# Project Plan

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# 1. Introduction

## 1.1. Project Abstract

Training platforms like Coursera or Udemy are popularly used by software developers to enhance their knowledge and increase their impact on business operations. Although these platforms provide courses from diverse topics and universities, users can register

voluntarily to any course they like and there is no monitoring on the users' performance, i.e. whether they complete the courses, or users' course preferences.

Software development organizations would like their employees to take specific courses or organize new courses specifically tailored in line with their own business operations and fields of work. Therefore there is a need to design a new training platform for managing a software company's training activities.

## 1.2. Project Description

It is requested to build a web application which will be used to manage a company's training processes. In this application, a company can create several trainings, invite employees to join trainings, monitor the progress of their employees during the trainings, and get detailed reports. The application shows open trainings, lists the content of the trainings to the registered employees, sends notifications to employees about new assignments or videos, and generates reports for managers.

## 1.3. Project Scope

Employees at the company are requested to attend certain trainings, either online or classroom, during a fiscal year according to their positions and seniority levels. These trainings can be picked by the employees voluntarily or assigned by the managers to a team of employees.

## 1.4 Deliverables

| # No | Aa Name |
|------|---------|
| 1 | Project Plan |
| 1.1 | WBS of Project |
| 2 | Requirements Specification |
| 3 | Requirements Analysis |
| 4 | Design Document |

| # No | Aa Name |
|---|---|
| 5 | Test Report |
| 6 | Demo source code |

## 1.5. Functional Requirements

**Functional Requirements List**

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

| # FR No | Actor | Use Case | Priority |
|---|---|---|---|
| 13 | Employee | View trainings filtering by their categories | MEDIUM |
| 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 |
| 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 |

## 1.5. Non-Functional Requirements

| # No | Type | Description |
|---|---|---|

| # No | Aa 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. |
| 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. |

# 2. Project Plan

1 Training Platform Case

   1.1 Documents

      1.1.1 Creating requirement specifications document (M)

      1.1.2 Creating requirement analysis document (M)

      1.1.3 Creating design document (M)

      1.1.4 Creating test document (M)

   1.2 Software Development

      1.2.1 User Based Developments

         1.2.1.1 Creating employee tables (T)

1.2.1.2 Create, read, update and delete operations on employees (L)

1.2.1.3 Notify target employee group when this group assigned to a training (T)

1.2.1.4 Send notification to participants of a training (S)

1.2.1.5 Generate reports per person about ongoing and completed trainings, progress     and completion also per training about feedbacks (L)

1.2.1.6 Sign-in with email and password by implementing authentication service (M)

1.2.1.7 Sign out (S)

1.2.1.8 Update password using forgot-password logic (L)

1.2.1.9 Implement mail service for intra platform communication (M)

1.2.1.10 List all trainings assigned to the employee (S)

1.2.1.11 Track their progress (when and for how long did they watched trainings) (L)

1.2.1.12 Notify employees about their assignment's due date periodically (T)

1.2.1.13 Give feedback by using created feedback form for each completed training (S)

1.2.1.14 Make requests for trainings relevant to the employee's group (full capacities may be hidden)  (S)

1.2.1.15 Approve or reject training requests (T)

1.2.1.16 Choose which employees will be assigned to trainings individually (addition to employee role based assignment system) (S)

1.2.2 Training Based Developments

1.2.2.1 Creating training tables (T)

1.2.2.2 Creating video tables (T)

1.2.2.3 Create, read, update and delete operations on trainings (L)

1.2.2.4 Creating training service that manages training videos (S)

1.2.2.5 View trainings filtering by their categories (S)

1.2.2.6 Show relevant information about the training to manager in approval screen (S)

1.2.2.7 Generate class list and let the manager and instructor to view it (S)

# 3. ESTIMATES

| Aa Task | ≡ man.week value |
|---|---|
| 1.1.1 Creating requirement specifications document (M) | 4 |
| 1.1.2 Creating requirement analysis document (M) | 4 |
| 1.1.3 Creating design document (M) | 4 |
| 1.1.4 Creating test document (M) | 4 |
| 1.2.1.1 Creating employee tables (T) | 1 |
| 1.2.1.2 Create, read, update and delete operations on users(L) | 4 |
| 1.2.1.3 Notify target employee group when this group assigned to a training (T) | 2 |
| 1.2.1.4 Send notification to participants of a training (S) | 2 |
| 1.2.1.5 Generate reports per person about ongoing and completed trainings, progress and completion also per training about feedbacks (L) | 4 |
| 1.2.1.6 Sign-in with email and password by implementing authentication service (M) | 2 |
| 1.2.1.7 Sign out (S) | 2 |
| 1.2.1.8 Update password using forgot-password logic (L) | 2 |
| 1.2.1.9 Implement mail service for intra platform communication (M) | 2 |
| 1.2.1.10 List all trainings assigned to the employee (S) | 2 |
| 1.2.1.11 Track their progress (when and for how long did they watched trainings) (L) | 2 |
| 1.2.1.12 Notify employees about their assignment's due date periodically (T) | 1 |

