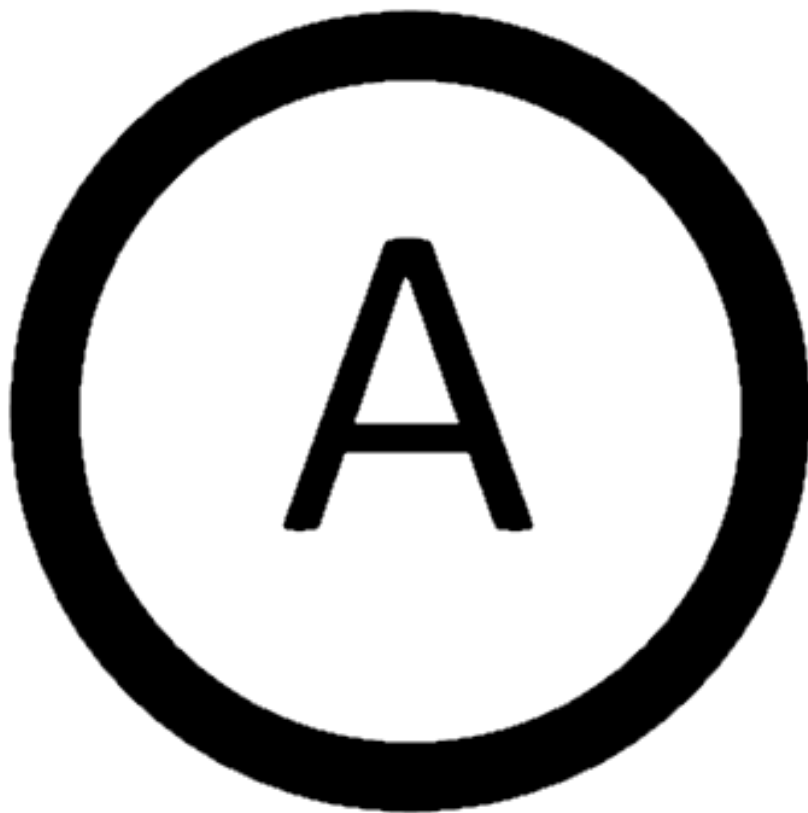


# Area Documentation

Epitech 2022



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## 1- Resume

Area consists of building a REST-type API in order to connect different services to each other. Like Ifft or Zappier, the server will perform certain reactions based on certain actions performed by the services.

For example: When a message is received on a Slack conversation, it is also transmitted on a Messenger conversation.

Each connection is customizable by the user, between the services to which he has previously subscribed.

Our goal is to connect 7 services together and carry out 18 actions / reactions that the user can use.

The API server will be accompanied by two client interfaces:

- A website
- A mobile application

These interfaces have no logic but only display to better interpret the API.

## 2- Docker

What is "Docker" and how does it work in this project. Like "containers" and all of those things. Currently, we have 5 "containers" which each contain a part of our project:

- Db for database
- Server for the api
- Client\_web for the web client
- Mobile for the mobile client
- Nginx to link the web client and the api

#### 1- Database

On the database container there is a MySQL image. That means that all data is stocked on this container. Note, this data is stocked on a volume. If the container is shutdown. All the data will be saved on a volume. When the container is started up, it loads the data of the volume.

#### 2- Api

On the API there is the <http://localhost:8080/> You can also use swagger on the page.

#### 3- Web client

On the Web client, there is the page to connect your account, create AREA's and link your account to ours services. We got a shared space on volumes between this container and the mobile client container.

#### 4- Mobile Client

On this container, we build an apk for our application. This container is destroyed after the end of the creation. Just before the end of the container, the apk is moved on the shared volume with the web client. You can go on this URL to download the apk:

<http://localhost:8081/client.apk>

#### 5- Nginx

Nginx is a quite particular container. It's a web server that link the api and the client. They create a bridge/tunnel between them to communicate. Without this container, you can communicate with api from the client and vice versa.

We talk about volumes. When you close you Docker. All containers are deleted and all data on them are destroyed and lost. But there are volumes. You can stock data on them. When containers are destroyed, data on volume aren't deleted. To delete volumes and reset the data, you have to prune them with this command: `docker system prune - - volumes`. With this command, you'll lose all your data.

We have also a network inside our docker. It used to have the same network configuration between all the containers. We also assign fixed up and each container. So, we know ip's and we can communicate freely between the containers. Without that, ip's are generated automatically and you have to ask to your container to your ip. When you restart, it's changes the ip and you must do it again. It's a huge waste of time and resources.

We have explained the docker-compose. But each container has a Dockerfile to describe the build phase. Besides, the docker compose is used for the uptime part. Before there is the build time. Which is made thanks to docker files. Each docker file describe the build time. For example, for the Mobile client, it describes the phases to build our apk and copy on volumes.

With docker files and the docker compose file, we open port. For example, the database port is 3306. For the web client is the 8081 and the api is 8080. If you want to change them. You must edit some files. For example, for the web client, you have to edit the docker compose, the docker file of the web client and the .env inside the folder of the web client.

You want to test our project like creation of AREA, login, actions, services etc.. You can launch a test docker compose. Be careful, if tests are launched before the end of the creation, some of them will

not succeed. Relaunch it after the end off the database and all of them will succeed. We can fix that sorry 😞

### 3- Services

#### 1- Github

It is a collaborative tool for working on code. It facilitates the creation of documents and their centralization with revision tools.

##### a. Actions

- New push : A push on a repository is detected
- New pull request : A new pull request has been created

#### 2- Spotify

It's a music streaming platform

##### a. Actions

- Modified playlist : A music in the playlist has been added or deleted

##### a. Reactions

- Add new song : Add a song to a playlist
- Play a song
- Pause a song
- Add to queue : Add a song to the player queue

#### 3- Twitter

Twitter is a social media working with hashtags

##### a. Actions

- A tweet has been posted

##### a. Reactions

- Post a tweet

#### 4- NodeMail

Email service

##### a. Réactions

- Send an email

#### 5- Timer

Timer service

##### a. Actions

- Do action at x interval

#### 6- Discord

Online message and voice chat

##### a. Actions

- A new message has been received
- A user joined a server
- A user has been ban

##### b. Reactions

- Send a message

- Create a channel

## 7- Dropbox

### a. Actions

- File\_added
- File\_deleted

## 4- Serveur

### a- Architecture

The server has been created with node.js and express framework to create a REST API easily. The server is made from a MVC representation. Model – View – Controller but without views here because we only send data from a request, so it's replaced with the routes here. The data is stocked inside a mysql database *cf\_ database*



- The routes received the request from client and redirect the request to the appropriate controller
- The controllers will do all the logic and getting all the data necessities to respond at the request
- The models will connect to the extern API but also the database where the data is stored

### b- Authentication

All the clients can register on the API by email but also with OAuth2 (microsoft). When a client is login, it will receive a Json Web Token (JWT) to identify himself for further request, as creating a relation between two services. The token has to be given inside the header of the appropriate requests.

For each service, the client will have to connect as OAuth2 to use the API calls provided.

### c- Swagger

A swagger documentation has been generated to see all the available routes and to test each route directly inside the browser. You can access it by going on this url : <http://localhost:8081/api-docs/>

You can also see all the available routes inside the **README.md**

### d- Database

The database uses the MySQL technology and is named area.



