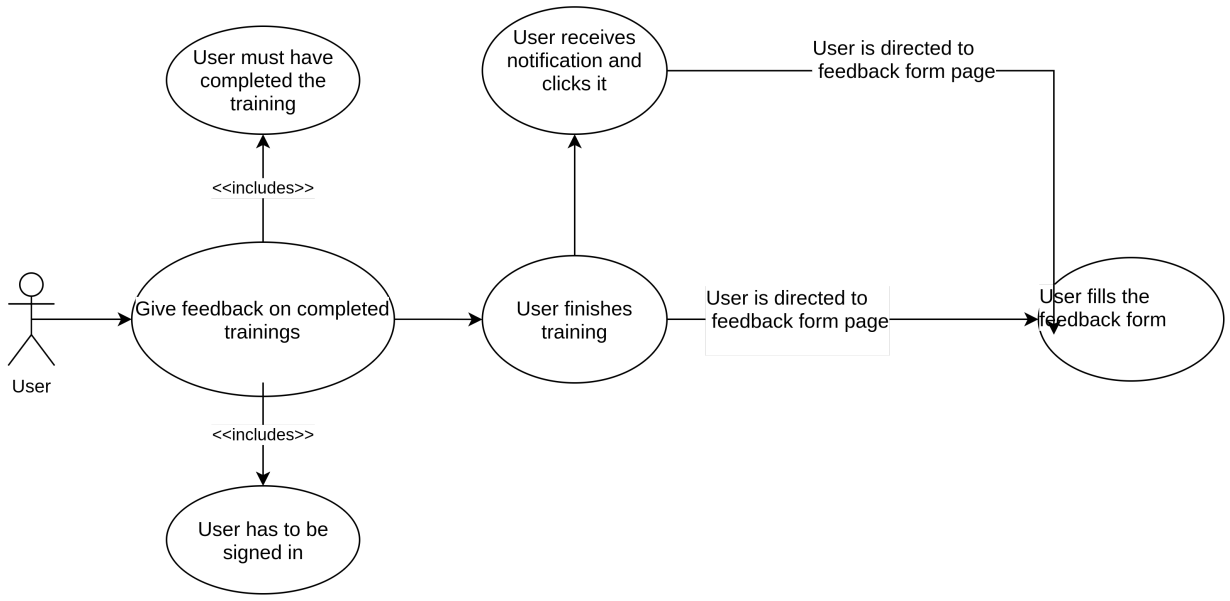

Manager has to create the user before sign in
<<includes>>
User
Sign-in to the system
Enter username and password
Clicks the Login button


Manager has to create the user before sign in
<<includes>>
User
Sign out from the system
Clicks the Log out button
<<includes>>
User has to be signed in


Sign-in to system
<<includes>>
User
Viewing notifications
Enter home screen
Clicks the notification icon on the left top corner
View all notifications


User has to be registered the system before
<<includes>>
User
Reset password
Enter email
Clicks the Send Reset Mail button


Sign-in to system
<<includes>>
User
Listing trainings assigned to himself/herself
Enter home screen
Clicks the My Trainings button
View all trainings



Use Cases

Aa Use Case Name	Create a new employee on the system.
Participating Actors	Manager
Entry Condition	1. Manager has to signed-in to system 2. Manager has to have necessary permissions to CRUD operations on employees.
Main Flow	1. Manager enters the employee list page. 2. Manager clicks the New Employee button. 3. Manager fills the required informations about employee. 4. Manager click Save button and sends informations to the user microservice.
Alternative Flow	Step 4: Manager clicks the Cancel button. Step 5: Clicks the OK button on the modal that warns that your changes will be deleted.
Exit Condition	1. Manager confirms the dialog that shows after clicking the approve button. 2. Manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of employee management.

Aa Use Case Name	Update the existing employee on the system.

