IMSE - MILESTONE 1

TOBIAS PRISCHING (11911362)

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1 REALITY DOMAIN

On a photo-sharing platform, users can sign up with their e-mail address, a user name and a password (which gets stored in its hashed form - not the actual plain text of the password), while the system stores the time and date of the registration and assigns a unique identifier to the user (note: the user may also get referred to as account on the following pages). A registered user can follow other users (storing the date from when they start following), so they can see the posts made or liked by the accounts they are following.

A post is either a photo (the primary media on the platform; also called image) or a comment (which is unique to a photo post) and has a unique identifier, the date it was originally posted on and the latest editing date of the post. Posts can be created by users (with a post having exactly one creating user) and liked by users (with the system storing the time and date when a user likes a post).

A photo post additionally consists of an image, the date the image was created (i.e. when it was taken), an (optional) description and a counter to keep track of how often it has been viewed (by counting how often it has been clicked on). A comment post adds a title and content to the attributes of a post and can only exist in the presence of a photo post.

Photo posts can further be added by a user to Albums, each with a unique identifier (assigned by the system), title, description and a counter for how often it has been clicked by other users. Albums get created (also storing the date they were created and last modified on) and managed by exactly one user.

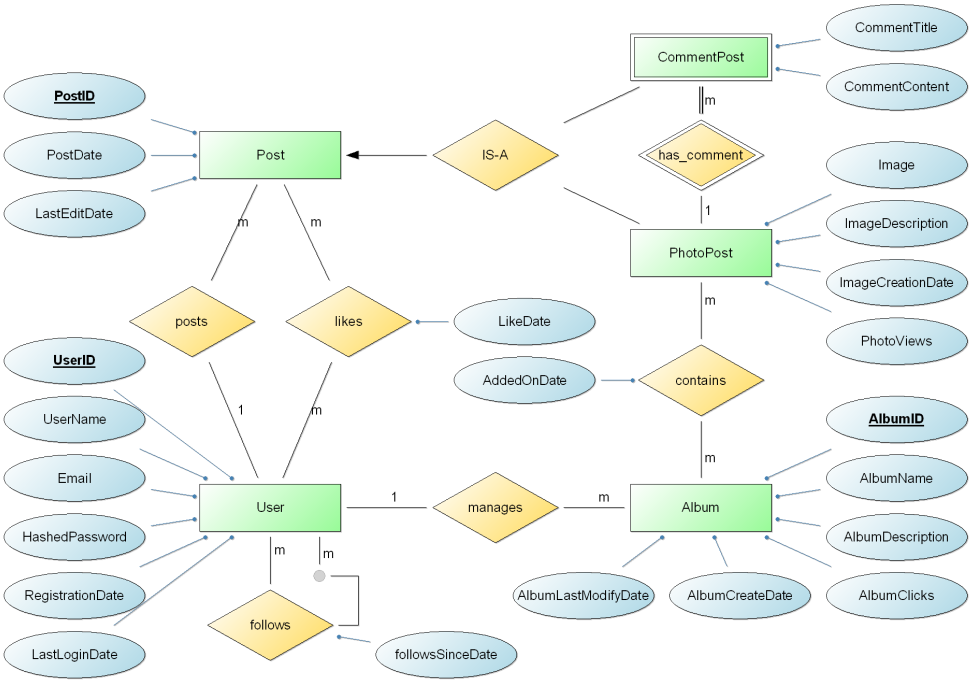

Figure 1: Entity-Relationship model

2 USE CASES

2.1 Creating a new account

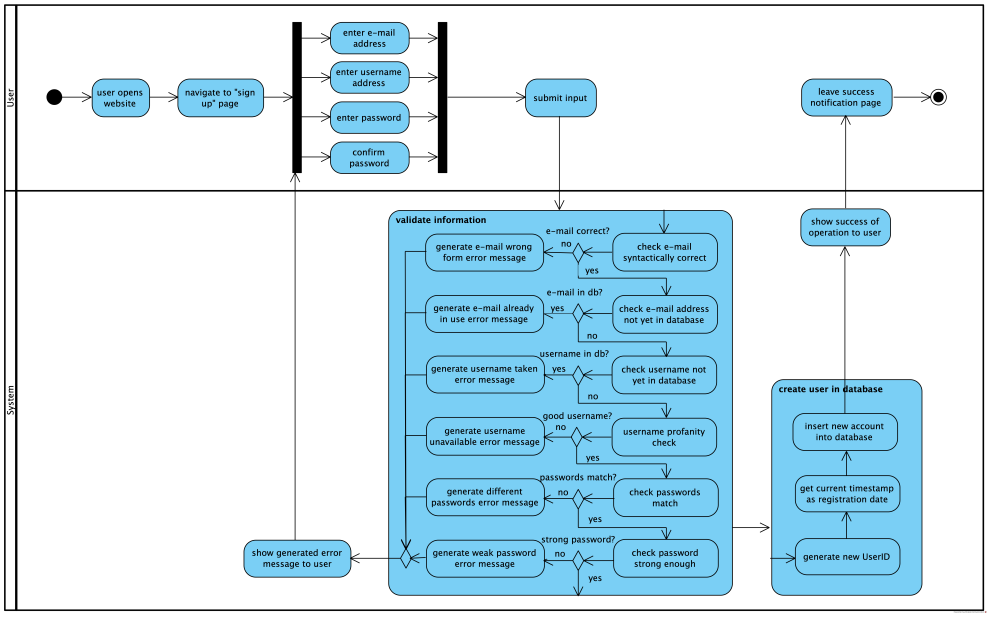

Figure 2: Activity Diagram: Creating a new account

Objective

Create a new user[1].

Description

A person who wants to participate in the platform's activity creates an account.

Pre-condition

Person has access to the website and there exists no account with the same e-mail address and or username

Main scenario

The user navigates to the sign up page and enters the required information and submits it. The system then validates the given data and (if valid) creates a new account and displays a success message to the user.

Alternative scenario

If the user enters invalid data (e.g. a password that is not strong enough, etc.) the system displays an error message and returns the user to the input form for correcting their mistake. Once the user has corrected their mistake, they can resubmit their input for processing.

Post-condition

An account with valid information has been created and can be used with the credentials entered by the user.

1 The terms "user" and "account" are going to get used interchangeably. Also, the word "user" will get used to describe the actual person who uses the platform.

2.2 Login to platform

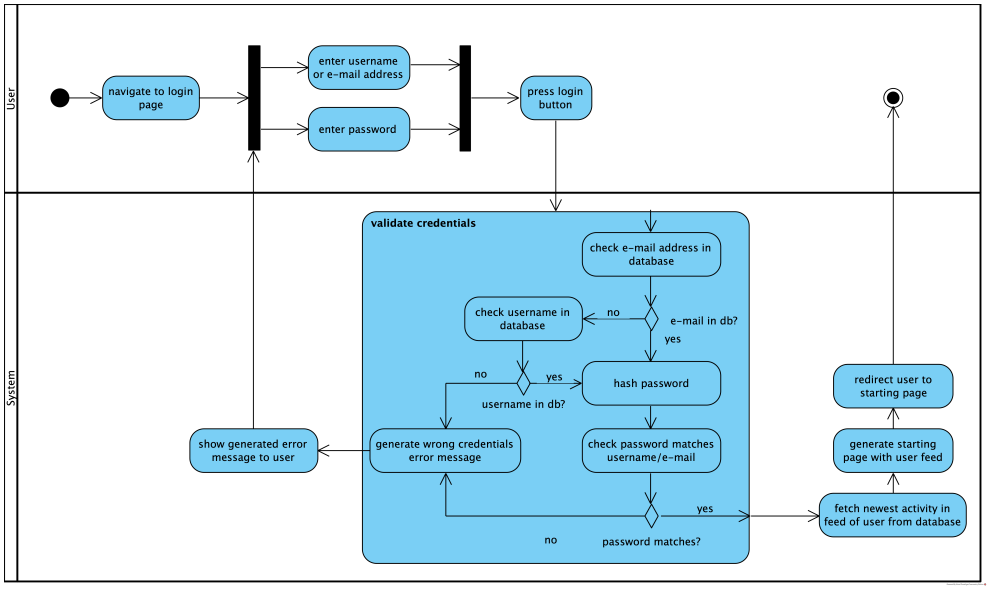

Figure 3: Activity Diagram: Login to platform

Objective

Log into the platform to use it.

Description

A person uses the e-mail or username and password that have been previously used to create an account to log into the website.

