

# OOSA Project: complete analysis

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# 1 Contract

## 1.1 Name of the team

IT Athletes

## 1.2 The team members

- Eline Schepers
- Adam Gataev
- Mathieu Pechovitch
- Elias Beddegenoodts

## 1.3 Roles

- Project manager (ADAM GATAEV) Checking on everyone (teamwork, are they happy?). Writes bullet-points during meeting (sends it to the group). Asks time manager if they could have a meeting. Uploads tasks.
- Time manager (ELIAS BEDDEGENOODTS) Keep track of deadlines and if members didn't start yet (put pressure on members)
- Evaluator (MATHIEU PECHOVITCH) Check for spelling, structure, consistency, plagiarism.
- Spokesperson (ELINE SCHEPERS) Contact between teacher and group

## 1.4 Collaboration:

What is considered to be a good team work for your project?

Communication is essential when you want to have great team work, so speak.

Punctuality defeats deadlines, so be on time.

Task management is crucial to move forward. If everyone finishes their tasks we can manage the next few.

Helping each other out is the best way connecting, so lend a hand.

Being active in the group gets the others motivated. Motivation is good.

What is good collaboration (attitude,...)?

- Having a positive mindset
- Being open minded
- Talking to each other
- Not being afraid to talk about things

How to collaborate (tools, communication, file sharing, contact moments outside classes, what happens in case of absence...)?

- Messenger
- Toledo collaborate
- OneNote schoolbook.

In case of total absence (without informing the other members), the person should make up for it on their own.

What do you expect from the lecturer?

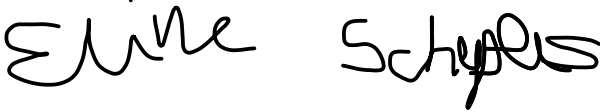
- Support
- Feedback
- Guidance.

Signatures:

Adam Gataev:

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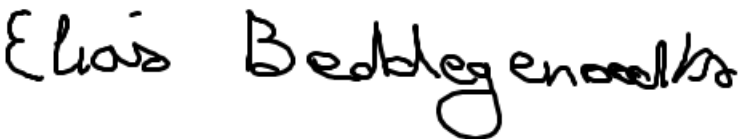
Eline Schepers:

A handwritten signature in black ink, reading 'Eline Schepers'.

Mathieu Pechovitch:

A handwritten signature in black ink, appearing to read 'Mathieu', written over a horizontal line.

Elias Beddegenoodts:

A handwritten signature in black ink, reading 'Elias Beddegenoodts'.

## 2 Business Analysis

### 2.1 The business (As is)

We started this business because too many animals are getting lost. If you own a pet, you probably can imagine how it would feel to lose a pet. We wanted to create one big central point for all the information about lost pets.

Jan Janssens contacted us, because he loved his beloved dog called James. James got lost the 21st of September 2020. We wanted to help our friend Jan and made this application with the help of our great team. 2 weeks after the deployment of the app, James got rescued from a slow death due to starvation. Right now James is healthier than ever before. We don't only want to help Jan, but a lot more pet owners.

At this moment there isn't really one way or one standard solution for finding lost animals or pets. People can try several options such as hanging flyers throughout the city, but most people don't even look at those. They can notify their neighbors or maybe visit the local animal shelter to check if their pet may have been found. Another more extreme option is to file a lost pet report at the non-emergency police department. There is the possibility to get a chip implanted inside of the pet, but most owners don't want this.

Even if someone does find or see a lost pet, the chance is high they won't go out of their way to bring the pet to an animal shelter or even remember where they saw the missing pet flyer. Unfortunately after a while of searching intensively, pet owners lose their motivation to keep looking. The posters will wear off or get old, resulting in people thinking it isn't relevant anymore.

There also isn't a mainstream platform or database where people can report their missing animals to alert people around their country or city.

## 2.2 The stakeholders

App members	Our members represent a big stakeholder for us. Because our app relies mostly on its user base, without a consistent community the app wouldn't work on it's full potential.
Advertisers	The companies who will be able run advertisements on our app are a key stakeholder for us, with this we can make PetDetect Free for download but still generate profit to maintain our application.
Database provider	We will save and manage our data on a database of an external company, therefore this company will also be an important stakeholder of ours.
Employees	Our employees (helpdesk, app developers, customer service,...) will be working on constructing and maintaining the application.
Government	We need an approval to develop an app which is based on locating pets. Our business must follow federal rules and regulations to function legally.
Manager	The project manager will be leading and supervising the team.
Marketeers	They will make sure our app will be used by a lot of people by advertising, etc.
Pet Community	The opinion of the pet loving community can alter the success and performance of the app. (They are the once to most likely rate the app)
Investors	They pay for a share and if their share is big enough, they have a say.

## 2.3 The PIECES framework

*use the PIECES framework to define problems/opportunities and define the business requirements that are a result of this*

	Problem/opportunity	solution
<b>Performance</b>	There isn't an organisation that is solely focused on helping find lost pets. You have the animal shelter or police department but they they are limited in the aid they can provide	with our app more people will be able to help find lost pets.
<b>Information and data</b>	The owners cannot reach everyone by putting up posters/flyers.	more people will be reached with the help of our app
<b>Economics, costs, profits</b>	Have an app with in app purchases for extra (more extreme) aid in finding your lost pet	we will allow companies to put ads on our app so we can maintain our app and fund our business
<b>Control and security</b>	putting up flyers with your contact information isn't very safe	your contact information will be more limited when using our app. The members on our app also will be frequently checked with quality checking algorithms
<b>Efficiency, people, processes</b>	A lot of people miss out on announcements of lost animals because there is no central point	By creating this app more people will be notified when a pet is lost. the chances of finding a pet will be bigger and this app could be the main platform for missing pets
<b>Service</b>	At this moment there almost is no service other than the animal shelter or police department, but they will not actively help	the chances of finding your animal by using our app will be bigger. The duration of losing your pet and getting information about your pet being seen or even finding your pet will decrease

## 2.4 The business events

*describe the business events*

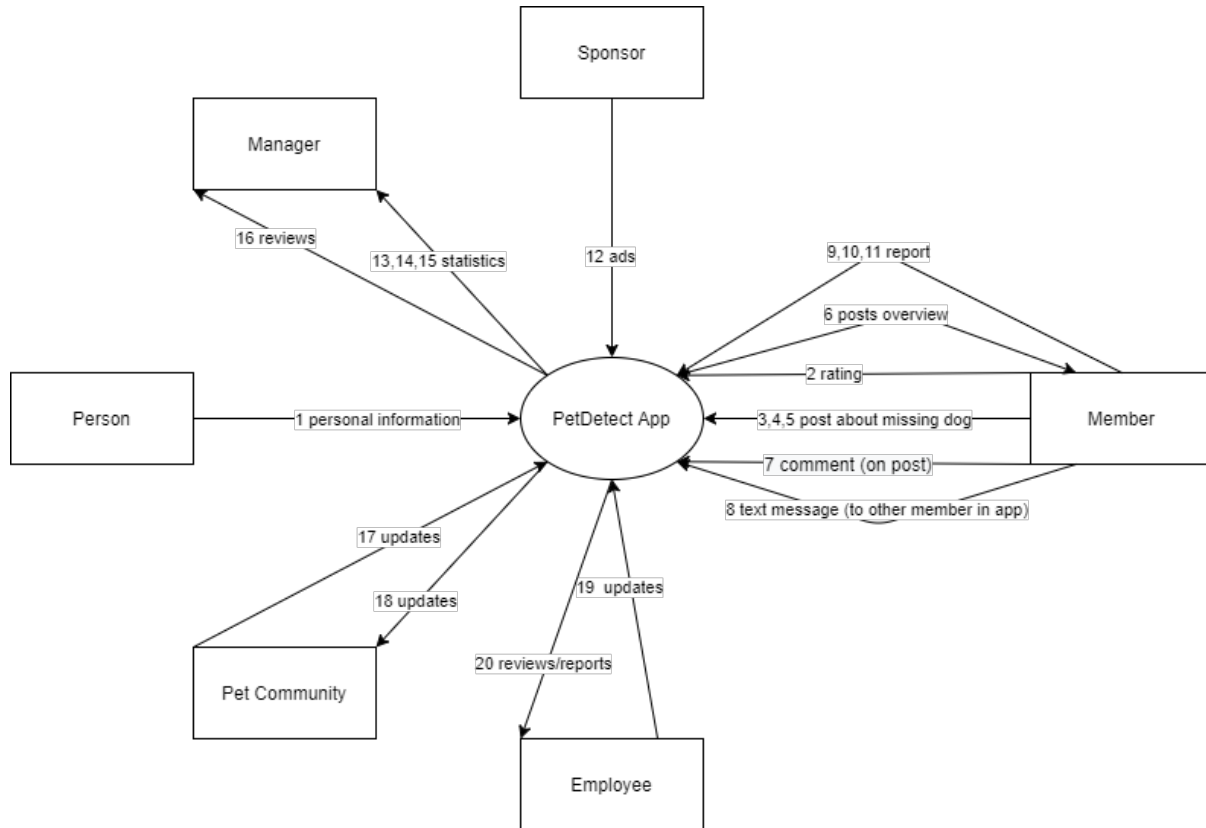
*Recap: a business event is something that happens in real world at some moment in time and your business has to respond to or something that is triggered by time*

1. Person wants to become a member (have an account)
2. Member wants to rate app
3. Member wants to share a post about his/her missing pet
4. Member wants to modify his post
5. Member wants to delete his post
6. Member wants an overview of all posts
7. Member wants to comment on a post
8. Member wants to message another member
9. Member wants to report a post
10. Member wants to report a member
11. Member wants to report a bug
12. Sponsor contacts us that they want to put an ad on our app
13. Manager wants the statistics of all posts
14. Manager wants the statistics of all members
15. Manager wants the statistics of all found animals
16. Manager wants to know about the app's reviews
17. Pet community (Animal Shelter) wants updates
18. Pet community (Animal Shelter) shares updates
19. Employee updates the app
20. Employee wants reviews/reports



## 2.5 Context diagram

describe the communication between your business and the external entities in a context diagram. Make sure the communication caused by the business events is reflected in this diagram.