| Aa Task | ☰ man.week value |
|---|---|
| 1.2.1.13 Give feedback by using created feedback form for each completed training (S) | 2 |
| 1.2.1.14 Make requests for trainings relevant to the employee's group (full capacities may be hidden) (S) | 2 |
| 1.2.1.15 Approve or reject training requests (T) | 2 |
| 1.2.1.16 Choose which employees will be assigned to trainings individually (addition to employee role based assignment system) (S) | 2 |
| 1.2.2.1 Creating training tables (T) | 1 |
| 1.2.2.2 Creating video tables (T) | 1 |
| 1.2.2.3 Create, read, update and delete operations on trainings (L) | 4 |
| 1.2.2.4 Creating training service that manages training videos (S) | 2 |
| 1.2.2.5 View trainings filtering by their categories (S) | 1 |
| 1.2.2.6 Show relevant information about the training to manager in approval screen (S) | 2 |
| 1.2.2.7 Generate class list and let the manager and instructor to view it (S) | 2 |

# 4. Resources

| Aa Name | ☰ Member Role | ☰ Project Activity Role |
|---|---|---|
| Ertuğrul Bektik | Front-end Developer | Software Tester |
| Mehmet Eymen Ünay | Front-end Developer | Project Manager |
| Saadet Sena Erdoğan | Back-end Developer | Software Analyst |
| Umut Emre Bayramoğlu | Back-end Developer | Software Architect |

# 5. Schedule
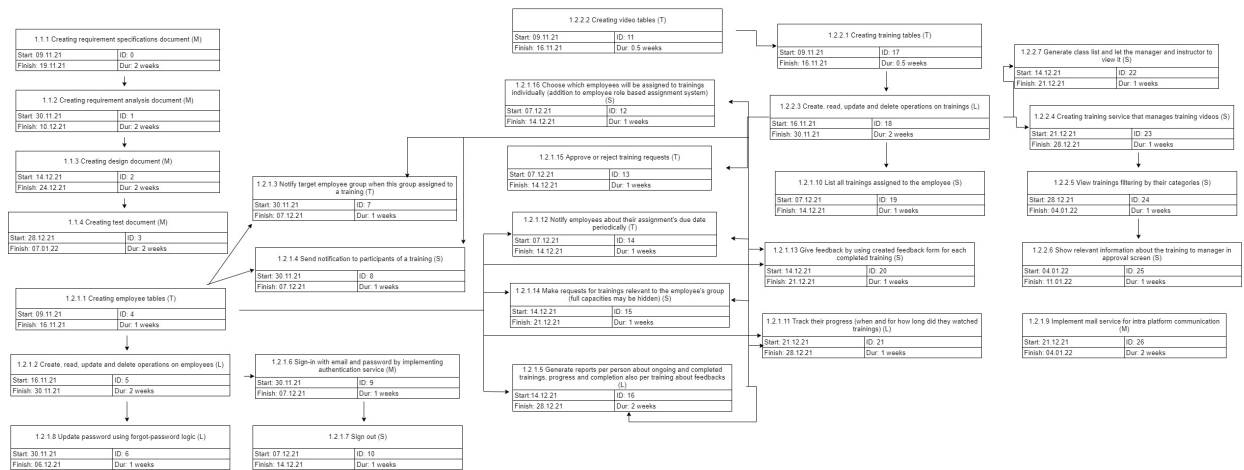
Timeline

# 6. Risk

## Risk impact / probability chart

| Aa  Risks | ⊙ Category | # Probability | ⊙ Impact |
|---|---|---|---|
| Students may have to devote more time to other classes. (1) | Estimation | 50% | 2 |
| Students can get sick. (2) | People | 45% | 1 |
| Learning new technologies may take longer. (3) | Estimation | 40% | 3 |
| Technology will not meet expectations. (4) | Technology | 30% | 3 |
| Lack of training materials. (5) | Technology | 20% | 1 |
| Customer will change requirements. (6) | Requirements | 10% | 2 |
| There may be incompatibility between students. (7) | People | 10% | 2 |

## Risk Mitigation Table

| Aa  Risks | ≡ Mitigations |
|---|---|

| Aa Risks | ☰ Mitigations |
|---|---|
| Students may have to devote more time to other classes. (1) | Students can try to finish their task before the time it should. |
| Students can get sick. (2) | Students can try to finish their task before the time it should. |
| Learning new technologies may take longer. (3) | Learning new technology can be started earlier than indicated on the calendar. |
| Technology will not meet expectations. (4) | The technology to be used should be well researched beforehand. |
| Lack of training materials. (5) | Sources from different universities can be used (like Coursera of Stanford University) |
| Customer will change requirements. (6) | Communication with the customer should be established properly and requirements should be drawn up. |
| There may be incompatibility between students. (7) | The project leader should know the team closely and be able to anticipate the conflict situation. |