Aa Use Case Name	Update the existing employee on the system.
Participating Actors	Manager
Entry Condition	1. Manager has to signed-in to system 2. Manager has to have necessary permissions to CRUD operations on employees.
Main Flow	1. Manager enters the employee list page. 2. Manager clicks the Pen button next to the user that want to update. 3. Manager updates the informations of employee. 4. Manager click Save button and sends informations to the user microservice.
Alternative Flow	Step 4: Manager clicks the Cancel button. Step 5: Clicks the OK button on the modal that warns that your changes will be deleted.
Exit Condition	1. Manager confirms the dialog that shows after clicking the approve button. 2. Manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of employee management.

Aa Property	Deleting an employee on the system.
Participating Actors	Manager
Entry Condition	1. Manager has to signed-in to system 2. Manager has to have necessary permissions to CRUD operations on employees.
Main Flow	1. Manager enters the employee list page. 2. Manager clicks the Trash button next to the user that want to delete.
Alternative Flow	Step 3: Manager clicks the Cancel button.
Exit Condition	1. Manager confirms the dialog that shows after clicking the delete button. 2. Manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of employee management.

Aa Use Case Name	Create a new training on the system.

Use Case Name	Create a new training on the system.
Participating Actors	Training Manager
Entry Condition	1. Training Manager has to signed-in to system 2. Training Manager has to have necessary permissions to CRUD operations on trainings.
Main Flow	1. Manager enters the training list page. 2. Manager clicks the New Training button. 3. Manager fills the required informations about training. 4. Manager click Save button and sends informations to the training microservice.
Alternative Flow	Step 4: Manager clicks the Cancel button .Step 5: Clicks the OK button on the modal that warns that your changes will be deleted.
Exit Condition	1. Manager confirms the dialog that shows after clicking the approve button. 2. Manager close the confirmation dialog.
Special Requirements	The Training Manager is responsible for the management of training management.

Use Case Name	Update the existing training on the system.
Participating Actors	Training Manager
Entry Condition	1. Manager has to signed-in to system 2. Manager has to have necessary permissions to CRUD operations on trainings.
Main Flow	1. Manager enters the training list page. 2. Manager clicks the Pen button next to the training that want to update. 3. Manager updates the informations of training. 4. Manager click Save button and sends information to the training microservice.
Alternative Flow	Step 4: Manager clicks the Cancel button. Step 5: Clicks the OK button on the modal that warns that your changes will be deleted.
Exit Condition	1. Manager confirms the dialog that shows after clicking the approve button. 2. Manager close the confirmation dialog.
Special Requirements	The Training Manager is responsible for the management of training management.

Aa Use Case Name	Deleting an training on the system.
Participating Actors	Training Manager
Entry Condition	1. Manager has to signed-in to system 2. Manager has to have necessary permissions to CRUD operations on trainings.
Main Flow	1. Manager enters the training list page. 2. Manager clicks the Trash button next to the user that want to delete.
Alternative Flow	Step 3: Manager clicks the Cancel button.
Exit Condition	1. Manager confirms the dialog that shows after clicking the delete button. 2. Manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of training management.

Aa Use Case Name	Adding offline lesson video to the training.
Participating Actors	Training Manager
Entry Condition	1. Manager has to signed-in to system 2. Manager has to have necessary permissions to CRUD operations on trainings.
Main Flow	1. Manager enters the details page of offline training. 2. Manager clicks the Add Lesson button. 3. Manager selects the lesson video from local computer. 4. Manager fills the title and description fields. 5. Manager click Save button and sends informations to the training microservice.
Alternative Flow	Step 4: Manager clicks the Cancel button.Step 5: Clicks the OK button on the modal that warns that your changes will be deleted.
Exit Condition	1. Manager confirms the dialog that shows after clicking the send button.2. Manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of training management.

Aa Use Case Name	Adding online lesson video to the training.