## 2.6 Business use-cases

*For each business event, define and describe the business use-case (reaction of the business on the business event)*

- 1) Check for valid account
- 2) Check ratings and try to solve any problems
- 3) Business gets more information about missing pets
- 4) An automated process will update the post on the server database that has been modified. Check for spam and missing information on posts.
- 5) An automated process will remove the post from the server database that the member wants deleted. Also, the developing team added a feature in the app which automatically sends a notification after a certain time. It will ask the member if the pet is still missing. If it has been found, the member will be asked to delete the post.
- 6) Retrieve active posts from the database and show them on an overview page
- 7) Employees check whether the comment is appropriate
- 8) Employee can have a better idea whether the member is active and check if messages are appropriate or spam, when receiving a report
- 9) Depending on the type of report, the investigation will be done automatically through an automated checker or through one of our employees in our helpdesk.
- 10) Depending on the type of report, the investigation will be done automatically through an automated checker or through one of our employees in our helpdesk.
- 11) Developers get notified on the bug and start working on it.
- 12) The advertisement will be reviewed, if accepted a price and duration will be agreed upon and it will be published on the app.
- 13) Create a document containing the statistics of all posts.
- 14) Create a document containing the statistics of all members.
- 15) Create a document containing all statistics of all found animals.
- 16) Create a document containing all statistics of reviews.
- 17) Mailing our information to the administrators of the animal shelter
- 18) Giving the information to our administrators. They will do the necessary things
- 19) More updates, means less bugs there for a better member experience and thus better app ratings.
- 20) Employee will work on reviews and fix reports

## 2.7 TO BE situation

*Define the ideal situation for your business, so that all future models can be derived from it (TO-BE situation)*

*Also define the difference between must-have and nice-to-have business requirements*

*Don't mention the system yet, business analysis is about the business!*

the members have to be able to

- create an account
- post about her/his missing pet
- contact a member about his/her missing pet
- be contacted about his/her missing pet
- let other members know her/his pet has been found
- delete his/her account
- see an overview of all posts (posts from every member)

the advertisers have to be able to

- see their ad on the app
- ask for the interaction that happened between the ad and the members
- ask to update their ad given the updated version

the investors have to be able to

- invest in our company
- see all the statistics about how the company is doing
- see where their money has been used for
- have meetings with our company

## 3 Requirements analysis

### 3.1 The scope of this project

PetDetect will be the solution for a lot of sad and unhappy people. People are going to be able to post a message with all details of their missing animal and everyone within a range of 50km will get a notification to be aware of the situation. It will be possible to contact other people who posted something to tell them that you saw his/her pet

Our app will be available on both IOS and android devices. The app is a free-to-download application. In order to use the app, the App-users should register. During the registration, you will need to give your email address, name, country, city, age, and of course, initialize a password. The personal data won't be sold to third parties, but it will get used by the company.

The email address will be used as a validator in order to avoid spam profiles. The name will be above every post you place on the overview page so people know who they are talking to. Through a special algorithm, your location will be used to let all other members in a range of 50 km know that your pet is missing. It's pointless to let everyone in the USA see a post of a missing animal in Belgium. The minimum age of 12 is required since we want to avoid little kids to be contacted by people with bad intentions.

Once you're registered you are a member. The features you get are: overview of the posts,... access to message people, access to share posts, access to comment on a post, modify or delete your own post.

When having difficulties creating an account, you can contact our support service via mail. He/she will try to fix the problem with you. When the sign-in is completed and you are linked with other social media, the member can start sharing posts. There will be a button "create case". If you click it, you will be able to make a post. When creating, you will be able to add photos, tag other members, add context and potentially your own contact info. After you are done... just click on "send it".

Every member can report another member or a post. We, the developers, get these reports and check if it is valid. When we figure this post or member is indeed malicious we will handle it by deleting the post or removing the member from our system. If it is just a bad post, the member will get a warning. Three warnings means the member gets banned. In the worst case, we will report this person to the police.

Our system will be able to see which members are inactive. If they are inactive for over 1 year, a notification and email will be sent, based on their response their account will be deleted or kept, no response in the following 2 months results in an automatic deletion of their account. When the member wants to rejoin our community, he will be able to do so by just signing up again. The members will get a notification asking whether the post they shared 3 months ago is still relevant. If it is, it will go up in the feed, if not it will be deleted.

Members will get the chance to review our application and give us feedback so our developer team can improve specific things, fix bugs or add new features.

Managers will be able to sign in with an admin account in order to have more benefits. They can request the amount of posts for each country. This will be seen on a statistics overview page.

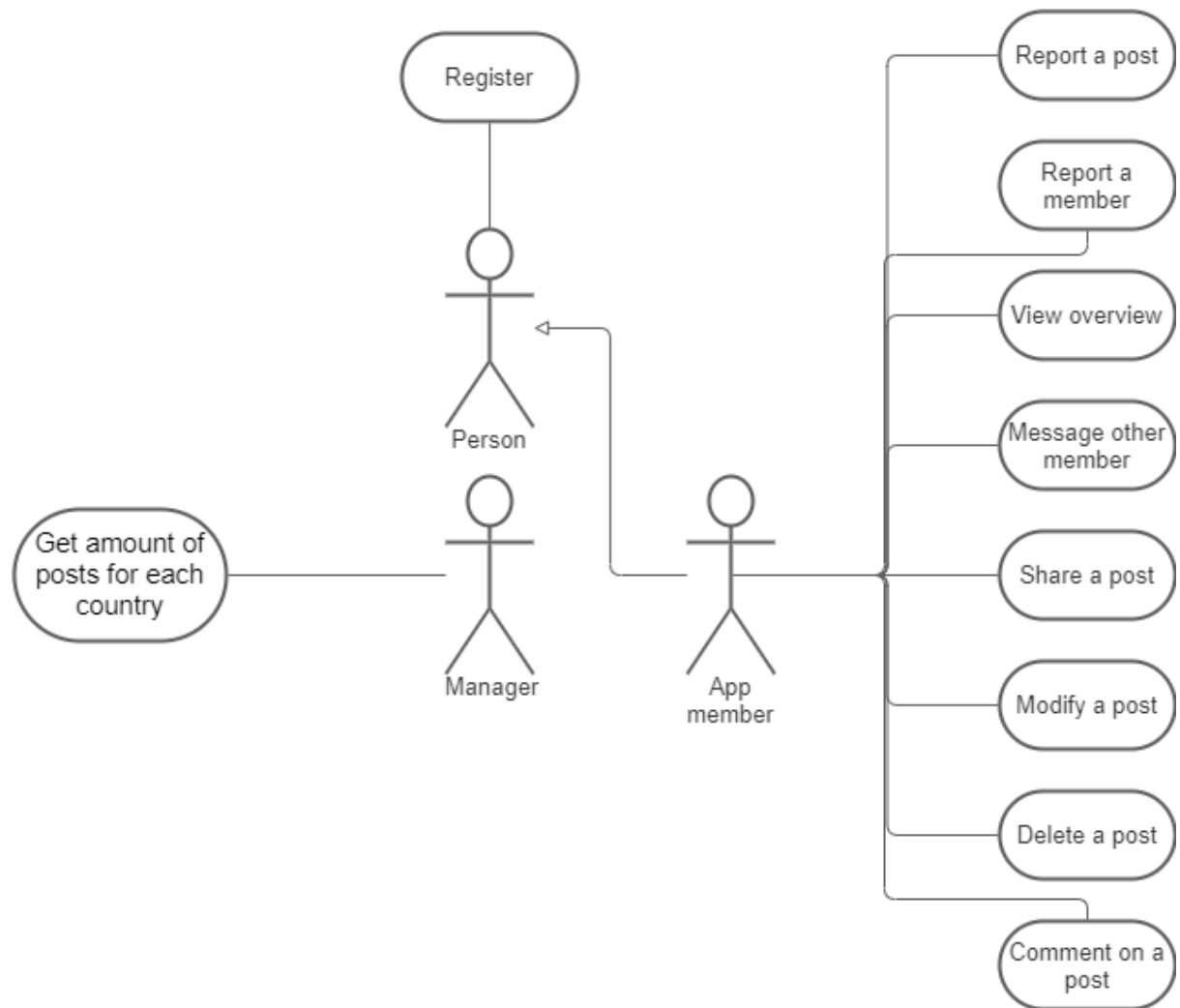
### 3.2 The functionalities

- Register
- View overview
- Share(create) a post
- Modify a post
- Delete a post
- Report a post
- Comment on a post
- Message another member
- Report a member
- Get amount of posts for each country

### 3.3 The actors

- App members who post about their lost pet on our app and who help other people find their lost pet on our app.
- The manager who gets information from the app.

### 3.4 The use-case diagram



### 3.5 Use-case descriptions

Name	<b>Register a member</b>
Summary	A Person can register to become a member and use the app.
Actors	Person
Precondition	
Scenario	Fill in your e-mail, name, phone number, age, country, city and password. Check if e-mail is valid and not used otherwise exception 1 Check if name already exists otherwise exception 2.
Exceptions	<ol style="list-style-type: none"><li>1. Show message "e-mail is not valid, choose another e-mail."</li><li>2. Show message "Name already exists, choose another."</li></ol>
Post Condition	You can use the app and all its functionalities

Name	<b>View overview</b>
Summary	A member can view posts (scroll through feed)
Actors	App Member
Precondition	
Scenario	<p>Look up the location of the member and then show an overview of all the posts which are inside a radius of 30km to the location of the member.</p> <p>Check if there are any posts in the area, if not exception 1</p>
Exceptions	3. Show message "No missing animals in your area"
Post Condition	You can see the posts nearby

Name	<b>Create and share a post</b>
Summary	A member can create a post about a missing animal
Actors	App Member
Precondition	
Scenario	<p>Give the post a title, animal type, breed, add the location where the animal was last seen, add a description and add pictures of the missing pet.</p> <p>Check if the picture is appropriate, if not exception 1</p> <p>Confirm creation of post.</p>
Exceptions	1. The picture will be denied and the member will get a message saying "The picture is inappropriate, choose another"



Postcondition	Your post can be seen by all members of the app
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Name	<b>Modify a post</b>
Summary	A member can modify a post after it's been uploaded
Actors	App Member
Precondition	The selected post was created by the member.
Scenario	Make the changes you want to → click “Save”. Check if the picture is appropriate, if not exception 1
Exceptions	1. The picture will be denied and the member will get a message saying “The picture is inappropriate, choose another”
Postcondition	The post is modified

