FIRST MILESTONE FOR SWE574 PROJECT

Git Repository:

- https://github.com/bounswe574-G3/swe573_2022_repo
  - Main Branch : SWE573 Project for Co-learning Platform
  - Master Branch: Dockerized project branch
  - Deploy Branch: Deployed version on AWS-EC2
    - http://ec2-54-205-199-25.compute-1.amazonaws.com/
- https://github.com/bounswe574-G3/bounswe574-2022
  - Issues and wikipages are located in this branch

Group 3

SWE 574 - 14.11.2022 | BOĞAZİÇİ UNIVERSITY

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In general, the following requirements are provided. Completion statuses are indicated in parentheses next to the titles.

and spaces he/she is a member of

Surfing (Completed)

- System shall let users to view/display to the About us, and Spaces.
- Users shall view previously created co-learning spaces with the search button.
- Users shall view the about us page with clicking aboutus button.
- Users shall register or sign-in by using buttons at the main page in the navbar.

Membership (Completed)

- User shall register with filling the mandatory fields as username, password, confirm password fields.
- User shall edit its profile by changing or adding name, surname or email field.
- User shall change its password by filling old password, new password and confirm password fields.
- System shall record the membership information, sign-in and sign-out times and unsuccessful sign-in attempts (**incompleted, logging information will be added**).
- Password shall satisfy the following conditions;
    - password can’t be too similar to other personal information.
    - password must contain at least 8 characters.
    - password can’t be a commonly used password.
    - password can’t be entirely numeric.

User Account (Completed - except for the details related to the rating issues, these issues were in the first milestone and removed in here.)

- When user signs in, system shall display edit profile and change password buttons to the registered user at side bar.
- When user creates a space or be a member of a space, system shall let users to reach their member spaces and created spaces by the buttons located at the side bar.

- When user signs in and click go to space button of any space, system directs him/her to the space content and user shall view the learning steps but not the discussion board if this space were not created by that user or the user is not be a member of that space.
- If a visitor is not registered the platform or a user logout, they shall not view the learning steps or discussion board of the spaces.
- When a space member or the creator send a message within a specific space, system shall only let the space members or creator of the space to view this message simultaneously.

Rights (Incomplete - these issues were in the first milestone and removed in here.)

Roles (Partial Completed, lack of invitation issues, these issues were in the first milestone and removed in here.)

- User that creates the space shall be the creator.
- User that is selected by the creator while creating the space is the member of the space.
- Space creator shall have the following right for the space that she/he creates.
    - Removing space member out of the space
    - Adding new space member(s) to the space
    - Update the space content and title
    - Delete the space
- Space members shall have the following right in his/her participated space.
    - Asking questions, **(incompleted, will be added)**
    - Answering the questions **(incompleted, will be added)**
    - Sending messages
    - Glossary **(incompleted, will be added)**

Spaces (Completed with some differences, lack of invitation module, space members are predetermined by the creator and creator creates the spaces with predefined users/members)

Creating the space:

- Number of space members shall be between 2-9. **(incompleted, will not add)**
- When users provide following fields, system shall create a co-learning space with a new number adding one to last created space number.
    - Content (Required): No character limitation.
    - Title (Required): This field shall have maximum 50 characters

- Members: Registered users are displayed in this field.

Adding Learning Steps

- When a space member or creator provide following fields in a specific space that he/she is a member of or creator, system shall add a learning step with a new number adding one to last created step.
  - Content (Required): This field shall have maximum 50o characters
  - Title (Required): This field shall have maximum 50 characters
  - Attachment (Required): Registered users shall view this field.

Sending Message

- When a space member or creator provide following fields in a specific space that he/she is a member of or creator, system shall send a message within this specific space.
  - Member Space (Required): Title of the specific space
  - Message (Required): Message content

Co-learning:

- Members and the creator of the spaces shall write instant messages in the spaces that are member or creator.
- A members of the spaces shall comment on the other members' instant messages in a spaces. **(incompleted, will be added)**
-
- A members of the spaces shall attach any document, video or audio files to the attachment part of a space.
- When a creator or a member of a specific space clicks the attachment in the learning steps, system shall display the content of this attachment.

Blackboard (Incomplete - these issues were in the first milestone and removed in here.)

Requirements for Badge Implementation

- System shall provide space creators with an option of implementing badges for users' avatars on the space
- Admins of a space shall be able to select the number of badge categories that are going to be used in the space
- Admins of a space shall be able to select the number of badge levels for each category of badges
- System shall let admins to upload icon image for each category of badges
- Admins shall select for each badge category the type of allocation of badge level. Badge level shall be optional for users to allocate themselves or there will be a determination system based on a parameter like rating from other users

Requirements for Glossary

- Content of the glossary shall only be displayed by the co-learning platform members.
- Members and the creator of the spaces shall define the terms related to the space content and edit them.
- Steps of each term shall be indicated by members or the creator of the spaces.
- Requirements for Replying to Discussion Board Messages
- Members and the creator of the spaces shall be able to reply to the messages in the discussion board.
- Members and the creator of the spaces shall be able to reply to the replied messages in the discussion board.

Requirements for Quiz Pages

- Users shall be able to create quizzes.
- Users shall be able to view the results of their taken quizzes.
- Users shall be able to view how many other users completed the quizzes that are created by them.
- Users shall be able to search for a quiz by the name of the quiz.
- Users shall be able to attempt a quiz.
- Users shall be able to view other subject related quizzes as annonation.

Requirements for Annotation

- Members and the creator of the spaces shall add annotations to the words by double clicking into that word.
- When a creator or a member of a specific space double clicks a word, system shall display a window in which creator of the annotation shall be able to write the content of that annotation.
- When an annotation added to a word, members of the platform shall be able to display the content, creator, time of that annotation.

- Annotations shall be visible to all co-learning space members when a member put the cursor into the annotated word.

Requirements for Activity Streams

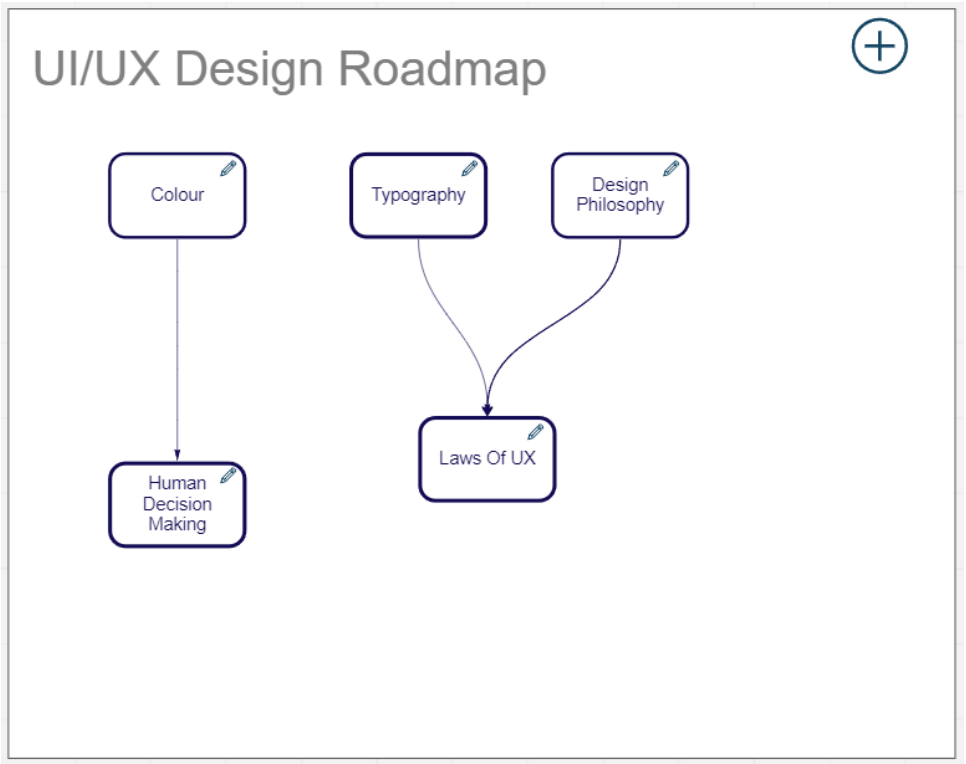
- The system shall generate activity streams based on users' actions in the website.
- The system shall create activity streams with an actor, an object, a verb and a target.
- The system shall display the activity streams in co-learning spaces.

Requirements for Content Relations

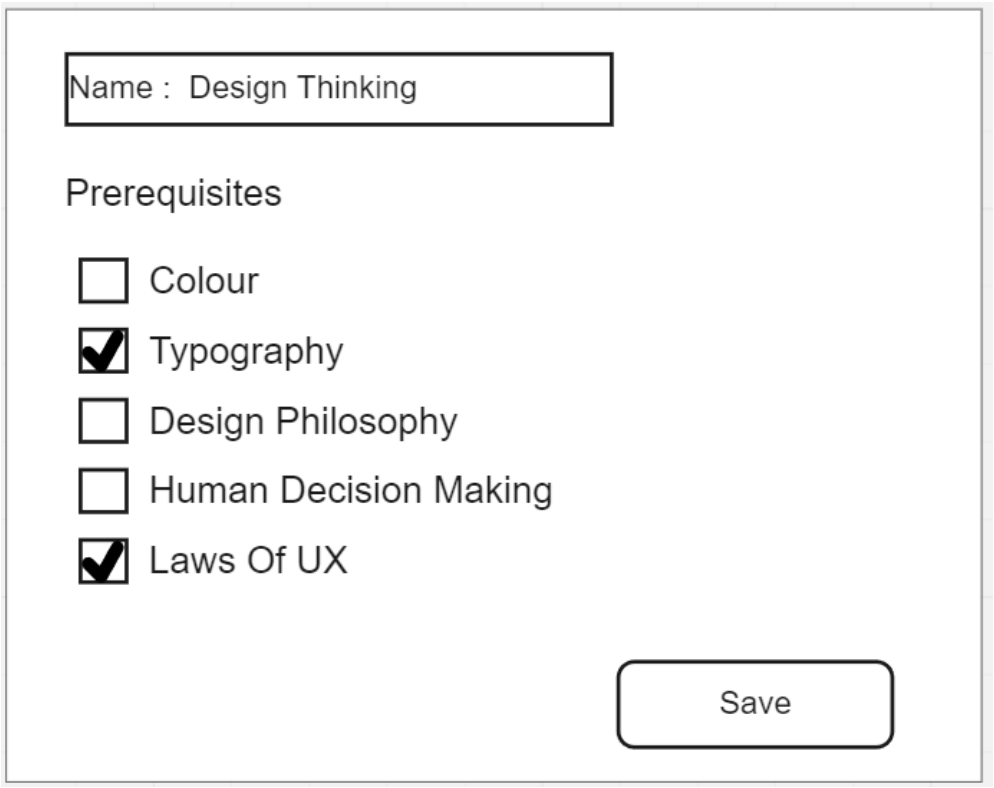
- System shall display content relations graph in learning space.
- User shall add topic and prerequisite relation.
- User shall edit topic and prerequisite relation.
- User shall delete topic and prerequisite relation.
- User shall add text annotation to node.
- System shall display users text annotations.