Pre-condition

User has access to the website and previously successfully created an account and remembers the credentials.

Main scenario

The person navigates to the login page and enters their e-mail address or username and password. Once submitted, the system checks if the credentials are valid and (if valid) generates the starting page for the user with their feed (containing the most recent activities on their feed by users they are following) and displays it.

Alternative scenario

If the person enters invalid credentials (e.g. wrong password) they are shown an error message and get returned to the input form to correct their mistake.

Post-condition

The person successfully logged into the platform.

Note: The granularity of activities from now on will be less fine for the activity diagrams to be more readable. The user creation and login diagram depict the validation process very detailed, however, as the amount of extra information does not help in understanding these diagrams, such actives will get united and represented as one action from now on.

2.3 Create a new photo post (main use case)

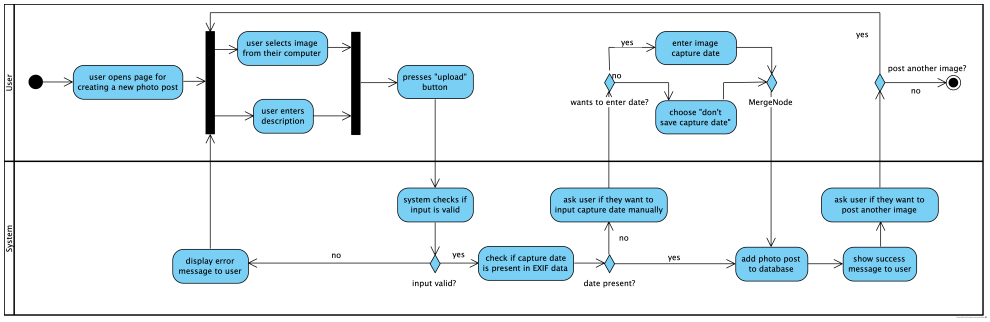

Figure 4: Activity Diagram: Create a new photo post

Objective

Create a new photo post for others to see, like and comment on.

Description

A user has an image they want to share on the platform, so they post it on their account for their followers to see, like, comment on, etc.

Pre-condition

The user is logged in on the website.

Main scenario

User presses a button to create a new photo post, enters a description and selects an image from their computer to upload. Once the necessary data is put in, the user presses the "upload" button. The system then checks if the data is valid and (if valid) further checks if the image file contains EXIF data with the date on which the image was taken. If this information is found, the post gets added to the database. The system then asks the user whether or not they want to continue posting another image and, depending on their choice, restarts the process or ends it.

Alternative scenario (no/not enough EXIF data)

If the EXIF data does not contain the date the image was recorded on, the system checks if the user wants to manually enter this date. If yes, the user can enter the date, otherwise no date gets saved for this post. The system then continues processing as if the date was found automatically in the main scenario.

Alternative scenario (invalid data)

If the data is not valid, the system displays an error message and returns to the input form for the user to correct their mistake. Once corrected, the procedure continues as described in the main scenario.

Post-condition

The photo post has been successfully added to the database and can be viewed by other users.

2.4 Create a new comment post (main use case)

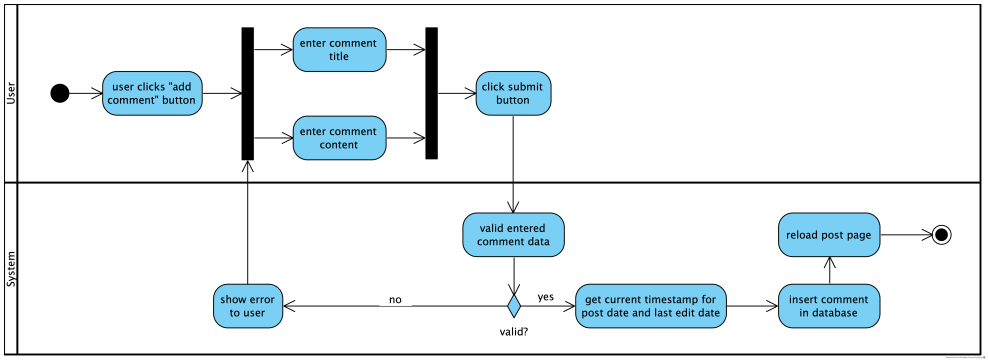

Figure 5: Activity Diagram: Create a new comment post

Objective

Create a new comment post for others to see and like.