Name	<b>Delete a post</b>
Summary	A member deletes one of his own posts
Actors	App Member
Precondition	The selected post was created by the member.
Scenario	Show the post and then ask for confirmation. Press on “confirm” or “cancel”. If “confirm” it will be marked as deleted ...
Exceptions	

Postcondition	The post is deleted
---------------	---------------------

Name	<b>Report a post</b>
Summary	A member can report a post of another member if he or she thinks it infringes on our community guidelines
Actors	App Member
Precondition	You can not report your own post.
Scenario	Choose the guideline you think the post is infringing → The post will be reviewed by our team and a mail will be sent with our verdict to the member who reported and the member who created the post.
Exceptions	
Postcondition	The post is reported

Name	<b>Comment on a post</b>
Summary	A member comments on a post about a missing pet
Actors	App Member
Precondition	
Scenario	Select the post you want to comment on. Write your comment and press send. Check unknown characters (emoji's, weird characters not available for all smartphones, ...) typed

	by special device, if present then exception 1. The comment is created below the post.
Exceptions	1. Special typed characters will be converted into black squares.
Postcondition	Your comment can be seen by all members

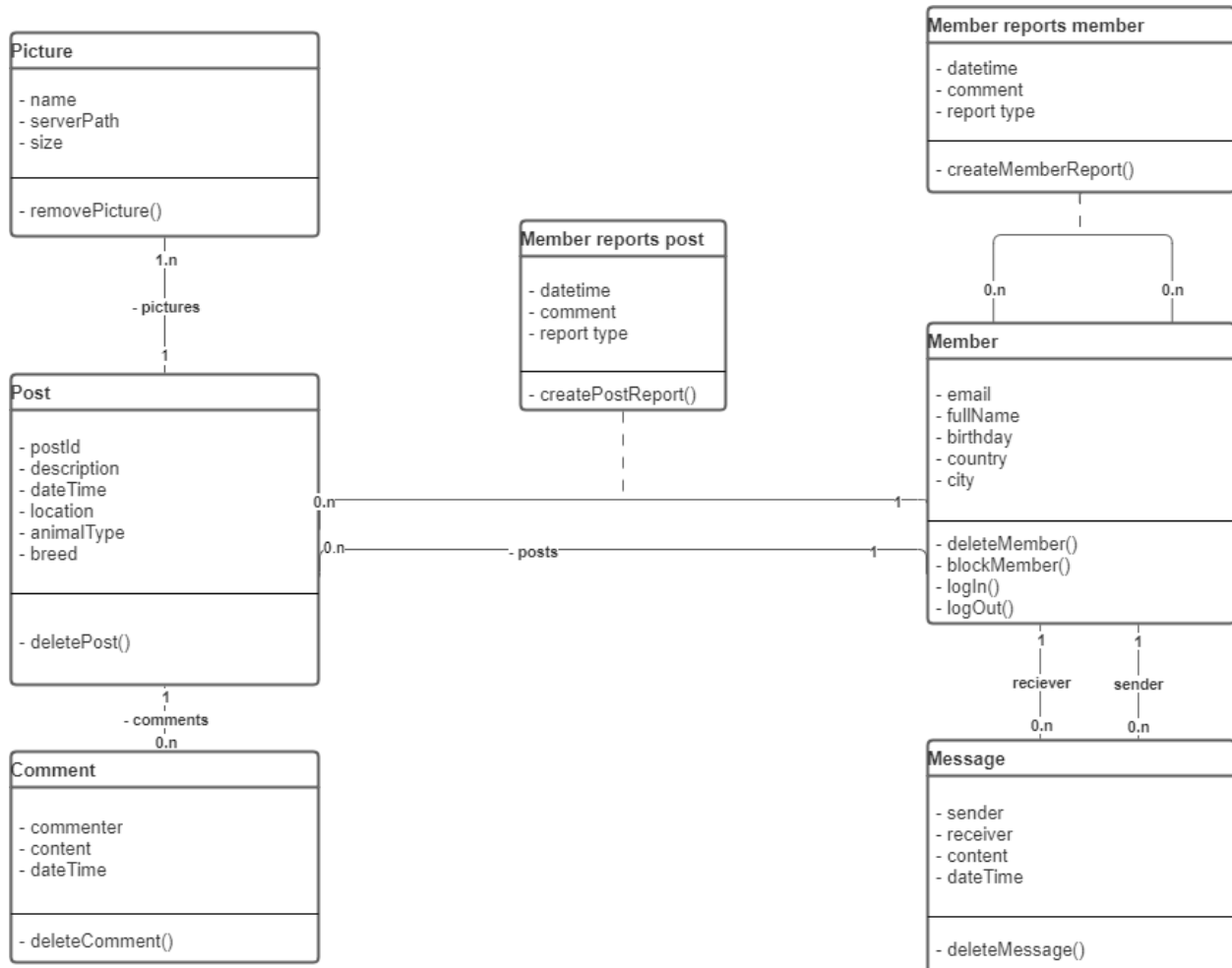
Name	<b>Message another member</b>
Summary	A member wants to message another member.
Actors	App member
Precondition	
Scenario	Select the member to whom you want to send a message. Write your message and press "Send". Check unknown characters (emoji's, weird characters not available for all smartphones, ...) typed by special device, if present then exception 1. Messages are created and linked to both members.
Exceptions	1. The member who received the message will get a black square as character
Post condition	You've sent a message to another member

Name	<b>Report a member</b>
Summary	A Member wants to report another member
Actors	App Member
Precondition	
Scenario	Select a member you want to report. Choose the guideline you think the member is infringing → the member will be reviewed by our team and a mail will be sent with our verdict (to both members)
Exceptions	
Post condition	The member is reported

Name	<b>Get amount of posts for each country</b>
Summary	Admin account shows an overview of the amount of posts for each country to the manager
Actors	Manager
Precondition	
Scenario	View information about the amount of posts for each country. If no posts for a country: exception 1
Exceptions	1. A message will be shown: "No posts for this country."
Post condition	The overview of the amount of posts is shown

## 4 Business model project

### 4.1 The class diagram



## 4.2 The model dictionary

A member object gets created when a person signs up on PetDetect.

When a member shares a post, a post object gets created.

When creating a post, for each added picture a picture object gets created.

Of course members can comment on posts. For each comment a comment object is created.

Every member can message another member, for each message there is a message object.

At last a member can report posts or other members. When reporting, there is a difference between posts and members. If a member reports a post, a MemberReportsPost object gets created. Idem for reporting a member. A MemberReportsMember object

## 5 User stories and user story cards

View: <https://docs.google.com/spreadsheets/d/1Uipc2eFIEC6P041OGaOhpWSgXRu7Hv-7DU5a-B-RNVM/edit#gid=0>