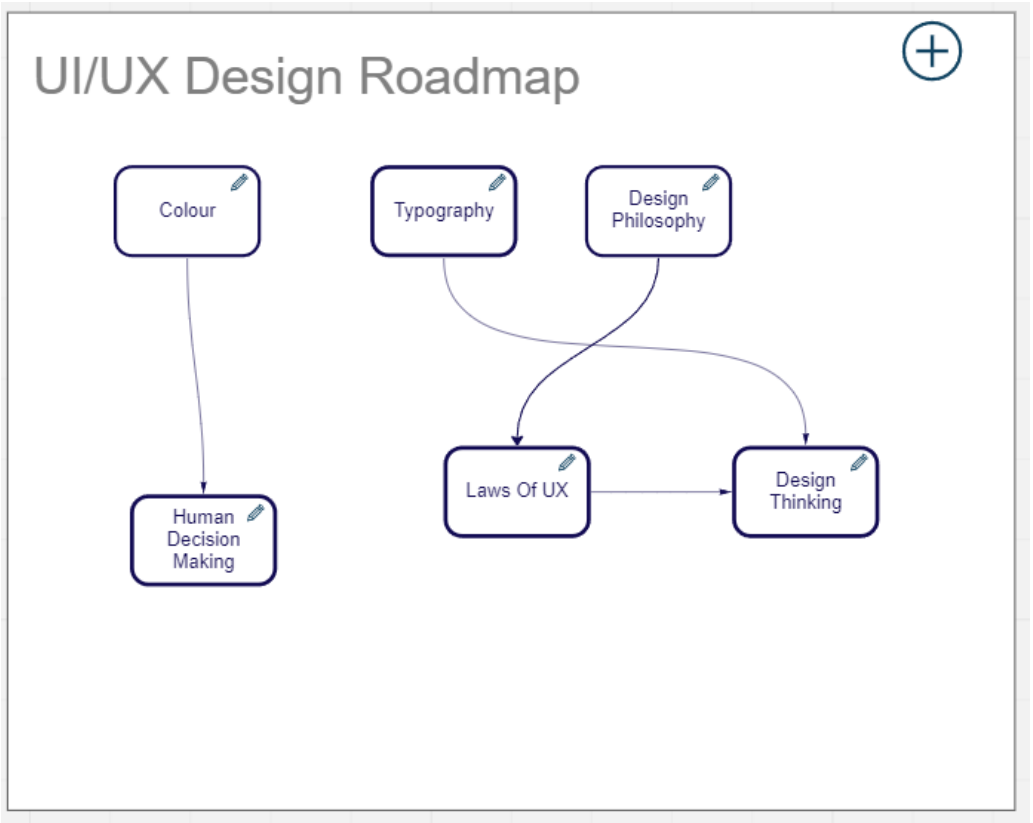
Mockups

Display Content Relations

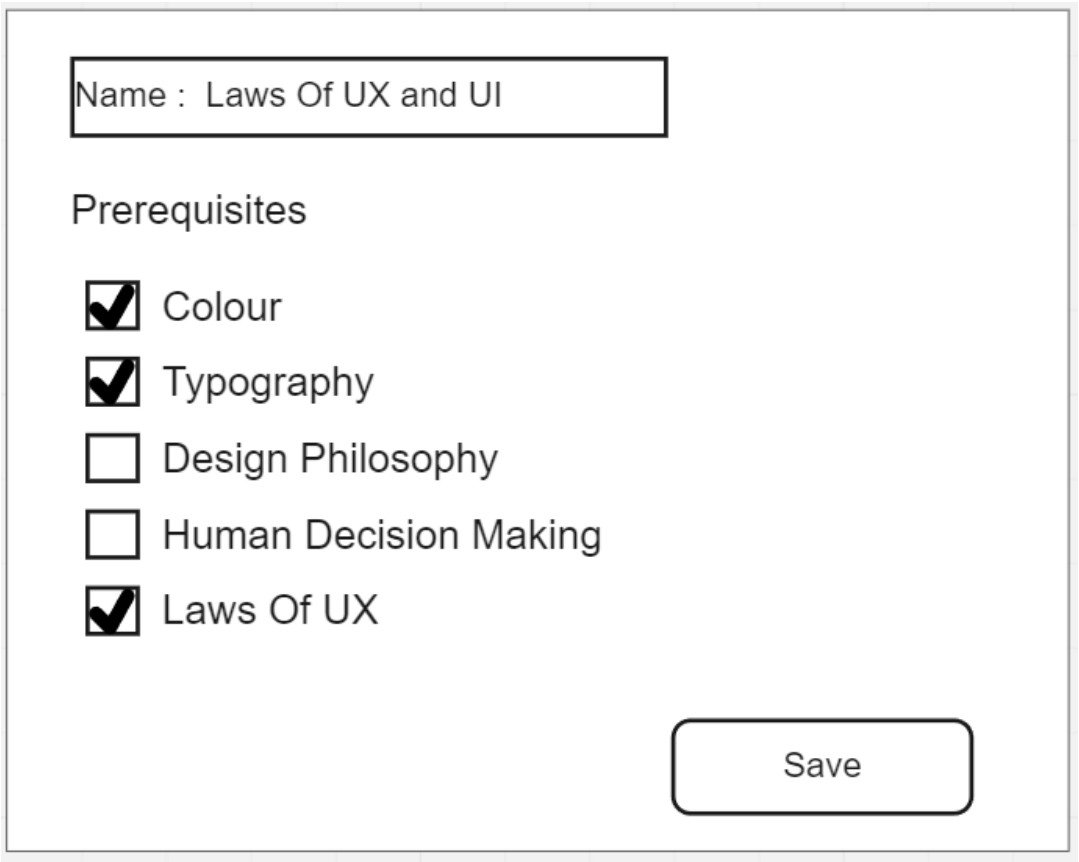


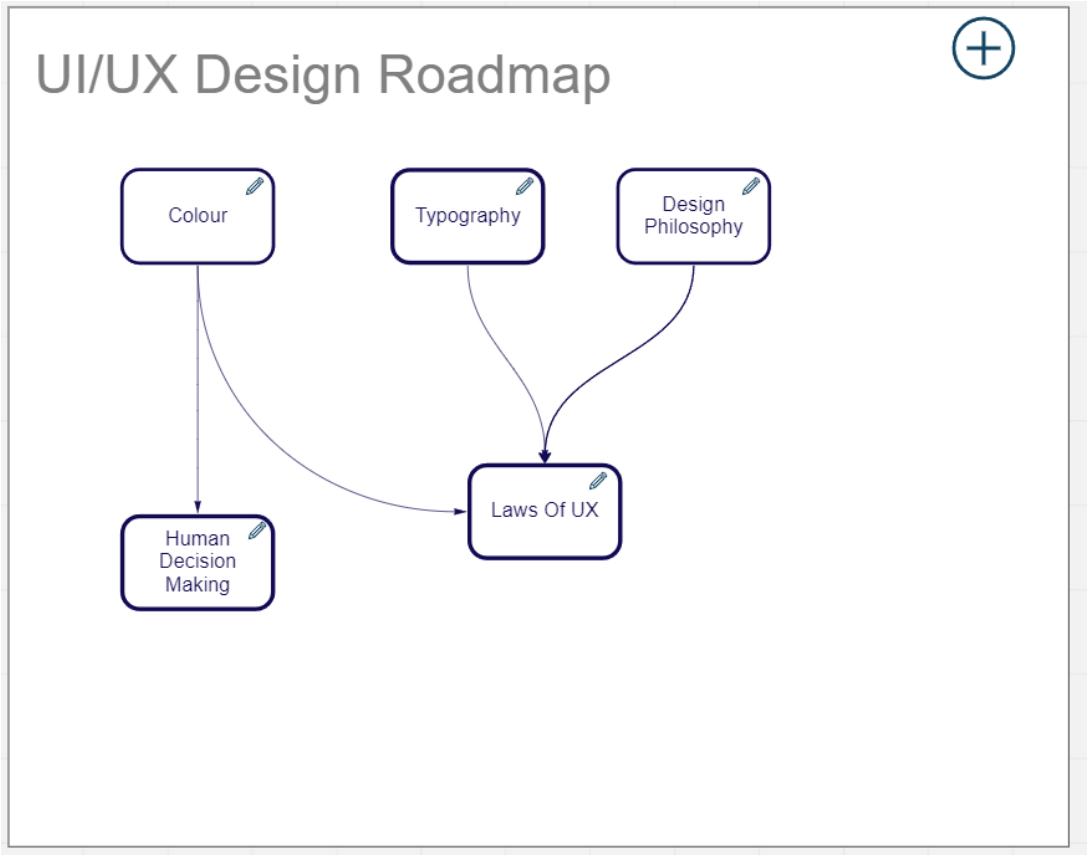
Add Relation





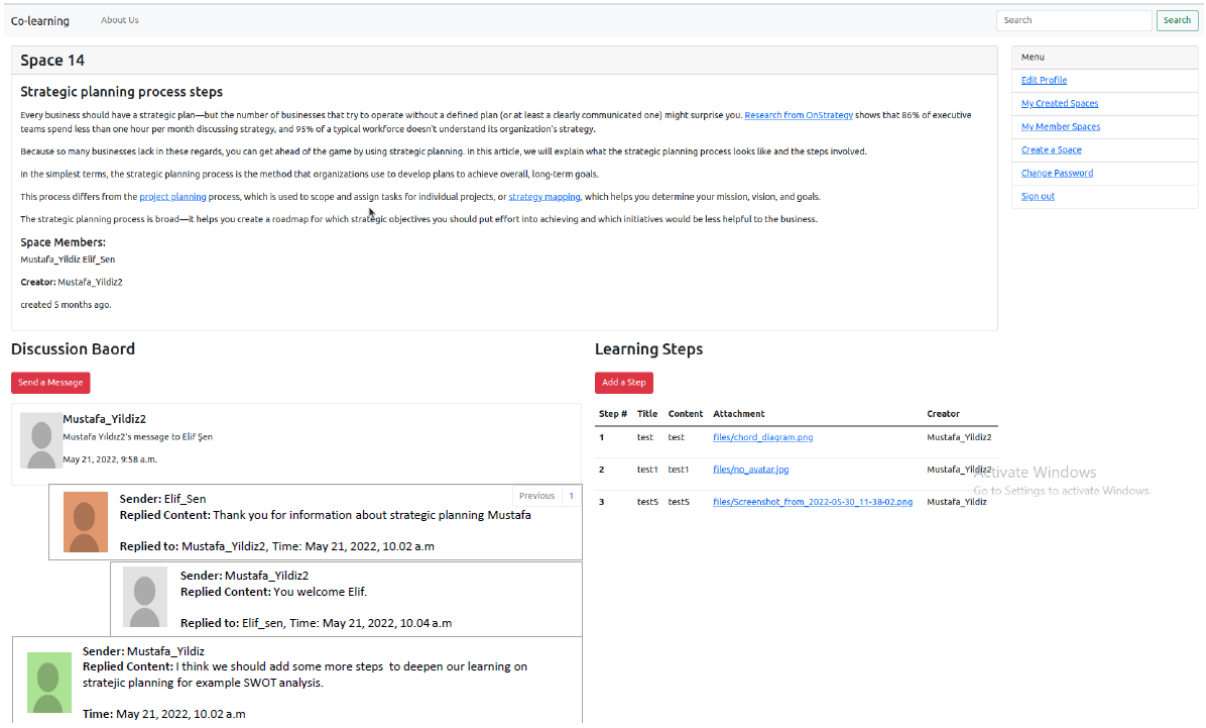
Edit Relation



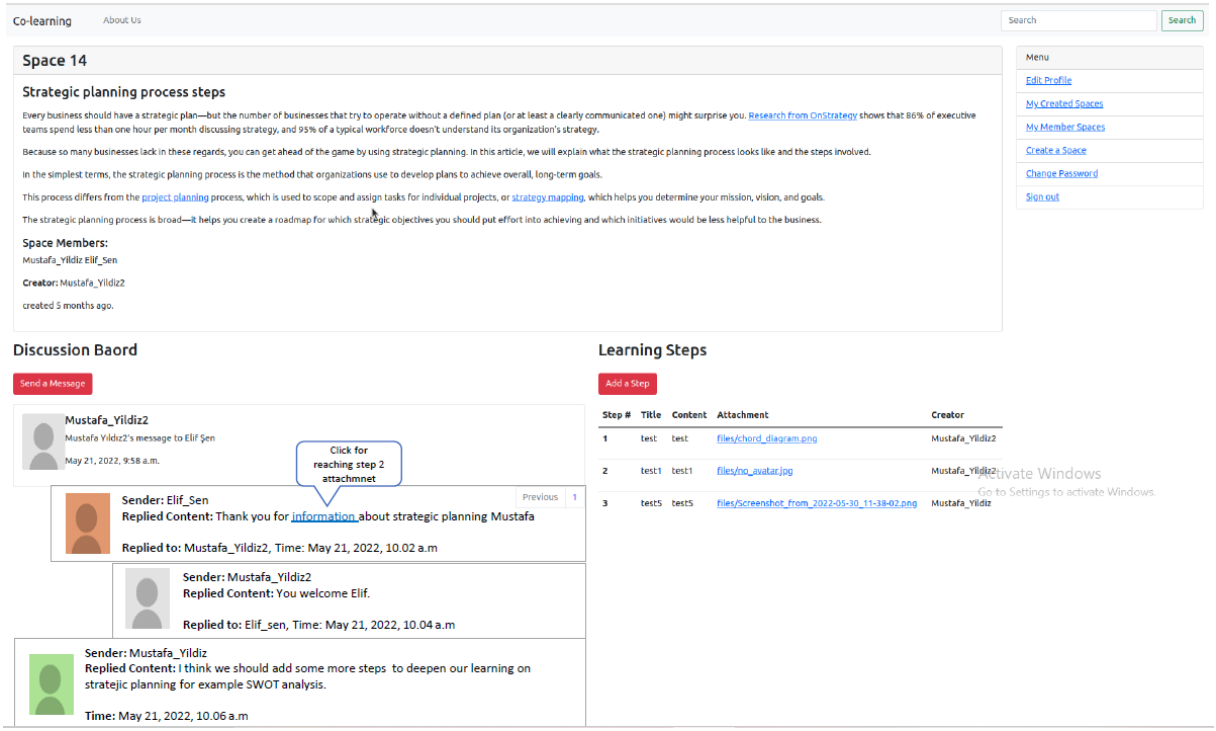