## 1- Github

### How does our Service works ?

Make sure that your .env file contains :

- a valid token for github\_key
- a valid token for github\_secret

There is some parameters that the client can edit :

- Parameters Actions

Push Detected -->

- string *{userName}* name of the repo's admin
- string *{RepoName}* name of the repo on which we'll check for update

Pull Request Detected -->

- string *{userName}* name of the repo's admin
- string *{RepoName}* name of the repo on which we'll check for update

## 2- Spotify

### How does our Service works ?

Make sure that your .env file contains :

- a valid token for spotify\_key
- a valid token for spotify\_secret

There is some parameters that the client can edit :

- Parameters Actions

Modified playlist -->

- string *{playlistName}* name of the playlist we'll check for update

- Parameters Reactions

Play music -->

- string *{musicName}* name of the music we'll play on your device

Pause music --> *none*

Add music -->

- string *{playlistName}* name of the existing playlist on which we'll add a song
- string *{musicName}* name of the music we'll add in the playlist

Add music to queue -->

- string *{musicName}* name of the music we'll add to your queue

## 3- Twitter

### How does our Service works ?

Make sure that your .env file contains :



- a valid `twitter_env`
- a valid token for `twitter_key`
- a valid token for `twitter_secret`
- a valid token for `twitter_token`
- a valid token for `twitter_token_secret`

There is some parameters that the client can edit :

- Parameters Reactions

Post a Tweet -->

- string `{Message}` content of the tweet we'll post

#### 4- Mail (nodemail)

How does our Service works ?

There is some parameters that the client can edit :

- Parameters Reactions

Send Mail -->

- string `{To}` mail address of the recipient of the mail
- string `{Subject}` Object of the mail
- string `{Message}` content of the mail we'll post

#### 5- Timer

How does our Service works ?

There is some parameters that the client can edit :

- Parameters Actions

Set Timer-->

- int `{Interval}` Set the interval of the timer

#### 6- Discord

How does our Service works ?

Make sure that your `.env` file contains :

- a valid discord bot token
- a valid bot permissions url

There is some parameters available, the client can edit :

- Parameters Actions

Receiving a new message -->

- string `{ServerName}` on which we'll check for messages
- string `{ChannelName}` on which we'll check for messages

Arrival of a new member on a Server -->

- string *{ServerName}* on which we'll check for new members

Ban of a member on a Server -->

- string *{ServerName}* on which we'll check for new members

- Parameters Reactions :

Sending a new message -->

- string *{ServerName}* on which we'll send the message
- string *{ChannelName}* on which we'll send the message
- string *{Message}* content of the message you wish to send

Create new channel-->

- string *{ServerName}* on which we'll send the message
- string *{ChannelName}* name of the channel you will create
- string *{Message}* content of the message you wish to send

## 7- Dropbox)

How does our Service works ?

Make sure that your .env file contains :

- a valid dropbox\_key
- a valid dropbox\_secret

There is no parameters to edit.

## 5- Android

### a- Architecture

Since the Area has a mobile application part, we have therefore produced the latter with an MVP architecture (View View Model).

Source : <https://riptutorial.com/fr/android/topic/4615/architecture-mvp>

#### **Model**

In an application with a good layered architecture, this model would only be the gateway to the domain layer or business logic. See as the provider of the data we want to display in the view.

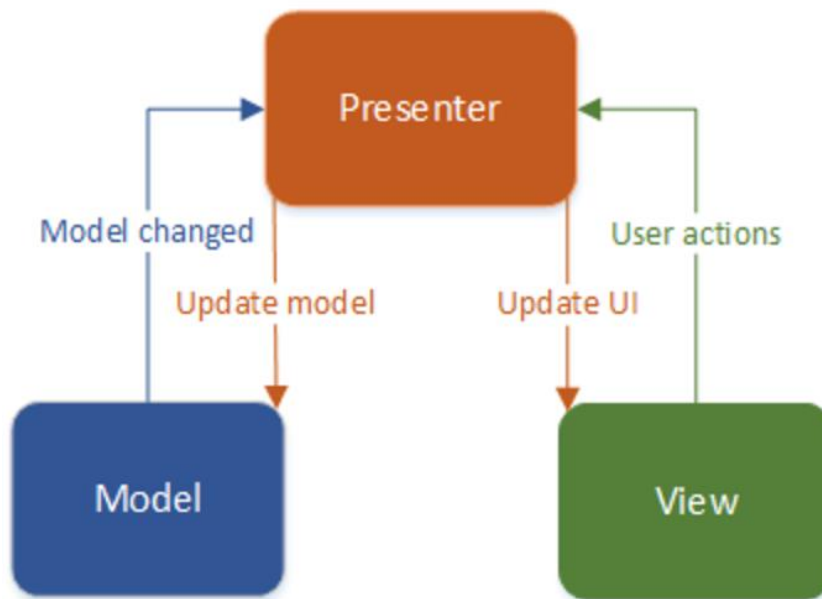
#### **View**

The view, usually implemented by an Activity or a Fragment, will contain a reference to the presenter. The only thing to do is to call a presenter method whenever there is an interface action.

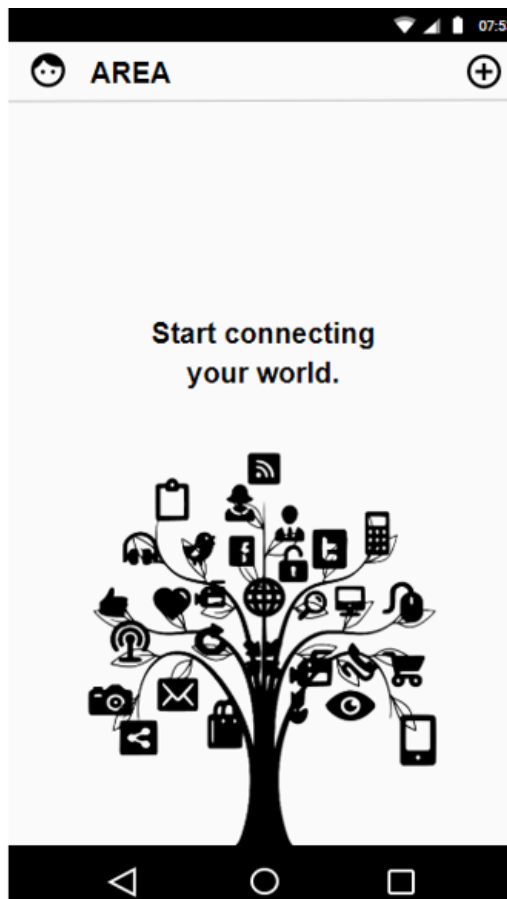
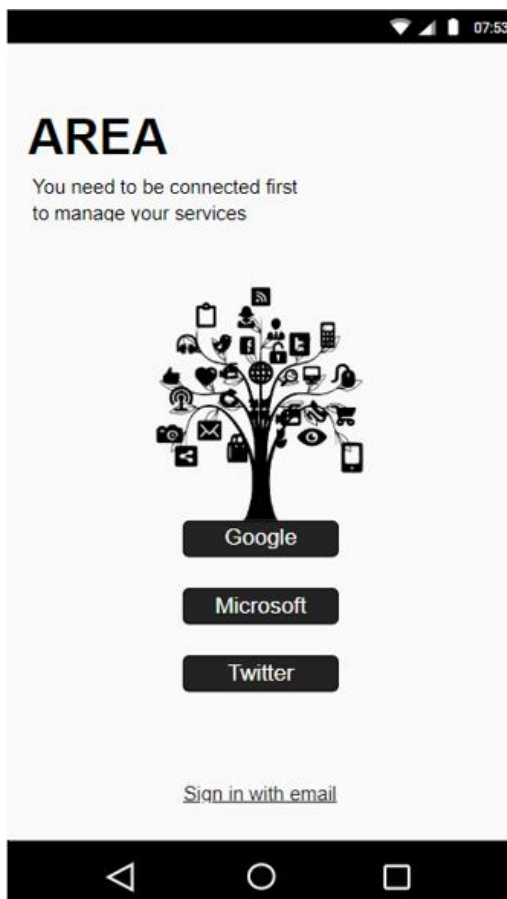
#### **Presenter**

The presenter is responsible for acting as an intermediary between View and Model. It retrieves the data from the model and returns it in view format. But unlike the typical MVC, it also decides what happens when you interact with the view.