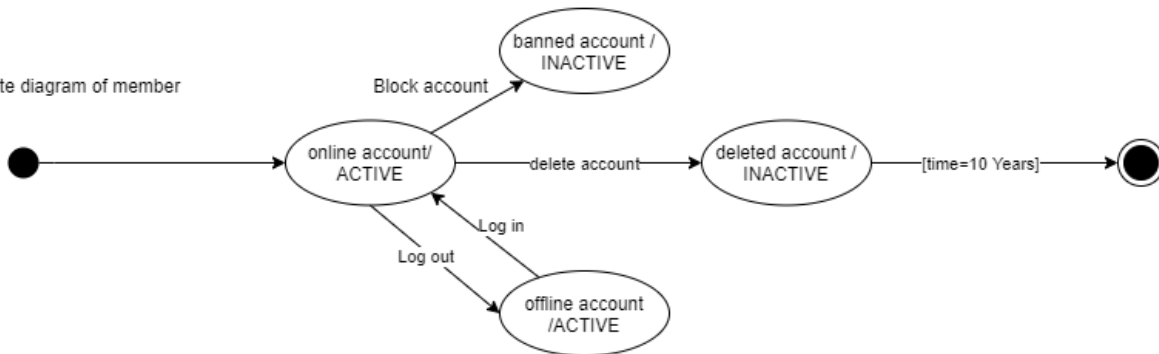
## 6 Dynamic model

### 6.1 State diagram

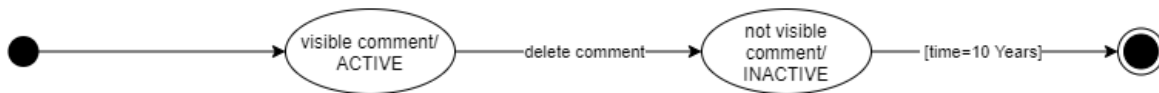
state diagram of post



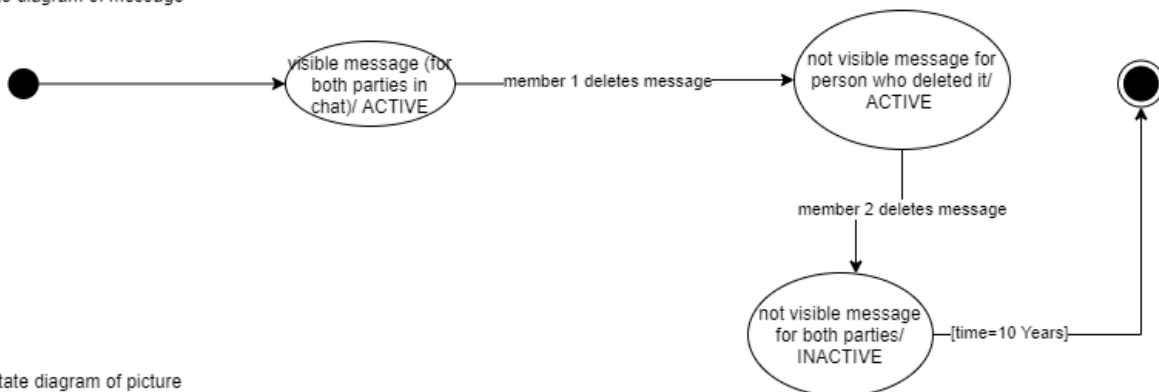
state diagram of member



state diagram of comment



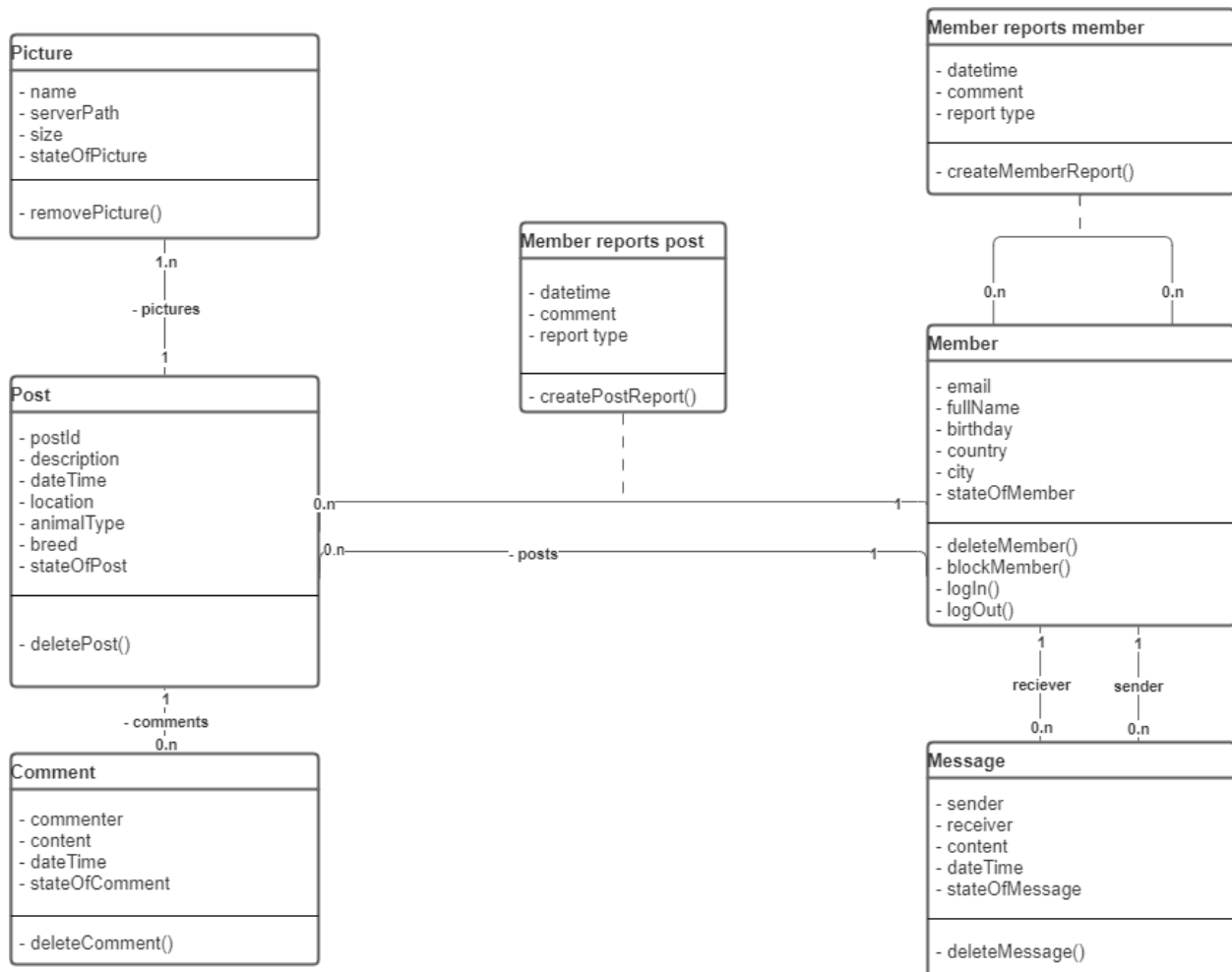
state diagram of message



state diagram of picture



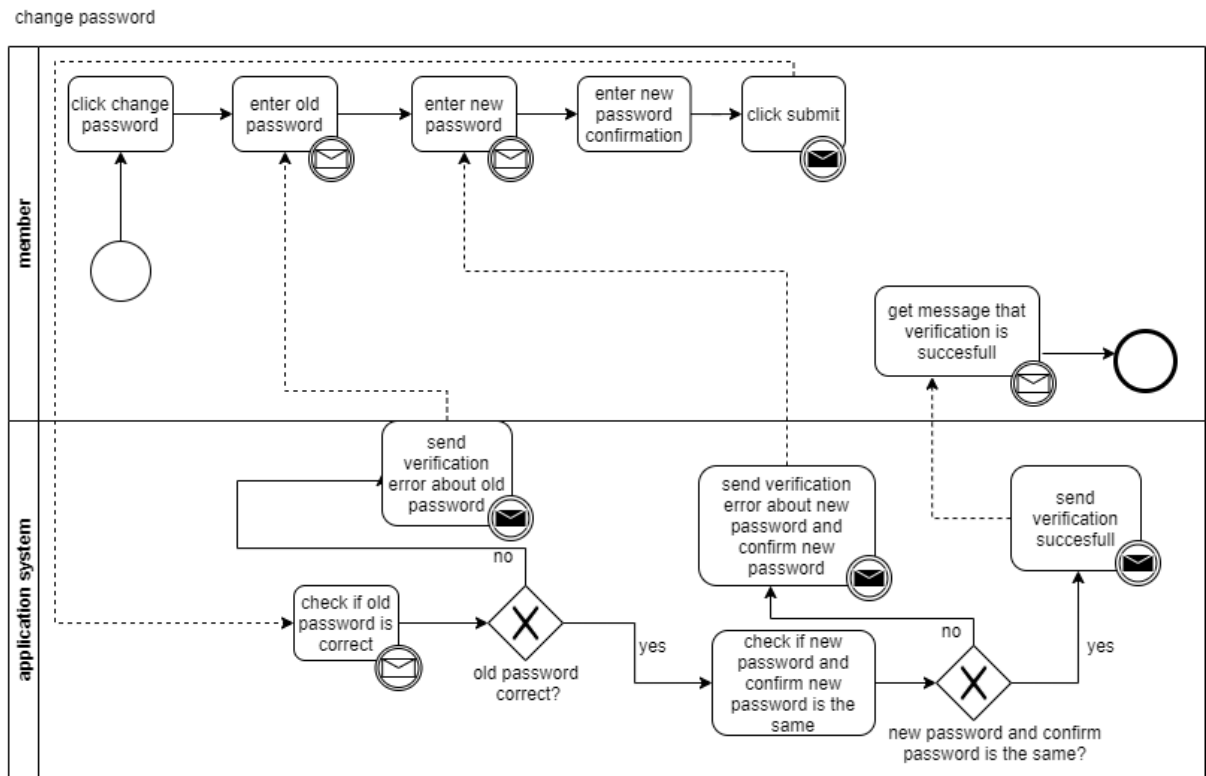