User Interaction

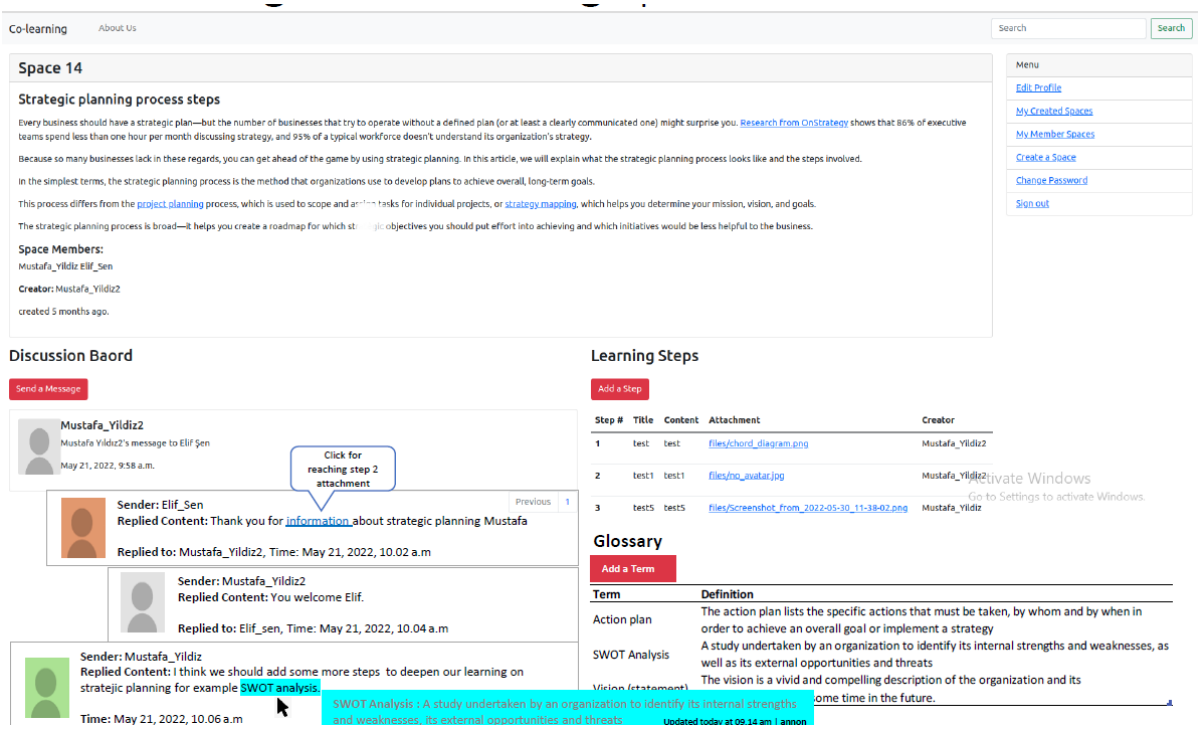
Message Replies



Joining Contents

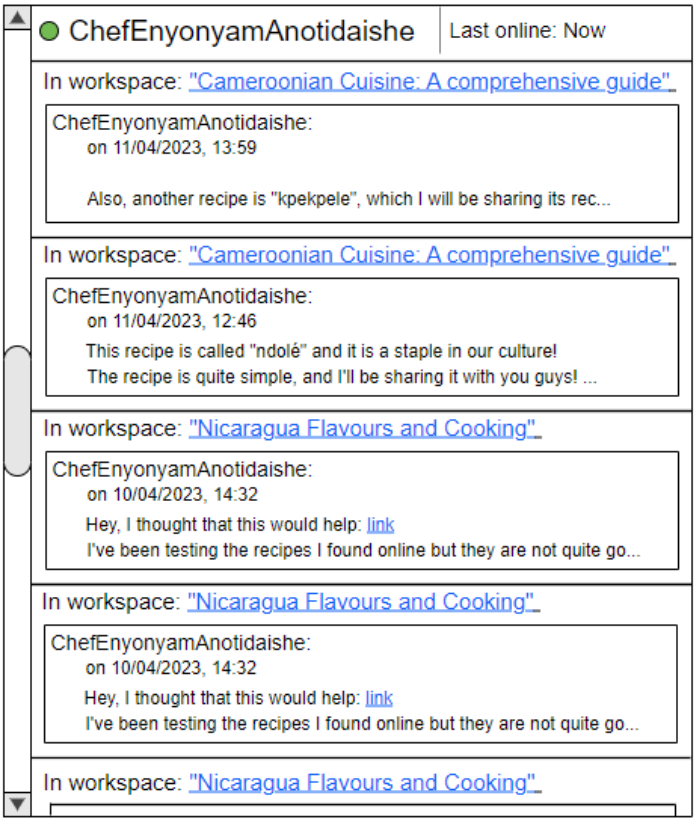


Glossary and Annotations



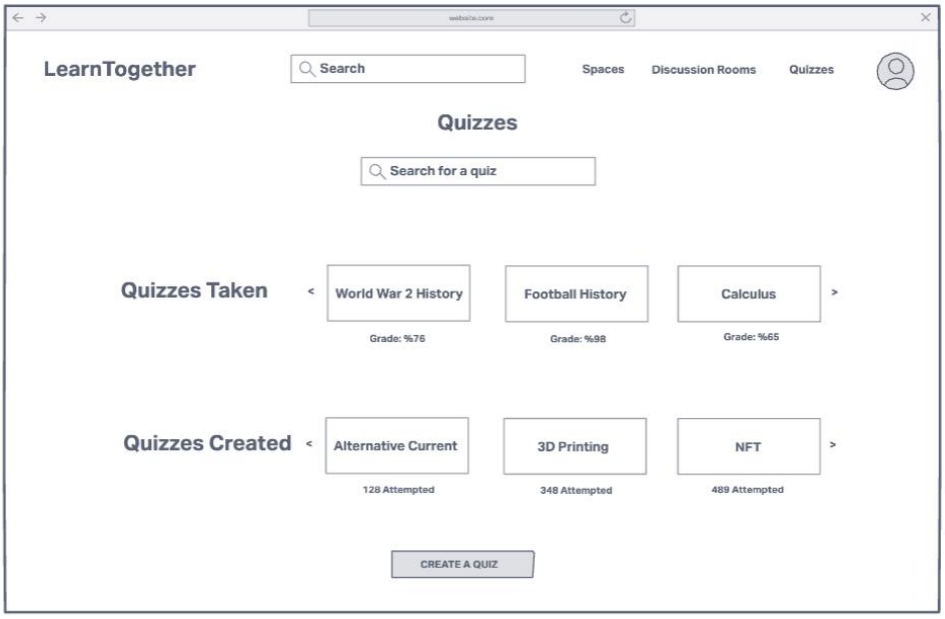
Mockup for activity stream

Stream:

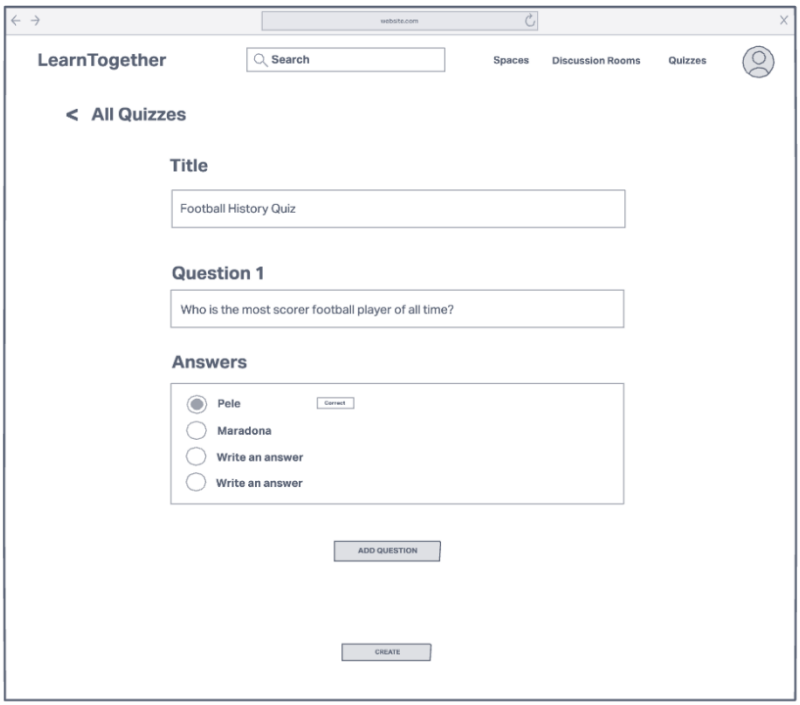


Mockup For Quizzes

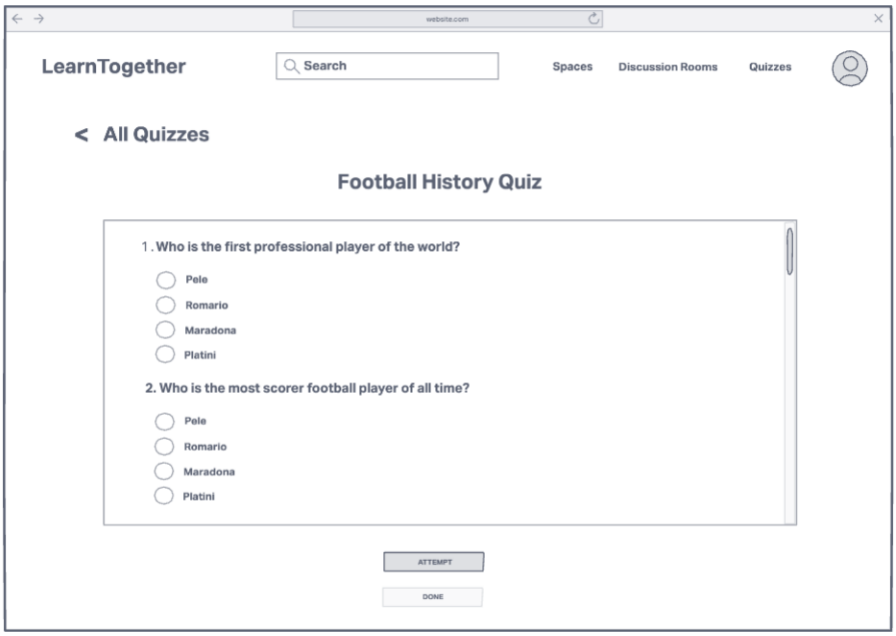
Quizzes Homepage



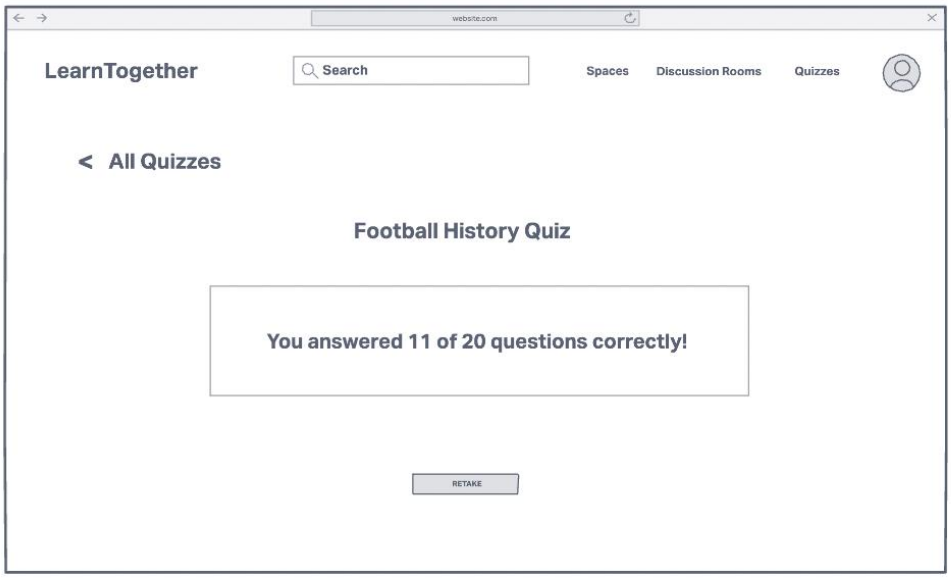
New Quiz Page



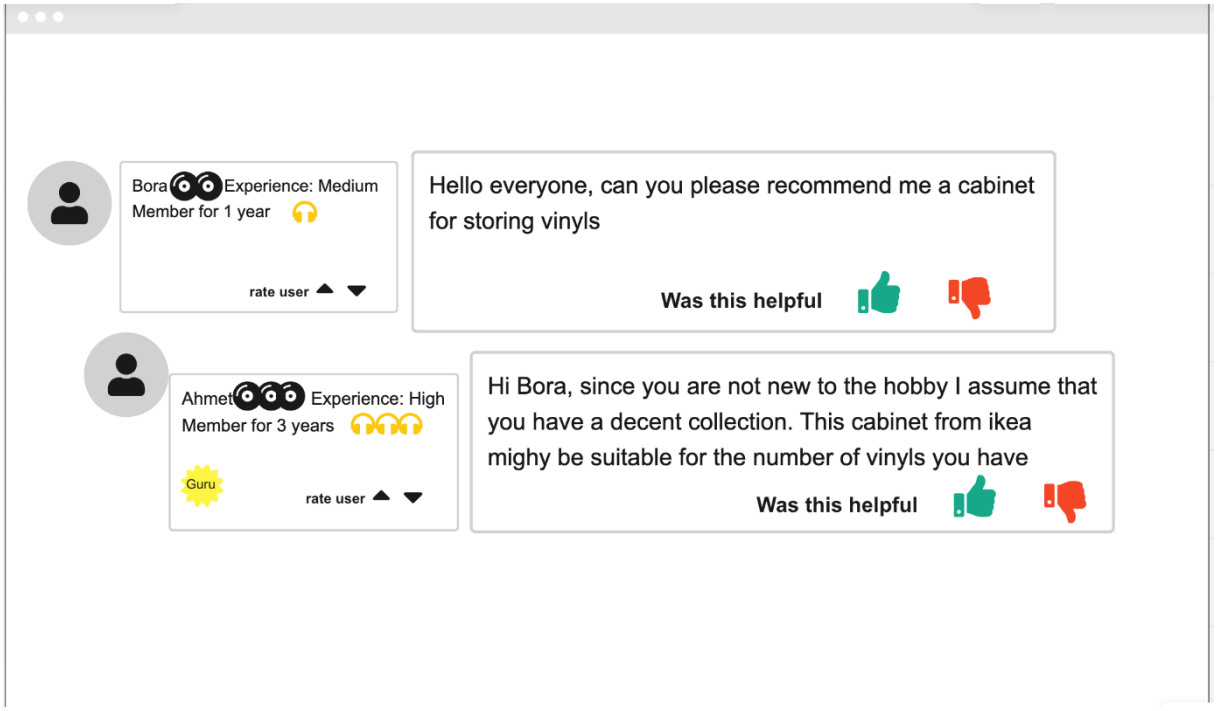
Quiz Detail Page



Quiz Results Page



Mockup For Badges on Avatars



Scenarios

Scenario for activity streams

Actor: John is an amateur chef and pursues culinary arts as a hobby. His interests involves a wide variety of world cuisines and to his surprise he has found multiple hobbyists and chefs of his caliber in various workspaces related to different cuisines of the world, and he is keen on following their contributions on other workspaces that he is not aware of. He would like to see his peers' contributions on culinary workspaces, names of these workspaces and last login times and dates. He is in need of this functionality to accomplish his goals.

Scenario: John, while checking out the workspaces he is currently on and browsing workspaces in general as he usually does, searching for new recipes, culinary content and guides on Nicaraguan cuisine, he finds a person whose interests coincides with that of his own, which is worldwide cuisine especially of less popular culinary cultures. He is interested to see which workspaces this person contributes to and what he actually contributed to these workspaces and he sets out to do just that by taking a look at the activities in the persons profile. He navigates to the persons profile and he clicks on one of the workspaces in the activity stream. He finds

out that there was a workspace on Cameroonian cuisine which the person he was interested in is actively contributing to, so he takes a look at that to learn more about these less known culinary wisdom. He starts learning the recipes for Cameroonian dishes ndolé and kpekpele by following the step-by-step guide provided by other users in that workspace. From here, he knows where to look to find new and interesting ideas about his interests.

Scenarios for Content Relations

Actor: James

Scenario: James is a web developer who knows coding well. However, his web sites look bad visually and he wants to learn design. He is not a type of person that can read and study alone because he is bored. Also, he sometimes starts from the advanced topics and he does not give up easily. Although, it is not a bad thing, he feels overwhelmed after short amount of time and give up eventually. Therefore, It will be better for him, if he can see the relationships between contents so that he can start from the correct point. In addition to this, he wants to see the contents of the learning space because he wants to check whether that learning space is suitable his goal or not.

Actor: Mary

Scenario: Mary is an UI/UX desıgner with more than 10 years professional experience. She likes to participate and contribute in learning spaces. She is an expert in product design thinking. However, she knows that before learning design thinking, knowing typography is necessary. Therefore, she wants to display this knowledge in the learning space for newcomers because they ask lots of questions related to this topic which blocks quality questions. Also, she will be happy if she can show that a relationship between contents is a must or nice to have depending on the contents.

Scenarios for badge implementation

Use Case 1: Adding badges to spaces
Actor: Space creator
Flow: A user creates a space on the website about C++ with the intention of co-learning with other users by allowing them to create subjects for discussions or posting questions related to an issue they came up while learning c++. The creator of the space wants to add badges to the space for indentifying the members' knowledge levels of c++ or how long and active they have been in this particular space. When creating the space the system provides the creator with a choice of whether or not they are going to prefer badges to be added to users avatars. If creator chooses so the system shows them a badge creation page where they can create as many badges as they want by giving the badge type a title and entering how many levels are there going to be for this category

Use Case 2: Bora wants to add his experience level on vinyl collecting to his avatar on a space
Actor: Bora
Flow: Bora is a vinyl collector for about a year and has a small collection of vinyls and a moderate knowledge on the topic. He has joined a space on vinyl collecting and wants to improve himself on vinyls and audiophile music listening. He wants to Show his experience level on the subject since other users assume his level otherwise and answer his questions with a language that only experts on the subject can understand or have a hardtime on explaining something by assuming that he is a beginner. Fortunately this space provides experience level badges for users to choose from. There are 4 levels that each user can select from starting from beginner to expert

Use Case 3: Badges for rating levels
Actor: Ayşe
Flow: Ayşe is a member of a space called sourdough bread making and likes to interract with others and helping them. She likes there to be a feature in the space that can represent how much time she spends there and how helpful she has been to others. The space allows users to rate each others regarding how helpful their comments been to them or how knowledgable they think the particular user is. The system then awards the user with a badge that is proportional to her rating. The system also awards the user with a badge that represents how many years the user has been a member to the space.

Use Case 4: Post badges for classification
Actor: Space admins
Flow: Admins of a space are bothered by the messiness of the space because of how many posts are shared on the space with differentiating contexts and they are worried that a new çömer can get lost between them. In order to categorize these posts and offer a context to other users before openning it, the admins create badges for the topics that are posted about the most. When someone creates a post in this space they are required to select badges that indicates the context of this post.