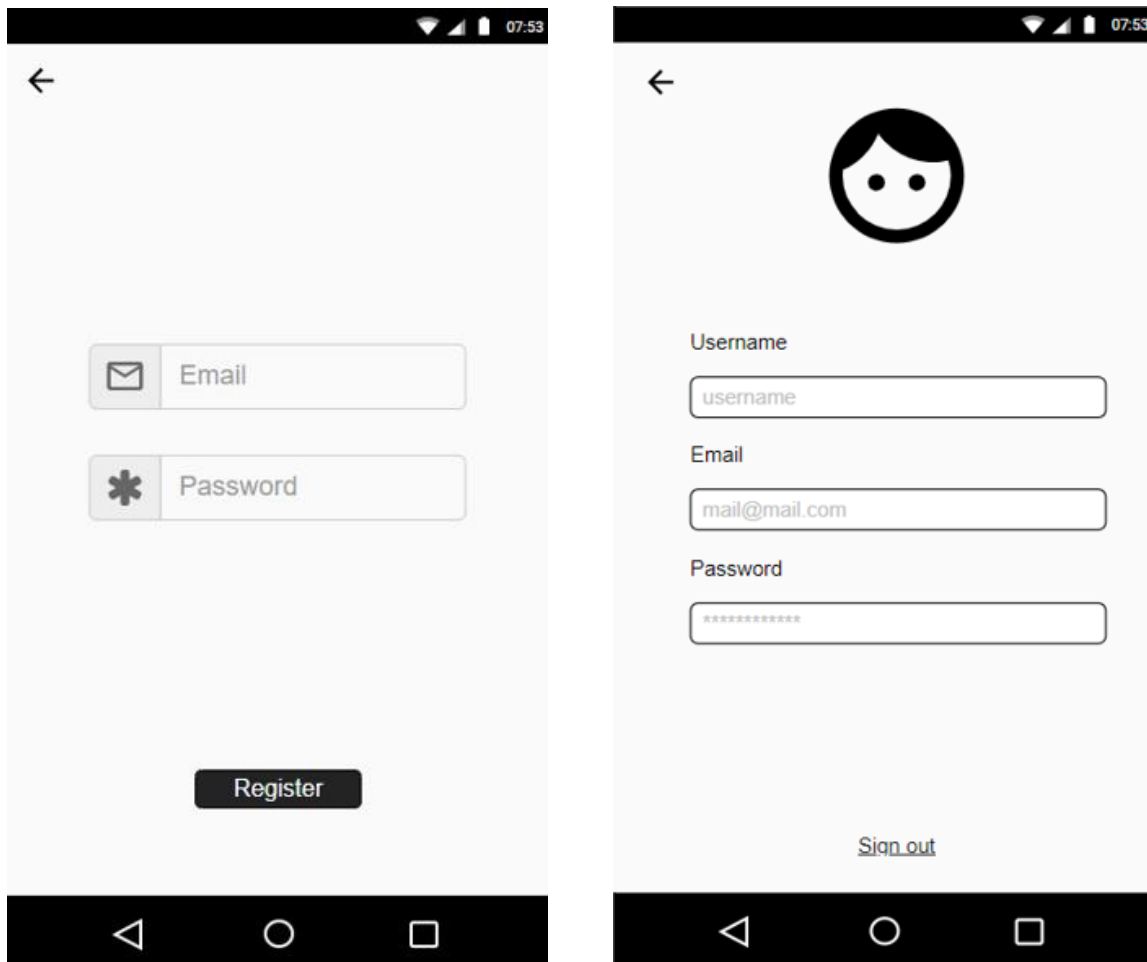
# MVP



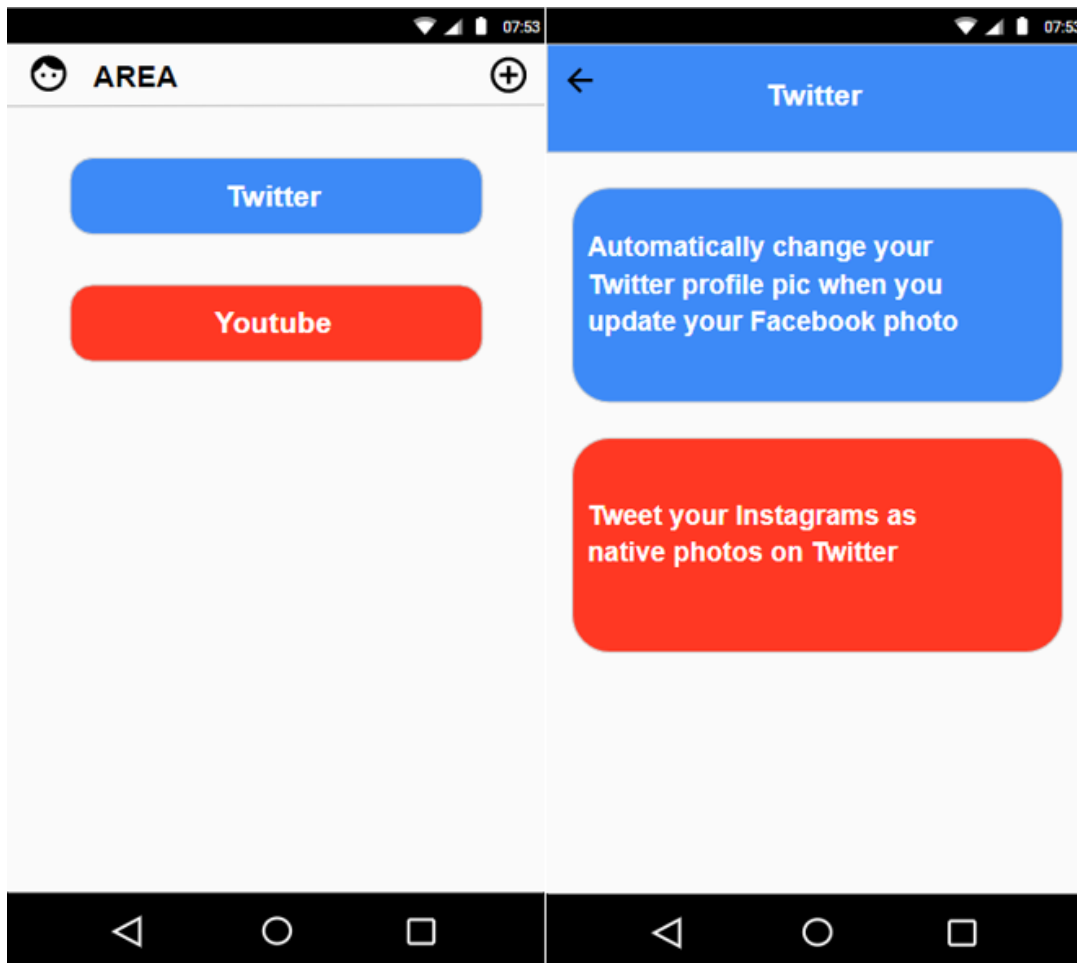
b- Mock up



Here is the home view. The first one is when you're not connected. The second one is when you're connected. You can add an area. And there is the list of your areas here.



Here is the login view and the register view. On the login view, you've already created an account. If not, you've to register with Username, mail and you're S3cr3t\_Passw0rd !



Here is the creation view. On the first one, you can choose your services. Here it's Twitter for action and Youtube for reaction. On the second page. You're customizing the Twitter parameters.