## 6.2 The class diagram V2



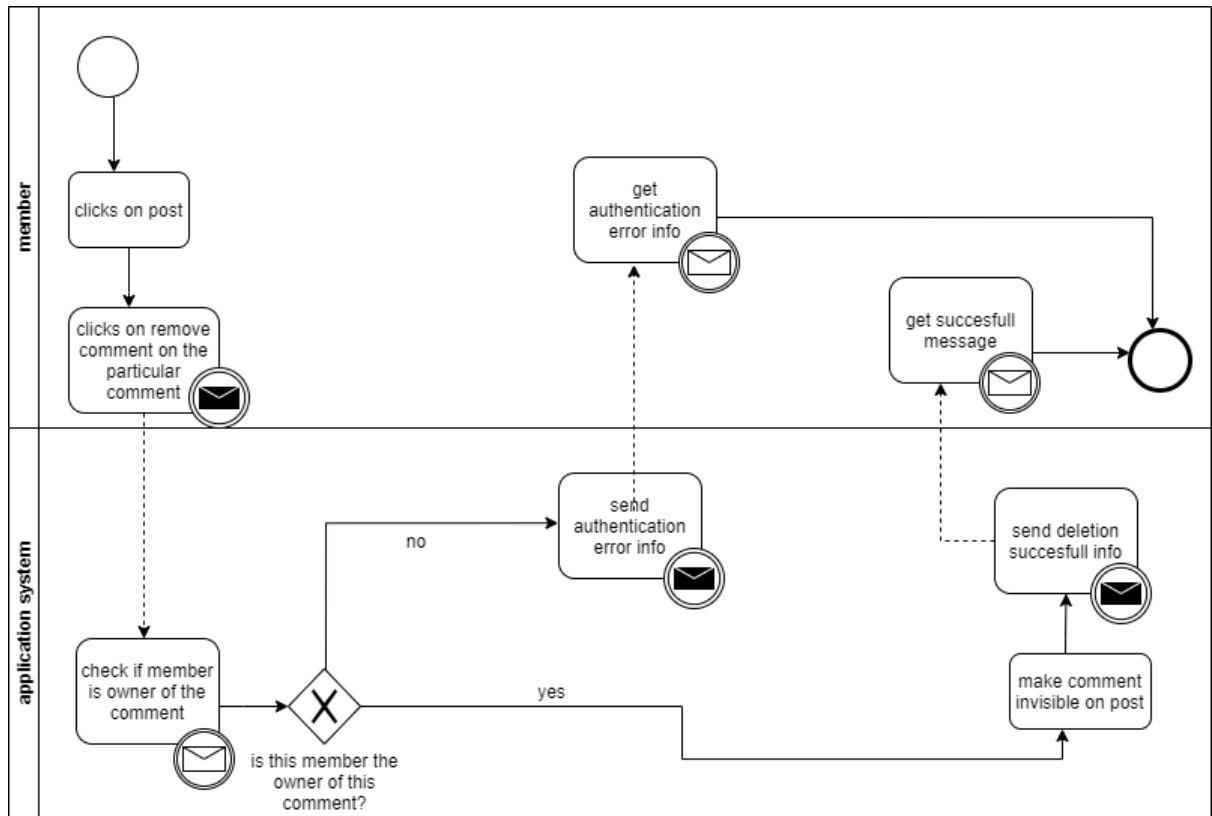


## 6.3 Activity diagram:

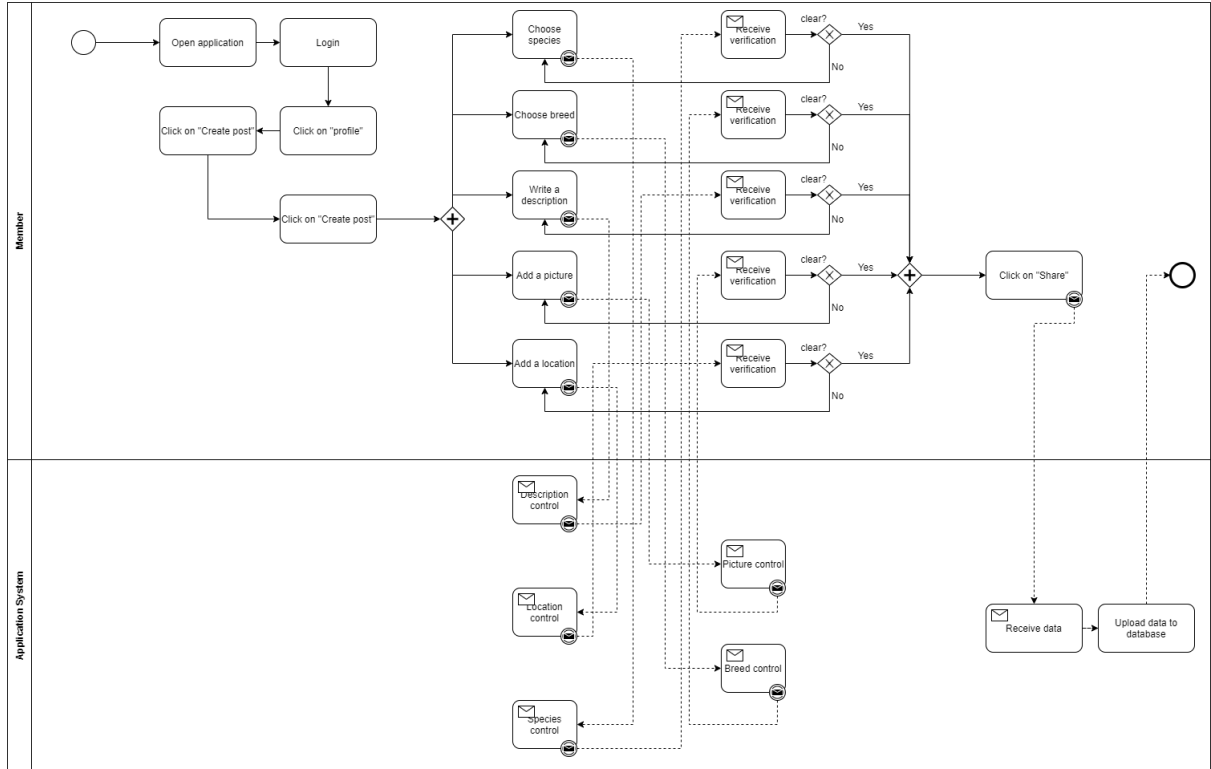
### 1. change password (Eline Schepers)



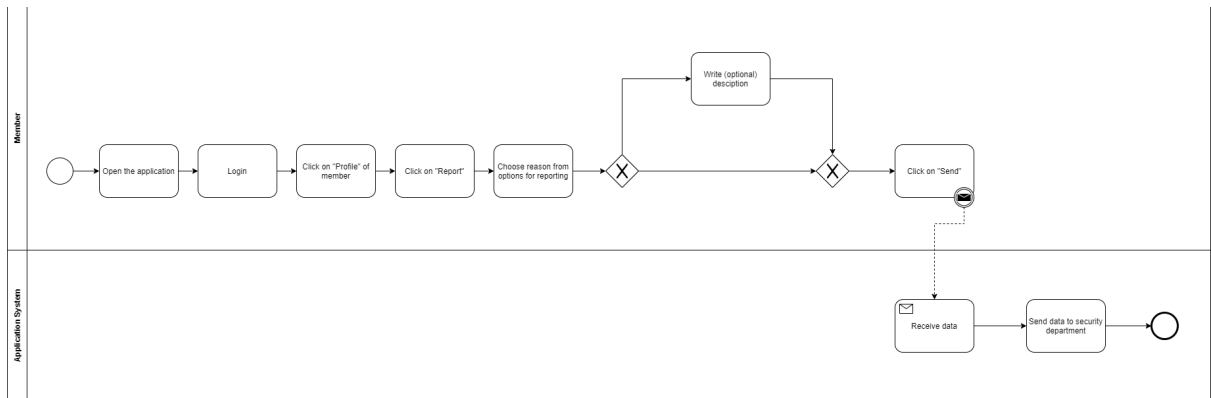
## 2. remove comment (Eline Schepers)



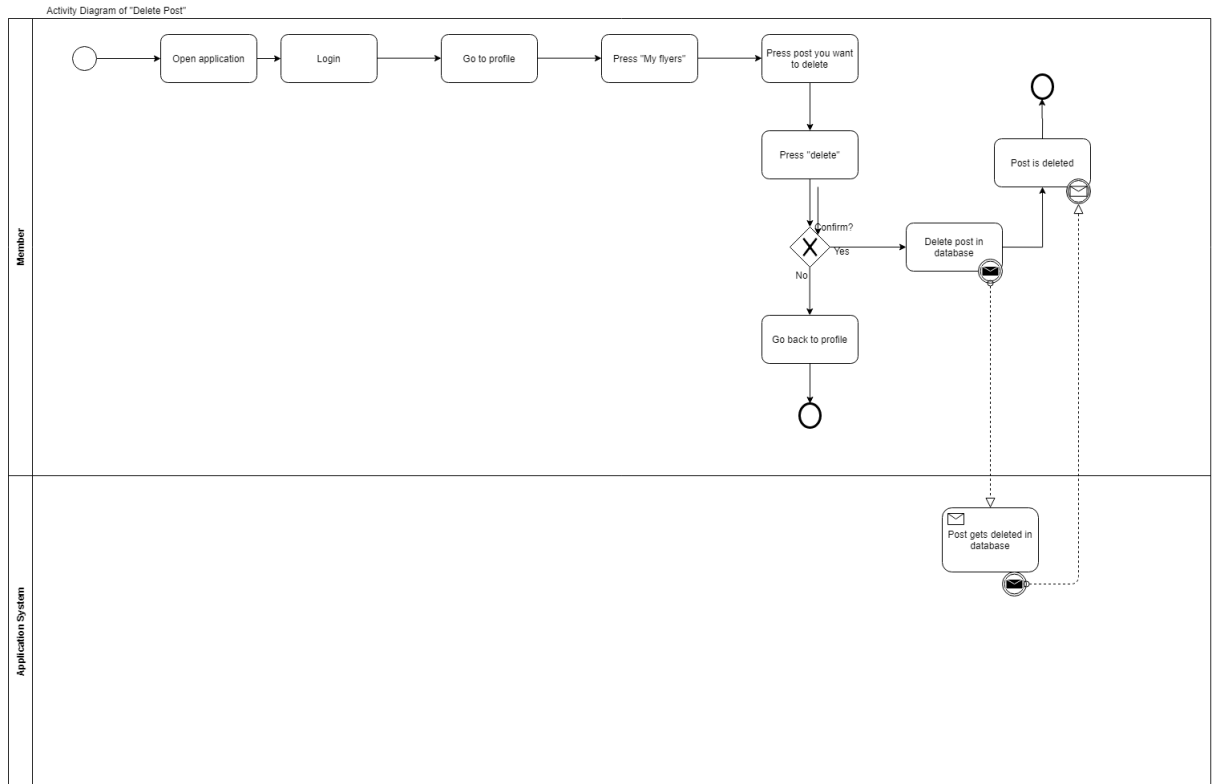
### 3. Create and share a post (Adam)



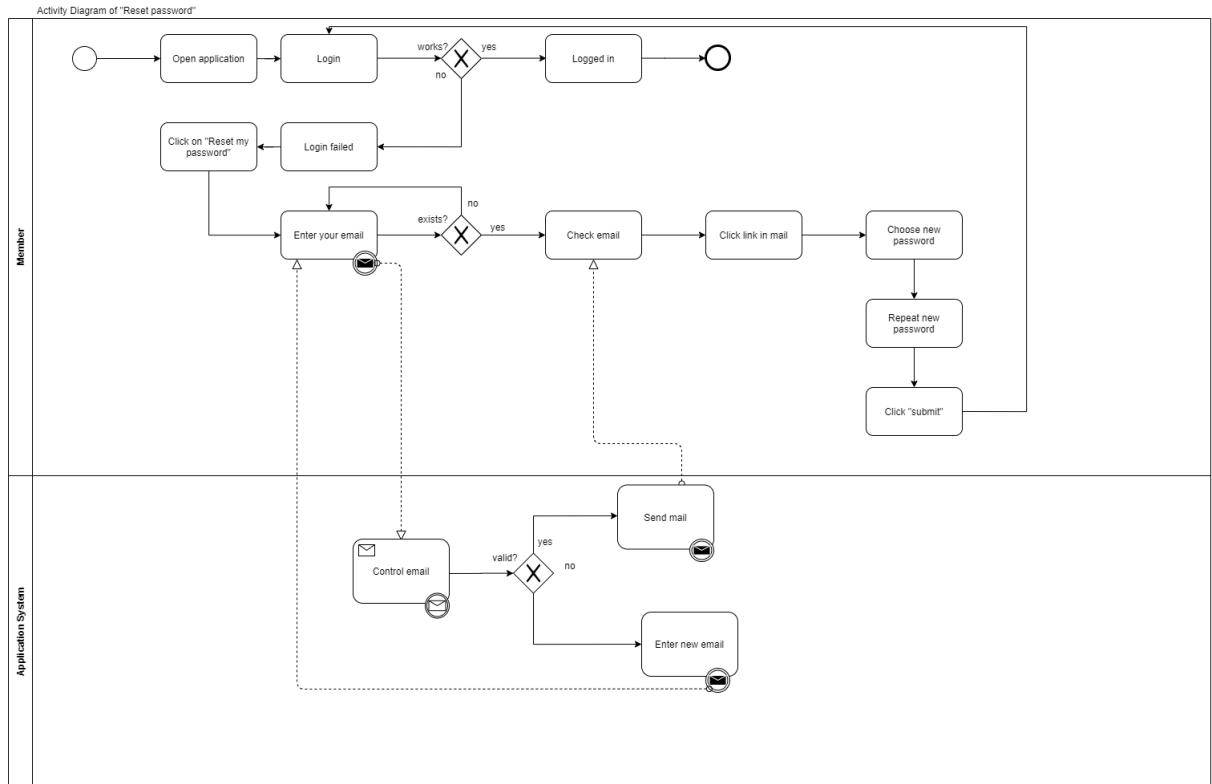
### 4. Report a member (Adam)