Scenarios for Quizzes

Use Case 1: Answering a Quiz

Actor: Logged in User

Flow: Mehmetcan is a mathematic enthusiast outside of his job. He likes to learn new math concepts and theorems in his free time. Therefore, he likes to challenge himself and refresh his existing knowledge. So, he would like to take quizzes related to different topics of mathematics to evaluate his level of knowledge in these areas. He would select any quizzes that are located under a specific space and will be able to solve the quiz by answering the multiple choice questions.

Use Case 2: Creating a Quiz

Actor: Logged in User

Flow: Selin is a UX/UI designer and likes to discuss about web design with her friends and colleagues. She thinks that a person should always seek for new knowledge and perspective to maintain creativity. She wants to get together with the people who have the same interest and knowledge so that she can have a brainstorming and discussion to improve herself. That's why she wanted to create creative quizzes to find people who have similar interests. She wants to communicate with the ones who have good scores on her quiz. So, she would be able to create quizzes under the space that she wants

Scenario for Adding Comment to Messages

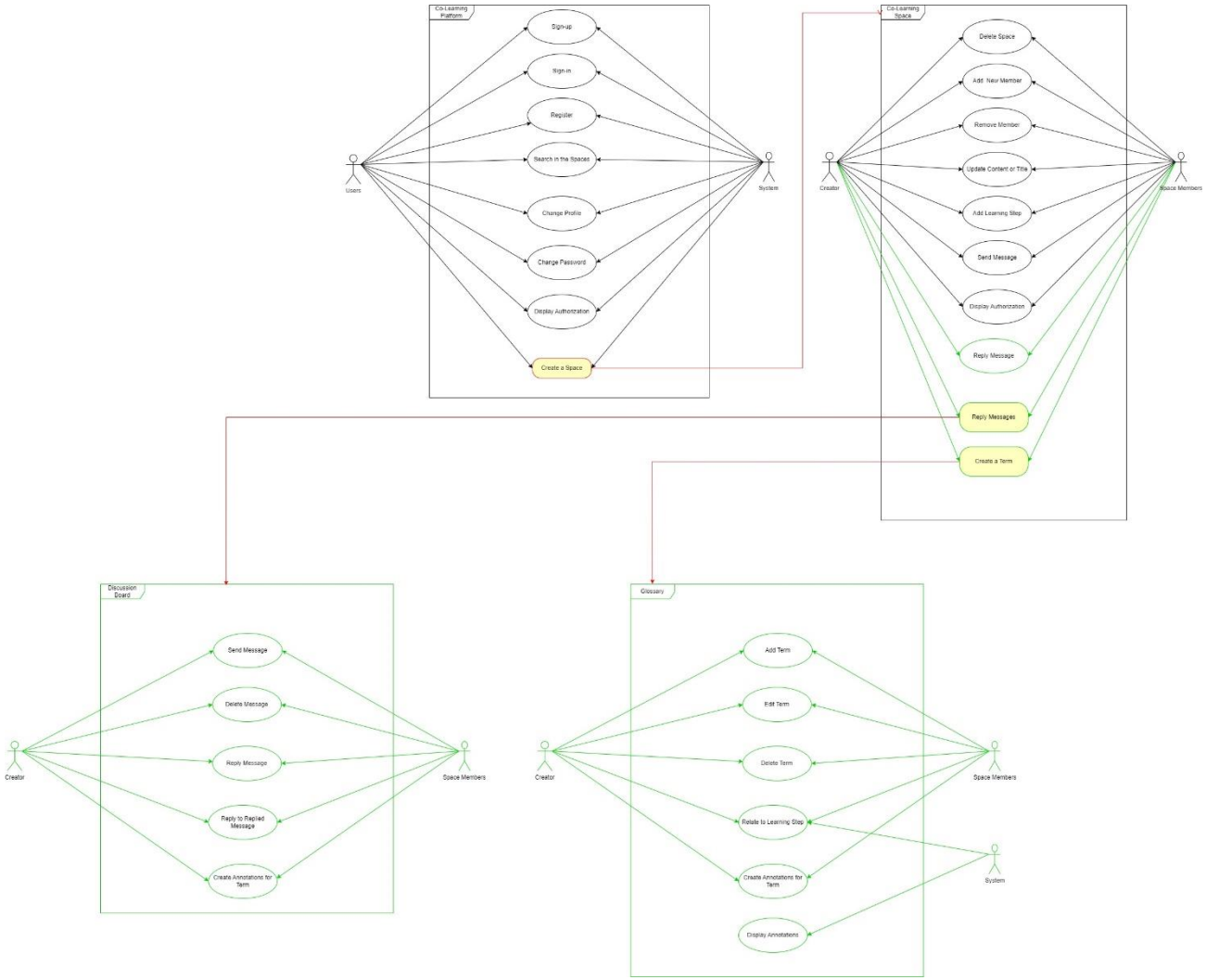
Scenario: Ayşe sets up a Learning Space to make homemade yogurt. Ayşe by clicking "Send Message", a new window opens and Ayşe fill the title, content and select the space that she wants to send the message. Ayşe Learning Space titled "How to make delicious homemade yoghurt?" and content "No special heirloom yogurt cultures or fancy incubating equipment required. You could even make a batch tonight and have homemade yogurt for breakfast by tomorrow morning". While establishing Space, he adds Zeynep and Elif as members. Zeynep send a message to Discussion Board with content as "I've been making yogurt at home for a long time?". Elif, on the other hand, leaves a comment as "Great!" under Zeynep's message.

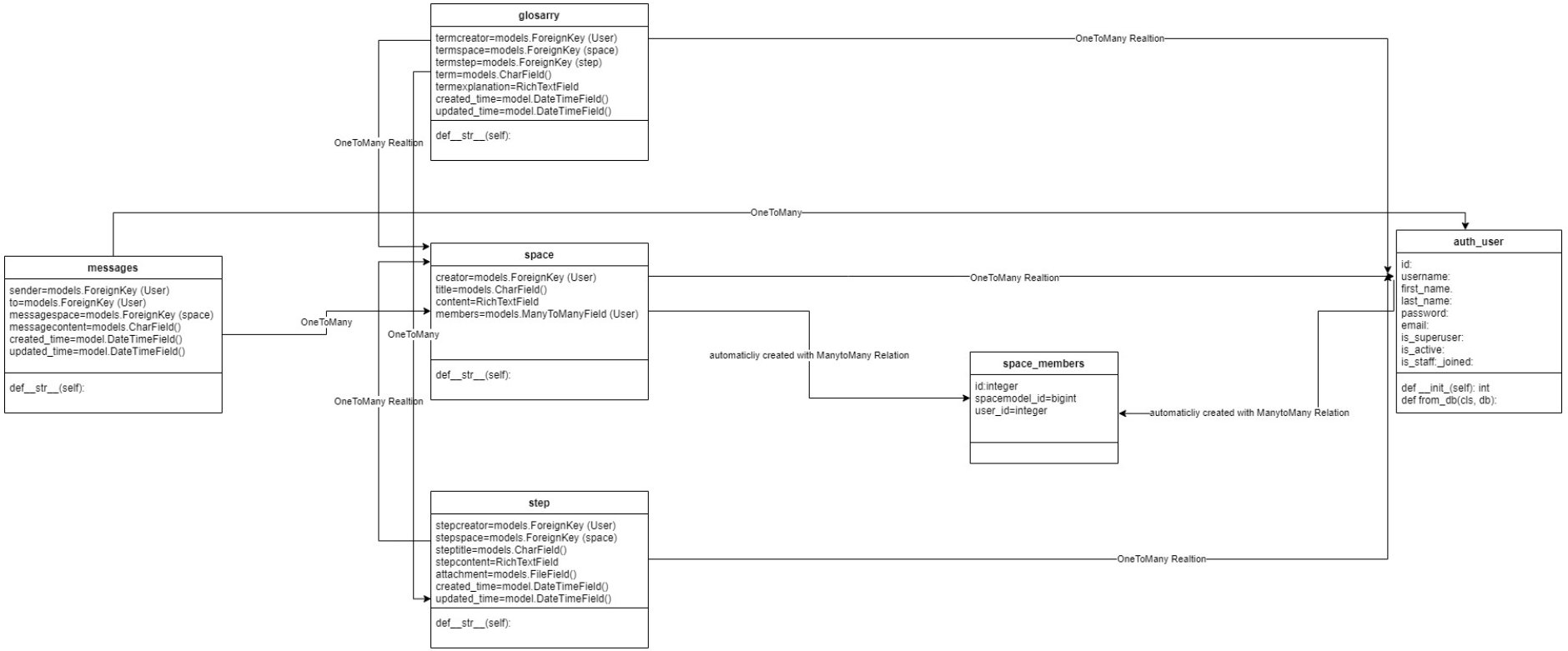
Scenario for Content Relations

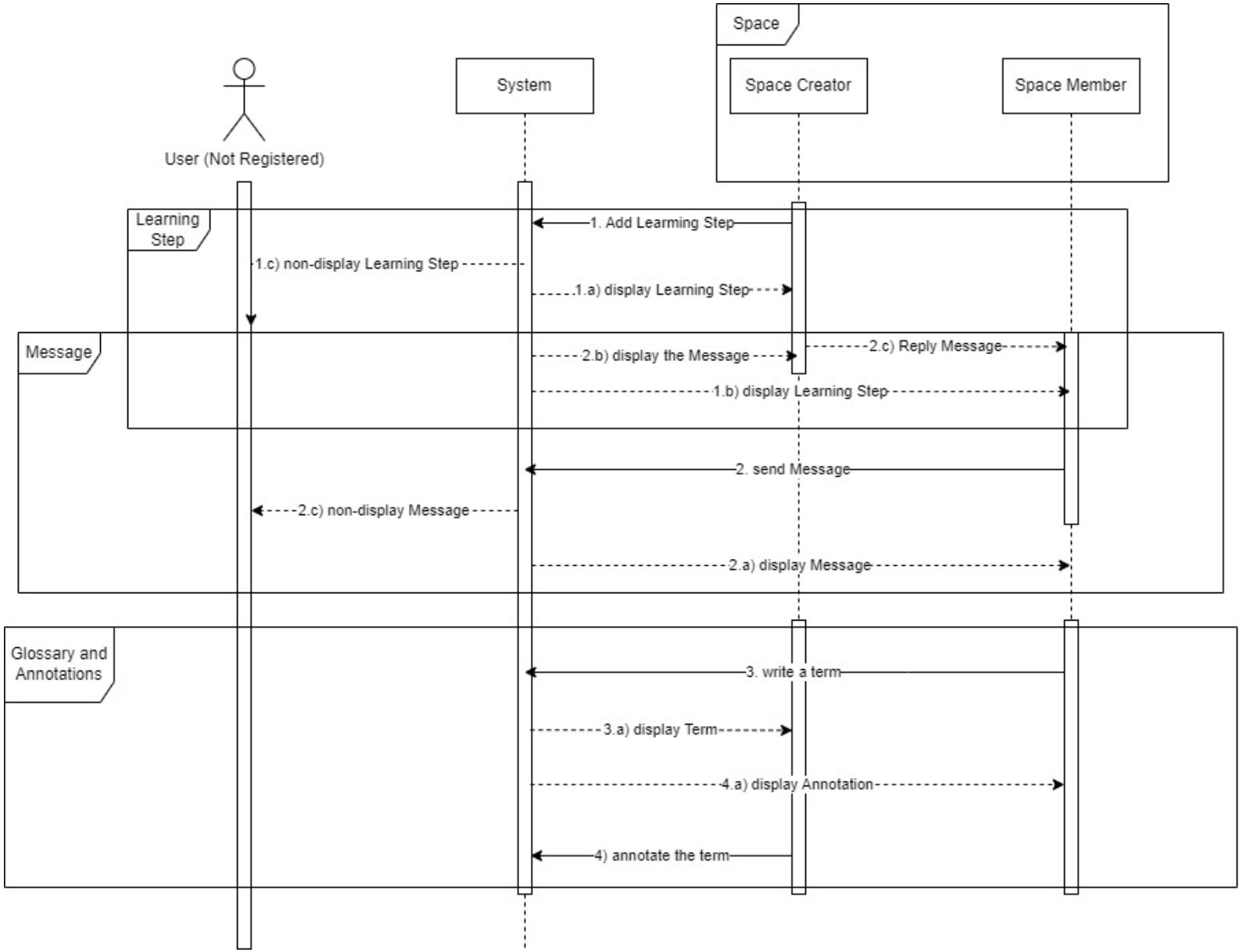
Scenario: Zeynep creates the first Learning Step by clicking the "Add a Step" button and selecting the title, content and attachment in the window that opens. As the Learning Step 1, Zeynep selects a picture with "Doings" in the title, "doings for making yogurt" in the content, and the “doings” as an attachment. Since there is sourdough among these doings, she wants to add a term with the “Add a term button” in the dictionary to explain it. In the window opened by clicking the “Add a term” button, “sourdough” is written in the term part and “Yogurt sourdough starter is a live culture made by fermenting milk, yogurt, and flour” in the explanation part. Relationship is established with the relevant Learning Step by selecting the associated Learning Step title. Later, while looking at the terms in the dictionary, Elif sees the term sourdough. After reading the explanation, he clicks on the Learning Step title next to it and opens the attachment in the relevant Step and looks at the picture of the sourdough.