Description

The user sees a photo post they want to comment on, e.g. to express their opinion. The intention behind this is to share this for other viewers of the same photo post to see.

Pre-condition

User is logged in and has opened the page of the photo post they want to write a comment on.

Main scenario

The user presses a button to open the form for writing a new comment. They put in a title and content and click the submit button. This submitted input then gets processed by the system by first checking whether is valid or not (i.e. empty fields, profanity check, etc.) and (if valid) gets inserted into the database with timestamps for the date it was posted and last edited on. To make this change visible, the page gets reloaded so the user sees their comment on top of the other ones.

Alternative scenario

If the input of the data is not valid (e.g. because no title was provided or swear words were used) the system displays an error message to the user and returns them back to the input form to modify their entries.

Post-condition

The comment has been successfully added to the database and can be seen by other users.

2.5 Like a post

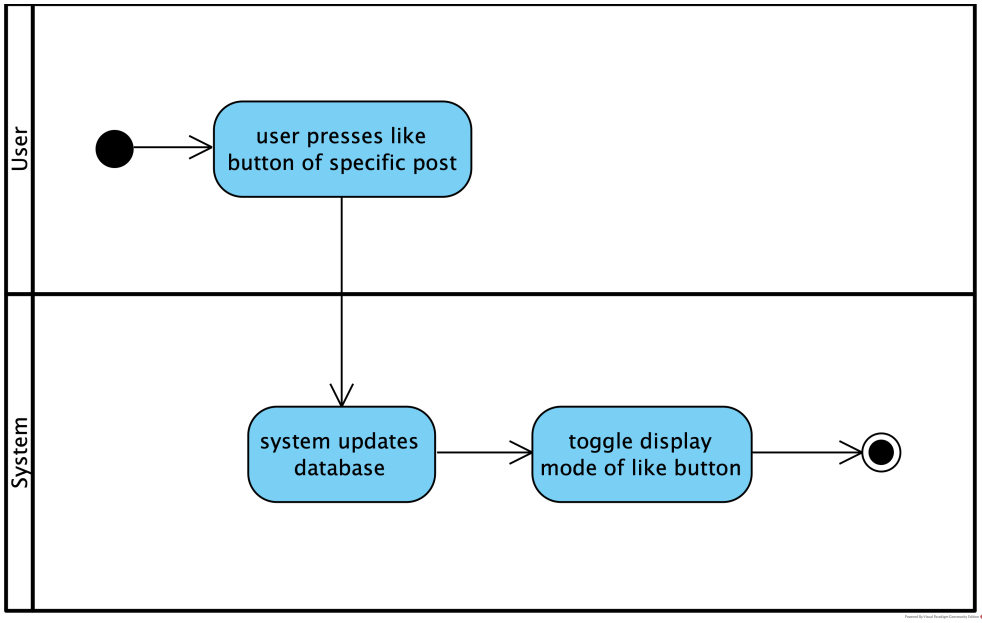

Figure 6: Activity Diagram: Like a post

Objective

Like a post.

Description

The user wants to express that they like a post and want other users who follow them to see this.

Pre-condition

User is logged in and opened the page of a photo post with either the photo post they want to like or one of the comments.

Main scenario

The user presses the like button of the respective photo or comment post, with the system then inserting this data into the database. The page then gets updated to display the changed liking status.

Alternative scenario

The post has already been liked by the user. In this case the entry for liking this post gets removed from the database and the page gets updated to display this changed status.

Post-condition (Main scenario)

The database contains the entry of the user liking the post with the timestamp of the user pressing the button and the page showing that the user likes the post.

Post-condition (Alternative scenario)

The entry of the post being liked by the user has been removed from the database and the page does not show that the user likes the post.