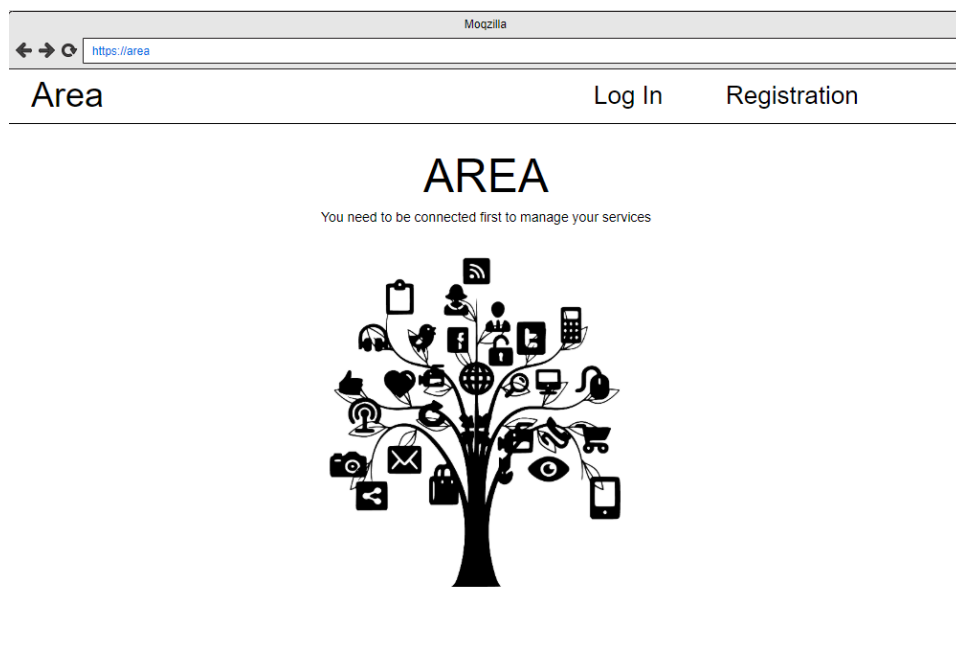
## 6- Web Client

The web client is an MVP like the mobile client. But we have only the View part because the model and the presenter are on the API.

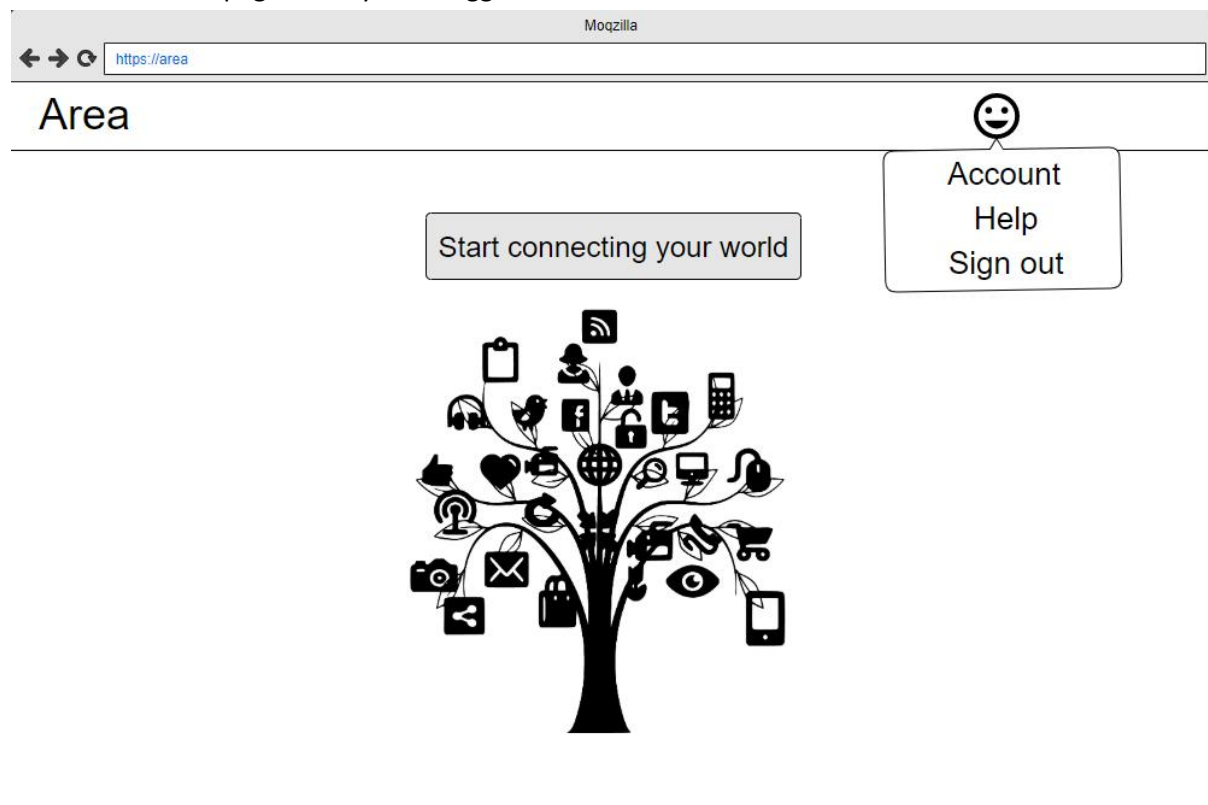
The view displays all the information and if it requires information then it calls the API before the load of the page.

### 1-Mockups

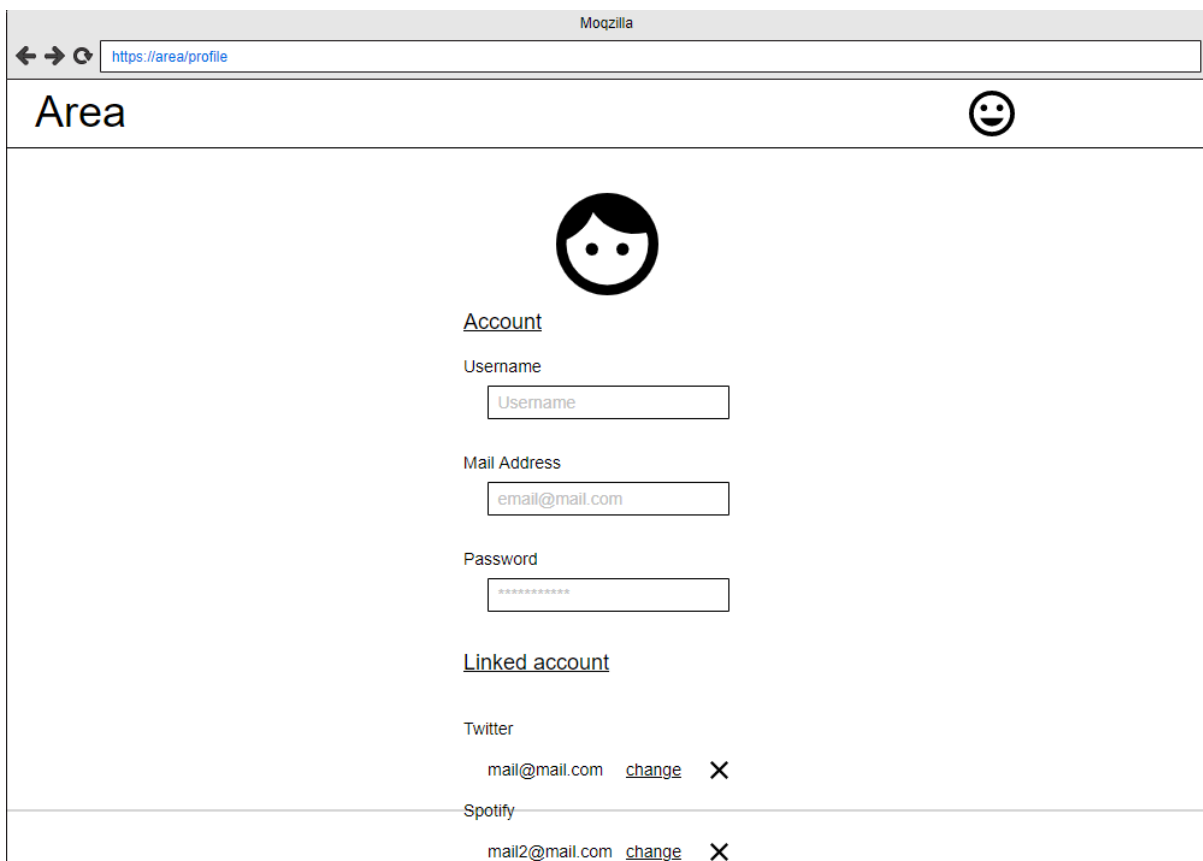
Here is the home page when you're not logged yet.



