

# Final Project Report

## Designing and Creating of a Collaborative Learning Space



Bogazici University  
SWE 574 – Software Development as a Team

Assist. Prof. Suzan Üsküdarlı

Project Name: CoLearn (Collaborative Learning) Platform – Hello World

Git repo: <https://github.com/koglak/bounswe574-2022-gr2.git>

Final Release: <https://github.com/koglak/bounswe574-2022-gr2/releases/tag/v0.9>

Deployment URI: <https://swe574-f22-gr2.azurewebsites.net/>

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# 1. Declaration of work submitted

We confirm that the work for the following report with the title: “Software Project Development of a Web Application” was solely undertaken by ourselves. All sections of the paper that describe or concept developed by another author have been referenced.

List of 3<sup>rd</sup> party software with their licenses:

- psycopg2 – <http://www.gnu.org/licenses/lgpl-3.0-standalone.html>
- asgiref – <https://pypi.org/project/asgiref/3.5.2/>
- django – <https://www.djangoproject.com/download/>
  - bootstrap4 – <https://getbootstrap.com/docs/4.0/getting-started/introduction/>
  - crispy forms – <https://django-crispy-forms.readthedocs.io/en/latest/>
  - django-cors-headers – <https://www.stackhawk.com/blog/django-cors-guide/>
  - djangorestframework – <https://www.django-rest-framework.org/>
- pillow – <https://pillow.readthedocs.io/en/stable/about.html>
- css files – based on tutorials that I shared below.
- recognito – <https://github.com/recognito/recogito-js>
- tinymce – <https://www.tiny.cloud/>
- mongoDB – <https://www.mongodb.com/home>
- node.js – <https://nodejs.org/en/>

## PostgreSQL installation

Used below link to connect my created project with PostgreSQL database.

- <https://stackpython.medium.com/how-to-start-django-project-with-a-database-postgresql-aaa1d74659d8>

Tutorials for Django environments and its applications

During the project, we tracked different tutorials from different sources and applied the needs on to my project, also developed some code blocks which is needed for the final work:

- [https://www.youtube.com/playlist?list=PLEsfXFp6DpzRMby\\_cSoWTFw8zaMdTEXgL](https://www.youtube.com/playlist?list=PLEsfXFp6DpzRMby_cSoWTFw8zaMdTEXgL)
- <https://www.youtube.com/channel/UCmrVAIpkl1L8WlalusTRlnw/videos>
- <https://www.youtube.com/playlist?list=PLCC34OHNcOtr025c1kHSPrnP18YPB-NFj>
- <https://www.youtube.com/playlist?list=PLCC34OHNcOtqW9BJmgQPPzUpJ8hl49AGy>
- [https://www.youtube.com/playlist?list=PLCC34OHNcOtpyEQqVVoGu8QVvAU\\_6cgGp](https://www.youtube.com/playlist?list=PLCC34OHNcOtpyEQqVVoGu8QVvAU_6cgGp)
- [https://www.youtube.com/playlist?list=PLCC34OHNcOtoYVT2654KIZait8\\_eYO\\_j5](https://www.youtube.com/playlist?list=PLCC34OHNcOtoYVT2654KIZait8_eYO_j5)

## Dockerization & Deployment

After every feature added (or tried to develop its latest version), the project dockerized before the deployment.

## **Dockerization:**

- <https://testdriven.io/blog/dockerizing-django-with-postgres-unicorn-and-nginx/>
- [https://www.youtube.com/watch?v=mScd-Pc\\_pX0&t=1748s](https://www.youtube.com/watch?v=mScd-Pc_pX0&t=1748s)

## **Deployment:**

After dockerization the application we have deployed the application to Azure App Service by following steps below:

1. First, A Resource Group has been created. In Azure, a resource group is a logical container that holds related resources for an Azure solution. It helps to manage resources in Azure accounts by grouping them together and applying management policies at the resource group level.

Resource groups can be used to organize your resources in a way that makes sense for your business or organization. For example, separate resource groups might be created for different environments (such as development, staging, and production), or for different teams or projects.

Some of the benefits of using resource groups in Azure include:

Simplified resource management: All the resources in a resource group can be managed as a single entity, making it easier to deploy, update, and delete them.

Improved resource organization: Resource groups provide a logical hierarchy for organizing your resources, making it easier to find and access them.

Enhanced security: Access control and resource policies can be applied at the resource group level, helping to ensure that only authorized users have access to the resources they need.

Enhanced billing and cost management: Resource groups can be used to track and manage the costs of your resources more effectively.

Overall, resource groups are an important tool for managing and organizing your resources in Azure.

**Basics** Tags Review + create

**Resource group** - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more ↗](#)

**Project details**

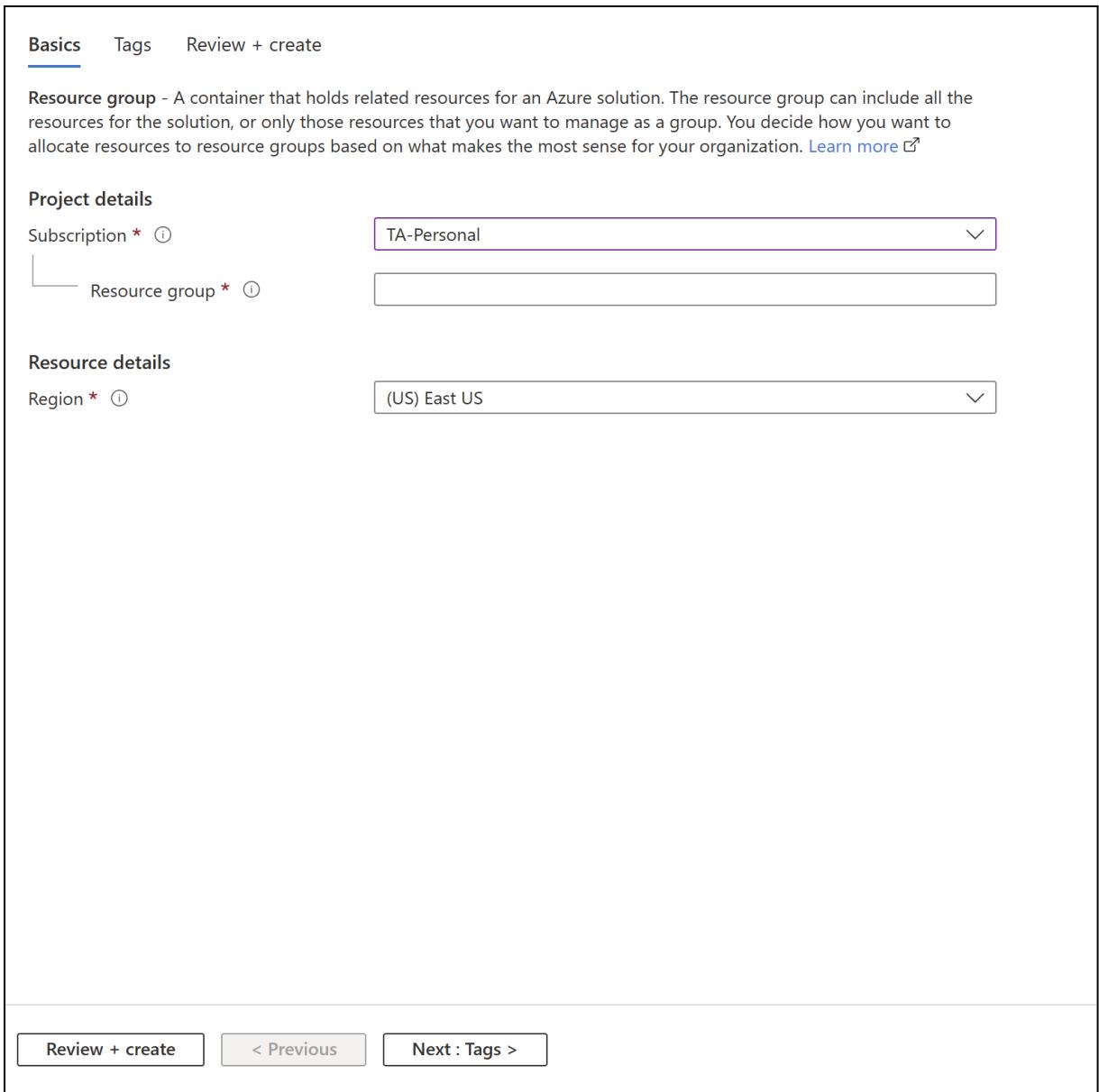
Subscription \* ⓘ TA-Personal ▾

Resource group \* ⓘ [Empty input field]

**Resource details**

Region \* ⓘ (US) East US ▾

[Review + create](#) [< Previous](#) [Next : Tags >](#)



2. Second, an Azure Database for PostgreSQL flexible server has been created for the application.
3. Then, an Azure Container Registry (ACR) instance is created through the Azure Portal. Azure Container Registry (ACR) is a managed container registry service that is hosted in Azure. It allows you to store, manage, and deploy Docker images and other types of container images.

ACR provides features such as image scanning to detect vulnerabilities, integration with Azure DevOps for continuous integration and delivery (CI/CD) pipelines, and the ability to host images in a private registry within your Azure subscription.

ACR can be used to build and store Docker images for your applications, and then use these images to deploy your applications to Azure or other cloud environments, or to on-premises environments. ACR is a useful tool for managing and deploying containerized applications, as it allows you to store and manage your container images

in a central location, and deploy them to different environments with ease. Azure Container Registry can be created by using the Azure CLI as well.

[Home](#) > [Create a resource](#) > [Marketplace](#) > **Container Registry**

**Container Registry** Microsoft

**Container Registry** [Add to Favorites](#)

★ 4.3 (338 ratings)

Azure benefit eligible [?](#)

Plan [Container Registry](#) [Create](#)

[Overview](#) [Plans](#) [Usage Information + Support](#) [Ratings + Reviews](#)

Azure Container Registry is a private registry for hosting container images. Using the Azure Container Registry, you can store Docker-formatted images for all types of container deployments. Azure Container Registry integrates well with orchestrators hosted in Azure Container Service, including Docker Swarm, DC/OS, and Kubernetes. Users can benefit from using familiar tooling capable of working with the open source Docker Registry v2.

Use Azure Container Registry to:

- Store and manage container images across all types of Azure deployments
- Use familiar, open-source Docker command line interface (CLI) tools
- Keep container images near deployments to reduce latency and costs
- Simplify registry access management with Azure Active Directory
- Maintain Windows and Linux container images in a single Docker registry

More products from Microsoft [See All](#)

Active Directory Health Check Microsoft Azure Service Assess the risk and health of Active Directory environments.	AD Replication Status Microsoft Azure Service Identify Active Directory replication issues in your environment.	Device Update for IoT Hub Microsoft Azure Service Securely and Reliably update your devices with Device Update for IoT Hub.	Front Door and CDN profiles Microsoft Azure Service Azure Front Door and CDN profiles is security led, modern cloud CDN that provides static and dynamic content acceleration, global load balancing and enhanced security for your apps.
--	---	---	---

<https://ms.portal.azure.com/#>

[Home](#) > [Create a resource](#) > [Marketplace](#) > [Container Registry](#) > **Create container registry**

Validation passed

[Basics](#) [Networking](#) [Encryption](#) [Tags](#) [Review + create](#)

**Registry details**

**Basics**

Registry name	AzureLoadTest590
Subscription	TA-Personal
Resource Group	SWE574-F22-GR2
Location	West Europe
Availability zones	Disabled
SKU	Standard

**Networking**

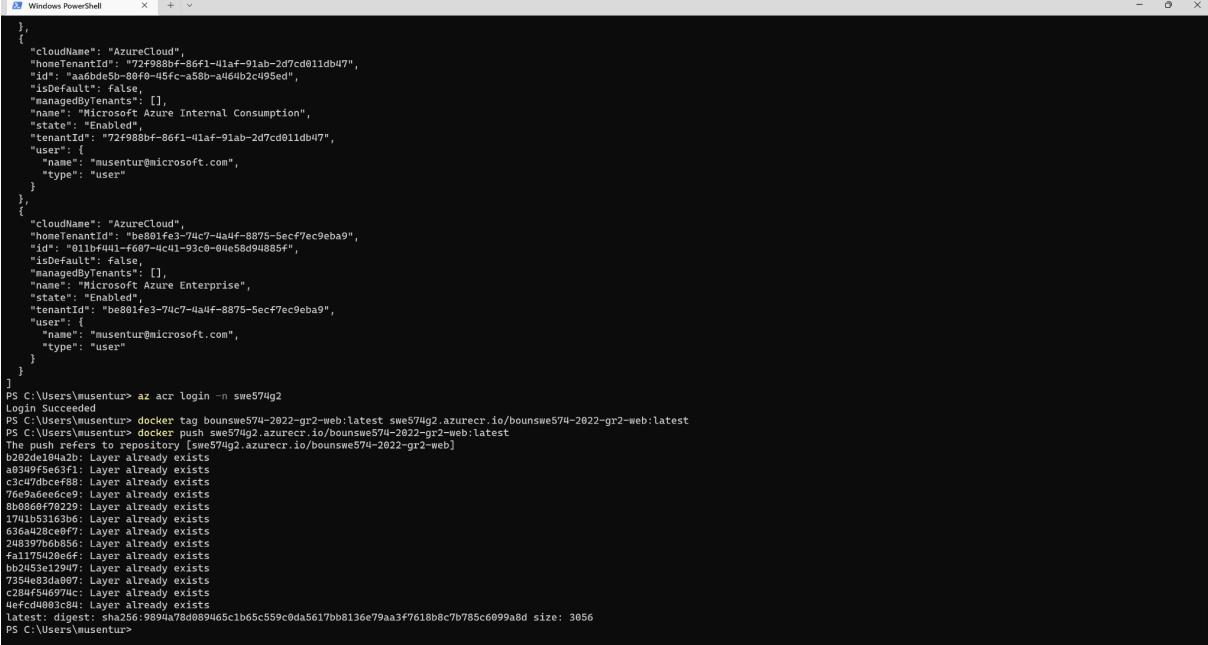
Public network access	Yes
-----------------------	-----

**Encryption**

Customer-Managed Key	Disabled
Identity	None
Key Vault	None
Encryption key	None
Version	None

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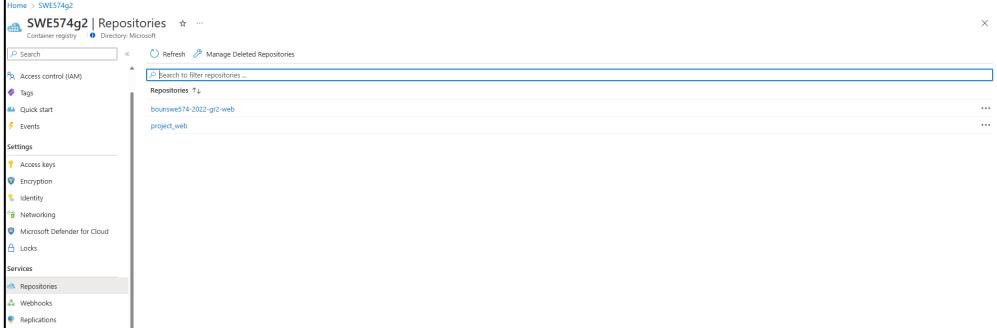
- Then, the Docker image built previously has been pushed to Azure Container Registry by using the ‘docker push’ command. This will make the image available in ACR, which can then be used to deploy the web application.



```

PS C:\Users\musentur> az acr login -n swe574g2
Login Succeeded
PS C:\Users\musentur> docker tag bounsw574-2022-gr2-web:latest swe574g2.azurecr.io/bounsw574-2022-gr2-web:latest
PS C:\Users\musentur> docker push swe574g2.azurecr.io/bounsw574-2022-gr2-web:latest
The push refers to repository [swe574g2.azurecr.io/bounsw574-2022-gr2-web]
b292d4d4: Layer already exists
a809f5ed3f1: Layer already exists
c3c47dfccf88: Layer already exists
76e9a6aee6ce9: Layer already exists
8b0866f79220: Layer already exists
1741b53163b6: Layer already exists
636a428c0ef7: Layer already exists
248397bb6856: Layer already exists
443a2a2a2a00: Layer already exists
bh245a1299f7: Layer already exists
7354a83da007: Layer already exists
c284f506974c: Layer already exists
4efcd4083c84: Layer already exists
latest: digest: sha256:9894a78d089465c1b65c559c0da5617bb8136e79aa3f7618b8c7b785c6099a8d size: 3056
PS C:\Users\musentur>

```



- Next Azure App Service instance is created. This can also be done through the Azure portal or using the Azure CLI.

Azure App Service is a fully managed platform-as-a-service (PaaS) offering for building, deploying, and scaling web, mobile, and API applications. It provides a range of features and tools to help you build, deploy, and scale applications quickly and easily, without having to worry about the underlying infrastructure.

Azure App Service offers a variety of options for hosting applications, including:

**Web Apps:** Host web applications and APIs, with support for a range of languages and frameworks such as ASP.NET, Node.js, Python, Java, and PHP.

**Mobile Apps:** Build and deploy mobile backends and mobile-first applications, with support for push notifications, offline sync, and integration with Azure Functions and Logic Apps.

**API Apps:** Build and deploy APIs, with support for Swagger and OpenAPI specification, automatic API versioning, and integration with Azure Functions and Logic Apps.

**Functions:** Build and deploy serverless functions, with support for a range of languages and triggers such as HTTP, timer, and queue.

Overall, Azure App Service provides a fully managed platform for building, deploying, and scaling a wide range of applications in the cloud.