Aa Use Case Name	Adding online lesson video to the training.
Participating Actors	Training Manager
Entry Condition	1. Manager has to signed-in to system 2. Manager has to have necessary permissions to CRUD operations on trainings.
Main Flow	1. Manager enters the details page of online training. 2. Manager clicks the Add Lesson button. 3. Manager enters the lesson Zoom url. 4. Manager fills the title, description, start date fields.5. Manager click Save button and sends information to the training microservice.
Alternative Flow	Step 4: Manager clicks the Cancel button. Step 5: Clicks the OK button on the modal that warns that your changes will be deleted.
Exit Condition	1. Manager confirms the dialog that shows after clicking the send button. 2. Manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of training management.

Aa Use Case Name	Monitoring the progress of an employee in a training.
Participating Actors	Manager
Entry Condition	1. Manager has to signed-in to system
Main Flow	1. Manager enters the profile of employee. 2. Manager clicks the training that want to monitor. 3. Manager enters the progress tab.
Alternative Flow	
Exit Condition	1. Return back to the employee list
Special Requirements	The manager is responsible for the monitoring the progress of employees.

Aa Use Case Name	Sign in to the system

Use Case Name	Sign in to the system
Participating Actors	User
Entry Condition	1. Manager has to create the user before sign in.
Main Flow	1. User enters the login url. 2. User fills the username and passwod fields. 3. User clicks login button.
Alternative Flow	
Exit Condition	Close the browser tab
Special Requirements	

Use Case Name	Sign out of the system
Participating Actors	User
Entry Condition	1. Manager has to create the user before sign out.
Main Flow	1. User clicks logout button.
Alternative Flow	Session time-out
Exit Condition	
Special Requirements	User has to be signed in.

Use Case Name	Approving the Participation Requests
Participating Actors	Training Manager
Entry Condition	1. Training manager has signed-in to system 2. Training manager has listed the requests on the panel
Main Flow	1. Training manager clicks the approve button. 2. The system shows confirmation dialog to confirm approval. 3. Training manager confirms the dialog. 4. System sends confirmation to training microservice.
Alternative Flow	Step 3: Training manager rejects the confirmation dialog. Step 4: Confirmation cannot be done in case training microservice is down.

Aa Use Case Name	Approving the Participation Requests
Exit Condition	1. Training manager confirms the dialog that shows after clicking the approve button. 2. Training manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of participation requests.

Aa Use Case Name	Rejecting the Participation Requests
Participating Actors	Training Manager
Entry Condition	1. Training manager has signed-in to system 2. Training manager has listed the requests on the panel
Main Flow	1. Training manager clicks the reject button. 2. System shows confirmation dialog to confirm rejection. 3. Training manager confirms the dialog. 4. System sends confirmation to training microservice.
Alternative Flow	Step 3: Training manager rejects the confirmation dialog. Step 4: Rejection cannot be done in case training microservice is down.
Exit Condition	1. Training manager confirms the dialog that shows after clicking the reject button. 2. Training manager close the confirmation dialog.
Special Requirements	The manager is responsible for the management of participation requests.

Aa Use Case Name	Generating participants list of a training to export it into local machine
Participating Actors	Training ManagerInstructor
Entry Condition	1. Training Manager/Instructor has signed-in to system. 2. Training Manager/Instructor has training that (s)he is responsible for managing.
Main Flow	1. Training Manager/Instructor accesses to the trainings panel. 2. The system shows the trainings that training manager/instructor is responsible for. 3. Training Manager/Instructor clicks on the training for which (s)he wants to export the class list. 4. Training Manager/Instructor clicks on the export class list button and downloads the class list.

Aa Use Case Name	Generating participants list of a training to export it into local machine
Alternative Flow	Step 2: Training Manager/Instructor has no training that (s)he is responsible for. Step 4: Training Manager/Instructor is no able to download class list if internet connection of him/her is interrupted.
Exit Condition	1. Training Manager/Instructor has no training that (s)he is responsible for. 2. Internet connection of training manager/instructor is interrupted.
Special Requirements	The manager/instructor is responsible for management of trainings.