Here is the home page when you're logged.

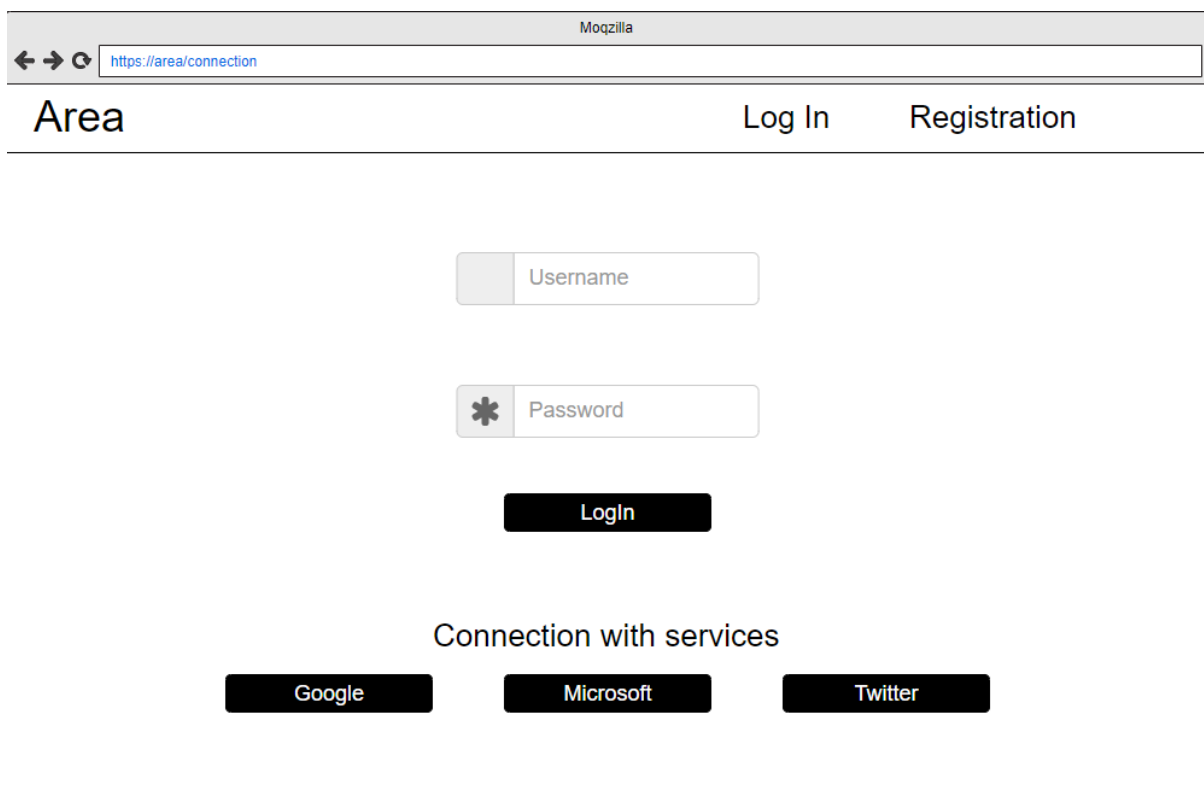


Here is the account page. You must be logged to access to this page.



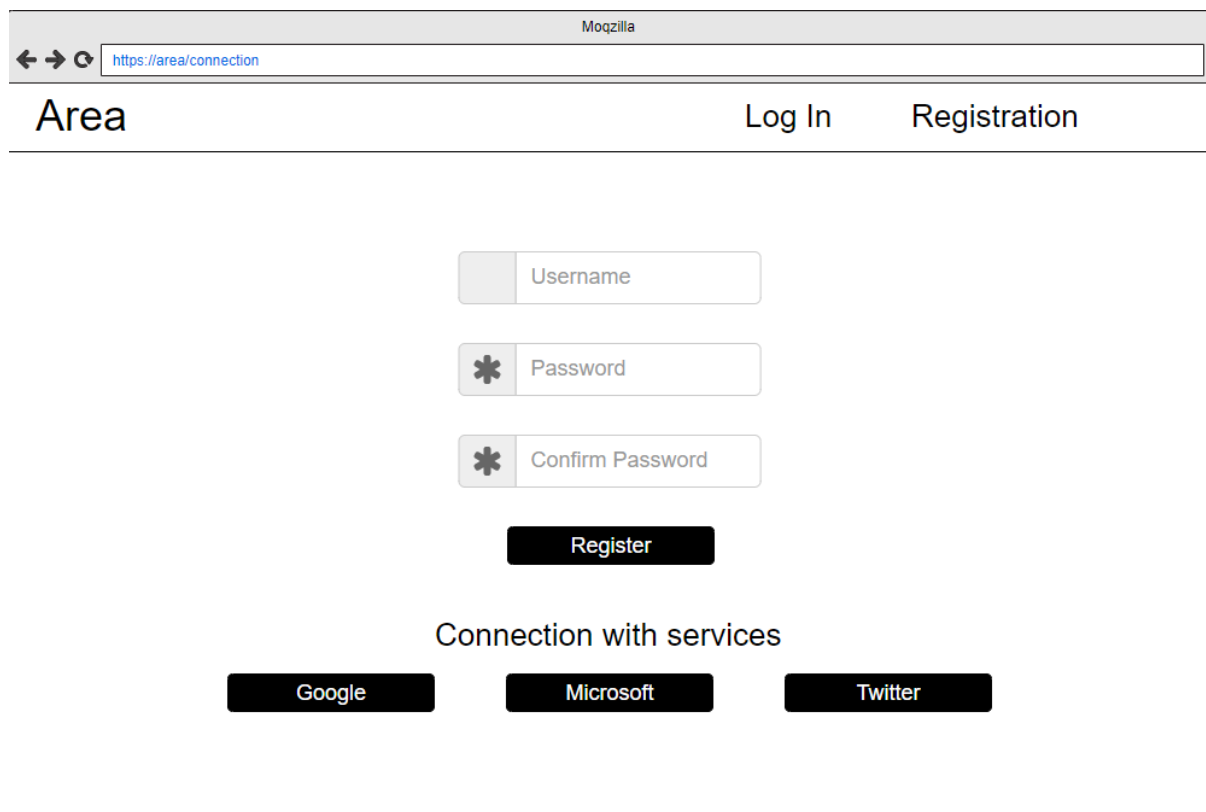
The screenshot shows a web browser window with the Mozilla logo in the title bar. The address bar displays <https://area/profile>. The page header features the word "Area" on the left and a smiley face icon on the right. The main content area contains a large circular profile picture placeholder. Below it, the "Account" section includes form fields for "Username" (containing the placeholder text "Username"), "Mail Address" (containing "email@mail.com"), and "Password" (containing "\*\*\*\*\*"). The "Linked account" section lists "Twitter" with the email "mail@mail.com", a "change" link, and a close "X" button. Below that, "Spotify" is listed with the email "mail2@mail.com", a "change" link, and a close "X" button.