The screenshot shows the Microsoft Azure Portal (Preview) dashboard. At the top, there are icons for creating a resource, resource groups, Azure Machine Learning, App Services, Speech services, Container registries, Storage accounts, Enterprise applications, Azure Load testing, and More services. Below this is a section titled 'Resources' with a 'Recent' tab selected. A table lists recent resources with columns for Name, Type, and Last Viewed. The resources listed include a Container registry, an App Service, Resource groups, Azure Machine Learning workspace, Resource group, Storage account, Azure Machine Learning workspace, Azure Database for PostgreSQL flexible server, App Service plan, Subscription, and Resource group. At the bottom of the resources section is a 'See all' link. Further down, there's a 'Navigate' section with links for Subscriptions, Resource groups, All resources, and Dashboard. The URL https://ms.portal.azure.com/#create/hub is visible at the bottom left.

The screenshot shows the Microsoft Azure Marketplace page for 'Web App'. The top navigation bar includes 'Home > Create a resource > Marketplace >'. The main content area shows the 'Web App' product details: it has a 4.3 rating from 2367 reviews and is marked as 'Azure benefit eligible'. A 'Create' button is prominently displayed. Below this, there are tabs for 'Overview', 'Plans', 'Usage Information + Support', and 'Ratings + Reviews'. The 'Overview' tab contains a brief description of App Service Web Apps and a list of supported languages (Node.js, Python, PHP, Java, Ruby, .NET Core, and ASP.NET). It also lists supported tools (Eclipse, Visual Studio Code, and Visual Studio) and provides information about CI/CD integration with GitHub, Docker Hub, Azure Pipelines, Azure Container Registry, Bitbucket, and others. The 'Plans' tab shows a dropdown menu set to 'Web App' with a 'Create' button next to it. The 'Usage Information + Support' tab includes links for 'Azure App Service', 'Azure Functions', 'Azure Logic Apps', and 'Azure Container Instances'. The 'Ratings + Reviews' tab shows a summary of user reviews. At the bottom, there's a section for 'More products from Microsoft' with links to Active Directory Health Check, AD Replication Status, Device Update for IoT Hub, and Front Door and CDN profiles. The URL https://ms.portal.azure.com/#!/Active is visible at the bottom left.

**Summary**

**Web App**  
by Microsoft

**Details**

Subscription	b48c6d7b-7e90-4f14-8276-e221c9eb27cd
Resource Group	
Name	
Publish	Code
Runtime stack	

**App Service Plan**

Name	
Operating System	Linux
Region	Central US

**Monitoring**

Application Insights	Not enabled
----------------------	-------------

**Deployment**

Continuous deployment	Not enabled / Set up after app creation
-----------------------	---

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- Once the App Service instance has been created, the application can be deployed by connecting App Service to ACR. We have completed this phase by browsing the “Settings” page under the Deployment Center.

Home > swe574-f22-gr2

**swe574-f22-gr2 | Deployment Center** ⋮

App Service | Directory: Microsoft

Search Save Discard Browse Manage publish profile Leave Feedback

**Settings** Logs FTPS credentials

Use these settings to configure your container app deployment model and registry. We recommend GitHub Actions for greater operational efficiency. [Learn more](#)

**Source\***

Container Registry: Setup up your app to pull the container image from a registry.  
 GitHub Actions: Build, deploy, and manage your container app automatically with GitHub Actions.  
 Azure Pipelines: Configure a robust deployment pipeline for your application using Azure Pipelines, part of Azure DevOps Services (formerly known as VSTS).

**Registry settings**

Container type	Single Container
Registry source	Azure Container Registry
Subscription ID*	TA-Personal
Authentication	<input checked="" type="radio"/> Admin Credentials <input type="radio"/> Managed Identity
Registry*	SWE574g2
Image*	project_web
Tag*	latest
Startup file or command	python manage.py runserver 0.0.0.0:8...
Continuous deployment	<input checked="" type="radio"/> On <input type="radio"/> Off
Webhook URL	*****

https://ms.portal.azure.com/#@microsoft.onmicrosoft.com/resource/subscriptions/b48c6d7b-7e90-4f14-8276-e221c...

The screenshot shows the 'Configuration' section of an Azure App Service named 'swe574-f22-gr2'. The left sidebar includes links for Overview, Activity log, Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Events (preview), Deployment (Quickstart, Deployment credentials, Deployment slots, Deployment Center), Settings (Authentication, Application Insights, Identity, Backups, Custom domains, Custom domains (classic), Certificates, TLS/SSL settings (classic)), and Configuration (selected). The main area displays 'Application settings' and 'Connection strings'.

**Application settings**

Name	Value	Source	Deployment slot setting	Delete	Edit
DOCKER_ENABLE_CI	true	App Service			
DOCKER_REGISTRY_SERVER_PASSWORD	Ew797h8lOjqGMHeZDlnu9RYkDY+/je	App Service			
DOCKER_REGISTRY_SERVER_URL	https://swe574g2.azurecr.io	App Service			
DOCKER_REGISTRY_SERVER_USERNAME	SWE574g2	App Service			
WEBSITE_HTTPLOGGING_RETENTION_DAYS	7	App Service			
WEBSITES_ENABLE_APP_SERVICE_STORAGE	false	App Service			
WEBSITES_PORT	8000	App Service			

**Connection strings**

Name	Value	Source	Type	Deploy...	Delete	Edit
(no connection strings to display)						

- After connecting the App Service to ACR, Docker image can be selected that wanted to use for the deployment.

The screenshot shows the 'Create Web App' wizard on the 'Docker' tab. The top navigation bar includes 'Basics', 'Docker' (selected), 'Networking', 'Monitoring', 'Tags', and 'Review + create'. Below the tabs, a note states: 'Pull container images from Azure Container Registry, Docker Hub or a private Docker repository. App Service will deploy the containerized app with your preferred dependencies to production in seconds.' The 'Image Source' dropdown is set to 'Azure Container Registry'. The 'Azure container registry options' section contains fields for 'Registry' (SWE574g2), 'Image' (bounswe574-2022-gr2-web), 'Tag' (latest), and 'Startup Command' (empty).

- Finally, click "Create" to deploy the web application to the App Service. The deployment process may take a few minutes to complete.

**Create Web App**

**Details**

Subscription	b48c6d7b-7e90-4f14-8276-e221c9eb27cd
Resource Group	SWE574-F22-GR2
Name	SWE574-Prod-V2
Publish	Docker Container
Image:Tag	swe574g2.azurecr.io/bounswe574-2022-gr2-web:latest
Server URL	<a href="https://swe574g2.azurecr.io">https://swe574g2.azurecr.io</a>

**App Service Plan**

Name	ASP-SWE574F22GR2-affb
Operating System	Linux
Region	West Europe
SKU	Premium V2
Size	Large
ACU	840 total ACU
Memory	14 GB memory

**Monitoring**

Application Insights	Not enabled
----------------------	-------------

**Deployment**

Continuous deployment	Not enabled / Set up after app creation
-----------------------	---

**Actions**

- [Create](#)
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## Annotation Server:

An annotation server is a web-based service that provides a way to annotate and store annotations for a variety of different types of content, such as documents, images, videos, and audio files. Annotation servers typically provide a user interface for creating, editing, and viewing annotations, as well as APIs for programmatic access to the annotations.

Annotations are typically used to add additional context or information to a piece of content. For example, you might use annotations to highlight specific parts of a document, add notes or comments, or add metadata to a video or audio file.

In this application, a node.js annotation server is used to annotate and store texts and tags specific parts of the learning space content.

### Index.js:

<https://github.com/koglak/bounswe574-2022-gr2/blob/main/Annotation-Server/index.js>

The code provided above defines a node.js server that provides a set of APIs for creating, reading, updating, and deleting annotations in a MongoDB database.

The server is built using the Express.js framework, which allows it to handle HTTP requests and responses. It also uses the body-parser and cors middleware to parse incoming request bodies in JSON format and enable cross-origin resource sharing (CORS).

The server connects to a MongoDB database using the Mongoose library, which provides an easy-to-use interface for interacting with the database. A schema is defined for annotations, which specifies the fields that each annotation should have and the data types of those fields. This schema is used to create a model for annotations, which is used to create, retrieve, update, and delete annotations in the database.

The server defines a number of API endpoints for performing different actions with the annotations. For example, there is an endpoint for creating a new annotation, which extracts the relevant fields from the request body and creates a new annotation object using the Annotation model. There are also endpoints for fetching all annotations, fetching a single annotation by ID, and deleting an annotation by ID. Additionally, there is an endpoint for querying the database for annotations by URL.

In summary, this code defines a powerful and flexible annotation server that provides a range of tools for creating, reading, updating, and deleting annotations in a MongoDB database. The server is built using the Express.js framework and the Mongoose library, and it offers a number of API endpoints for performing different actions with the annotations. This allows users of the collaborative learning website to annotate and engage with resources on the platform in a flexible and intuitive way, and it enables the website to store and manage annotations in a consistent and organized manner.

#### **Annotation Frontend :**

[https://github.com/koglak/bounswe574-2022-gr2/blob/main/userprofile/templates/userprofile/lecture\\_detail.html](https://github.com/koglak/bounswe574-2022-gr2/blob/main/userprofile/templates/userprofile/lecture_detail.html)

The code provided above is a JavaScript script that integrates the Recogito.js library into a webpage to enable annotation functionality.

The script first initializes the Recogito.js library by calling the Recogito.init() function and passing it an object with a content property, which specifies the element on the page where the annotations will be displayed. It then loads any existing annotations from the server by calling the loadAnnotations() function and passing it the URL of an API endpoint that fetches annotations from the server.

The script also sets up a number of event handlers using the on() function. These event handlers are triggered when certain actions are performed with the annotations, such as creating a new annotation, selecting an existing annotation, deleting an annotation, or updating an annotation. When these events occur, the script sends a request to the server to create, delete, or update the annotation as appropriate.

This code enables users to create, view, and manipulate annotations on the webpage using the Recogito.js library and communicate with the server to store and retrieve the annotations as needed.

## Deployment of Node.js App

In order to deploy an annotation server to a live environment we used heroku. Steps given below:

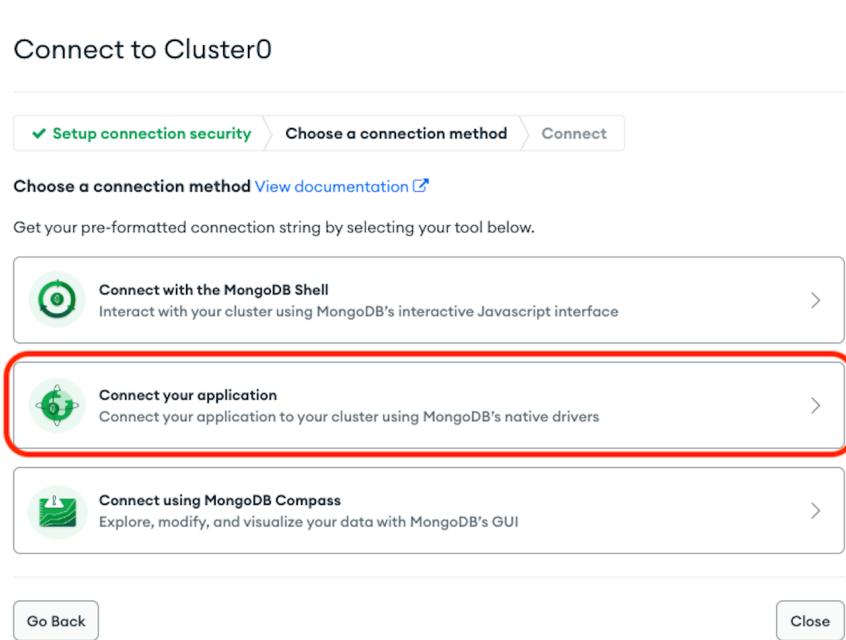
Firstly a mongodb database needs to be created in [Atlas](#).

The screenshot shows the 'Database Deployments' section of the MongoDB Atlas interface. On the left, a sidebar lists 'DEPLOYMENT' (selected), 'Database' (highlighted in green), 'Data Lake', 'PREVIEW', 'DATA SERVICES' (Triggers, Data API, Data Federation), 'SECURITY' (Database Access, Network Access, Advanced), and 'New On Atlas' (2). The main area has a title 'Database Deployments' and a central 'Create a database' button with the sub-instruction 'Choose your cloud provider, region, and specs.' Below it is a 'Build a Database' button. A note at the bottom says: 'Once your database is up and running, live migrate an existing MongoDB database into Atlas with our [Live Migration Service](#)'.

After creation of DB in atlas. We need to specify allowed IP addresses in order to access DB through our app.

The screenshot shows the 'IP Access List' configuration page. At the top, a question 'Where would you like to connect from?' is followed by the instruction 'Enable access for any network(s) that need to read and write data to your cluster.' Two options are shown: 'My Local Environment' (represented by a local computer icon) and 'Cloud Environment' (represented by a cloud icon). Both sections have detailed descriptions. Below this is a section titled 'Add entries to your IP Access List' with the note: 'Only an IP address you add to your Access List will be able to connect to your project's clusters. You can manage existing IP entries via the [Network Access Page](#)'. It includes fields for 'IP Address' ('Enter IP Address') and 'Description' ('Enter description'), along with 'Add Entry' and 'Add My Current IP Address' buttons. A table shows the current IP Access List entry: '105.112.56.238/32' with 'Description: My IP Address' and a 'REMOVE' button. At the bottom right is a 'Finish and Close' button.

Once these finished a DB string generated by Atlas:



Since we have db string already we need to add this to our node.js DB connection string:

```
mongoose.connect('<DB_STRING>', {  
  useNewUrlParser: true,  
  useUnifiedTopology: true  
});
```

Once this is done we are connected to the remote DB from our localhost.

After connection is set up we need download Heroku client to our app by using below command:

```
npm install -g heroku
```

And when it is downloaded test the system with heroku client in local by using below code:

```
heroku local web
```

App is ready to be deployed to the Heroku app but an app needs to be created in Heroku side.

Create New App

---

**App name**

crud-with-mongodb

**crud-with-mongodb is available**

**Choose a region**

United States ◊

---

[Add to pipeline...](#)

---

[Create app](#)

Once the app is created we need to login to heroku client using our command prompt by using below command:

```
heroku login
```

After successful login we need to initialize a git for deploying app to the heroku app container:

```
git init
heroku git: remote -a <APP NAME>
```

Use below commands to deploy app:

```
git add .
git commit -am "Deployment"
git push heroku main
```

Usernames	Password
admin	admin
hermes	123hermes123*
turanlioglu	G2vLmhTXr3
erdem	G2vLmh1234

## 2. Project details

### 2.1. Overview

**Goal:** Creating a co-learning platform for users, who want to share information and drive personal improvements on the web. The platform is structured in a manner, which users:

- can create rooms
- enrolls the courses they interested in
- in rooms, they can be able to share posts, create meetings and quizzes or share resources with each other

There are some prerequisites for construct a platform like:

- Prior knowledge on python
- Knowledge on Django
- Knowledge of database (PostgreSQL is used in the project)
- Knowledge on GitHub
- Knowledge on node.js
- Knowledge on mongoDB (used in annotation-server)

When all prerequisites are met, software lifecycle methods are used to sustain a continuous improvement and continuous development of the system.

- Creation of milestones
  - Planning how many milestones should be needed
  - What will be the content of milestones, how should they be separated from each other?
  - Each milestone should have a deadline to follow up the project timeline
  - Creation of issues with specific to milestones to increase the following up process

### 2.2. Software Requirements Specification

Below, there is a list of requirements, which is set in the beginning of the project to create a work plan. Some of the requirements are successfully added into the platform and some not. I will give detailed information later.

#### 2.2.1. Base Requirements

##### **Authorization**

1. Users shall register the website.
2. Users shall login the website.
3. Users shall log out the website.
4. An admin user shall be determined.
5. When the user is authorized, the user shall view the myspace page.
6. If the user is not authorized, the user shall not post questions, comments, courses, and activities.

## **User Profile**

7. Users shall edit name, profile picture and about me section.
8. The system shall display follower quantity, answer quantity, resource quantity of user on profile page.
9. The system shall reward users by displaying an icon near the user's profile when over 100 students attempt his/her course.
10. The system shall reward users by displaying an icon near the user's profile when has over 100 answers in a week.
11. Users shall follow other users.
12. The system shall count comment quantity for each user.
13. The system shall count question quantities for each user.

## **Home Page**

14. Users shall view recent courses on the home page.
15. Users shall view the most used labels on the home page.
16. Users shall search courses by keywords on the home page.

## **Myspace Page**

17. User shall view his/her latest created courses on myspace page.
18. If the user did not fill whole spaces on the course creation section, the system shall raise an alert.
19. When users fill whole spaces on the course creation section and hit the create button, the system shall create a new course in the database.
20. When a user creates a new course, the system shall display it on "myspace page."
21. Users shall add team members to the course.

## **Course Page**

22. When a user is defined as a team member for a course, the user shall edit content of the course.
23. Users shall create resources on the course page.
24. Users shall create quizzes in the course page.
25. When a user creates a quiz, the user shall add up to 15 questions.
26. When a user creates a quiz, the user shall add 4 options for each question.
27. While the user is creating a quiz, the user shall determine the correct option for each question.
28. When a user takes a quiz, the user shall select 1 option for each question.
29. When a user submitted a quiz, the system shall share the score of the user.
30. Users shall create case-studies in the course page.
31. When a user creates a case-study, the user shall add description to case study.
32. When a case study has been created, other users shall submit a file and enter a brief description about their submission.

33. The system shall allow up to 20 MB for case study submission.
34. When a user submitted a file to the case study section, the user who is owner of the case study shall view submission and content.
35. User shall assign a score to the case study.
36. Users shall upload video and images to the resource page.
37. Users shall rate a course.
38. Users shall post comments under resource content.
39. When a user completed a step inside course content, the system shall display the step as completed.
40. When a user displays her/his own course, the system shall display “create resource/quiz/case-studies” option.

### **Learn Page**

41. Users shall attempt a course.
42. When a user attempts a course, the system shall display the course on the user’s learn page.
43. Users shall drop a course from “learn page”.
44. The system shall display average score, quantity of attempted users and quantity of added resources in course information block.
45. The system shall display progress of each course of the user.
46. When a user clicks an attempted course, the system shall route to the course page.
47. When a user completes a course, the course is displayed in “Learn Page” under the finished course section.
48. User shall review his/her progress of course that the user attempted.