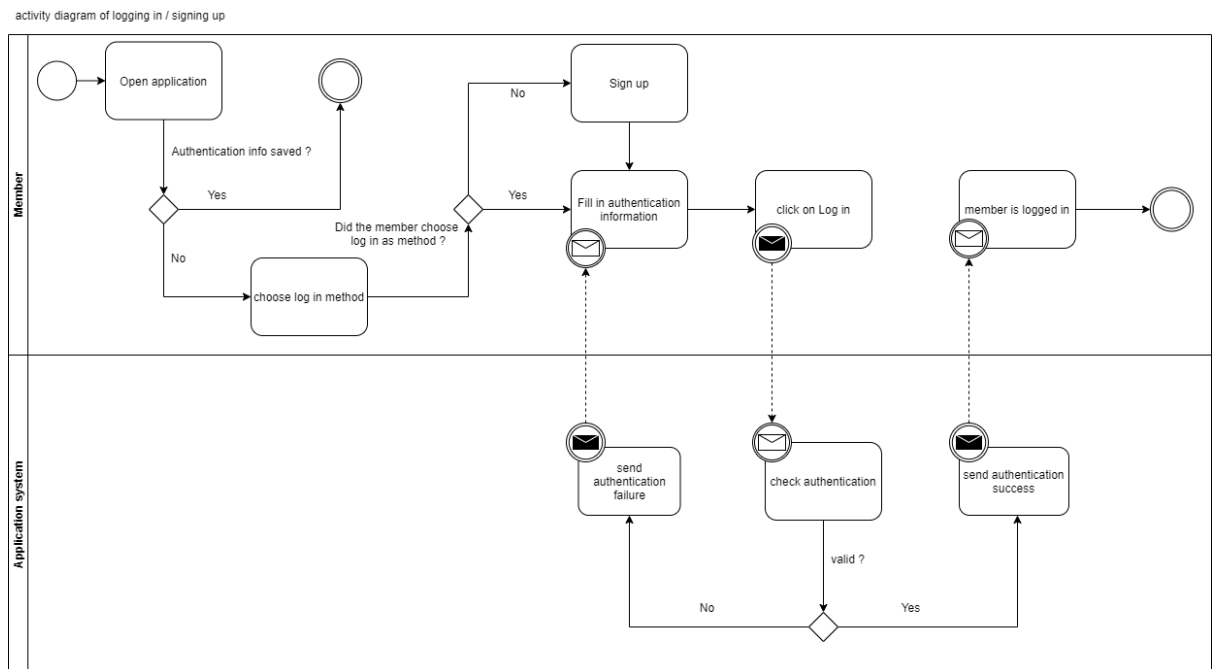
## 5. Delete a post (Elias)



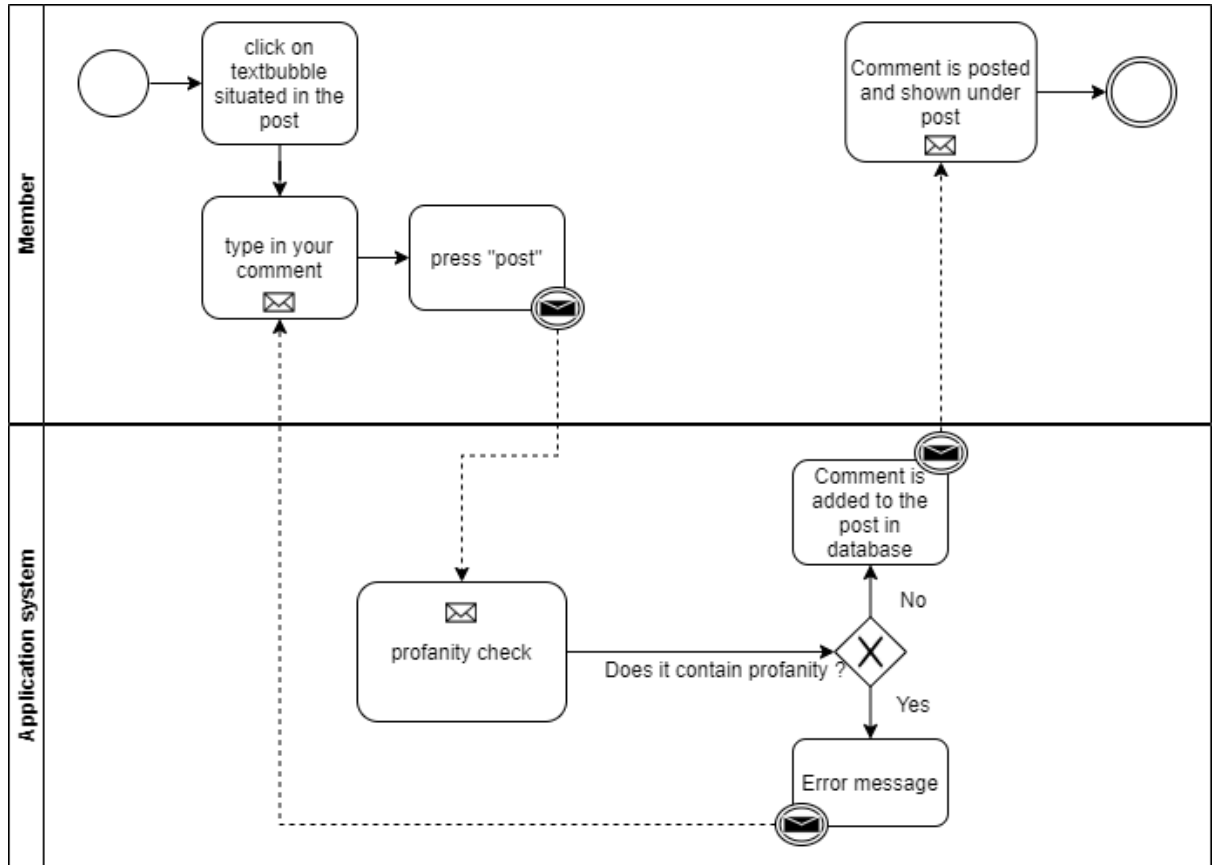
## 6. Reset password (Elias)



## 7. Long in /sign up



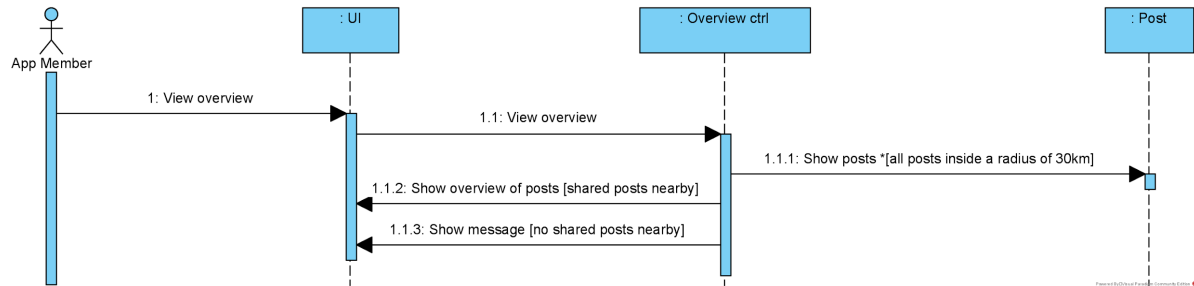
8. post a comment



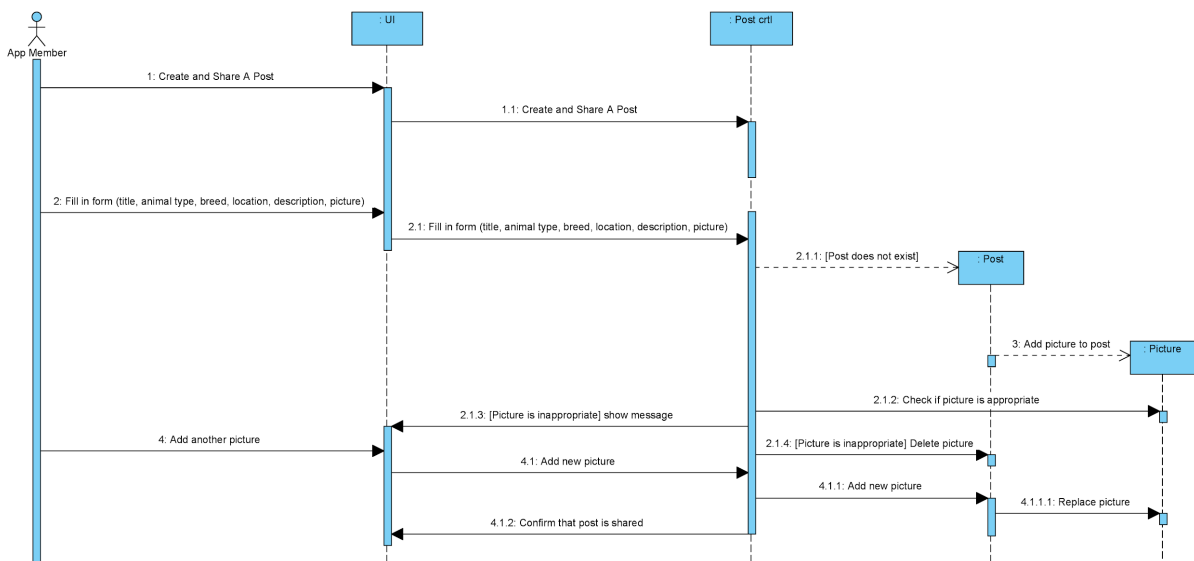
## 7 Application layer

### 7.1 Sequence diagram:

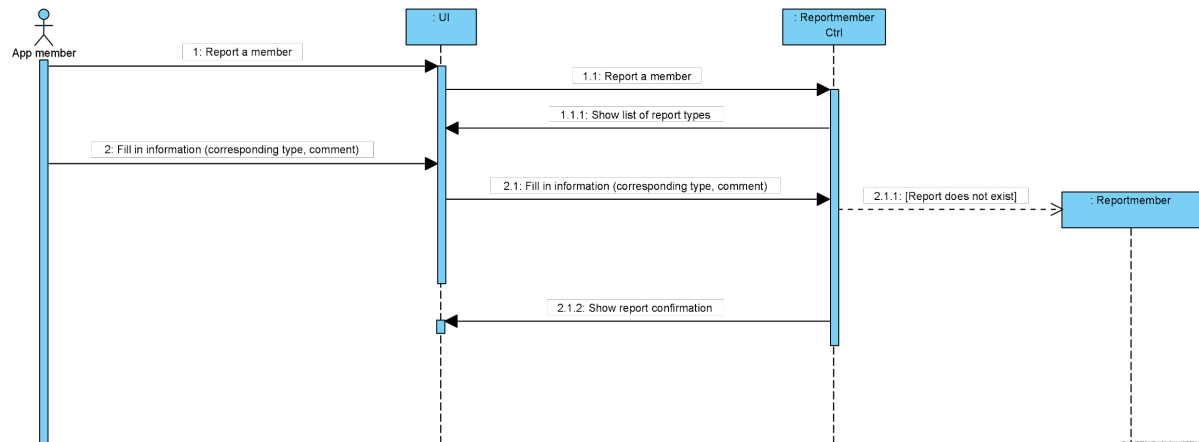
#### View Overview (Adam Gataev)