Here is the login page.



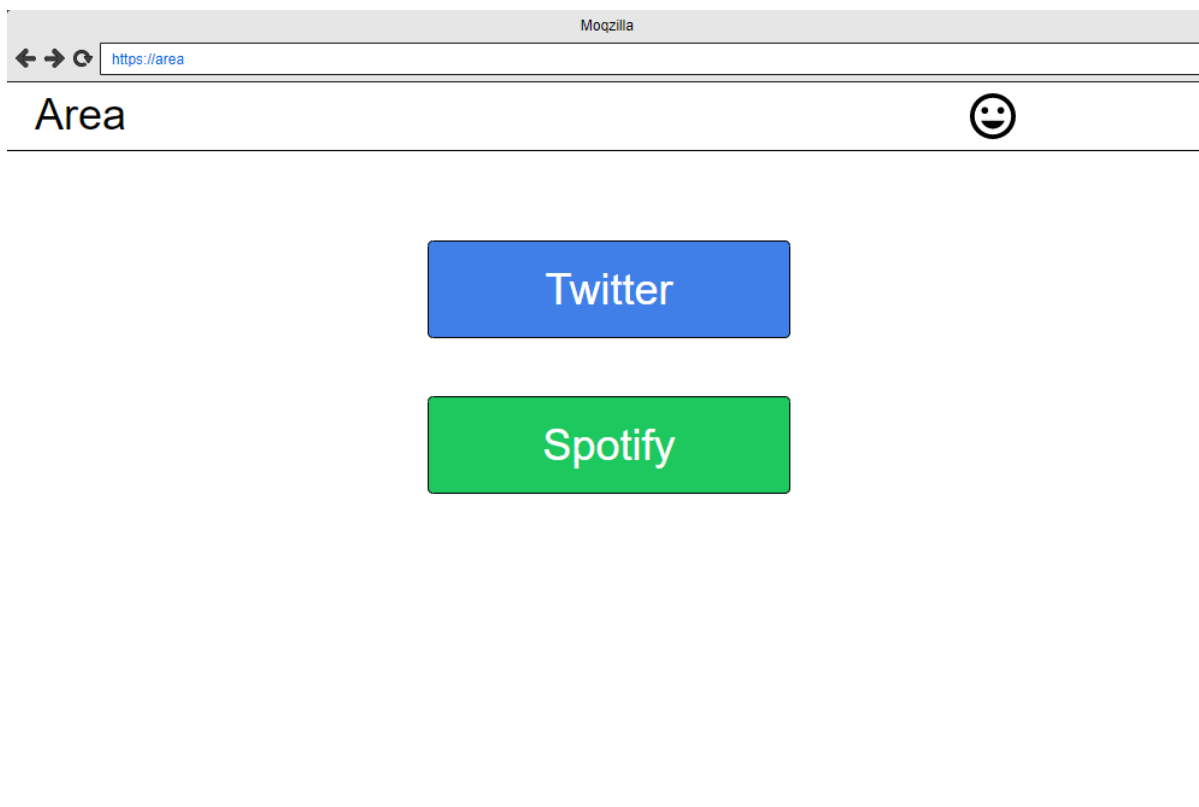
The screenshot shows a web browser window with the Mozilla logo in the title bar. The address bar displays <https://area/connection>. The page header features the word "Area" on the left, and "Log In" and "Registration" links on the right. The main content area contains a "Username" input field, a "Password" input field with a visibility toggle icon (an asterisk), and a black "Login" button. Below these fields, the section "Connection with services" features three black buttons labeled "Google", "Microsoft", and "Twitter".

Here is the registration page.



A screenshot of a web browser window with the title "Mozilla". The address bar shows "https://area/connection". The page has a header with "Area" on the left and "Log In" and "Registration" on the right. The main content area contains three input fields: "Username", "Password" (with a password icon), and "Confirm Password" (with a password icon). Below these fields is a black "Register" button. Further down, the text "Connection with services" is centered, followed by three black buttons labeled "Google", "Microsoft", and "Twitter".

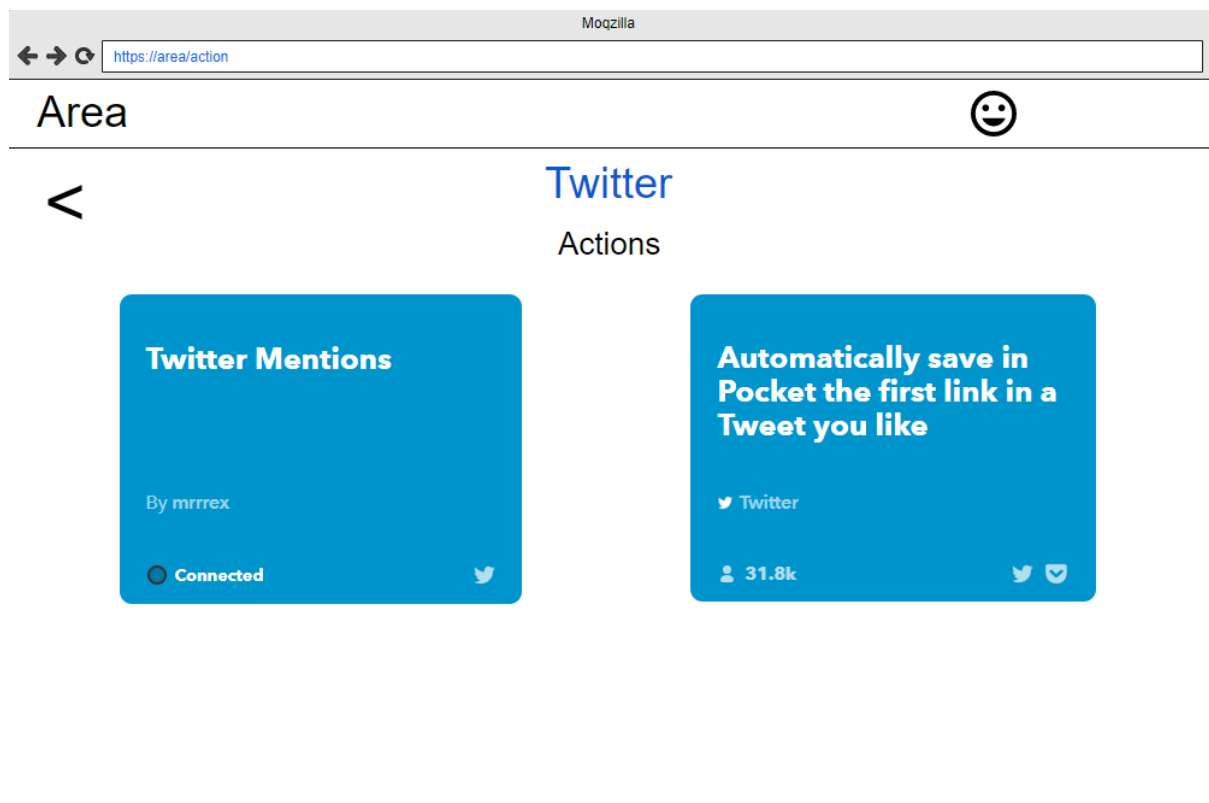
Here is the page to creation an AREA. You have chosen Twitter and Spotify.