### **Activity Page**

49. Users shall post an activity.
50. When a user posts an activity, the system shall display the activity on “activity page” to all users.
51. Users shall search activity by keywords on the activity page.

### **Question Page**

52. Users shall post questions.
53. When a user posted a question, the system shall display it on the question page.
54. User shall answer the question.
55. Users shall like a question, comments under resources and answers to questions.
56. Users shall dislike a question, comments under resources and answers to questions.
57. Users shall search for a question on “question page”.
58. Users shall spam another user If they notice inappropriate behavior in comment, answers, questions, resources.

## **Room Page**

59. Users shall create a room in “room page”.
60. While the user is creating a room in the “room page”, the user shall invite other users in his/her room.
61. When a room is created, users shall send a message.

Above, the requirements are listed which are followed on the term of Spring 2022 at SWE 573 class. And the list below specifies the requirements which are aimed to be implied in the Fall 2022 at SWE 574 class.

### 2.2.2. Requirements

#### **For all pages:**

1. The system shall display a footer.
2. Footer shall include contact info, short description of website and social media links.

#### **For Space Page:**

1. The system shall show textual content as default.
  2. The system shall show textual content sidebar as default.
  3. The system shall show 3 links: Textual Content, Quiz, Case Study
  4. When a user clicks on Quiz, the system shall route to Quiz Page.
  5. When a user clicks on Events, the system shall route to Events Page.
  6. When a user clicks on Case-Study, the system shall route to Case-Study Page.
  7. When a user clicks on Content, the system shall route to Content Page.
  8. Events page shall display two selection on sidebar as Past Events and Upcoming Events
- 

**Team Member:** [Mert Can Geyik](#)

#### **For Textual Contents:**

1. Users shall be able to post video as content in the space.
2. While the user is creating a textual post, the system shall provide a text editor.
3. While the user is creating textual content, the system shall restrict the title of content to 50 characters.
4. Users shall be able to ask questions under content.
5. Users shall be able to like or dislike content.
6. The system shall display a number of likes and dislikes.
7. When a user clicks the content, the system shall change the color of title as green to inform the user that content has been already reviewed.
8. Users shall be able to add images to textual content.

9. The system shall display min read duration at the top of the screen.
10. The system shall display the owner user of the content who published it.
11. The system shall display a previous button at the bottom of content which routes to previous content.
12. The system shall display the next button at bottom of content which routes to next content.

**For Annotations in Textual Content(Resources):**

1. Users shall be able to create annotations for texts using their mouse selection.
2. Users shall be able to see annotations created by other users in the textual resource
3. Users shall be able to update annotations
4. Users shall be able to delete annotations

**For Annotation Server:**

1. The system shall communicate with web app for fetching and posting annotations
2. The system shall only accept jsons in W3 json-ld format.
3. The system shall be able to create, delete, update, and query annotations
4. The system shall be available 7/24

**For Quiz Page:**

1. Users shall be able to view scores of other users who took the quiz before.
  2. Space owners and collaborative members of space shall be able to delete already created quizzes.
  3. The system shall display scores of users who took the quiz before as ascending.
  4. If a new quiz is published the same day or one day before, the system shall display an icon (new) near the quiz title.
  5. If a space owner or collaborative member of space published a quiz, the system shall not allow them to add new questions or delete questions from the quiz.
- 

**Team Member:** [Sabahattin Erdem Turanlioğlu](#)

**For Case Studies Page:**

1. Users shall be able to add comments and mandatory files to post for case study.
2. While the user is creating a case-study, the user shall be able to determine the due date of the case study.
3. When time is up for case-study, the system shall not allow other users to add studies.
4. Posts which are shared under specific case study shall be listed.
5. The system shall show star-rating for each case study.
6. The system shall list case studies from the most recent to the last.
7. The system shall list finished case studies under finished case study history.

8. Case owner shall be able to edit the case study explanation and due date.
  9. When a case study is created, the system shall show the publish date in green.
  10. When 3 days and less than 3 days remain to the due date of case study, the system shall display the due date as red.
  11. Users shall comment under case study description.
  12. The system shall be able to sort case studies based on publish date.
  13. Users shall be able to filter case studies based on key words of title.
- 

**Team Member:** [Kardelen Oğlakçıoğlu](#)

**For Events Page:**

1. While the user is creating an event, the user shall be able to add location from google map.
2. While the user is creating an event, the user shall be able to add a zoom link instead of google map location.
3. While the user is creating an event, the user shall be able to add the event category to the event.
4. The system shall display 5 event categories: educational, introductory, social, outside, presentation.
5. While the user is creating an event, the user shall be able to add pictures.
6. While the user is creating an event, the user shall be able to add a quota to the event.
7. While the user is creating an event, title, description, picture, date, and event category fields shall be mandatory selections.
8. The system shall be able to filter events based on categories. (Dropdown menu filtering)
9. The system shall be able to sort events based on ascending/descending date.
10. When event time is up, the system shall show the event under completed event sections.
11. When the quota of events is filled, the system shall not allow users to attend events.
12. If a quota of events is filled, the system shall display the event title as red and strikethrough.
13. If there is space for 3 or less than 3 people for an event, the system shall retain people as red near to attended people/quota information.
14. The system shall display events from the most recent to the last.
15. The system shall display titles of events as red and bold if 3 days and less than 3 days remain until the event.
16. The system shall display a picture of event, number of attended people and quota of event, date, title, and description at event page.
17. Users who created events shall be able to delete events.
18. Users shall be able to list the attended users when users clicked the number of people who attended the event.
19. Users shall be able to filter events with key words of title.

- 
20. Users shall be able to ask questions under the event.
  21. Users shall be able to answer questions under the event.
  22. When a user clicks an event, the system shall route the page to event detail.
  23. The system has 10 events on the same page.
  24. The system shall display a pagination bar at bottom.
- 

#### **For Profile Page:**

1. User shall be able to edit his/her nickname.
  2. Users shall be able to give website links under profile block.
  3. Users shall be able to add emojis inside description text.
  4. Users shall be able to add tags to his/her profile block.
  5. When a user clicks a profile tag, the system shall display other profiles which have the same tag at another page.
  6. When a user tries to edit a nickname, the system shall check the uniqueness of the name.
  7. When the user is determined as winner of the case study, the system shall display it under the new success section.
  8. Users shall be able to follow each other.
  9. Follower quantity shall be displayed under profile block.
  10. When a user clicks the follower quantity, a list of followers shall be displayed.
  11. The system shall display an icon (crown) near the nickname if the user is answering the most questions.
  12. The system shall display an icon (star) near the nickname if the user has the most followers.
  13. The shall display an icon (success) near to nickname if the user has a space which has the most enrolled users.
  14. The system shall list spaces of the user at profile page from the most recent to least.
  15. The system shall display a list of events that the user attended.
  16. The system shall list the list of events based on date.
  17. The system shall show a weekly increment percentage of enrolled users near to space.
- 

**Team Member:** [Murat Mert Sentürk](#)

#### **For Home Page:**

1. The system shall display the learning spaces in user's enrolled spaces.
2. The system shall display all learning spaces if the user is not enrolled in any learning spaces.

3. The system shall display all learning spaces if the user is not authenticated.
4. The system shall display recent 3 quizzes user's enrolled spaces.
5. The system shall display recent 3 case-studies user's enrolled spaces.
6. The system shall display 3 recent quizzes if the user is not enrolled in any learning spaces.
7. The system shall display 3 recent case studies if the user is not enrolled in any learning spaces.
8. The system shall display 3 recent quizzes if the user is not authenticated
9. The system shall display 3 recent case studies if the user is not authenticated.
10. The system shall allow the user to browse to the displayed quizzes.
11. The system shall allow the user to browse to the displayed case studies.
12. The system shall allow the user to browse to the relevant learning space of the quiz.
13. The system shall allow the user to browse to the relevant learning space of the case study.
14. The system shall allow the user to view the creation date of the displayed quizzes.
15. The system shall allow the user to view the creation date of the displayed case studies.
16. The system shall display website metric – number of new members of the week
17. The system shall display website metric – number of new spaces of the week
18. The system shall display the owner of the learning space
19. When a user hovers on a space, the space block shall get bigger. (css)
20. The system shall display an info block about the website at top of screen.
21. The system shall display the owner of the displayed learning spaces.
22. The system shall allow users to follow/unfollow the owner of the learning spaces.
23. The system shall display the title,tags,rating, and picture of the learning spaces.
24. The system shall display a number of contents, quizzes and studies related to learning spaces.
25. The system shall display the number of enrolled users to the learning space.

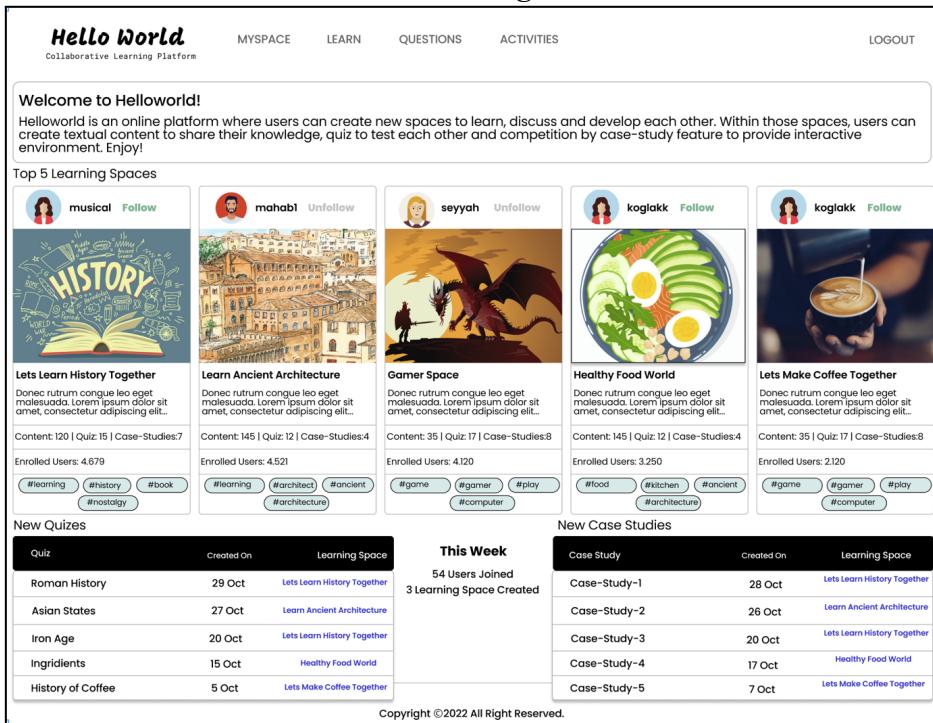
Later, these new requirements were added in the design of the platform, which can be seen in the [Design](#) section of this report.

## 2.3. Design (Software & Mockups)

### 2.3.1. Mock-ups

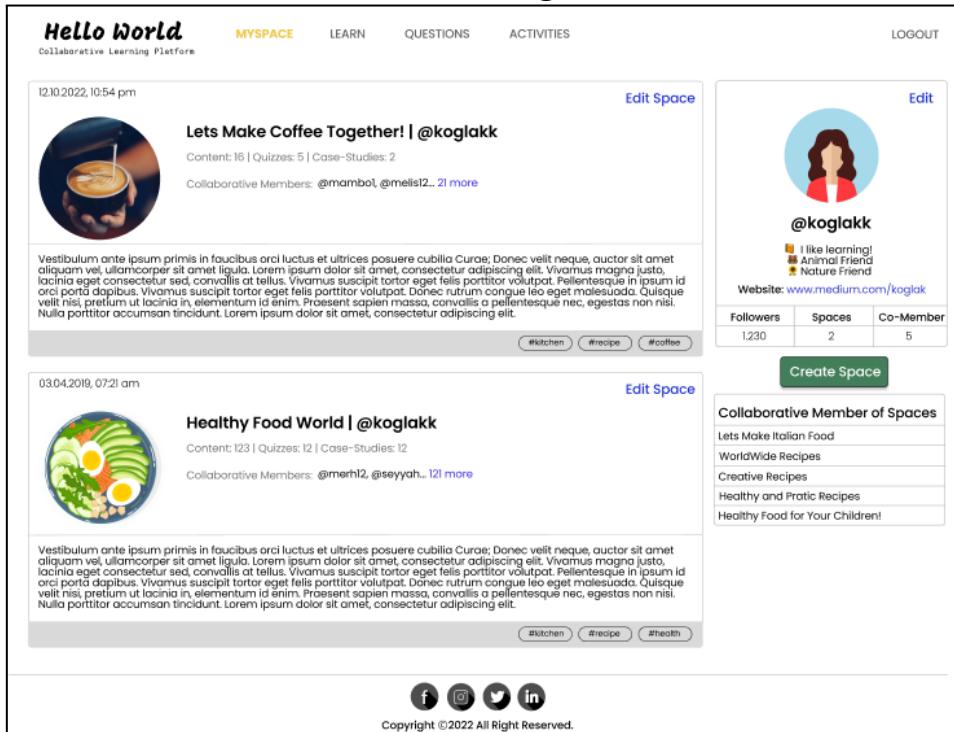
First system design by mockups are shown below.

#### Main Page



The Main Page mockup for the Hello World platform features a header with the logo 'Hello World' and 'Collaborative Learning Platform', followed by navigation links for 'MYSPACE', 'LEARN', 'QUESTIONS', 'ACTIVITIES', and 'LOGOUT'. A welcome message 'Welcome to Helloworld!' is displayed, stating that the platform allows users to create spaces for learning, discussing, and competing. Below this, a section titled 'Top 5 Learning Spaces' shows five examples with user profiles and names: 'musical' (Follow), 'mahabl' (Unfollow), 'seyyah' (Unfollow), 'koglakk' (Follow), and 'koglakk' (Follow). Each space has a thumbnail image, a name, and a brief description. Below these are sections for 'New Quizzes' and 'New Case Studies', each with a table showing recent activity. The footer contains a copyright notice: 'Copyright ©2022 All Right Reserved.'

#### Profile Page



The Profile Page mockup for the Hello World platform shows a user profile for '@koglakk'. The profile includes a thumbnail, the handle '@koglakk', and a bio indicating they like learning, are an animal friend, and a nature friend. It also lists their website as [www.medium.com/koglakk](http://www.medium.com/koglakk). The page displays two learning spaces managed by the user: 'Lets Make Coffee Together!' (created 12.10.2022, 10:54 pm) and 'Healthy Food World' (created 03.04.2019, 07:21 am). Each space has a thumbnail, a name, a content count, and a brief description. The footer includes social media icons for Facebook, Instagram, Twitter, and LinkedIn, and a copyright notice: 'Copyright ©2022 All Right Reserved.'

## Space Resources

**Hello World** Collaborative Learning Platform

MYSPACE LEARN QUESTIONS ACTIVITIES LOGOUT

**Follow Space**

Space Content Space Quizzes Case Studies Space Events

Anatolian History

Roman History

Asian States

European States

**Create Content**

**2. Roman History**

Etim enim enim, vestibulum eu leo in, imperdiet pulvinar ipsum. Suspendisse tellus neque, posuere sit amet volutpat at, rhoncus nec lectus. Nulla at sagittis urna. Ut neque velit, facilisis et ligula eget, dictum maximus justo. Mauris eget convallis arcu. Suspendisse potenti. Praesent ut ornare nulla, sit amet mollis urna. Non est purus, feugiat ut luctus ac, interdum at lectus. Pellentesque erat sem, consequat vitae tempus ac, futurum non justo. Praesent placerat velit facilisis erat vestibulum, in ullamcorper neque imperdiet. Praesent vel diam mollis, ornare justo non, condimentum purus. Vivamus eros felis, vehicula et semper vel, dignissim blandit leo. Fusce sed pharetra tellus. Proin vitae diam a libero vehicula varius.

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<Previous Next>

**Koglakk Follow**

25 3

**Questions & Answers** 25/03/2022

**Koglakk Follow** 254 Followers | 2312 Answers | 24 Lectures

**How Romans build baths?**

Quisque velit nisi, pretium ut lacinia in, elementum id enim. Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Sed porttitor lectus nibh. Pellentesque in ipsum id orci porta dapibus.

f i t in

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**HISTORY**

**Lets Learn History Together!**

Donec rutrum congue leo eget malesuada. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla quis lorem ut libero malesuada feugiat. Pellentesque in ipsum id orci porta dapibus. Nulla porttitor accumsan tincidunt. Pellentesque in ipsum id orci porta dapibus. Vivamus suscipit tortor eget facilisis pretium volutpat. Nulla quis lorem ut libero malesuada feugiat. Proin eget tortor risus. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curas. Donec velit neque, ductor sit amet aliquam vel, ullamcorper sit amet ligula. Quisque velit nisi, pretium ut facili in, elementum id enim.