UML diagrams and images

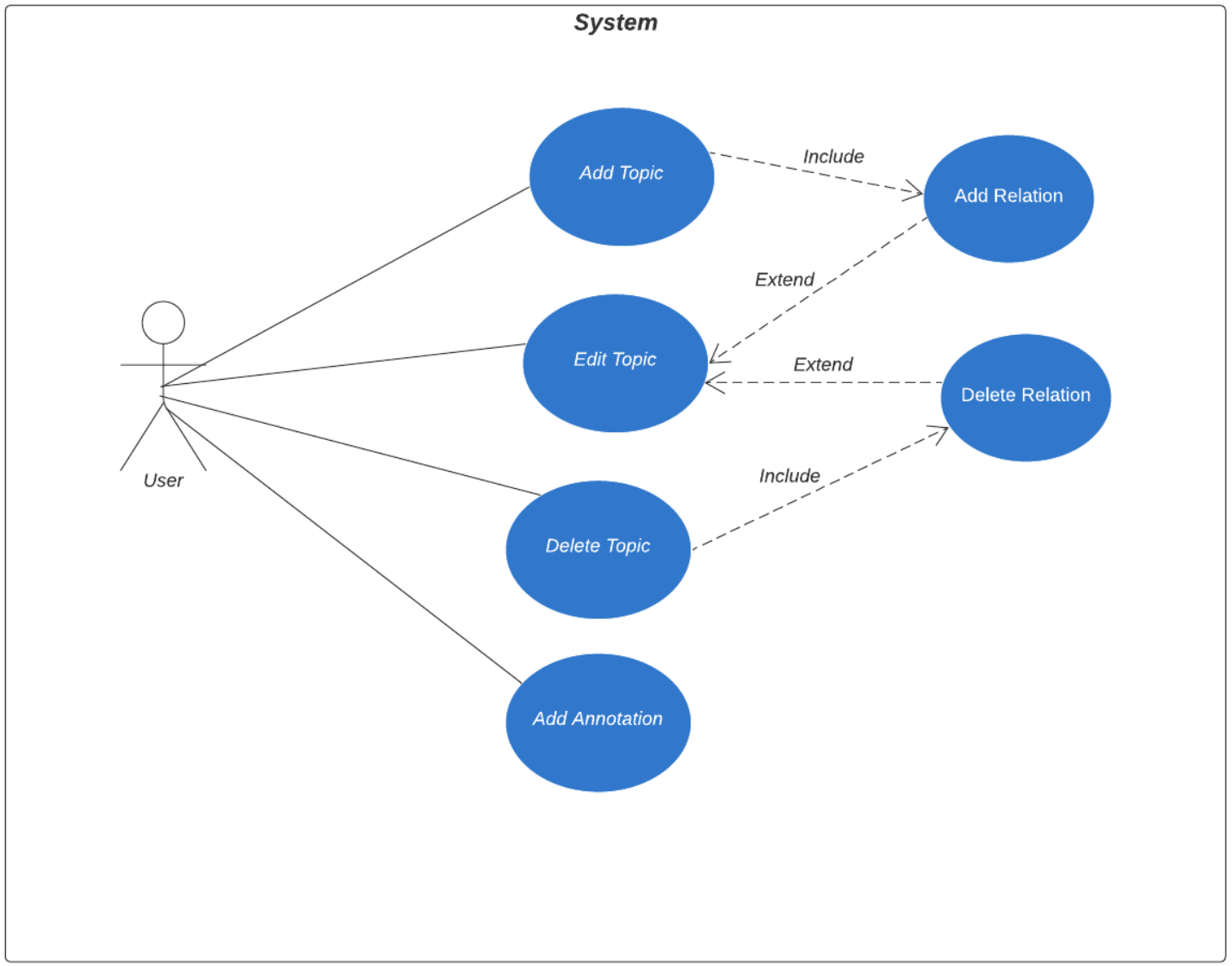
UML Diagrams for User Interaction and Glossary



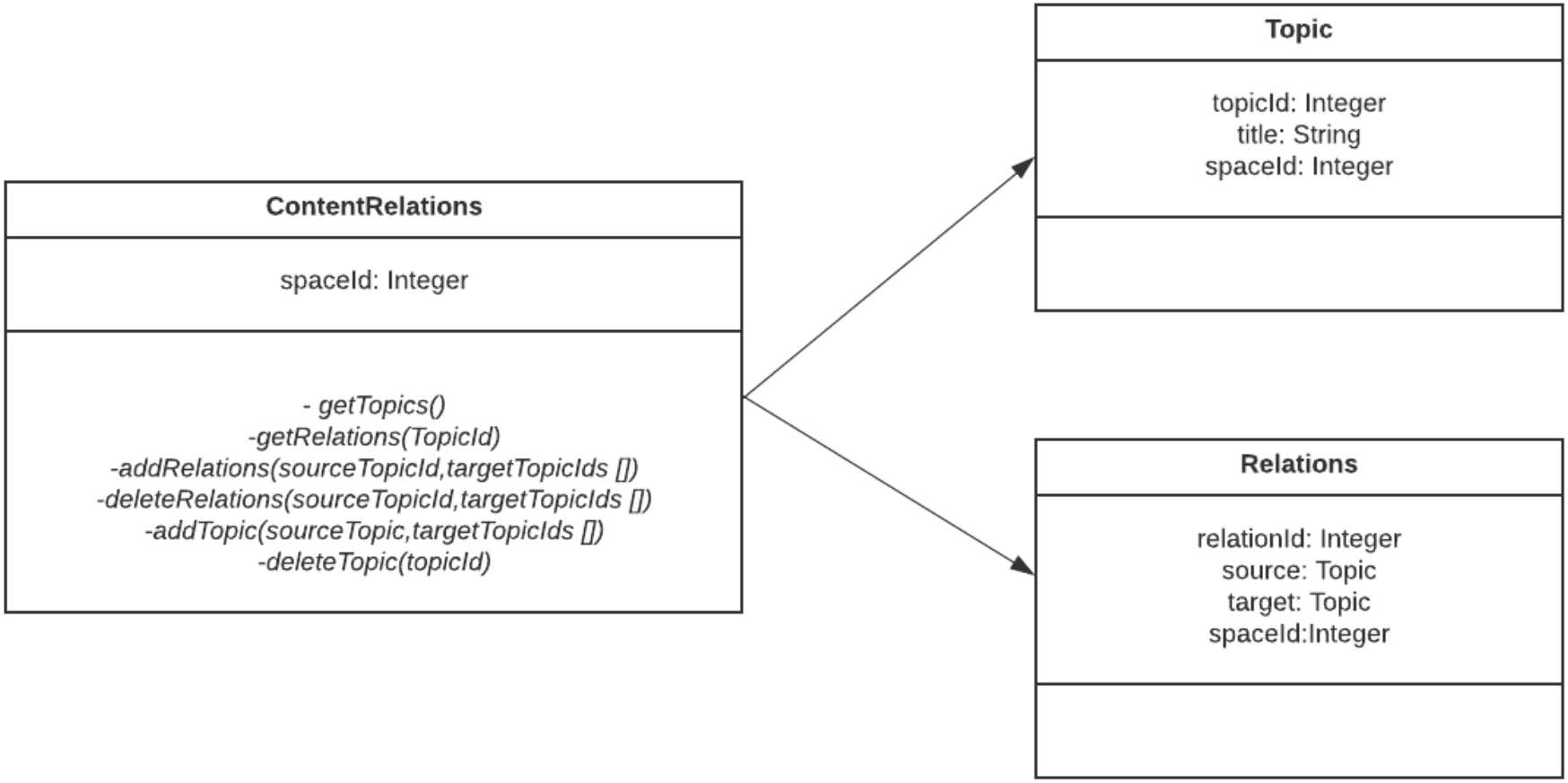

glosarry
termcreator=models.ForeignKey (User)
termspace=models.ForeignKey (space)
termstep=models.ForeignKey (step)
term=models.CharField()
termexplanation=RichTextField
created_time=model.DateTimeField()
updated_time=model.DateTimeField()
def__str__(self):
OneToMany Realtion
OneToMany
auth_user
id:
username:
first_name.
last_name:
password:
email:
is_superuser:
is_active:
is_staff:_joined:
def __init_(self): int
def from_db(cls, db):
messages
sender=models.ForeignKey (User)
to=models.ForeignKey (User)
messagespace=models.ForeignKey (space)
messagecontent=models.CharField()
created_time=model.DateTimeField()
updated_time=model.DateTimeField()
def__str__(self):
OneToMany
space
creator=models.ForeignKey (User)
title=models.CharField()
content=RichTextField
members=models.ManyToManyField (User)
def__str__(self):
automaticliy created with ManytoMany Relation
space_members
id:integer
spacemodel_id=bigint
user_id=integer
automaticliy created with ManytoMany Relation
step
stepcreator=models.ForeignKey (User)
stepspace=models.ForeignKey (space)
steptitle=models.CharField()
stepcontent=RichTextField
attachment=models.FileField()
created_time=model.DateTimeField()
updated_time=model.DateTimeField()
def__str__(self):


Space
System
Space Creator
Space Member
User (Not Registered)
Learning Step
1. Add Learming Step
1.c) non-display Learning Step
1.a) display Learning Step
Message
2.b) display the Message
2.c) Reply Message
1.b) display Learning Step
2. send Message
2.c) non-display Message
2.a) display Message
Glossary and Annotations
3. write a term
3.a) display Term
4.a) display Annotation
4) annotate the term