A screenshot of a web browser window with the title "Mozilla". The address bar shows "https://area". The page has a header with "Area" on the left and a smiley face icon on the right. The main content area contains two buttons: a blue "Twitter" button and a green "Spotify" button.



Here is the page to creation an Area. Here you custom the parameters of Twitter.



## 2 – In reality

**AREA**[Log In](#)[Registration](#)

### Registration

Email address

Enter email

We'll never share your email with anyone else.

Username

Enter Username

Password

Password

Must be 8-20 characters long.

Password confirmation

Confirmed Password

Register

Github

This is the actual page of registration. You must create an account for the first usage. If you don't want to create an account on our website. Just sign in with Github. We'll not get your password and neither your email address (Unless it is public). We only get your name.

-----

## Account

E-mail: clement.dumaine@epitech.eu  
 Username: JoJo  
 Linked Account:



Github



Twitter



Spotify



Discord



Dropbox

This the actual page of your account. You can see your email and your username. You can also link your different accounts to use your AREA. If you're logged with Github. You'll automatically logged on the Account page. When you link your discord account. It's just added a bot to a server. So, you can do it again to change the server. However, if you link your Spotify account, you can unsubscribe it or delete it. Business is business.

-----

Missing services ? You're not probably logged to all services !  
 Go to your account and connect yourself ! You need help to log yourself. Go here [Account](#)

Pick your action service:

Pick your reaction service:

Valid your services

Here is the first to create an Area.

Pick your param(s) for the action "message\_received" in :

discord:

server:

channel:

Pick your param(s) for the reaction send\_mail in mail:

to:

message:

subject:

Valid your parameters

## There is things you don't know

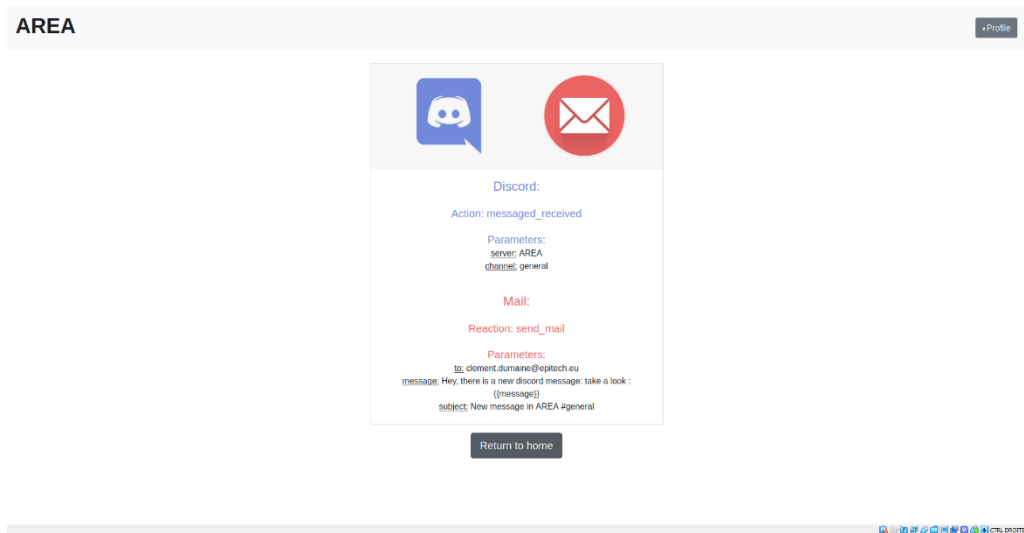
You can use tag from you're action in your reactions.

Here for exemple you can use some cools stuffs to custom your differents reactions, so use it !

Here the different(s) parameter(s) :

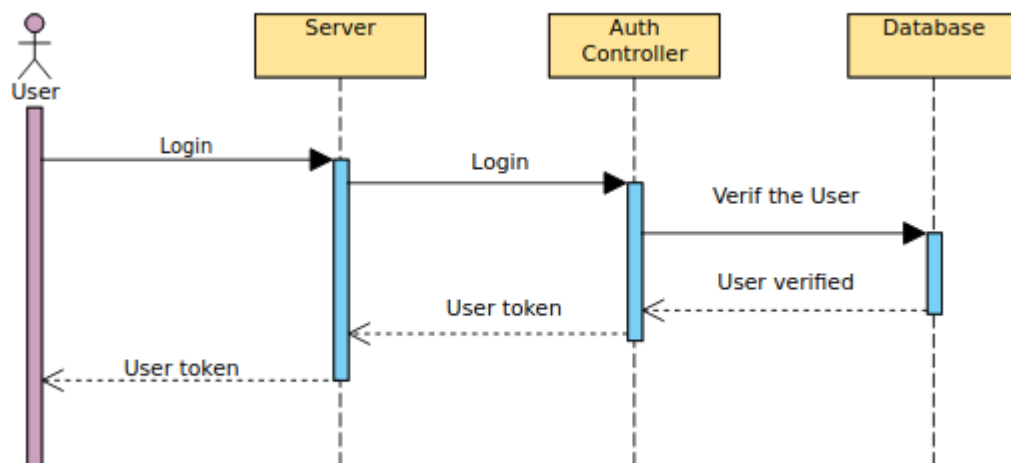
You can use {{message}} from discord

Here is the third page to create an Area

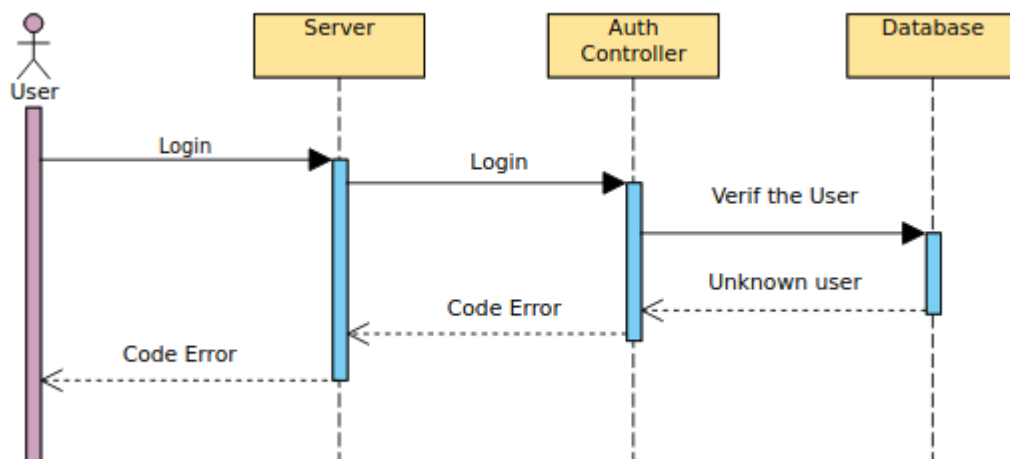


Here is a recapitulation of your Area!