Content: 120 | Quiz: 15 | Case-Studies: 7

Enrolled Users: 4,679

★★★★★ Rate 4.5/5

#learning #history #book #nostalgia

## Space Quizzes

**Hello World** Collaborative Learning Platform

MYSPACE LEARN QUESTIONS ACTIVITIES LOGOUT

**Quiz 1: Roman History**

**1. How did Julius Ceasar Died?**

- Killed by brutus
- Killed by army of evil ducks
- He fell from the balcony
- Heart attack

**2. Who was the wife of Marcus Aurelius?**

- Pocahontas
- Kleopatra
- Faustina
- Mona

**3. When was Rome founded?**

- C.E 1071
- B.C. 35
- C.E 1923
- B.C 99

**Submit**

**@koglakk**

Roman History Quiz

0 questions answered  
3 questions remain

Followers	Spaces	Co-Member
1,230	2	5

f i t in

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## Space Case-Study Page

Case-Study Page

**Hello World** Collaborative Learning Platform

MYSPACE LEARN QUESTIONS ACTIVITIES LOGOUT

[Follow Space](#) [Create Case-Study](#)

Space Content	Space Quizzes	Case Studies	Space Events
---------------	---------------	--------------	--------------

Search  Go

**Let's share interesting findings about Ancient Roman History**  
Publish Date: 25/03/2022  
Created by: turanlioglu

**How to build ship with Viking style**  
Due Date: 25/03/2022  
Created by: mert

**Working on ancient Ottoman History**  
**Case is closed.**  
Due Date was "25/03/2022"  
Created by: mert



**Lets Learn History Together!**  
Donec rutrum congue leo eget malesuada. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec ut libero malesuada feugiat. Pellentesque in ipsum id orci porta dapibus. Nulla potitor accumsan tincidunt. Pellentesque in ipsum id orci porta dapibus. Vivamus suscipit tortor eget felis porttitor volutpat. Nulla quis lorem ut libe...  
Content: 120 | Quiz: 15 | Case-Studies: 7  
Enrolled Users: 4,679  
★★★★★ Rate 4.5/5  
#learning #history #book #nostalgia

[f](#) [i](#) [t](#) [in](#)

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Case-Study Page

**Hello World** Collaborative Learning Platform

MYSPACE LEARN QUESTIONS ACTIVITIES LOGOUT

**Space: Lets Learn History Together! > Case Page**  
**Title of the case study: Let's share interesting findings about Ancient Roman History**  
Has opened by: turanlioglu

[Edit](#) [Delete](#) [Ratings](#) [Upload Your Work](#)

**Description:**  
The idea is to share and learn with each other. The resources are very massive and to increase the learning, the sharing is essential. And most importantly, having interesting sharings will increase the learning curve!!

**Comments:**

Koglakk said  
Great idea. Let's collaborate.  
25.11.22

**Leave a comment**

[Submit](#)

[f](#) [i](#) [t](#) [in](#)

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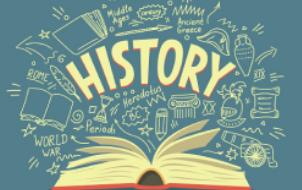
## Space Forum Page

**Hello World**  
Collaborative Learning Platform

- HOME
- myspace
- LEARN
- QUESTIONS
- ROOMS
- ACTIVITIES
- LOGOUT

[Follow Space](#)

Search  Go Ask a question →

Space Content	Space Quizzes	Case Studies	Space Events
 Koglakk <a href="#">Follow</a>			
 <h3>Lets Learn History Together!</h3> <p>Donec rutrum congue leo eget malesuada. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla quis lorem ut libero malesuada feugiat. Pellentesque in ipsum id orci porta dapibus. Nulla porttitor accumsan tincidunt. Pellentesque in ipsum id orci porta dapibus. Vivamus suscipit tortor eget felis porttitor volutpat. Nulla quis lorem ut libero malesuada feugiat. Proin eget tortor risus. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit neque, auctor sit amet aliquam vel, ullamcorper sit amet ligula. Quisque velit nisi, pretium ut lacinia in, elementum id enim.</p> <p>Content: 120   Quiz: 15   Case-Studies:7</p>			

**Koglakk Follow**  
254 Followers | 2312 Answers | 24 Lectures

**Which tutorial do you suggest for Django?**

Quisque velit nisi, pretium ut lacinia in, elementum id enim. Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Sed porttitor lectus nibh. Pellentesque in ipsum id orci porta dapibus. Cras ultricies ligula sed magna dictum porta. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent sapien massa, convallis a pellentesque nec, egestas non nisi.

25 / 3 12 #software #django #beginner

**Koglakk Follow**  
254 Followers | 2312 Answers | 24 Lectures

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Quisque velit nisi, pretium ut lacinia in, elementum id enim. Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Sed porttitor lectus nibh. Pellentesque in ipsum id orci porta dapibus. Cras ultricies ligula sed magna dictum porta. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent sapien massa, convallis a pellentesque nec, egestas non nisi.

25 / 3 12 #software #django #beginner

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25 / 3 12 #software #django #beginner

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25 / 3 12 #software #django #beginner

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Quisque velit nisi, pretium ut lacinia in, elementum id enim. Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Sed porttitor lectus nibh. Pellentesque in ipsum id orci porta dapibus. Cras ultricies ligula sed magna dictum porta. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent sapien massa, convallis a pellentesque nec, egestas non nisi.

25 / 3 12 #software #django #beginner

[f](#) [d](#) [t](#) [l](#)

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## Space Events Page

**Hello World**  
Collaborative Learning Platform

- MYSPACE
- LEARN
- QUESTIONS
- ACTIVITIES
- LOGOUT

[Follow Space](#)

All Events Joined Events Category: Outside

Up Coming Events	Past Events	Create New Event
<p> Lets Make Healthy Food Together!</p> <p>21.12.2022   10:00 am Beşiktaş, İstanbul Social, Outside, Education</p> <p>Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Donec sollicitudin molestie malesuada.</p> <p><a href="#">Join</a> 25 / 40</p>	<p> Italian Food Workshop</p> <p>18.11.2022   17:00 pm Workshop, İstanbul Social, Outside</p> <p>Vivamus suscipit tortor eget felis porttitor volutpat. Donec rutrum congue leo eget malesuada.</p> <p><a href="#">Join</a> 12 / 15</p>	<p> History of Food!</p> <p>12.10.2022   17:00 pm <a href="#">www.zoom.com.tr/koglakk</a> Introductory, Presentation</p> <p>Praesent sapien massa, convallis a pellentesque nec, egestas non nisi. Donec sollicitudin molestie.</p> <p><a href="#">Join</a> 20 / 100</p>
<p> Taste Traditional Turkish Foods!</p> <p>14.10.2022   10:00 am Kadıköy, İstanbul Social, Outside</p> <p>Vivamus suscipit tortor eget felis porttitor volutpat. Nulla quis lorem ut libero malesuada feugiat. Proin eget...</p> <p><a href="#">Join</a> 50 / No quota</p>	<p> Discord Meeting</p> <p>17.12.2022   17:00 pm <a href="#">discord.link</a> Discussion</p> <p>ineque, auctor sit amet aliquam vel, ullamcorper sit amet ligula. Mauris blandit aliquet elit, eget tincidunt...</p> <p><a href="#">Join</a> 120 / No quota</p>	<p> My Story as Chef!</p> <p>12.10.2022   17:00 pm <a href="#">zoom link</a> Presentation</p> <p>Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Donec sollicitudin molestie malesuada.</p> <p><a href="#">Join</a> 120 / 200</p>
<p> Turkish Food Workshop</p> <p>10.10.2022   18:00 pm Workshop, İstanbul Workshop</p> <p>Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit neque, auctor sit amet aliquam vel, ullamcorper sit amet ligula. Quisque velit nisi, pretium ut lacinia in, elementum id enim.</p> <p><a href="#">Join</a></p>	<p> Let's Have Coffee</p> <p>19.12.2022   17:00 pm Workshop, İstanbul Outside, Social</p> <p>Curabitur non nulla sit amet nisl tempus convallis quis ac lectus. Nulla porttitor accumsan tincidunt.</p> <p><a href="#">Join</a></p>	<p> Meeting For Us 3</p> <p>18.11.2022   21:00 pm <a href="#">zoom link</a> Outside</p> <p>Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit...</p> <p><a href="#">Join</a></p>

**Koglakk Follow**  
254 Followers | 2312 Answers | 24 Lectures

**Healthy Food Makers**

Donec rutrum congue leo eget malesuada. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla quis lorem ut libero malesuada feugiat. Pellentesque in ipsum id orci porta dapibus. Nulla porttitor accumsan tincidunt. Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Donec sollicitudin molestie malesuada.

Content: 120 | Quiz: 15 | Case-Studies:7

Enrolled Users: 4.679

★★★★★ Rate 4.5/5

#recipe #meal #food #healthy

[f](#) [d](#) [t](#) [l](#)

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### **2.3.2. User Scenarios**

#### **Main Page:**

Mert Murat has enrolled several spaces. When Mert logins 'Main Page' lists Top 5 enrolled learning spaces by number of enrolled users. He can follow the learning space owners or unfollow the following one. He can browse listed Learning Space pages from the home page. New quizzes and case studies added to the enrolled learning spaces are listed chronologically. Mert can browse quizzes, case studies and related Learning Spaces.

#### **Quiz Page:**

Mert is a member of the "Beer Brewing" space. He joined this space to gain some knowledge related to beer brewing. And he wants to test his knowledge. When he clicks on the space, he will see the quizzes which were created by the collaborators/owners of the space. He will be able to click on these quizzes and take them whenever he wants to test his knowledge on the subject. When he clicks on the desired quiz, he will see the questions and the answers(4 options) and after finishing the quiz he will click on the "submit" button and he will be able to see his score and how many questions that he answered right or wrong. When he rolls back to the space, he will be able to see his exams and their grades.

#### **Case Study Page:**

Erdem is a member of the "3D Printing" space. When he has joined the space, he can be able to view case-studies that have been created. The studies are categorized according to release date, due date. They are respectively; "Newly Open", "In-progress", "Closed". He can be able to filter the studies according to these categories, as well as he can participate in the study that he is interested in. In the main page of the space, the studies will be shown as the name, the release date, and the brief description. After clicking the category, let's say the newly opened studies, he can observe or participate in the study. Also, he can view the comments.

#### **Event Page:**

Alex is a member of the "Food Recipes" space. When he visited space events in space, he viewed all upcoming events which are created by space members. The titles of the three days remaining events were red, and these events immediately caught his attention. Alex also noticed that the number of people remaining in events that were about to expire was red. Two days later, there was room for two for the workshop event that will take place on Saturday. He immediately clicked on the title of the event and got more information about the event. The location and time were convenient for him. Also, when he clicked on the number of people who joined, he saw that there were users he knew in the participant list and thought it was a good opportunity to meet them face to face. Alex finally clicked the join button and there was only one place left for the event.

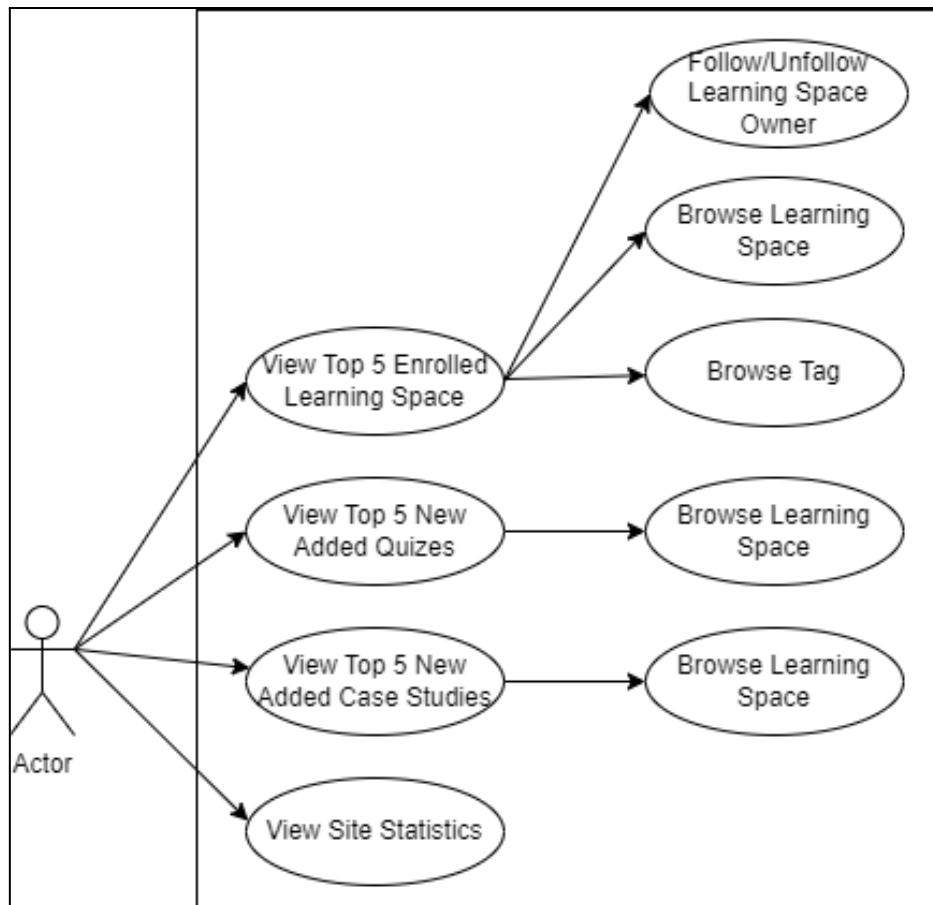
### **2.3.3. Diagrams**

All designs are updated or changed regarding the requirements that are set in the final version of the application.

#### **Use case diagram:**

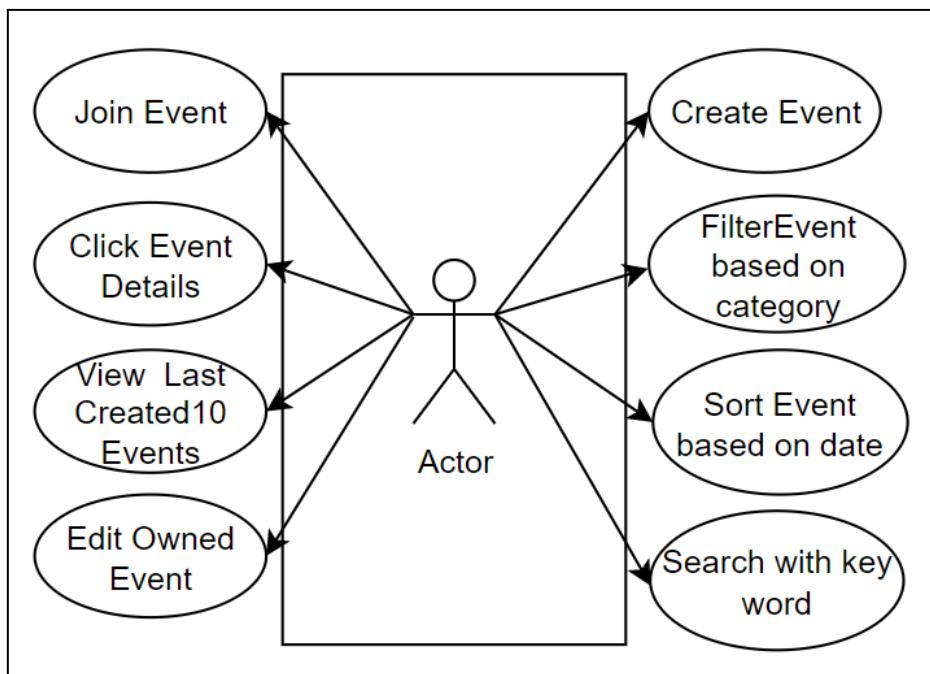
The diagram is updated with new requirements, also previously defined requirements are removed, if the final version of the platform does not include it.