Aa Use Case Name	Watching videos of offline trainings
Participating Actors	Employee
Entry Condition	1. Employee has signed-in to the system.
Main Flow	1. Employee lists the assigned offline trainings on the panel. 2. Employee clicks on the training. 3. Employee clicks on the lecture video and watches the video.
Alternative Flow	Step 2: Employee has no assigned trainings.
Exit Condition	1. Employee completes the offline training lecture. 2. Employee's internet connection is interrupted.
Special Requirements	Employee has access to trainings that assigned to him/her.

Aa Use Case Name	Creating assignments
Participating Actors	Training Manager
Entry Condition	1. Training Manager has signed-in to the system.

Aa Use Case Name	Creating assignments
Main Flow	1. Training Manager clicks the 'Assignments' menu. 2. Training Manager clicks the 'Create New Assignment' menu. 3. Training Manager enters the assignment name, description, due date, target user group and assignment category. 4. Training Manager clicks the 'Create Assignment' button.
Alternative Flow	Step 3: Training Manager forgets to fill all required form inputs to create an assignment. Step 3.1: A form error message is shown to training manager.
Exit Condition	1. Training Manager creates the assignment successfully. 2. Training Manager's internet connection is interrupted.
Special Requirements	Training manager has permission to create assignments.

Aa Use Case Name	Participating to Requested Trainings
Participating Actors	EmployeeTraining Manager
Entry Condition	1. Employee user has signed-in to system. 2. Employee user has listed the available trainings.
Main Flow	1. Employee makes the request to particapate training. 2. Manager of this employee approves or rejects the participation requst. 3. Employee participates in the training if the manager gives approval.
Alternative Flow	Step 3: Employee does not participate if manager rejects the participation request.
Exit Condition	1. Use case terminates if the quota of training is full. 2. Use case terminates if manager approves or rejects the request.
Special Requirements	The manager is responsible for the management of participation requests.

Aa Use Case Name	Viewing notifications about its assignment's due date periodically
Participating Actors	User

Aa Use Case Name	Viewing notifications about its assignment's due date periodically
Entry Condition	1. User account has to be signed in.
Main Flow	1. User enters home screen. 2. User views notification count on the home screen. 3. User clicks the notification icon. 4. User views notifications about the trainings.
Alternative Flow	
Exit Condition	1. User closes the browser. 2. User clicks another element on the page.
Special Requirements	User has to be registered and signed-in to the system.

Aa Use Case Name	Give feedback by using created feedback form for each completed training
Participating Actors	User
Entry Condition	1. User account has to be signed in.
Main Flow	1. User finishes training.2. User is directed to feedback form page.3. User completes the feedback form.
Alternative Flow	1. User receives notification for completing the form. 2. User clicks the notification and gets directed to form page.
Exit Condition	1. User closes the browser. 2. User clicks another element on the page.
Special Requirements	User must have completed the training.
Untitled	

Aa Use Case Name	List all trainings assigned to it
Participating Actors	User
Entry Condition	1. User account has to be signed in.

Aa Use Case Name	List all trainings assigned to it
Main Flow	1. User enters home screen. 2. User clicks 'My Trainings' button. 3. User is directed to the trainings page. 4. User can see the trainings assigned to it.
Alternative Flow	Trainings can be viewed in dashboard.
Exit Condition	1. User closes the browser.2. User clicks another element on the page.
Special Requirements	To view a training either a training must be assigned or the request must be approved by the manager.

Aa Use Case Name	Update password
Participating Actors	User
Entry Condition	1. User account has to be created at first. 2. System must have user's contact details.
Main Flow	1. User enters sign in page. 2. User clicks 'forgot password' button. 3. User receives mail containing link. 4. User clicks the link that directs to change password page. 5. User changes password.
Alternative Flow	Manager changes contact mail address if necessary.
Exit Condition	User password has changed
Special Requirements	