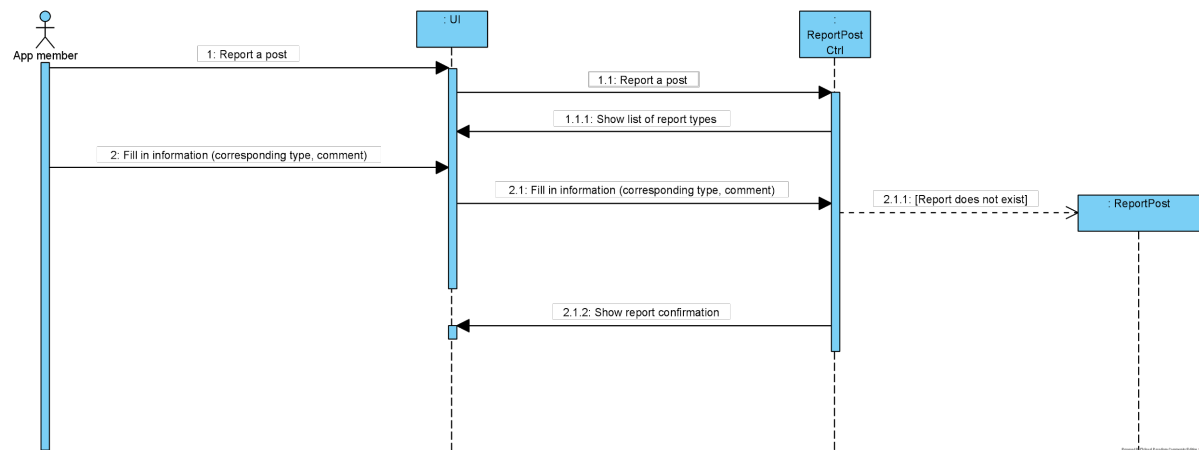
#### Create And Share A Post (Adam Gataev)



## Report member (Mathieu pechovitch)



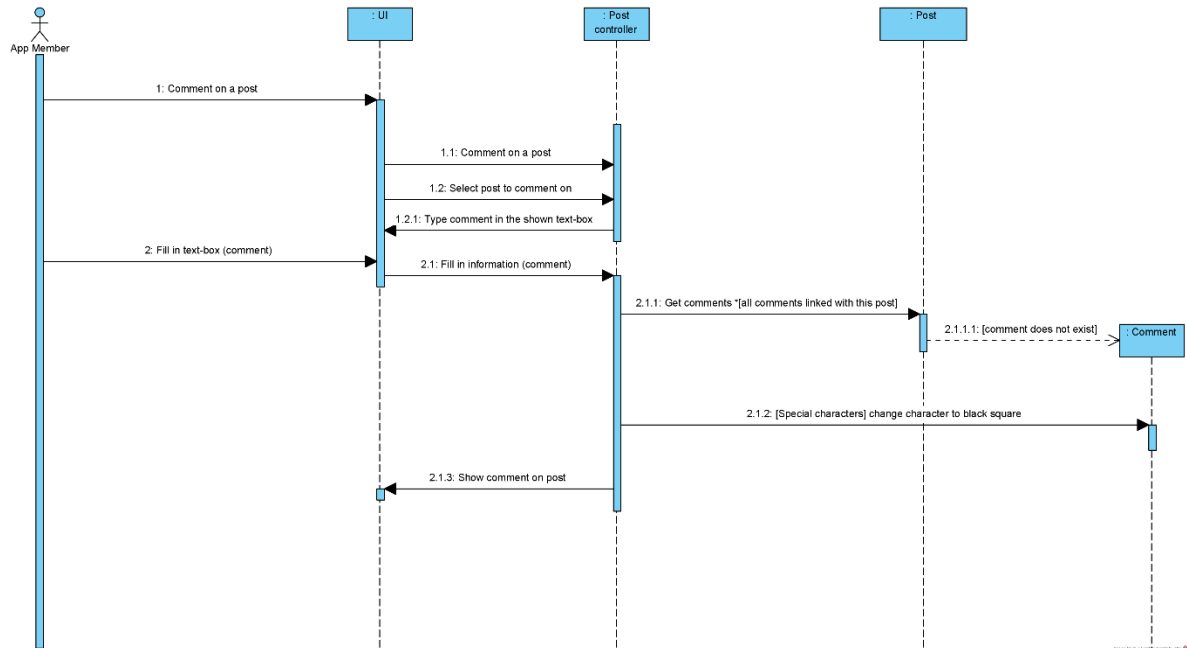
## Report post (Mathieu Pechovitch)



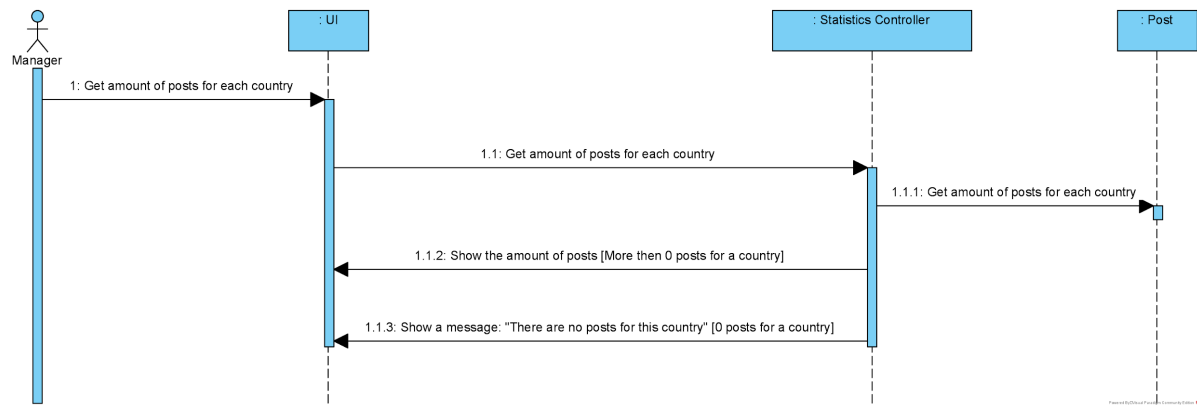


## Comment on a post (Elias)

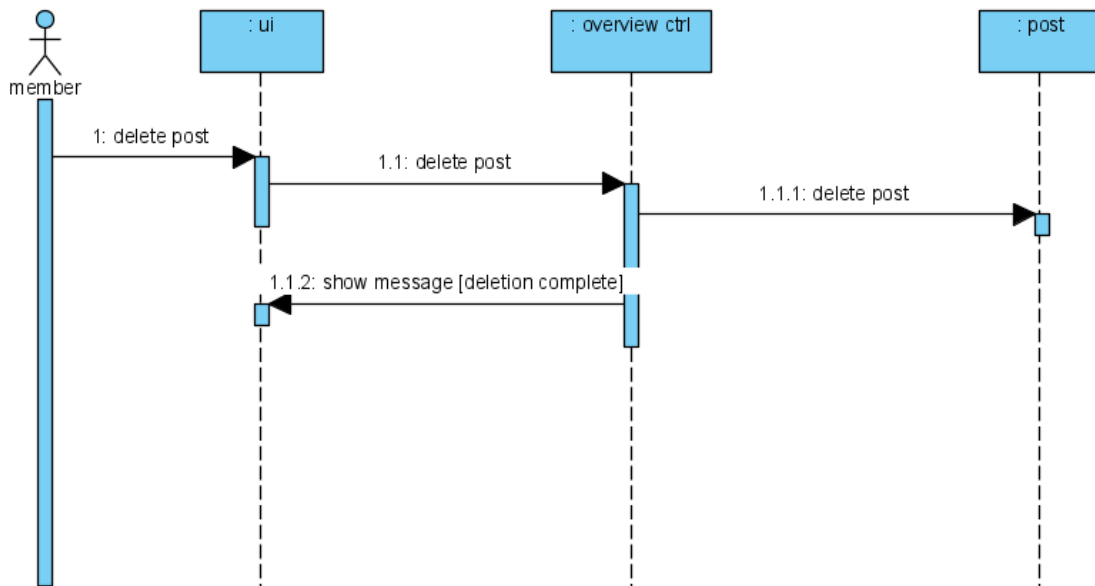
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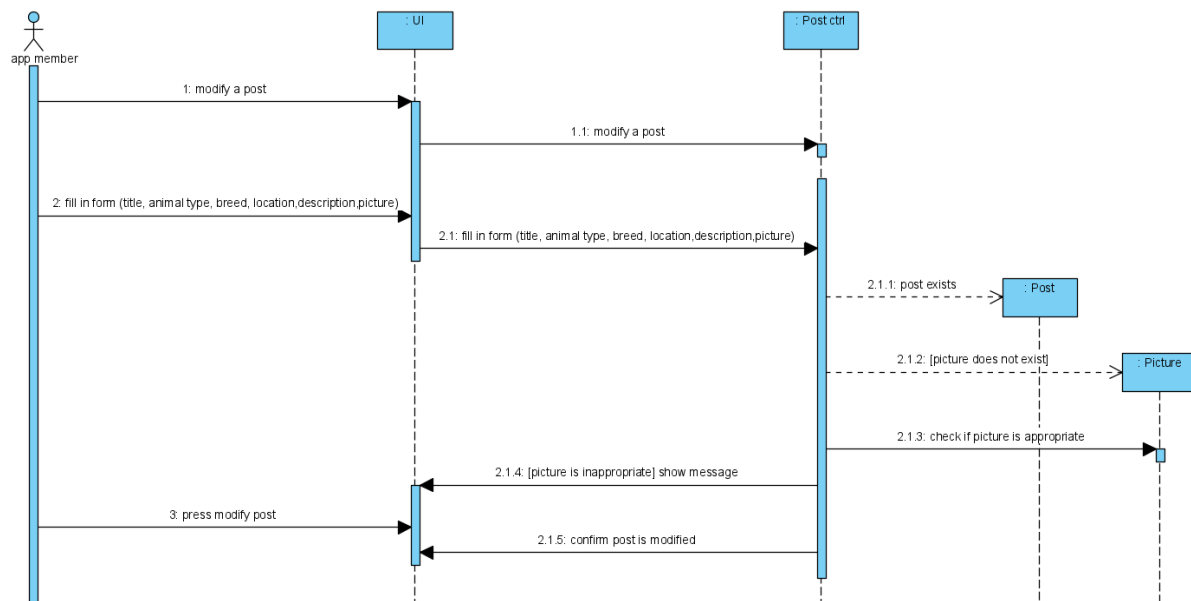
## Get amount of posts for each country (Elias)