**Home Page**

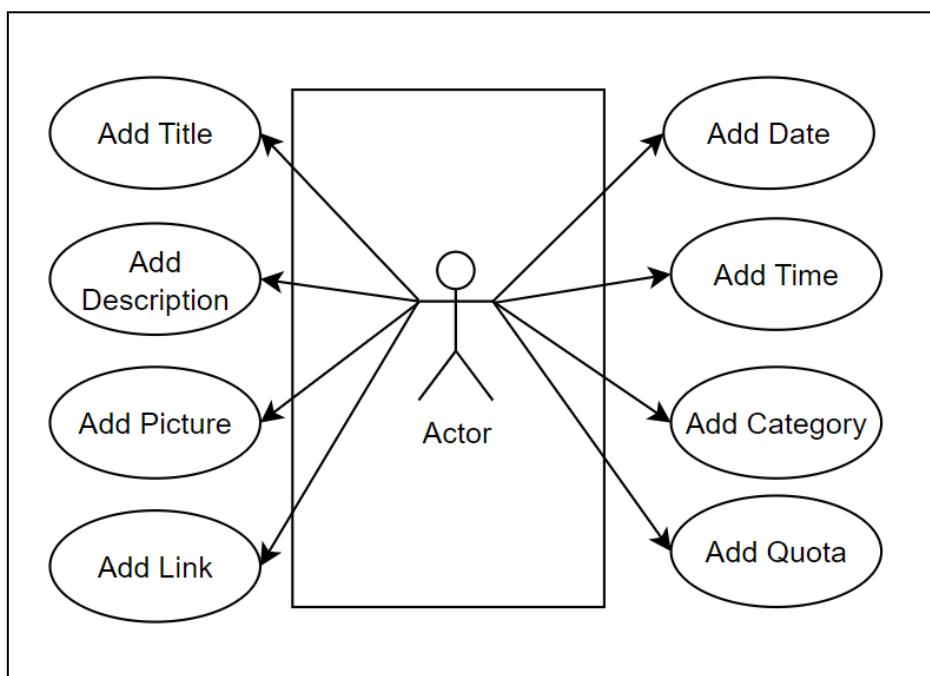


## Event Page

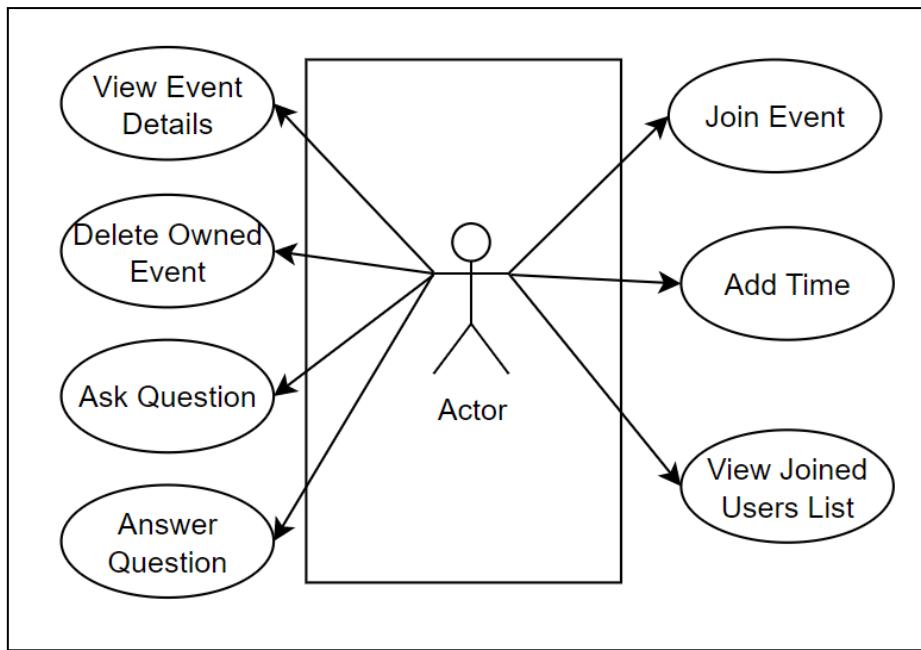
### Upcoming Events



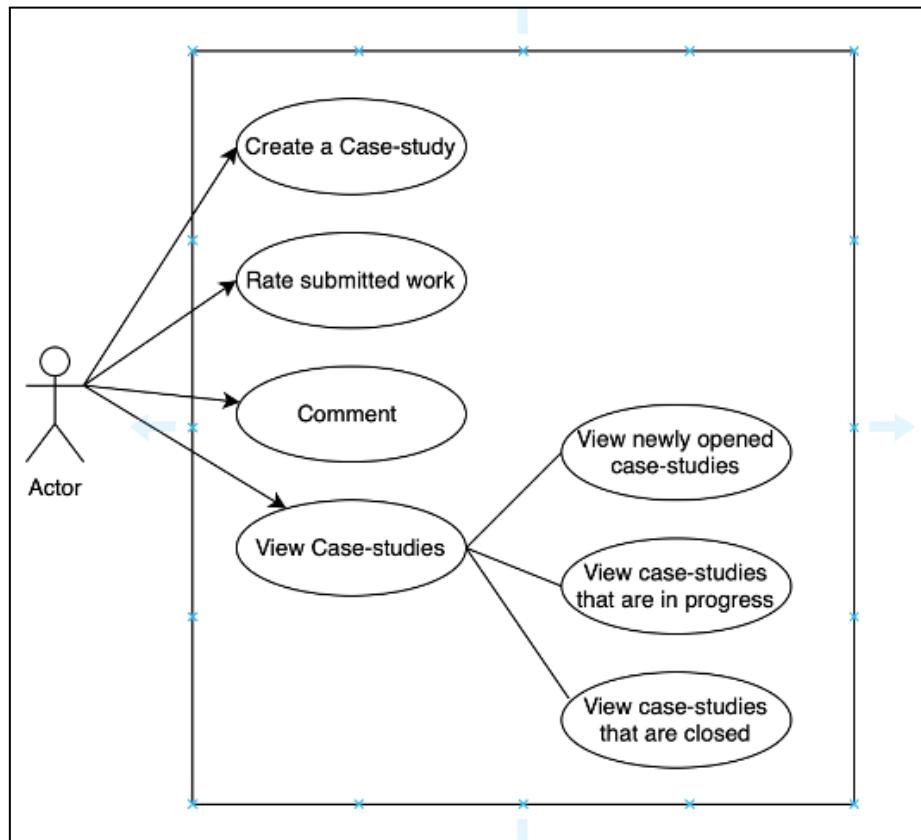
### Event Creation



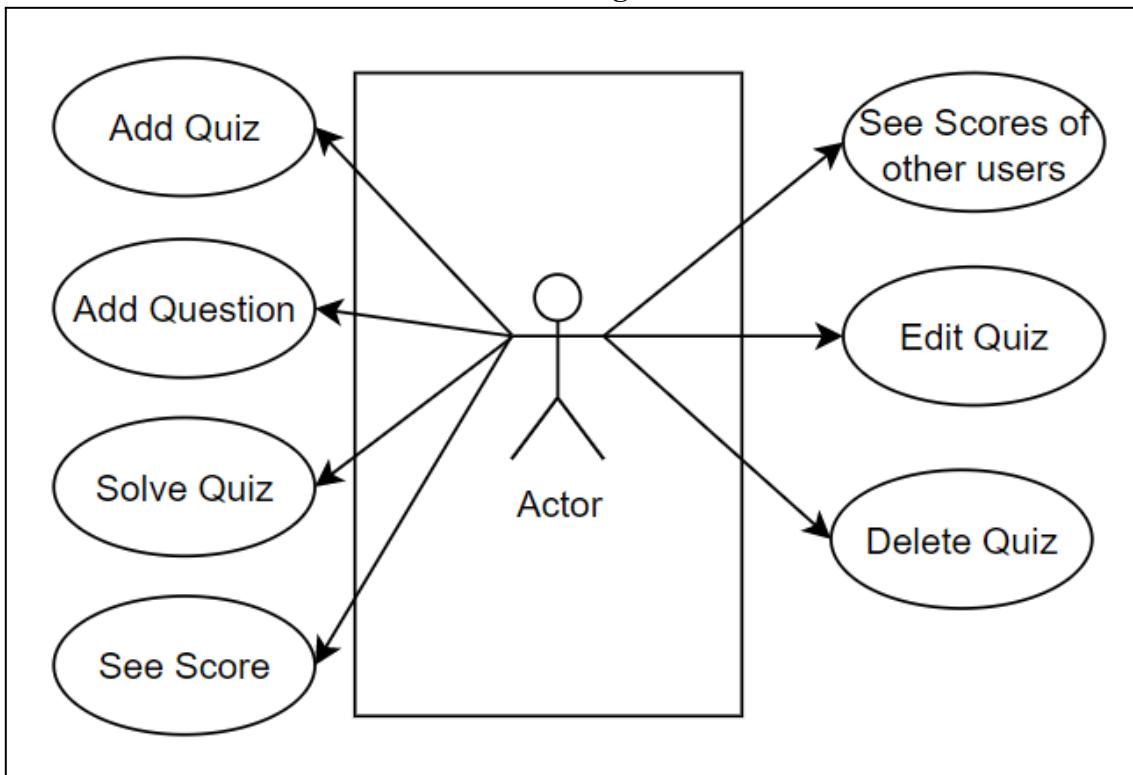
### *Event Details*



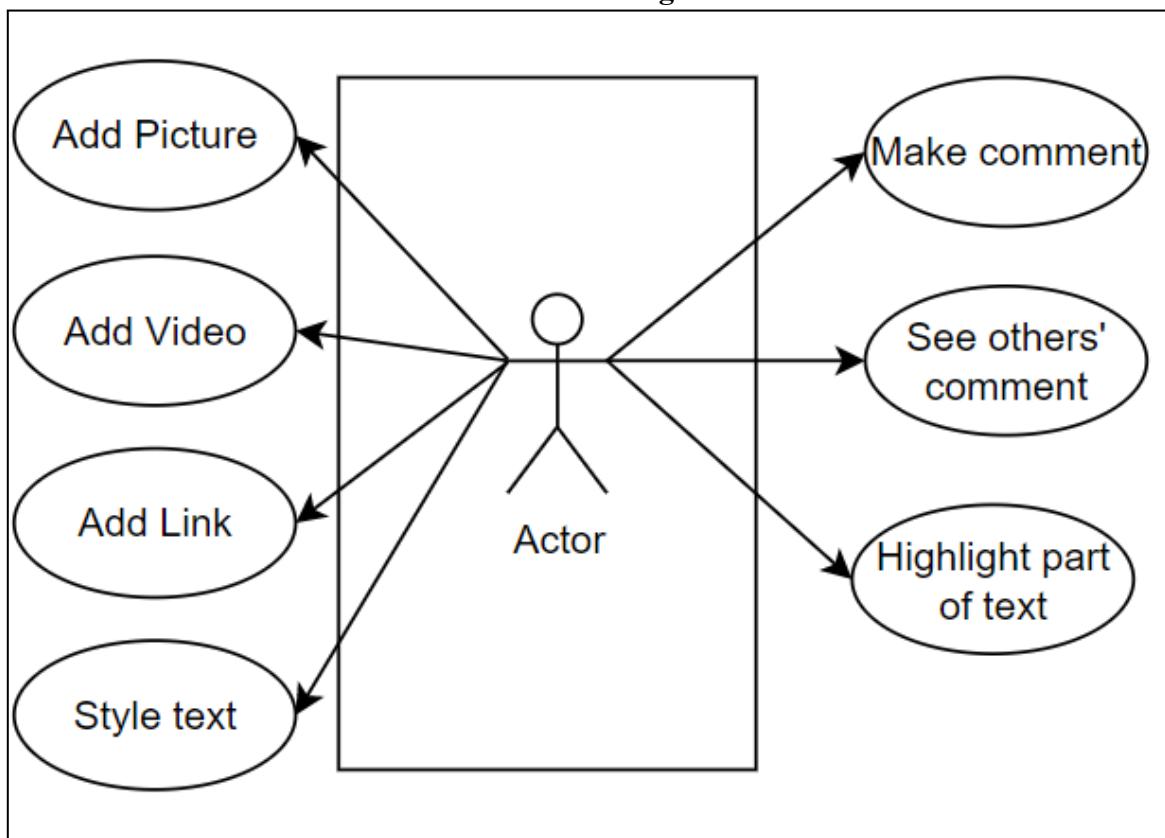
### **Case – Study Page**



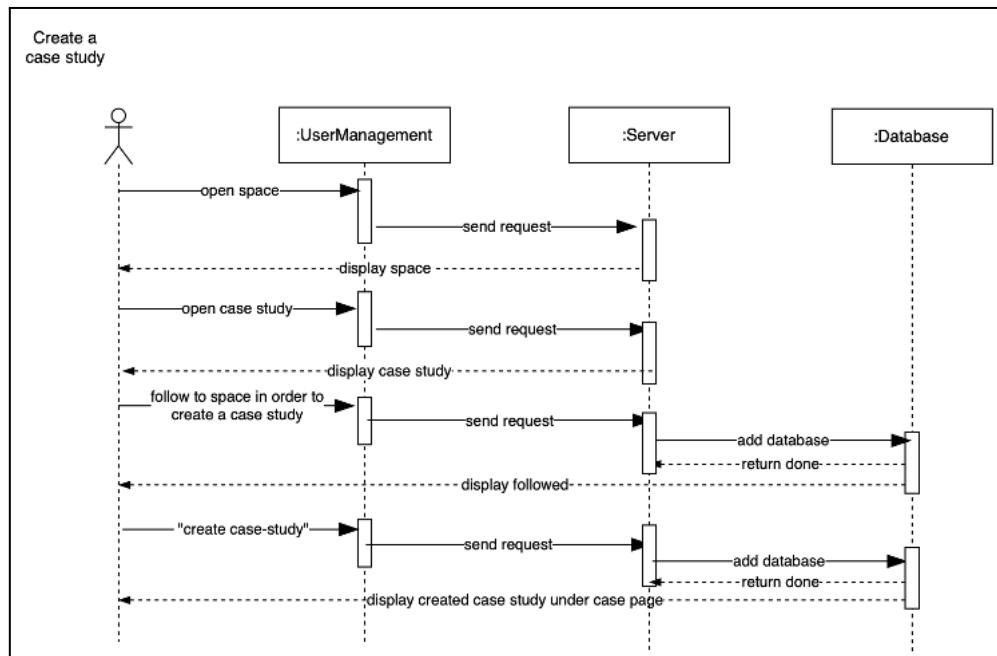
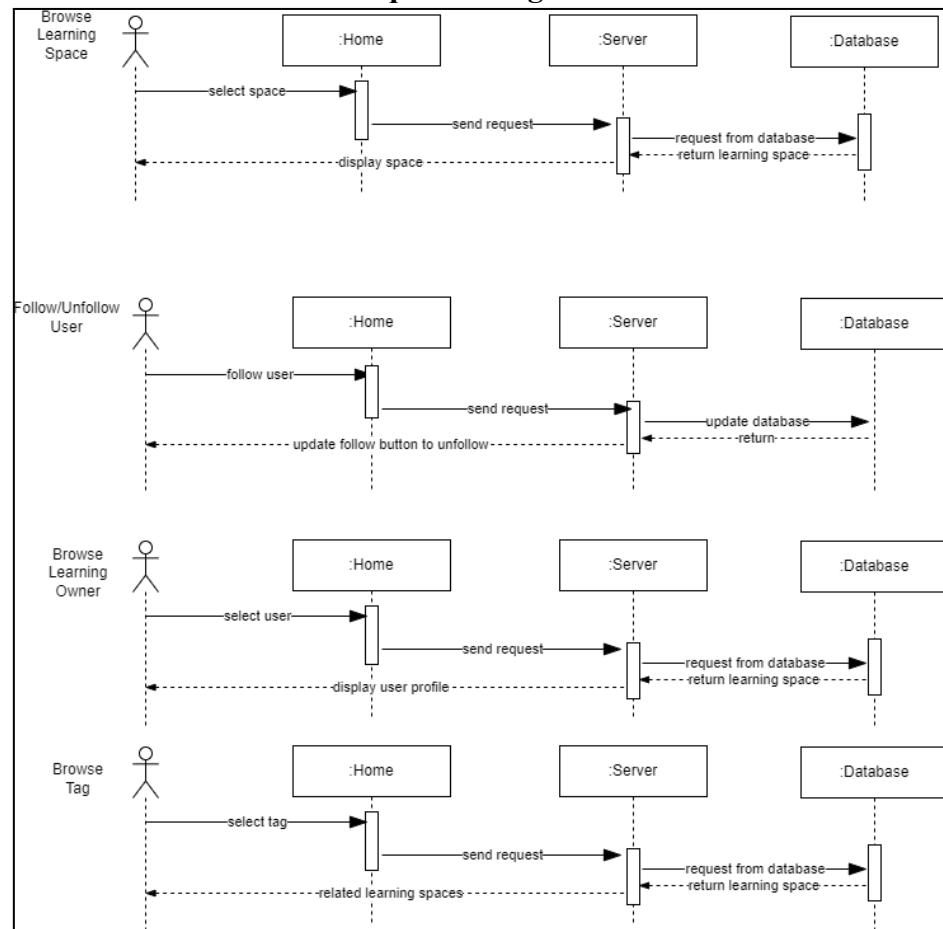
### Quiz Page

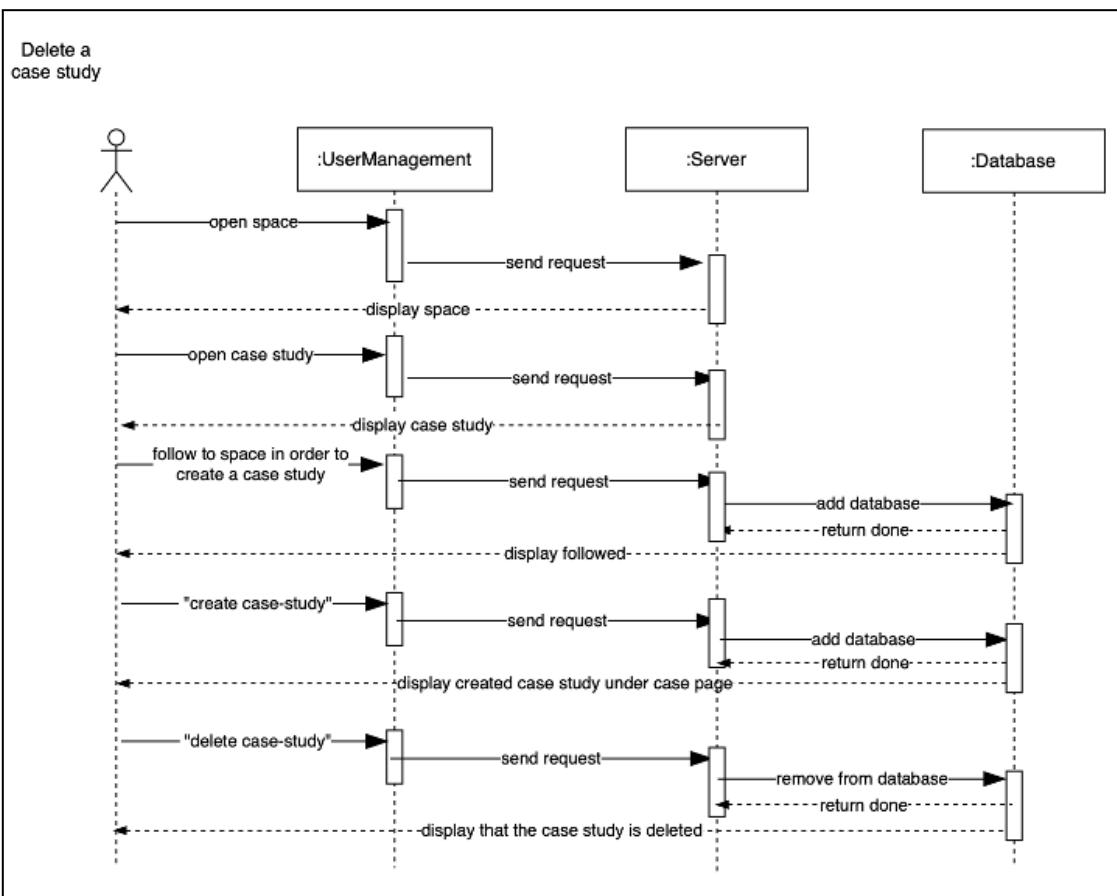
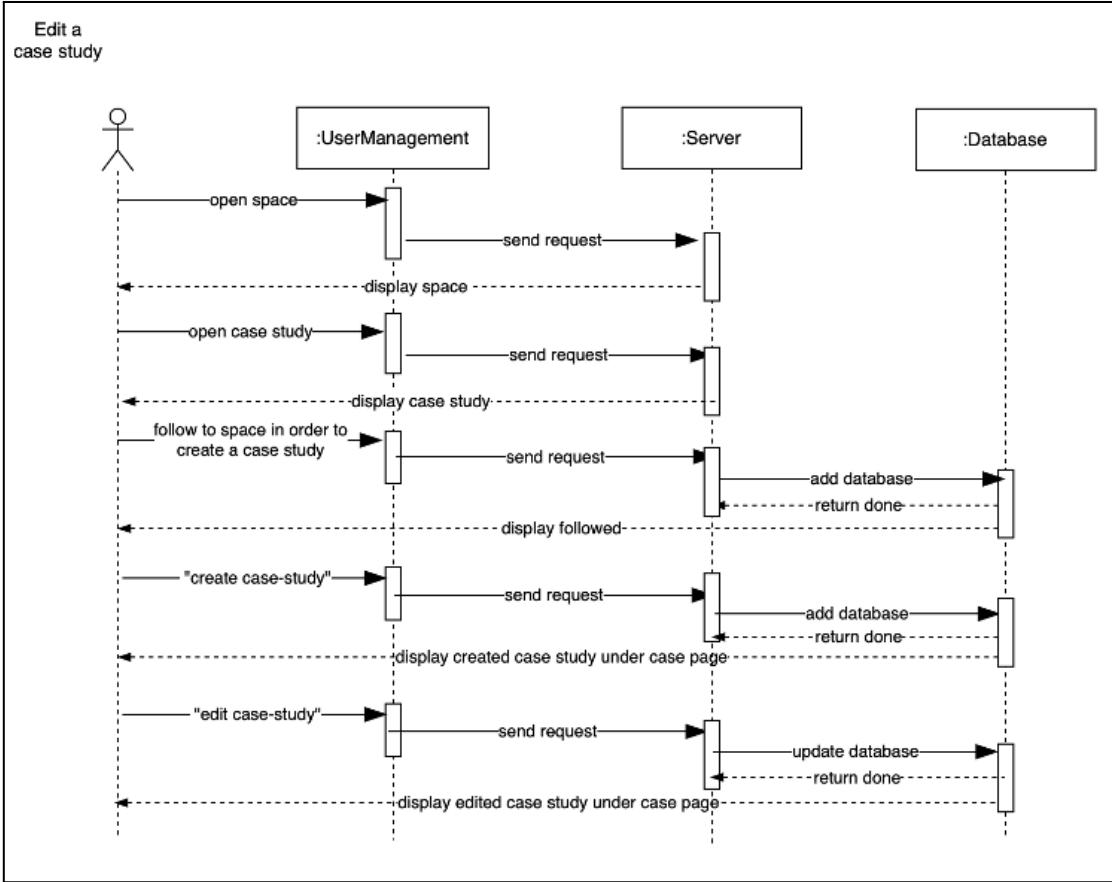