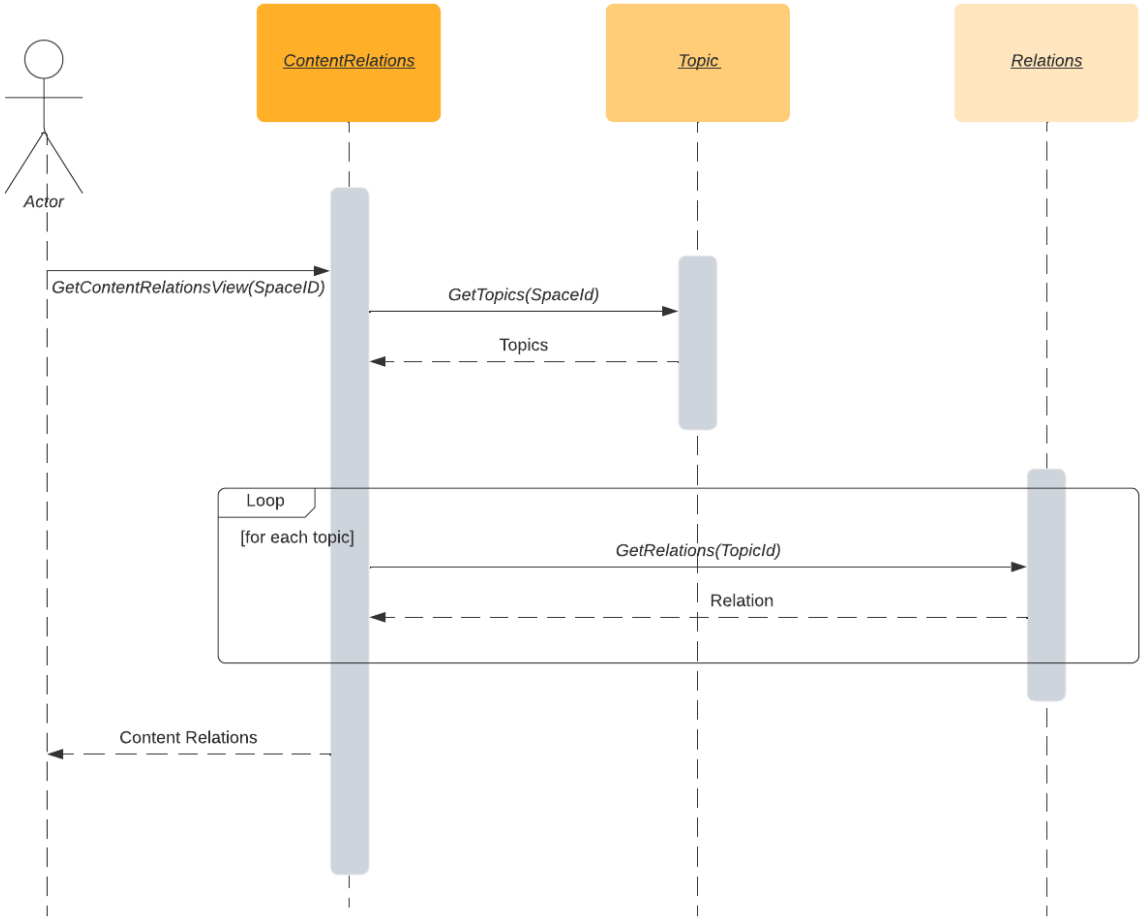
Use Case Diagram for Content Relations


System
Add Topic
Include
Add Relation
Extend
Edit Topic
Extend
Delete Relation
User
Include
Delete Topic
Add Annotation