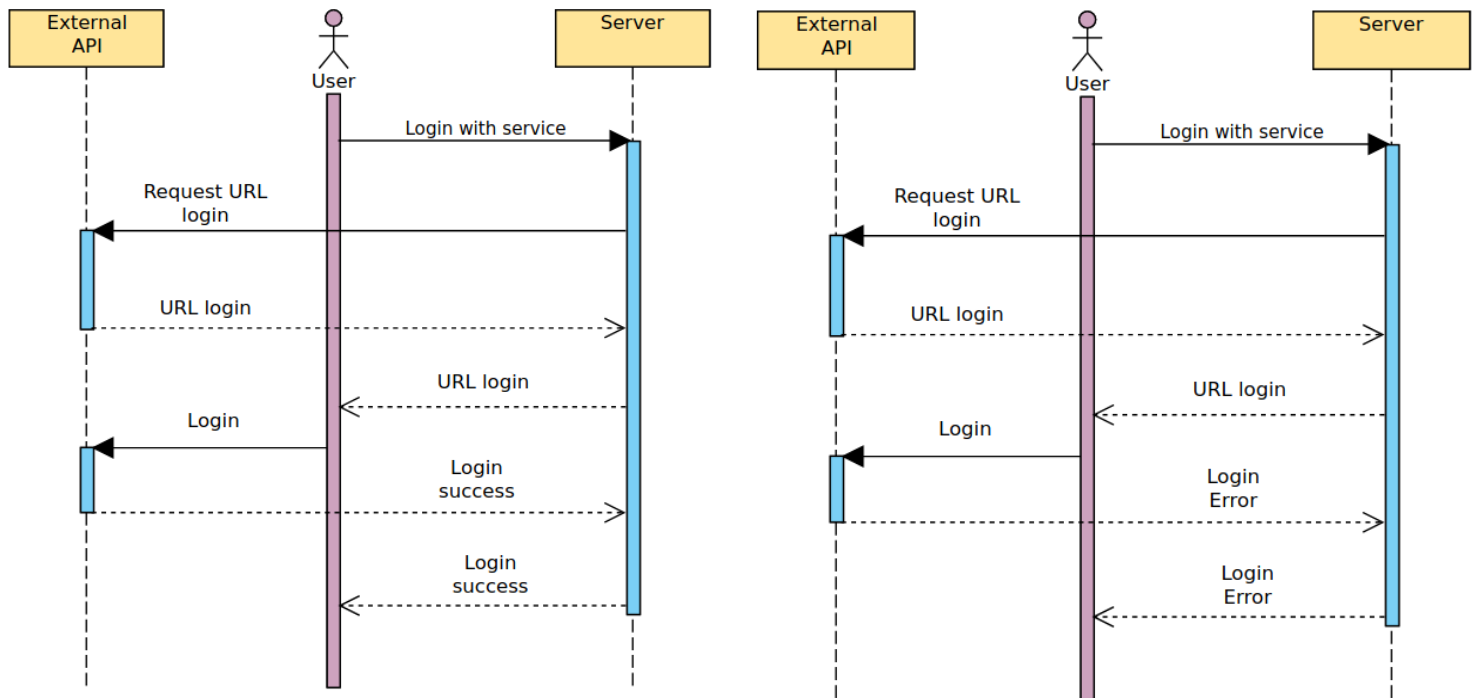
## 7- Diagrams



Login success

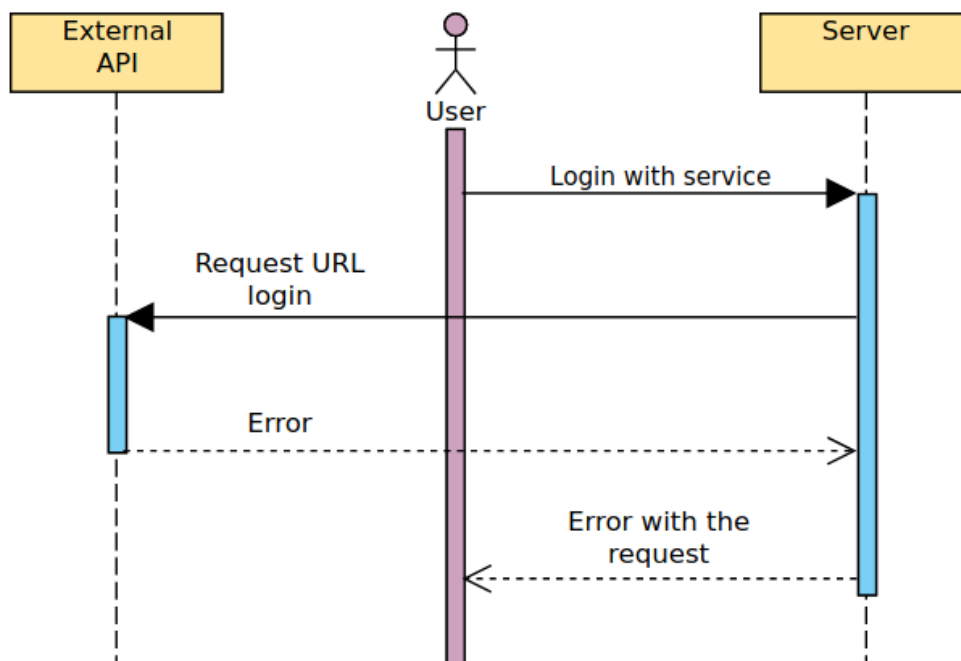


## Login Error Unknow user

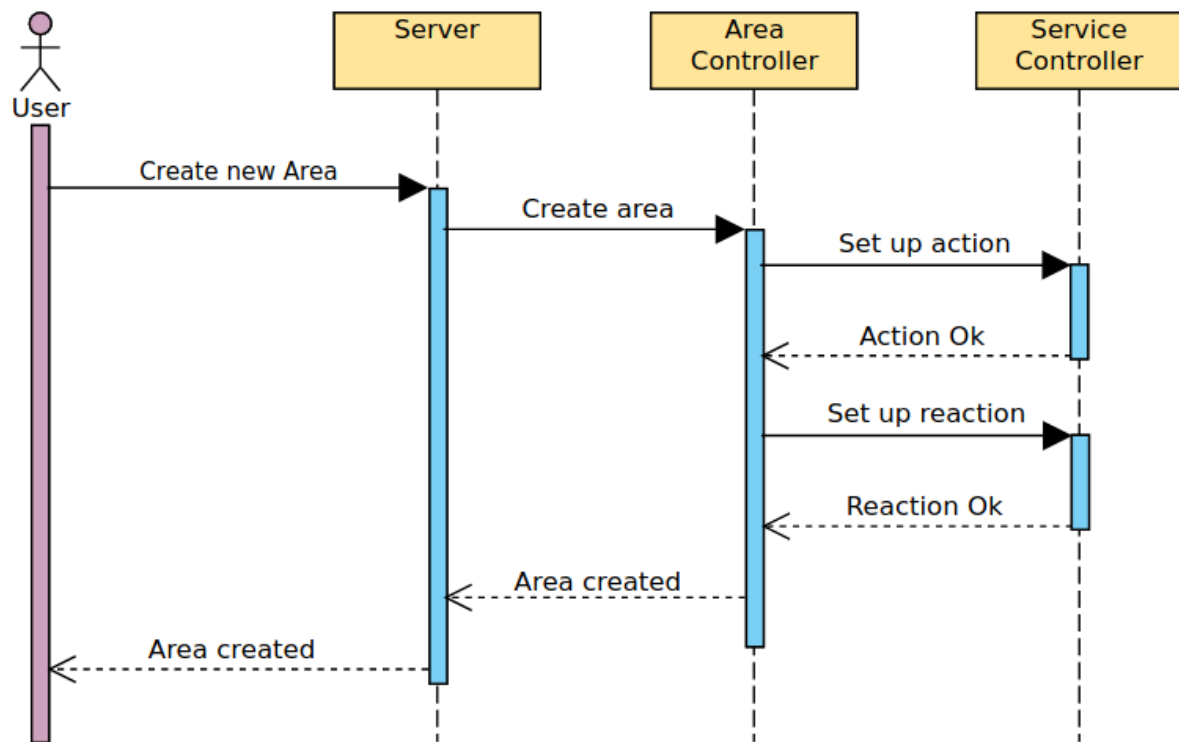


## Login for a service

## Login for a service Error



## Login error with the request url



Creation of area