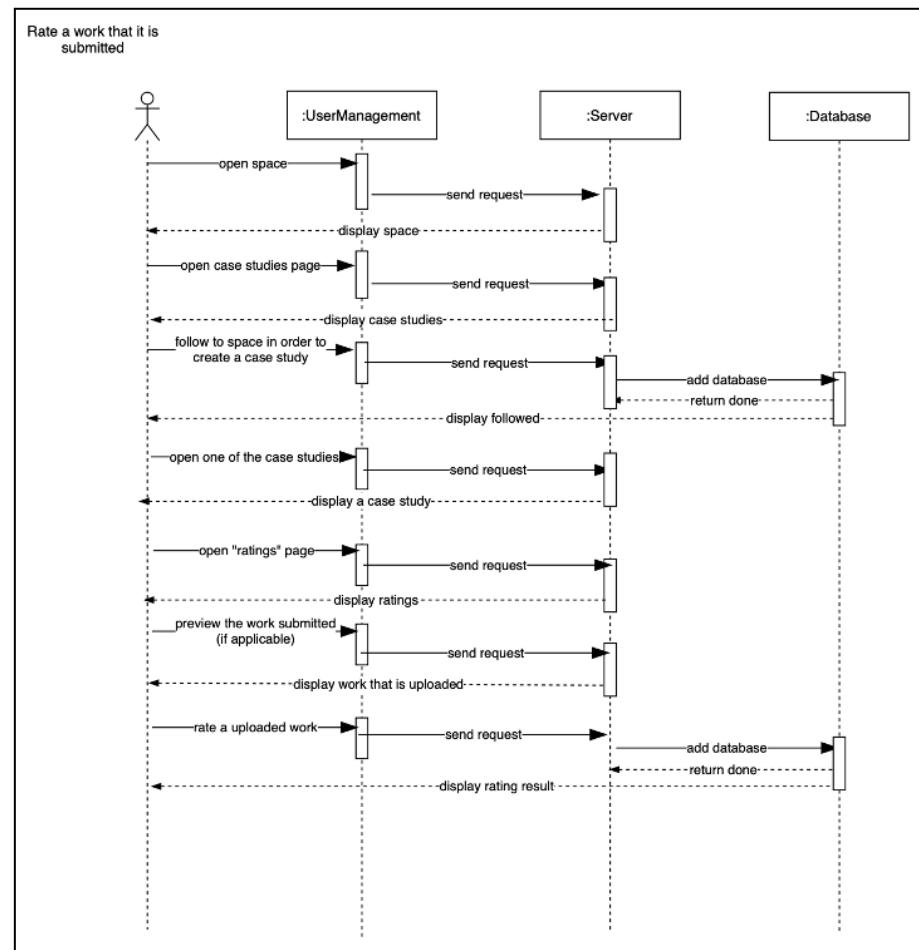
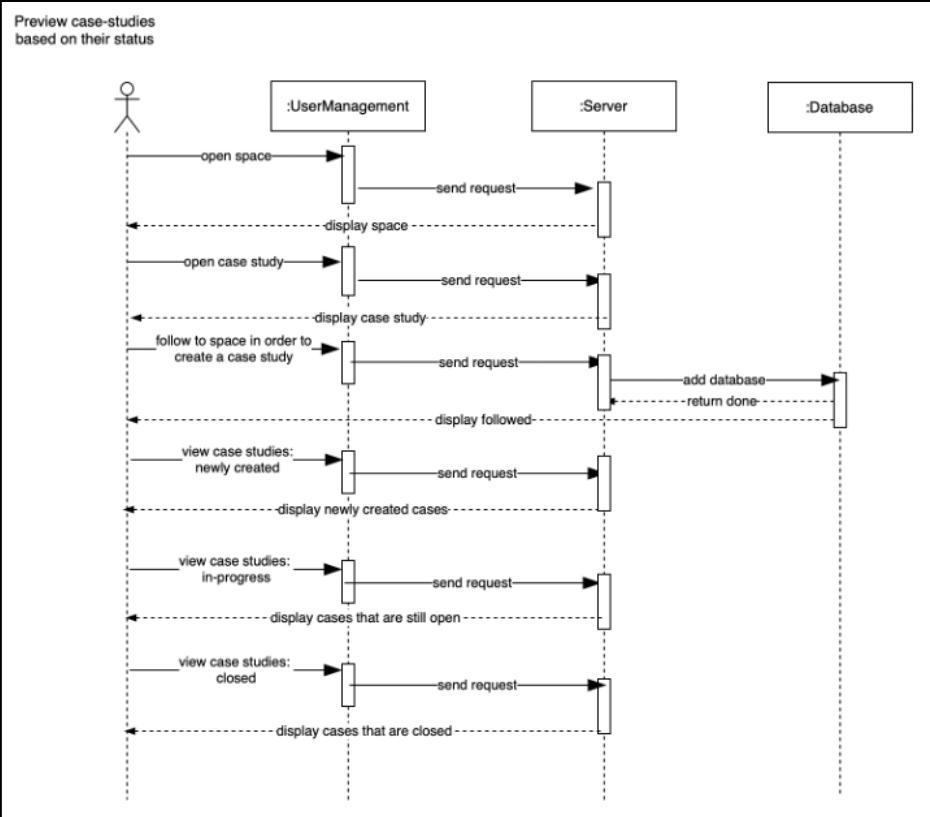
### Resource Page

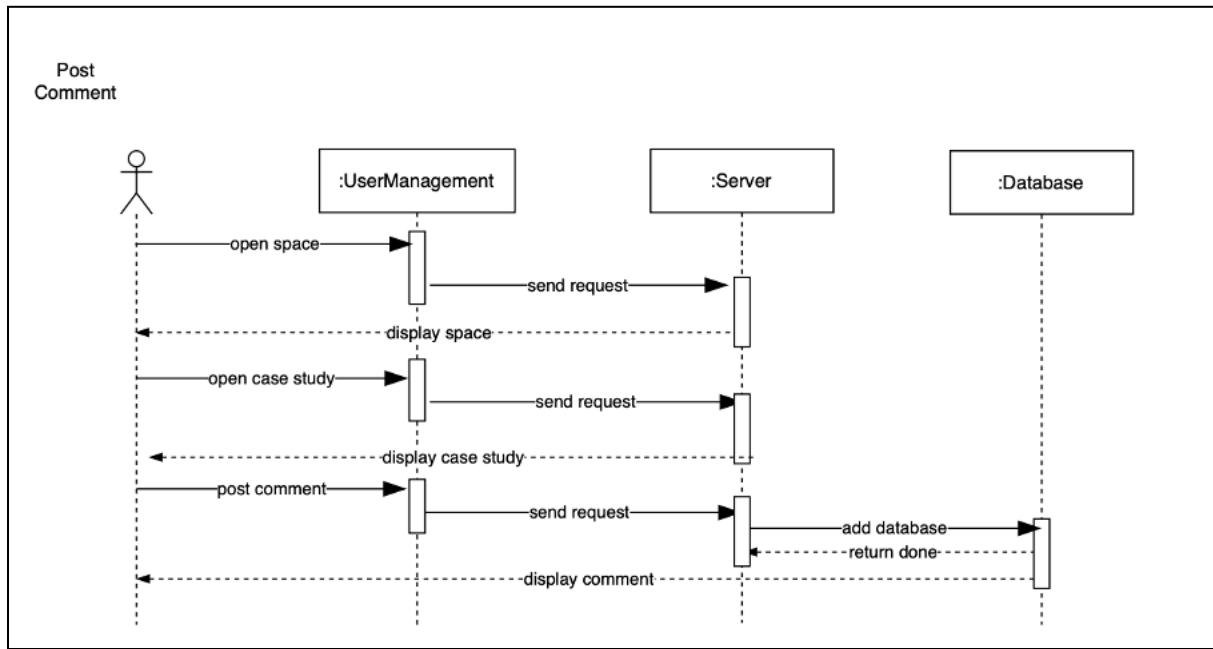


## Sequence diagrams

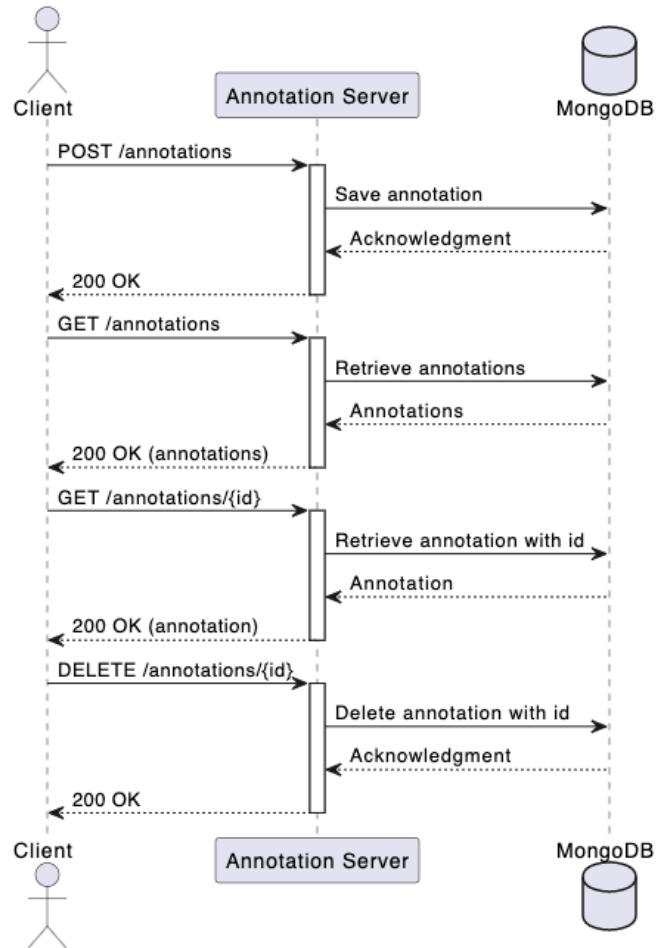




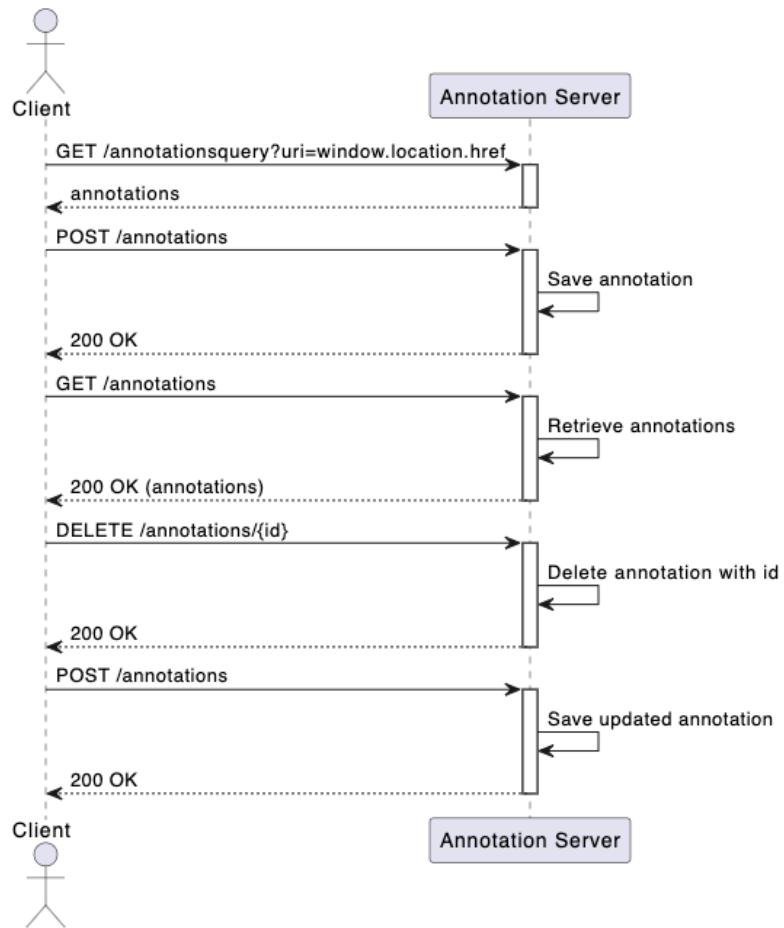




Sequence diagram of Annotation Server



Sequence Diagram of frontend-server communication:



### 3. Status of Project

As stated before, some requirements could not be added in the final application. Also, some functionalities do not work as desired.

- Searching rooms  
This functionality has bugs. The search motor response is unlike the logical way.
- Enrolled rooms  
This feature is added to show the user the list of rooms that he/she is enrolled in. But it returns “None” value, so we cannot see the values.
- Feed page does not show the enrolled room’s post, but shows every post that is sent to rooms.  
Basically, it is related to the previous problem. If I could gather the values on the second problem that I faced, I was going to create an if loop to overcome this.
- When a user wants to create a post, challenge, or room, logically there is no need to select a room again. However, I could not manage to connect these different apps to each other. Thus, users would need to select the room correctly to share information with others.

Beside coding errors above, dockerization is done.

Dockerfile in GitHub: [Dockerfile](#)

Docker-compose.yml file in GitHub: [docker-compose.yml](#)

Dockerfile for Annotation-Server in GitHub: [Dockerfile](#)

Docker-compose.yml file for Annotation-Server in GitHub: [docker-compose.yml](#)

### 4. Project Timing

Weekly milestones have been determined for the project. The prioritization criterion has been determined according to the features requested by the customer and reusable features. Issues are raised weekly according to milestones’ content. Issues are raised according to requirements of the project.

**Milestone#1: 10.10.2022**

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/1>

**Milestone#2: 17.10.2022**

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/2>

**Milestone#3: 24.10.2022**

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/3>

## Milestone#4: 31.10.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/4>

## Milestone#5: 07.11.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/5>

## Milestone#6: 14.11.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/6>

## Milestone#7: 21.11.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/7>

## Milestone#8: 05.12.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/8>

## Milestone#9: 12.12.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/9>

## Milestone#10: 17.12.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/10>

## Milestone Final: 24.12.2022

Link: <https://github.com/koglak/bounswe574-2022-gr2/milestone/finalize>

Name & Surname:		Project Name: SWE 574 Software Development as a Team												2022 Fall SWE 574 Project										
Kardelen Oğlakçıoğlu		October	November	December	January	Current week	CW40	CW41	CW42	CW43	CW44	CW45	CW46	CW47	CW48	CW49	CW50	CW51	CW52	CW1	CW2	CW3	CW4	CW5
Mert Can Geyik																								
Mert Murat Şentürk																								
Ömer Bahar																								
S. Erdem Turanlıoğlu																								
Deciding to continue with previous project or starting to a new project	Done																							
Labels creation	Done																							
Github "Read.Me" update	Done																							
Milestone creation	Done																							
Weekly Wiki page update	In-progress																							
Project Kanban Board creation	Done																							
Requirements review	In-progress																							
Mock-up creation	In-progress																							
Diagram creation	In-progress																							
Initial set-up of project to local computers	In-progress																							
Unit test	Not started																							
User testing	Not started																							
Develop	In-progress																							
Dockerize	In-progress																							
Documentation	In-progress																							
Publish	Not started																							

Agreed to have a weekly meetings at every Thursday btw. 6 - 7 pm

Final project submission (22th Dec)

## 5. System Manual

The URL of the GitHub repository:

<https://github.com/koglak/bounswe574-2022-gr2.git>

When you click the URL above, you will be directed to the homepage of the repository. You may find all the related code here.