## delete post (Eline Schepers)

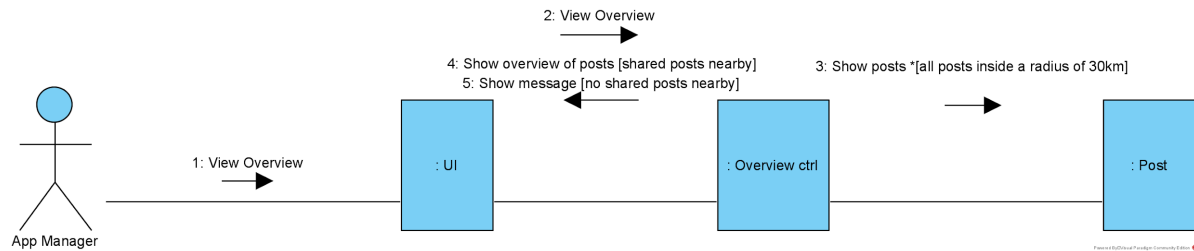


## modify post (Eline Schepers)

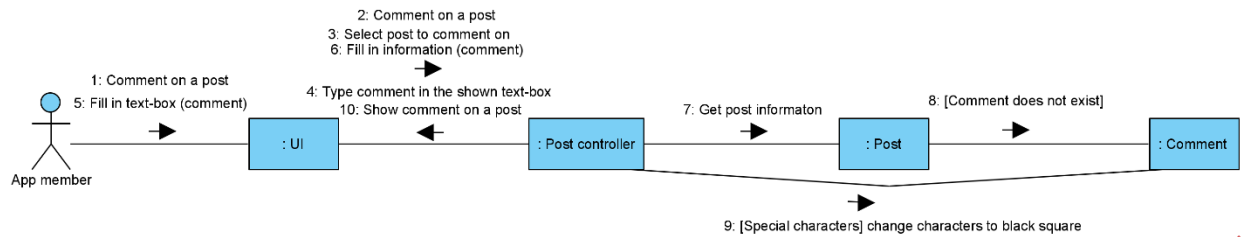


## 7.2 Collaboration diagram:

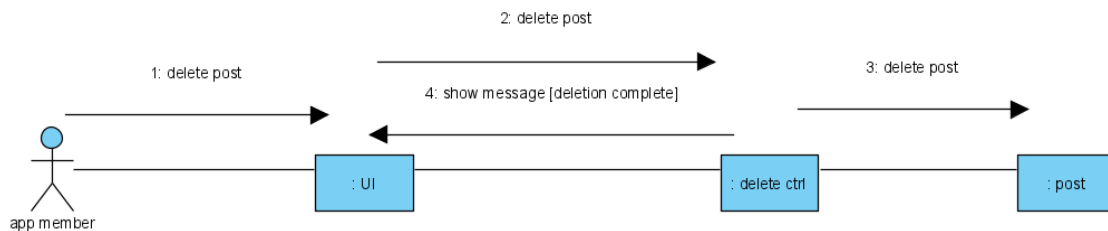
### View Overview (Adam Gataev)



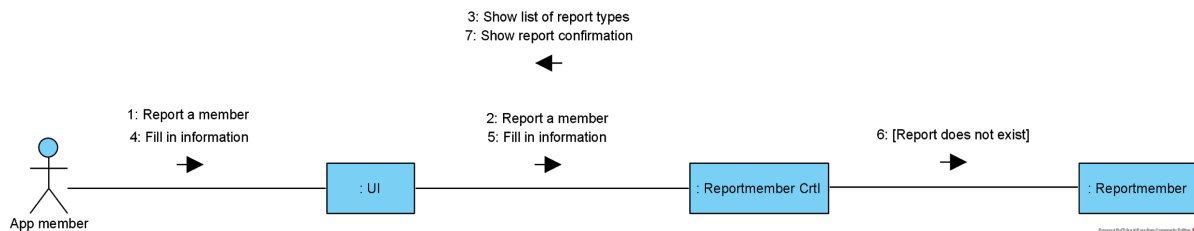
### Comment on a post (Elias)



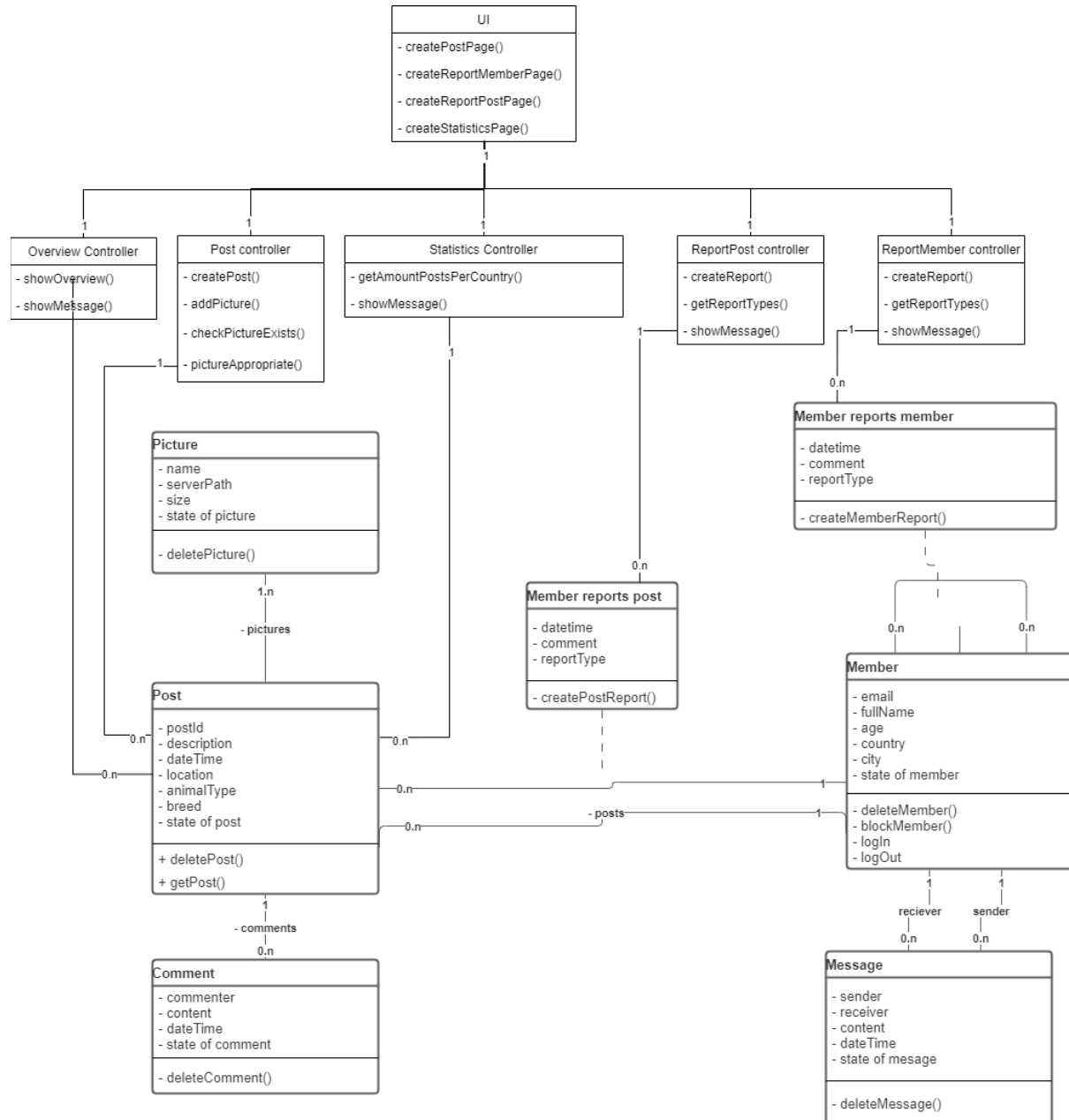
### delete a post (Eline Schepers)



### report a member (Mathieu Pechovitch)



## 7.3 The class diagram for application layer



## 7.4 The model dictionary for application layer

*In this paragraph, you add the model dictionary as made in the business model, but elaborated on extra information*

The UI-object gets created once a person opens the application.

An overviewController-object gets created when a member wants to view the overview-page.

A postController-object gets created when a member wants to view a post or wants to get the post information, such as comments.

A statisticsController-object gets created when a manager signs in with an admin account and wants to get the information from the app.

A reportPostController-object gets created when a member wants to report a post.

A reportMemberController-object gets created when a member wants to report another member.

A member-object gets created when a person signs up on PetDetect. An admin object will be created when the manager or an IT staff member creates an account.

When a member shares a post, a post-object gets created. When creating a post, he/she has to add pictures, for each of these pictures, picture objects are created. Of course members can comment on posts, also for each comment a comment object is created.

Every member can message another member, for each message there is a message-object.

At last a member can report posts or other members. When reporting, there is a difference between posts and members. If a member reports a post, a memberReportsPost-object gets created. Idem for reporting a member, a memberReportsMember-object gets created.