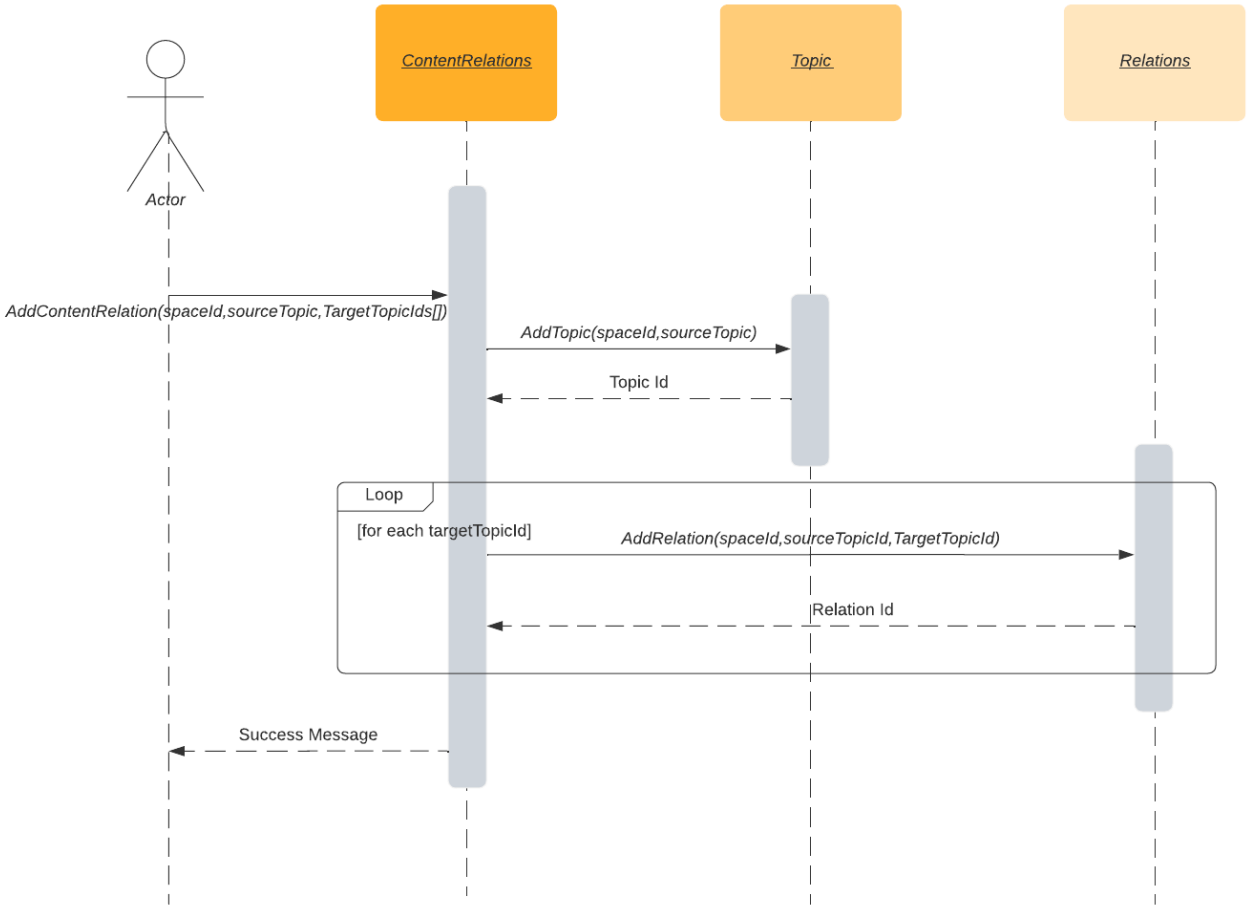
Class Diagram for Content Relations



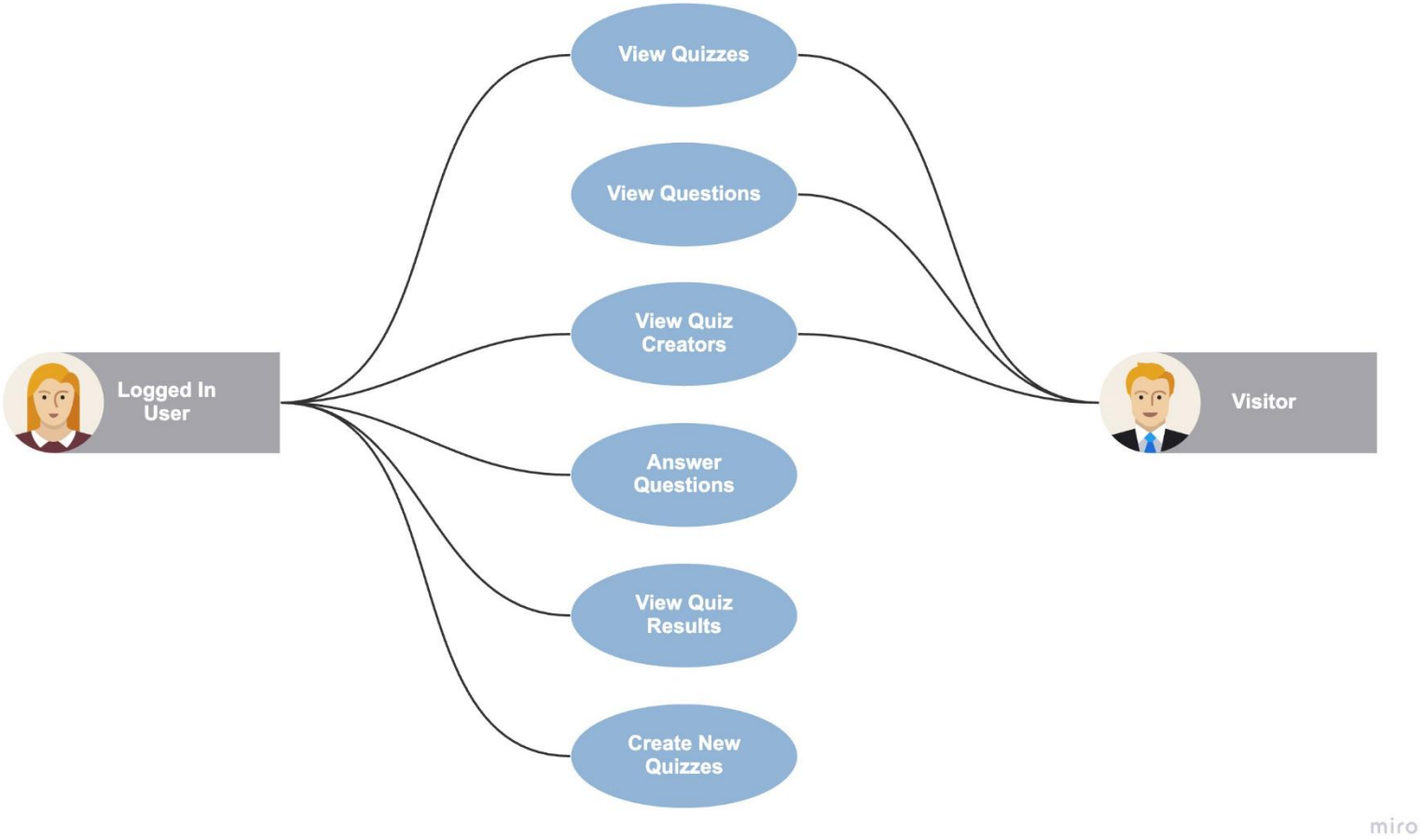
Sequence Diagram for Content Relations



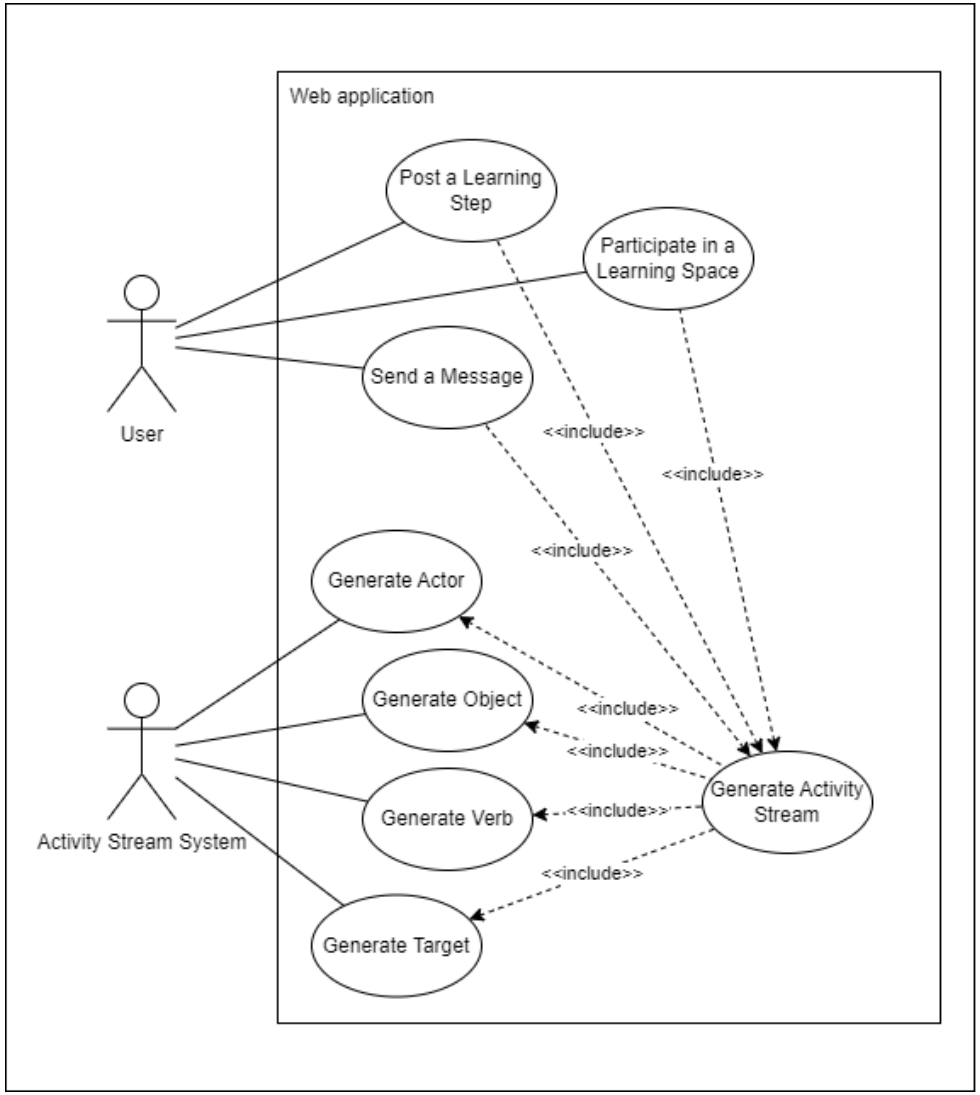
Add Content Relations

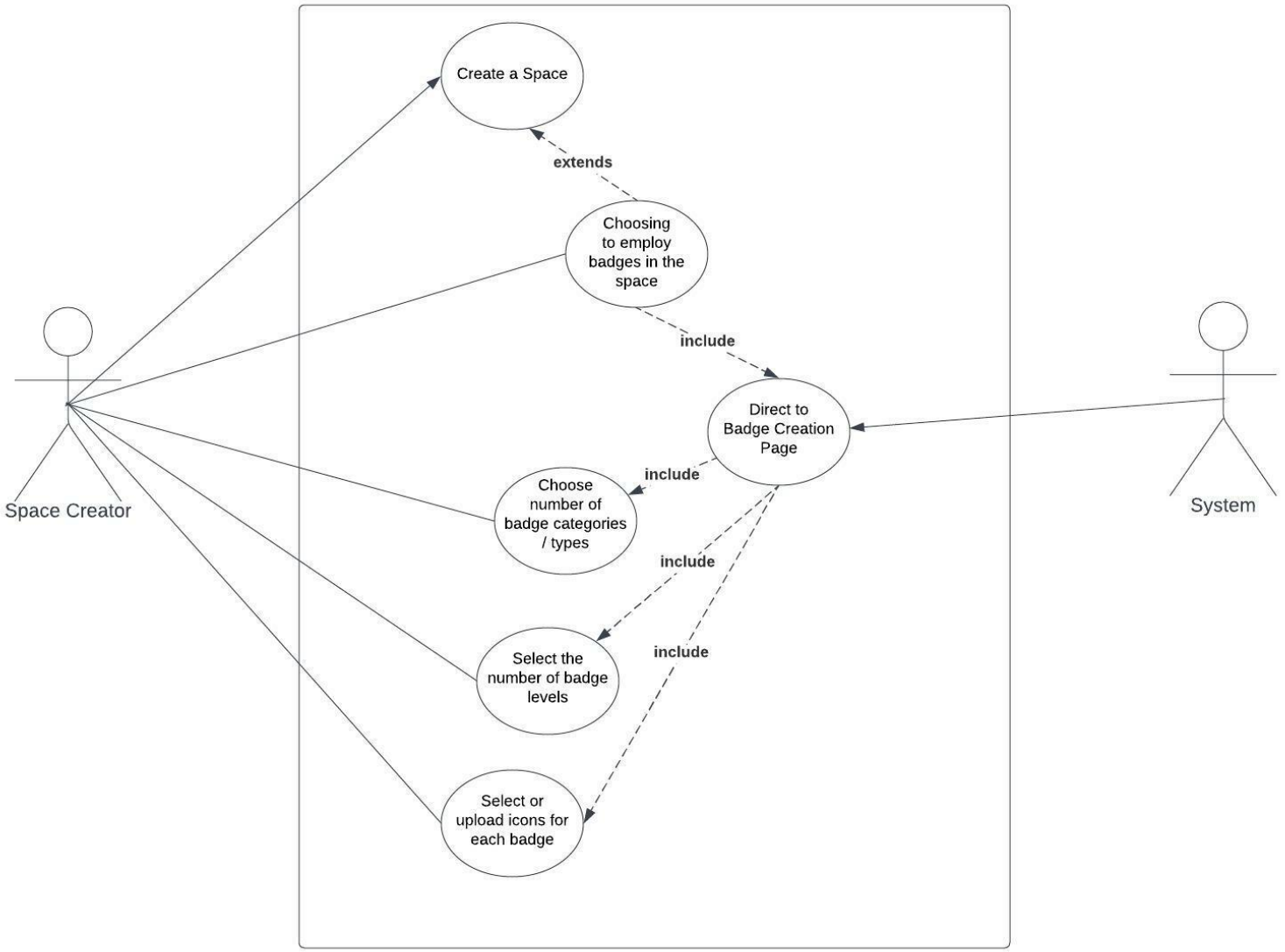


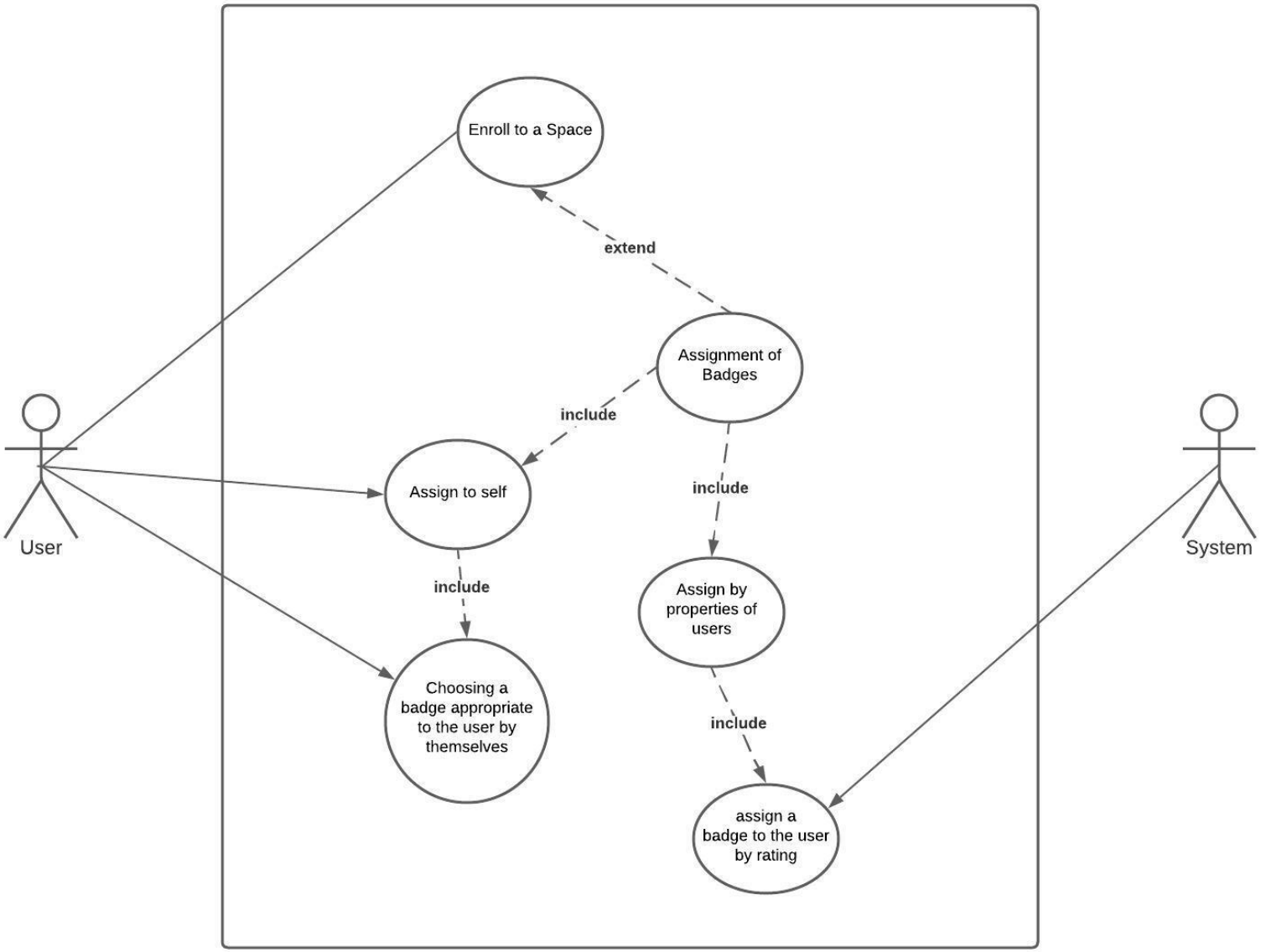
Use Case for Quiz Pages



Use Case for Activity Stream




Create a Space
extends
Choosing to employ badges in the space
include
Direct to Badge Creation Page
include
Choose number of badge categories / types
include
Select the number of badge levels
include
Select or upload icons for each badge
Space Creator
System


Enroll to a Space
extend
Assignment of Badges
include
Assign to self
include
include
Assign by properties of users
Choosing a badge appropriate to the user by themselves
include
assign a badge to the user by rating
User
System