My project consists of several applications, and these are connected inside the database. Inside the requirements.txt page, the required programs can be found.

DockerFile and docker-compose.yml files are contributed with the dockerization.

To run the code in your local:

After you cloned the repository (from: <https://github.com/koglak/bounswe574-2022-gr2.git>), and change the directory of to this downloaded file, you may need to add 127.0.0.1 host into the settings file. Then, you can basically run **python manage.py runserver**, with this command you need to be able to run and expect to open the host (127.0.0.1) in your web browser.

Important note: The debug setting is False currently for the production, you also need to change to True in the settings.py file.

### Prerequisites

- **Python**
- **Django:** python -m pip install Django
- **Virtual Environment:** python -m venv myvenv
- **PostgreSQL**
- **Docker**

### Instructions to run project:

#### 1. Clone project to folder:

```
git clone https://github.com/koglak/bounswe574-2022-gr2.git
```

#### 2. Go to new folder:

```
cd C:\Users\<user>\<folder>\bounswe574-2022-gr2
```

#### 3. In order to work with annotation server, first:

```
cd Annotation-Server
```

#### 4. Run below commands in terminal

```
docker build -t my-app .
```

```
docker-compose up
```

**5. Now cd back to the main repository**

**6. Activate virtual environment:**

```
python3 -m venv myvenv
```

**7. Run requirements:**

```
pip install -r requirements.txt
```

**8. Build docker images:**

```
docker build . -t project_web
```

**9. Run docker container:**

```
docker-compose up
```

**7. Go to local host:**

<http://localhost:8000/>

**8. Get id of docker container:**

```
docker container ls
```

**9. Create admin user:**

```
docker exec -it container_id python manage.py createsuperuser
```

GitHub wiki page:

<https://github.com/koglak/bounswe574-2022-gr2/wiki>

In this page, you can find the progress of project in weekly basis, and you can see the details by clicking to given links.

GitHub issues page:

<https://github.com/koglak/bounswe574-2022-gr2/issues>

There is no open issue now, but some issues are closed with fail. For future work, these problems will be investigated, and I plan to manage to fix them all. Thus, you can follow all closed issues:

<https://github.com/koglak/bounswe574-2022-gr2/issues?q=is%3Aissue+is%3Aclosed>

GitHub milestones page:

<https://github.com/koglak/bounswe574-2022-gr2/milestones>

Each issue is specified to one milestone to have an organized structure to see the project progress in a whole. All the milestones completed for this project, of course, as indicated before there are some issues that needed to look after, but for the final deliverable these are passed.

GitHub project page:

<https://github.com/users/koglak/projects/7/views/2>

Here, as you can see, there are four buckets to track the issues: ToDo, InProgress, Done, Fail. The main idea is to see which issues are needed to do, and which are in progress etc.

## 6. User Manual

The URL of the platform: <https://swe574-f22-gr2.azurewebsites.net/>

This link will direct you to the home page of the Hello World platform and in here, you can create a new account, or you can login with your credentials.

### 6.1. Register Page

Users can register a page by filling in their username, email address and password. When a user registered to the page, the system will route the user to the home page.

When a user is registered, the default profile picture and biography are created for the user. Myspace page is empty, because, user has not created any new space yet.

A screenshot of a web browser window showing the registration form for the "Hello World" platform. The title bar says "HelloWorld" and the address bar shows "Güvenli değil | ec2-44-202-83-160.compute-1.amazonaws.com/register/". The page header includes "Hello World", "MYSPACE", "QUESTIONS", "LEARN", "ACTIVITY", "LOGIN", and "REGISTER". The main content area is titled "Welcome!" and contains fields for "Username\*", "Email\*", "Password\*", and "Password confirmation\*". Below the password fields is a note: "Your password can't be too similar to your other personal information." followed by four bullet points: "Your password must contain at least 8 characters.", "Your password can't be a commonly used password.", "Your password can't be entirely numeric.", and "Your password can't be too similar to your other personal information.". At the bottom is a green "Register" button.

### 6.2. Home Page

Home page displays created spaces. Each space block contains space owner, picture, title, short description, quantity of content, quiz, case-study, average rating, enrolled users, and tags. Users can search a space by entering keywords. Common tags are also listed up to four. If a user clicks a tag, the system routes the user to the tag detail page. If a space has more than 2 enrolled users, a crown icon is displayed near the space title. If a space has a higher average rate than 4, a spaceship icon is displayed near the space title. Moreover, if the user is authorized, personalized tabs options are displayed. In this case, the last 5 quizzes and case studies posted in the last 7 days on the spacers followed by the user are shown on this screen. If the user is not authorized, the case studies and quizzes posted in the last 7 days will be shown independently of the spaces the user follows. The last 4 created spaces are shown on the screen and older spaces can be accessed by pagination.

The screenshot shows the homepage of the Collaborative Learning Environment. At the top, there are navigation links: Hello World, MYSPACE, QUESTIONS, LEARN, ACTIVITY, and LOGOUT. Below the navigation is a search bar with a 'Search' button. A 'Common Tags:' section includes travel, ancient, software, life, and adventure. The main content area displays four learning spaces:

- Homemade Chiefs**: Welcome chief! We are glad to see you with us! We are sharing our secret recipes and willing to hear yours! If you like to spend some time in your... Resources: 0 | Quiz: 1 | Case-Study: 0 Rating: 0.00/5 Enrolled Users: 4
- Travellers Space**: L... Resources: 0 | Quiz: 0 | Case-Study: 1 Rating: 0.00/5 Enrolled Users: 2
- Greek Mythology**: Mythology is an attractive world and we are telling all the stories about Greek Mythology. Regardless of your knowledge, you... Resources: 0 | Quiz: 0 | Case-Study: 1 Rating: 0.00/5 Enrolled Users: 3
- Roman History**: Ancient Roma has great history and architecture. If you are interested in Roman Culture, you have to join our space. We daily share resources which... Resources: 0 | Quiz: 0 | Case-Study: 1 Rating: 0.00/5 Enrolled Users: 3

When a user clicks any tag related to space, the system shall route the user to the tag detail page. Here, the spaces which have a common tag are listed. If a user clicks one of the spaces, the system shall route the user to the space detail page.

- Tag Associated Spaces
- Space Titles link which routes to the space page.

New Quizzes			This Week		New Case Studies		
Quiz	Created On	Learning Space	0 Users Joined 0 Learning Space Created		Case Study	Created On	Learning Space
<a href="#">How to cook pasta?</a>	Dec. 30, 2022, 1:02 a.m.	<a href="#">Homemade Chiefs</a>			<a href="#">Saturnalia Festival Paper Competition</a>	Dec. 30, 2022, 1:05 a.m.	<a href="#">Roman History</a>
<a href="#">Famous Cities Culture Quiz</a>	Dec. 30, 2022, 1:03 a.m.	<a href="#">Travellers Space</a>			<a href="#">Post a Ancient City Picture in Turkey</a>	Dec. 30, 2022, 1:03 a.m.	<a href="#">Greek Mythology</a>

### 6.3. Myspace Page

When a user clicks a myspace page, the spaces which are created by the current user are listed. Each space block contains relevant information about the space. Unlike the space block on the home page, full description of space, collaborative members of space are listed. Users can edit each space content by clicking the “Edit Space” button. Users can create new space by using the “Create New Space” button. Also, users can edit her/his profile by using the “Edit Profile” button. User’s profile picture and biography are displayed at the right side in the profile block. If a user is added to other spaces as a collaborative member, those spaces are listed under profile block. When the user clicks space titles, the system routes the user to the related space detail page. When a user clicks the nickname of another user, the system routes the user to a related user page. Moreover, users can follow each other on this page.

- Created Spaces’ Block
- Edit Space
- Create new Space
- Edit Profile
- List of Collaborative Spaces
- Nicknames route User Page
- Space titles route Space Detail Page
- Follow/Unfollow user

The screenshot shows a web-based collaborative learning environment. At the top, there's a navigation bar with links for 'MYSPACE', 'QUESTIONS', 'LEARN', 'ACTIVITY', and 'LOGOUT'. Below the navigation, there's a header for 'Hello World' and 'Collaborative Learning Environment'. The main content area displays two spaces: 'Roman History' and 'Homemade Chefs'. Each space has a thumbnail image, a title, resource counts, member lists, and a brief description. The 'Roman History' space has a description about ancient Roma and its history. The 'Homemade Chefs' space has a description about sharing secret recipes. On the right side, there's a profile for a user named 'hermes' with a portrait, a bio, interests like Cooking, Travelling, and Dancing, and social media links. There are also sections for 'Followers', 'Spaces', and 'Questions'. At the bottom, there are social media sharing icons and a copyright notice.

## 6.4. Space Detail Page

When a user clicks any space title, the system routes the user to the space detail page. In this page, there are 3 blocks. On the left side, contents, quizzes and case-studies are listed. If a user clicks one of them, the system routes the user to a related page. If the user clicks the “Follow Space” button, space is displayed at the Learn Page. Middle of the page, content is displayed. It is textual content, and the first content is displayed by default. On the left side, a space block is displayed. If the user clicks the “Event List” button, the user can see all events for this space. If the user clicks the eye icon near the case study, the user can display submissions of the case study and grade each submission. Moreover, users can rate space on this page. Quiz score is displayed next to the quiz title. If the user has not taken the quiz, the score is visible as None.

- Follow Space / Unfollow Space
- Event List
- Quizzes
- Contents
- Case Studies
- Case Study Submissions

The Roman Empire (Latin: Imperium Romanum[tm peri.ō̄ rō ma.n̄]) [Greek: Βασιλεία τῶν Ρωμαίων] was the post-Republican period of ancient Rome. As a polity, it included large territorial holdings around the Mediterranean Sea in Europe, North Africa, and Western Asia, and was ruled by emperors. From the accession of Caesar Augustus as the first Roman emperor to the military anarchy of the 3rd century, it was a Principate controlled as the metropole of its provinces and the city of Rome as its sole capital. The Empire was later ruled by multiple emperors who shared control over the Western Roman Empire and the Eastern Roman Empire. The city of Rome remained the nominal capital until AD 476, when the last Western Roman Emperor was deposed, and the capital of the Western Empire moved to Ravenna by the Germanic barbarians. The adoption of Christianity as the state church of the Roman Empire in AD 380 and the fall of the Western Roman Empire to Germanic kings conventionally marks the end of classical antiquity and the beginning of the Middle Ages. Because of these events, along with the gradual Hellenization of the Eastern Roman Empire, historians distinguish the medieval Roman Empire that remained in the Eastern provinces as the Byzantine Empire.

Users can add comments and tags to the textual field. Web annotations JSON-LD format has been used for this purpose. Other users can display comments and make new comments to the highlighted text part.

- Highlighting text
- Comment to text part
- Display comments of text part
- Add tags to comments
- Delete owned comments

In modern historiography, **ancient Rome** refers to Roman civilisation from the founding of the city of Rome in the 8th century BC to the collapse of the Western Roman Empire in the 5th century AD. It encompasses the Roman Kingdom (753–509 BC), Roman Republic (509 BC–27 BC) and Roman Empire (27 BC–476 AD) until the fall of the western empire.<sup>[1]</sup>

It began as an **Italic** settlement, traditionally dated to 753 BC, beside the River Tiber in the Italian Peninsula. The city grew into the city and polity of Rome, and came to control its neighbours through a combination of treaties and military **domination** of the Italian Peninsula, assimilated the Greek culture of southern Italy (*Magna Graecia*) and later and acquired an Empire that took in much of Europe and the lands and peoples surrounding the Mediterranean Sea. It was among the largest empires in the ancient world, with an estimated 50 to 90 million inhabitants, roughly half its population at the time.<sup>[2]</sup> It covered around 5 million square kilometres (1.9 million square miles) at its height.

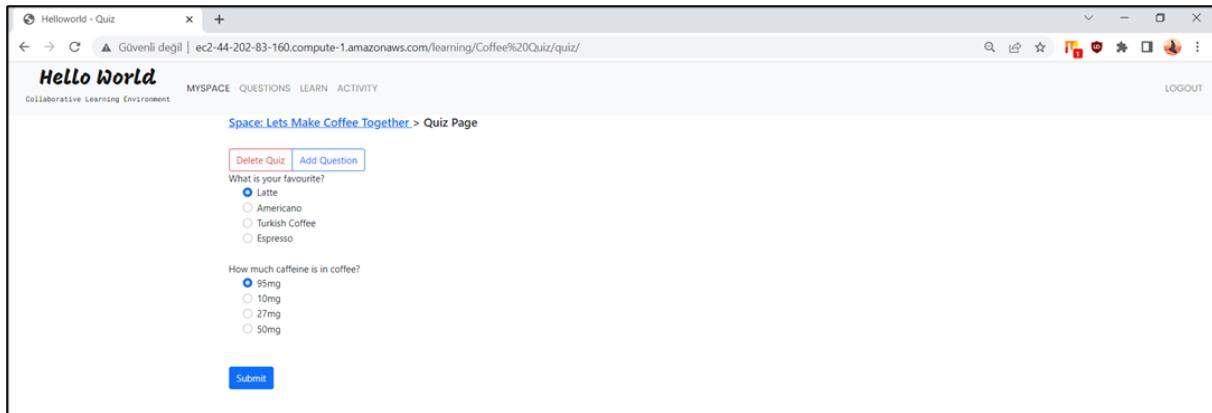
## 6.5. Quiz Page

When a user clicks a quiz, questions are listed. Answers are radio buttons where users can select only one answer. If the user is the owner or collaborative member of the space, the user can delete the quiz or add a new question. Page routing path is displayed above. If the user clicks space title, the system routes the user to the space detail page. If a user submits the quiz, the quiz score is displayed.

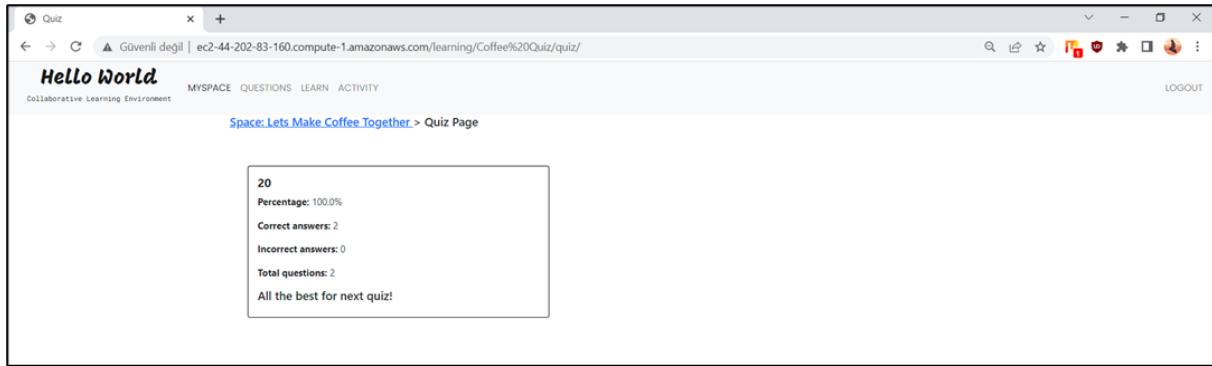
- Question Lists
- Delete Quiz (visible for space owner or collaborative member)
- Add Question (visible for space owner or collaborative member)
- Submit Quiz

If the user is the owner or collaborative member of the space, there are additional features on this page. Users can edit content or quiz by clicking the pencil icon next to the content name. A blue bar is displayed in order to create new content, quiz or case study.

- Create quiz, content, case-study
- Edit quiz and content



If a user submitted a quiz, quiz score is displayed.



If a space owner or collaborative member clicks the “Add Question” button, the system routes the user to the question addition page. Here users can enter questions and answers. Finally, the user selects the correct answer from the dropdown menu. If the user clicks “Ask” button, the question will be visible at quiz page.

- Enter question and answers
- Select correct answer
- Ask question

The screenshot shows a web-based quiz creation interface. At the top, there's a header with 'Question Add' and a URL 'Güvenli degil | ec2-44-202-83-160.compute-1.amazonaws.com/learning/Coffee%20Quiz/quiz\_add/'. Below the header, the title 'Hello World' is displayed, followed by 'MYSPACE QUESTIONS LEARN ACTIVITY'. A sub-header 'Collaborative Learning Environment' is present. The main form is titled 'Add Questions for |' and contains fields for a question and four options (Op1-Op4). A dropdown 'Ans:' is set to 'option1'. A green 'Ask' button is at the bottom.

The Quiz Page shows the user scores of the quizzes published on the home page. Clicking on the quiz title redirects to the quiz page, while clicking on the user nickname redirects to the user page.

- List of quizzes
- Scores of each quizzes
- Routing to quiz page from quiz title

The screenshot shows the main application interface. On the left, a sidebar lists 'Space Resources', 'Space Quizzes', 'Case Studies', 'Space Events', 'Space Forum', and 'Space Metrics'. Below this, a list of quizzes is shown with their titles, descriptions, and scores. A 'Create Quiz' button is at the bottom of this list. The main content area displays several quizzes:
 

- Famous Cities Culture Quiz:**
  - Quiz About Evilya Çelebi
  - othena - 100
  - hermes - 25
  - hello - 50
  - medea12 - 100
- Quiz About Istanbul:**
  - othena - 50
  - hello - 100
  - hermes - 50
  - kirke - 75
  - medea12 - 10
- Quiz About Into The Wild:**
  - kirke - 100
  - hermes - 10
  - root - 75
  - othena - 50
- Quiz for Travellers:**
  - medea12 - 10
  - hermes - 50
- How much do you know about Travellers History?**
  - othena - 100
  - medea12 - 50
  - hello - 100

 To the right, there's a user profile for 'kirke' with a 'Follow' button, a thumbnail image of a person, and a section for 'Travellers Space' with a description and stats. A rating bar and hashtags are also present.