2.6 Add a photo post to an album

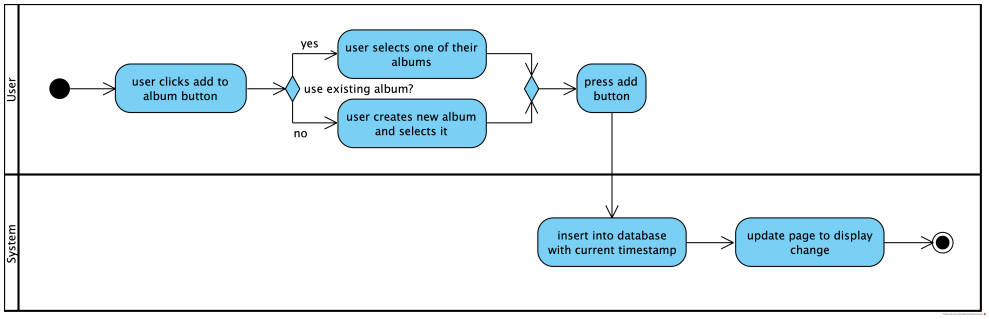

Figure 7: Activity Diagram: Add a photo post to an album

Objective

Add a photo post to an album.

Description

The user wants to add a photo post to one of their albums.

Pre-condition

User is logged in and already on the page of a photo post.

Main scenario

The user clicks on a button to add the photo post to an album. They then select either one of their existing albums or create a new one and select that. After confirming via an add button, the system inserts the new entry into the database and updates the page to reflect the change.

Post-condition

The database contains a new "contains"-entry to reflect the adding of the photo post to the album with the timestamp of the operation.

2.7 Follow another user via search

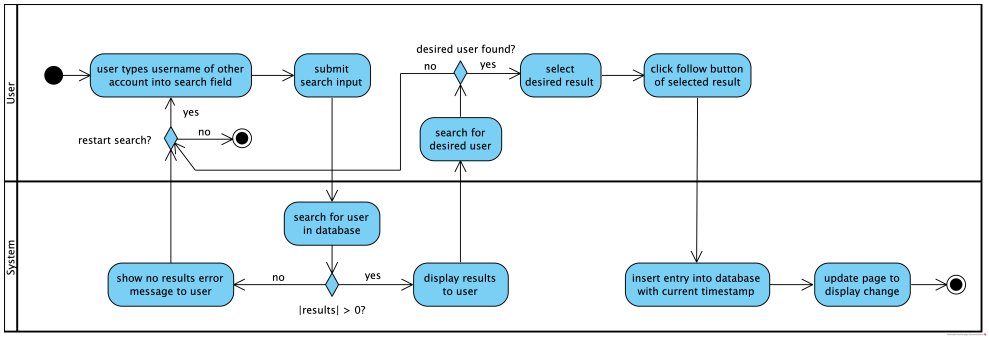

Figure 8: Activity Diagram: Follow another user via search

Objective

Follow a user (who gets found via searching for them).

Description

The user is interested in the activity of another account they know the username of and want to follow their activity. To do so, they follow this account.

Pre-condition

User is logged in and knows the username of the account they want to follow.

Main scenario

The user starts with typing in the username and submits their search input. The system then looks through the database to find matches. If more than 0 results are found they are displayed to the user and, if the desired account is in the list, the user can select the result and click the follow button. The system then inserts an according entry into the database and updates the page to display the change.

Alternative scenario

If there are no search results or the desired account is not part of the results list, the user can either enter a new search term and continue from there or cancel the activity.

Post-condition

If the activity has not been cancelled by the user as described in the alternative scenario, the database now contains a new entry to reflect the user following the specified account with the timestamp of the activity.

3 REPORTS

3.1 Most "successful" photo posts of the last n days

The aim of this report is to find out which photo posts generated the most interest/traffic in the community ("successful") of the platform in the last n days. This report includes:

- posts generated in the last n days
- the users who created the posts
- the number of likes the posts currently have
- the number of comments related to the photo post

Entities	User, Post, PhotoPost, CommentPost
Sortable by	PostDate, number of likes, number of comments
Filtered by	PostDate

Table 1: Information regarding report 1

3.2 Most "active" users in the last n days

This report aims to find out which users where the most "active" ones in the past n weeks, with activity being measured in the number of posts they made, edited or liked and how many of their albums they created or modified in this time period. The report includes:

- users
- the photo posts they created or edited in the past n days
- the photo posts they liked in the past n days
- the comment posts they created or edited in the past n days
- the comment posts they liked in the past n days
- the albums they created or edited in the past n days

Entities	User, Post, PhotoPost, CommentPost, Album
Sortable by	Number of photo/comment posts created/modified/liked, number of albums created/modified
Filtered by	PostDate, LastEditDate, AlbumCreateDate, AlbumLastModifyDate

Table 2: Information regarding report 2