## 6.6. Case-Study Page

When a user clicks a case study, the system routes the user to the case study page. Here users can see created case-studies. At the left hand side, in the sidebar, users can look under categorized case-studies. Each category lists case-studies according to their publish date, due date.

The screenshot shows a user profile for "turanlioglu" with a "Follow" button. Below the profile is a thumbnail image of a 3D printer. To the right of the image is the title "Learning how 3D printing works". Underneath the title is a detailed description of 3D printing, followed by resource statistics (Resources: 1 | Quiz: 0 | Case-Study: 3), a rating (Rating: 4.00/5), and enrollment information (Enrolled Users: 1). At the bottom are navigation buttons for "#3D", "#printing", and "#Gcode".

**Case Studies - Newly Created**

**Case: Tablet Holder**  
Published date: Dec. 25, 2022, 7:23 p.m.  
Created by: [turanlioglu](#)

**Case: Cable Guards**  
Case is closed  
Due date was "Dec. 27, 2022, 7:25 p.m."  
Created by: [turanlioglu](#)

**Case: First project with using 3D printing**  
Created by: [turanlioglu](#)

If the user clicks one of the categories that lied on the sidebar, the system routes the user to that category and case-studies list under.

The screenshot is identical to the previous one, but the second case study ("Case: Cable Guards") is now highlighted with a red border. The rest of the interface remains the same, including the sidebar categories and the detailed view of the highlighted study.

**Case Studies - Newly Created**

**Case: Tablet Holder**  
Published date: Dec. 25, 2022, 7:23 p.m.  
Created by: [turanlioglu](#)

**Case: First project with using 3D printing**  
Due date: Dec. 29, 2022, midnight  
Created by: [turanlioglu](#)

Here, we can see that there are two case studies under newly created. On the details, you can observe that the case study is newly published on 25.12.22 and also, one another case study is close to the end, which is highlighted with red, 29.12.22.

And in the main page, we can notice the title and the owner of the created case studies. Later, once we want to see the details of that case study, simply click on that case study we want to dig.

**Title of the case study: "First project with using 3D printing"**  
has opened by turanlioglu

[Edit](#) [Delete](#) [Ratings](#) [Upload Your Work](#)

**Description:**

This project is different as it doubles as desk mascot, toy, or gift, too. Cali Cat is a simple and adorable model that tests your printer's accuracy, [overhangs](#), [detail](#), [bridging](#), extrusion, and more in under an hour.



**Comment**

 turanlioglu said

Great suggestion, I'll deep in shortly.

Dec. 27, 2022, 12:14 p.m.

**Leave a comment**

In the case details page of the respective case-study, there are some functionalities such as editing, deleting, uploading work and ratings that are given for the submitted works page. And we see the details of that case study as well as the commenting section, if it is needed.

Editing a case study is simply correcting any typo or any misleading information.

**Hello World**

COLLABORATIVE LEARNING ENVIRONMENT

[LOGOUT](#)

**Title:**

**Description:**



P > SPAN 29 WORDS POWERED BY TINY

**Due date:**

[Edit](#)

  
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Once you want to collaborate a case study with submitting any work you have done, user can simply upload their work into the system.

The screenshot shows a web-based platform for collaborative learning. At the top, there's a navigation bar with links for 'MYSPACE', 'QUESTIONS', 'LEARN', 'ACTIVITY', and 'LOGOUT'. Below the navigation, it says 'Space: Learning how 3D printing works > Case Page'. A title 'Title "Tablet Holder"' is followed by a 'Description' which reads: 'I included this project for two reasons. The first is that it's a genuinely useful and well-designed item that typically generates requests from friends for one of their own!' Below the description is an image of a smartphone standing upright in a 3D-printed orange tablet holder. A section for 'Upload Your Work:' includes a file input field labeled 'Upload: Dosyayı Seçin' (Select file) and a 'Submit' button. At the bottom right, there are social sharing icons for Facebook, Twitter, Instagram, and Google, along with a copyright notice: '© 2022 Company, Inc'.

And finally, users are able to see the submitted work and they can rate the work of users that are previously done.

The screenshot shows a list of submitted case studies. The header includes 'Hello World', 'MYSPACE', 'QUESTIONS', 'LEARN', 'ACTIVITY', and 'LOGOUT'. Below the header, it says 'Space: Learning how 3D printing works > Case Page'. A table lists four entries, each with a user name ('turanioglu'), submission date ('Dec. 27, 2022'), a 'Preview' link, a rating scale from 1 to 5, and a 'Rate' button. The ratings are 0.00/5, 4.00/5, 2.00/5, and 5.00/5 respectively. At the bottom right, there are social sharing icons for Facebook, Twitter, Instagram, and Google, along with a copyright notice: '© 2022 Company, Inc'.

- Create case-study
- List case-studies
- Categorize case-studies
- Conditional formatting if the case-study is published new, or close to end, or it is closed
- Search by keyword
- Editing
- Deleting
- Uploading files of work
- Rating works which is done by other users
- Commenting

## 6.7. Event Page

When a user clicks “Space Events” on the Space Detail Page, events are listed which are associated with space. The created events are listed on the Upcoming Events page if they are in the future, and on the Past Events page if they are past events. By default, the last three events are listed on both pages. The events on other pages can be browsed with the page pagination at the bottom of the page. However, the user can change the order by category or by date. They can also search by entering words in the title or description.

- Create Event
- List Events
- Join an Event
- Page Pagination
- Sort by Categories
- Sort by Date
- Search by keyword
- Icons Displayed to warn user (New, Last 24 hours, Quota)
- Edit Own Event
- Quota Status Information

The screenshot shows the 'Hello World' interface. At the top, there's a navigation bar with 'Hello World', 'COLLABORATIVE LEARNING ENVIRONMENT', 'LOGOUT', and links for 'MYSPACE', 'QUESTIONS', 'LEARN', and 'ACTIVITY'. Below the navigation is a header with 'Unfollow Space', 'Space Resources', 'Space Quizzes', 'Case Studies', 'Space Events' (which is highlighted), 'Space Forum', and 'Space Metrics'. A search bar and dropdowns for 'Event date: Ascending' and 'Category: All' are also present. The main content area displays two event cards. The first event, 'Lets Met', features a photo of a person sitting on a rock, was posted by James Potter on Jan. 4, 2023, at 8 p.m., and has a quota of 3 filled. The second event, 'A-Workshop to Learn How-to-Pack', features a photo of a group of people outdoors, was posted by a user on Jan. 11, 2023, at 8 p.m., and has a quota of 3 filled. At the bottom right, there are links for 'Previous', 'Page 1 of 2', 'Next', and 'Last »'.

By clicking on the event title, you will be taken to the event detail page. On this page, a long description of the event can be seen. The list of users who have declared that they will participate in the event can be seen. Thanks to the page navigation at the top of the page, you can easily return to the event home page or space home page via links.

- Event details
- Participant List
- Page Navigation

Hello World

MYSPACE QUESTIONS LEARN ACTIVITY

LOGOUT

Space: Travellers Space > Up Coming Events > Story Telling Camp

**Story Telling Camp**

We have amazing members among us who love to tell stories! And as far as I know, we all love camping! This event will take place this weekend in Riva. At night you will be able to listen to the breathtaking stories of great storytellers around the campfire, accompanied by the impressive sounds of nature. If you have a tent, all you have to do is click the join button and come with your tent! Otherwise, our members can share their extra tents. For this, you can contact the event organizers in the Q&A section of the event. We welcome everyone who wants to go on this spiritual journey! Before we forget, there will be an amazing full moon that evening :)

**Participant List**

- kirke Follow
- hello Follow
- medea12 Follow
- hello Follow

On this page, users can ask questions about the event and these questions can be answered by other users. The date and time of the questions and answers are also displayed in the comment blocks. Each user's profile picture and nickname are displayed. If you click on the nickname, you will be taken to the profile page of that user.

- Ask question about event
- Answer question about event

**kirke** Follow  
Dec. 30, 2022, 12:23 p.m.

Hello, I don't have a tent but I really want to participate in the event. How can I find a tent? I would appreciate your help.

**hermes** Follow  
Dec. 30, 2022, 12:24 p.m.

Hello, thank you for your interest in the event. We currently have one tent available. If you are still interested, you can contact me by direct message.

**hello** Follow  
Dec. 30, 2022, 12:25 p.m.

Hello, what are the items you suggest we bring with us for the event? This will be my first camping experience and I need your guidance.

**kirke** Follow  
Dec. 30, 2022, 12:26 p.m.

Hello, I recommend you to bring warm clothes, snacks, overalls and lighting if you have it. Water and dinner will be provided by us during the event.

**medea12** Follow  
Dec. 30, 2022, 12:27 p.m.

Hello, how will transportation to the event be? By the way, thank you so much for organizing this wonderful event!

**Comment**

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## 6.8. Space Forum

When the user clicks the “Space Forum” button on the space navigation bar, the system routes the user to the Forum Page. Users can create new questions, search a question, and see common tags for questions. Also users can like or dislike a question. If the user clicks the “Comment” button, the system routes the user to the question detail page. Like, Dislike, Comment quantities are displayed in the question block. Tags are question specific, so, different tags than space tags. Same tag detail page is valid for each tag where questions are listed which have a common tag. With richtexteditor, users can style textual content of questions & comments, but also can add images, links and videos.

- Ask Question
- Search Question by Keyword
- Common Tags
- Like/Dislike Question

The screenshot shows the Hello World Space Forum page. The left sidebar includes links for Space Contents, Space Quizzes, Case Studies, Space Events, Space Forum, and Space Metrics. The main content area has a search bar and an "Ask A Question!" button. Two posts are displayed:

- medeata2 Follow**  
Suggestion for Cappadocia Trip  
I would like to visit Cappadocia in the near future, but since it is a very big area and I have limited time, I would like to go to the places that are especially beautiful. I would like to add that I do not plan to go on a balloon ride. Are there any places you can recommend?  
Like 3 | Dislike 1 | Comment 0 | Dec. 30, 2022, 127 p.m. | #travel | #visit | #suggestion
- kirke Follow**  
Do you have suggestion for camping near Istanbul?  
I will be in **Istanbul** this weekend and I am looking for a nice campsite by the sea. I wanted to consult you because I don't know much about the environment. I would be very happy if you have clean, beautiful, and family-oriented campsite suggestions. Thank you in advance.  
Like 1 | Dislike 1 | Comment 0 | Dec. 30, 2022, 117 p.m. | #travel | #visit | #suggestion

The page displays the last 3 forum threads and pagination allows users to navigate to other pages. Users can search for topics related to keywords. They can also give likes and dislikes.

- Page Pagination

The screenshot shows the Hello World Space Forum page with three forum threads:

- hermes Follow**  
I'm selling my old tent, anyone want to buy it?  
I decided to sell my Sport brand tent, which I have been using for a long time, because I want to buy a bigger tent. If anyone wants to buy it, you can contact me. It has no problems and is ideal for couples. It can be used for four seasons.  
Like 1 | Dislike 1 | Comment 1 | Dec. 28, 2022, 124 p.m. | #tent | #buying | #sell
- athena Follow**  
Film Suggestion for Travellers  
After watching into The Wild recently, I felt an incredible desire to discover more movies. As someone who loves to travel, if you also love to watch movies and have discovered similar movies, I started this thread so that we can share them with each other.  
Like 1 | Dislike 1 | Comment 0 | Dec. 21, 2022, 129 p.m. | #travel | #suggestion | #movies
- kirk Follow**  
What do you think about Evliya Çelebi  
I realized that I know very little about **Evliya Çelebi**, even though he was one of the most famous travelers. In this context, does anyone know the list of all the places Evliya Çelebi visited? I want to follow in his footsteps and explore like him.  
Like 1 | Dislike 1 | Comment 0 | Dec. 18, 2022, 130 p.m. | #traveler | #suggestion | #book

Pagination at the bottom: « First | Previous | Page 2 of 2 | Last »

When the user clicks the question title or comment button, the system routes the user to the question detail page. Here users can view answers and like or dislike those answers. Moreover, users can post an answer for the questions.

- Like/Dislike
- Answer List
- Post Answer
- Add images, videos or links to comments
- Edit owned questions
- Delete owned comments

Hello World

MYSPACE QUESTIONS LEARN ACTIVITY

Space: Travellers Space > Forum > Do you have suggestion for camping near Istanbul?

**kirke Follow** Dec. 30, 2022, 1:48 p.m.

I will be in **Istanbul** this weekend and I am looking for a nice campsite by the sea. I wanted to consult you because I don't know much about the environment. I would be very happy if you have clean, beautiful, and family-oriented campsite suggestions. Thank you in advance.

Like 5 Dislike 1 Comment 2 #traveller #travel #trip #camping #istanbul #suggestion

**athena Follow** Dec. 30, 2022, 1:20 p.m.

First of all, welcome to our beautiful city! :) There are many nice camping areas around, but I especially recommend the **Sile region**. It is a wonderful region where forest and sea meet. If you have personal transportation, you can easily go there. You can also use public transportation with buses from Üsküdar. If you need more information, don't hesitate to get in touch :)

Like 4 Dislike 1

**hermes Follow** Dec. 30, 2022, 1:22 p.m.

I think you have to consider BlackSea side if you want to swim. Ama uyuyorum, Karadeniz tehlikeli bir denizdir, o yüzden dikkatli olmalisin. Riva bölgesinde, Yıldız Kamp Alanı, ya da Şelale Kamp alanı öneremeyeceğim yerler. İkisi de fiyat performansından oldukça başarılı.

With the Ask a question button, users can create new forums. It is mandatory to enter title, content and tag for each forum. It can also style the text with rich text.

Hello World

MYSPACE QUESTIONS LEARN ACTIVITY

Create New Question

Title: Place Suggestion for Cappadocia

Question:

I would like to visit **Cappadocia** in the near future, but since it is a very big area and I have limited time, I would like to go to the places that are especially beautiful. I would like to add that I do not plan to go on a balloon ride. **Are there any places you can recommend?**

DIV > P > SPAN 58 WORDS POWERED BY TINY

Tags: travel, visit, museum A comma-separated list of tags.

Ask

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## 6.9. Learn Page

If the user clicks the “Learn” button on the navigation bar, the system routes the user to the learn page. If a user follows a space, those spaces are listed here with a space block. Therefore, the user can follow the spaces if he/she is interested in them. If a user unfollows a space, the space block will not be displayed at the learn page anymore.

The screenshot shows a web browser window titled 'Learn'. The URL is 'Güvenli degil | ec2-44-202-83-160.compute-1.amazonaws.com/myspace/learn/'. The page header includes 'Hello World', 'MYSPACE', 'QUESTIONS', 'LEARN', 'ACTIVITY', and 'LOGOUT'. Below the header, the title 'Enrolled Spaces' is displayed. Two space blocks are listed:

- Lets Make Coffee Together | koglak**  
Content: 2 | Quiz: 1 | Case-Study: 1  
Collaborative Members:  
Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit neque, auctor sit amet aliquam vel, ullamcorper sit amet ligula. Quisque velit nisi, pretium ut lacinia in, elementum id enim. Curabitur non nulla sit amet nisl tempus convallis quis ac lectus. Curabitur non nullu sit amet nisl tempus convallis quis ac lectus. Donec rutrum congue leo eget malesuada. Quisque velit nisi, pretium ut lacinia in, elementum id enim. Cras ultrices ligula sed magna dictum porta. Quisque velit nisi, pretium ut lacinia in, elementum id enim. Mauris blandit aliquet elit, eget tincidunt nibh pulvinar a. Donec rutrum congue leo eget malesuada. Pellentesque in ipsum id orci porttitor dapibus. Vestibulum ac diam sit amet quam vehicula elementum sed sit amet dui. Curabitur aliquet quam id du posuere blandit.  
#happiness #enjoy #coffee #relax #food #learn
- Adventure Lovers <3 | kirke**  
Content: 2 | Quiz: 0 | Case-Study: 0  
Collaborative Members: koglak  
Cras ultrices ligula sed magna dictum porta. Sed id ligula quis nibh. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec rutrum congue leo eget malesuada. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit neque, auctor sit amet aliquam vel, ullamcorper sit amet ligula. Nulla porttitor occaecation tincidunt. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit neque, auctor sit amet aliquam vel, ullamcorper sit amet ligula. Donec rutrum congue leo eget malesuada. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit neque, auctor sit amet aliquam vel, ullamcorper sit amet ligula. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Donec velit neque, auctor sit amet aliquam vel, ullamcorper sit amet ligula.  
#freedom #adventure #trip #travel

## 7. Test Results

**Software Testing** is a method to check whether the actual software product matches expected requirements and to ensure that software product is defect free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest.

Our project involves tests as follows:

### 1. Test functions in the code block

The aim is to control the code functionality in views.py

- Home page
  - With user authentication, whether the user is logged in or not, the system looks at the status of the user and gives a dynamic view according to the interests of the users.
    - Custom created spaces
    - Custom created quizzes and case studies under these spaces
  - And in all other pages, we control the user authentication, some functionalities like remaining days calculation, categorizing to sort each list.

### 2. Unit Testing

Only userprofile app is tested as a decision point. Created tests are listed below. All tests are functional.

- Unit tests for views
  - Test Course Deletion Function
  - Test New Course Creation Function
  - Test New Profile Creation Function
- Unit tests for urls
  - Test User Profile Url
  - Test Course Detail Url
  - Test Course Enroll Url
- Unit tests for models
  - Test Profile Model
  - Test Course Model
- Unit tests for forms
  - Test Lecture Creation Form with Data
  - Test Lecture Creation form with No Data

## **8. Future Work**

Throughout the semester, We tried to get maximum benefit from the course and besides classes we watched lots of tutorials, researched and read other external sources.

The main benefit of the course is having the understanding of the code reviewing, which is very essential to understand the code that is written previously and build it up to improve the functionality.

Secondly, we worked collaboratively to get the finalized work for the semester.