



Tunisian Republic
Ministry of Higher Education
and Scientific Research
General direction of technological studies
Higher Institute of Technological Studies of
Charguia



GRADUATION REPORT

Presented for the purpose of obtaining
APPLIED LICENSE IN COMPUTER TECHNOLOGIES

Mention : Computer technologies
Curriculum: Development of Information Systems

Online booking system for personal trainer

By MARYEM MOUELHI
AND MOHAMED AMINE NAFKHA

Company Name: Solid wall consulting

Academic Year: 2021 - 2022



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By MARIEM MOUELHI
MOHAMED AMINE NAFKHA

Company Name: Solid wall consulting

Authorization to deposit the End-of-Studies Project Report:

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Academic supervisor:

Mr. Ramzi BELAZREGUE

Date:

Date:

Signature:

Signature:

Dedications

We dedicate this work to everyone who has supported and inspired us. Our families. Our parents, our brothers, our sisters. You provide us the end-less support we need , to go seize the day. You understand our crazy dreams and you push us forward as we chase them! Thank you.

To every teacher who supported and inspired us. Thank you for teaching us valuable things, for challenging us and pushing us to our limits and for making us believe in ourselves.

To our friends. When life gets tough, you are always there to cheer us up. Thank you for being such amazing friends. We could never do it without you.

To Everyone who we love, Thanks for being so wonderful and kind to us. We appreciate your support and understanding.

Mariem MOUELHI

Dedications

Je dédie ce projet à...

Mohamed Amine NAFKHA

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General introduction

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Chapter 1

Project context

Introduction

This chapter is devoted to the presentation of the host company in which we carried out our end-of-studies graduation project. Thus, the project context is presented and the proposed solution is described.

1.1 Host company

In this section, the Solid Wall Consulting Company is presented based on its services and area of activities.

1.1.1 General presentation :

Solid wall consulting is an IT services company, operating in Web development, mobile and integration of “Microsoft” systems solutions and infrastructure.

The company’s logo is given by [Figure 1.1].

1.1.2 Organisation chart



Figure 1.1: Company logo

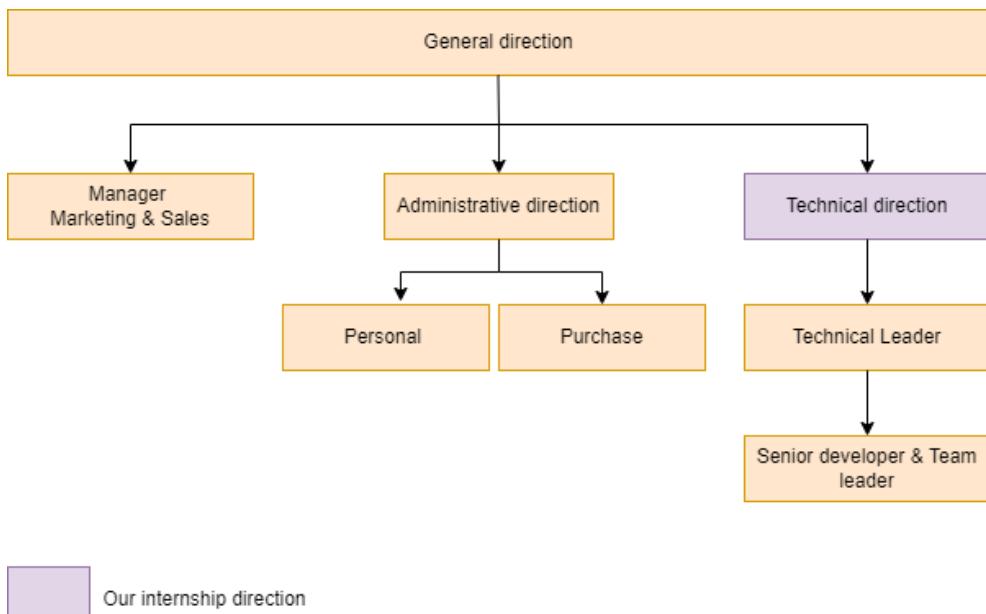


Figure 1.2: Organisation chart

1.1.3 Information about company

Solid wall consulting mission is to provide their clients and partners with their know-how and skills to support them in their projects and to ensure the good quality of services by adopting an agile approach allowing better management and consequently a quality output.

With a dynamic, diversified team and proven profiles, the company aim to bring very high added value and deliver modern solutions that allow companies to outperform in their respective markets. Summary of the company's main information is given in [Table 1.1].

Table 1.1: Solid wall consulting data

Company	Characteristics
Sector	IT service
Size	10 employees
Type	Individual company
Address	Residence Rayen 4th floor ben Arous Tunisia
Date of creation	2020
Contact	contact@solidwall.com.tn

1.1.4 The company services and area of activities

Solid wall consulting services range from web site and application development, mobile application development, design and integration of “Microsoft” solutions in terms of infrastructure.

- Web Development.
- Mobile Application Development.
- Graphic design.
- Microsoft solution Integration.

1.1.5 The company partners

- **Beta cube** : is a Tech Venture builder that invests, builds, and grows B2B-based startups in Fintech and Mobility.
- **BI-Geek** : is a big data advanced analytics consulting dealing in business intelligence, big data advanced analytics services.
- **Web first Rank** : it's a digital marketing agency, assists many brands in different industries by promoting their communication strategies and building a strong online presence.

1.2 Background

1.2.1 Problem statement

Nowadays, the trend related to fitness activities is very popular. we notice that most of the posts shared in social media are related to gym activities such as: images of friends exercising workout activities outdoor, wearing workout clothes, checking into gyms or even posting about fitness accomplishments which made them feel motivated and aim to get a good shape and a healthy lifestyle. Therefore, to entertain, the client must move directly to gym to find a trainer. These trips can be unnecessary and even can be a waste of time and at the same time it has a negative impact on health because of the conditions of the country with latest virus. Moreover, given the state of the country during the long lock downs in pandemic, client do not have the courage to move and choose his needs even the trainer has no way to provide his sports services since he does not have a website or a mobile application.

1.2.2 Current state

Due to the deficiency of solutions, the company opted for developing its own solution.

1.2.3 Proposed solution

Our solution is therefore to create a web application which relate clients seeking personal trainers or fitness instructors with a variety of choices and possibilities.

The application works on two sides:

- **Client side:** The client will have access to multiple coaches' profiles in which all information needed will be shown (pictures, working hours, calendar, prices ...) and this will help client to easily book online and save time.
- **Coach side:** Personal trainers can revolutionize their business with this platform because it will help them get more clients and in top of that give them the right tools to help them control their services safely and seamlessly.

The coach fills in his personal information and schedules, he can validate or cancel an appointment with a client throughout the platform.

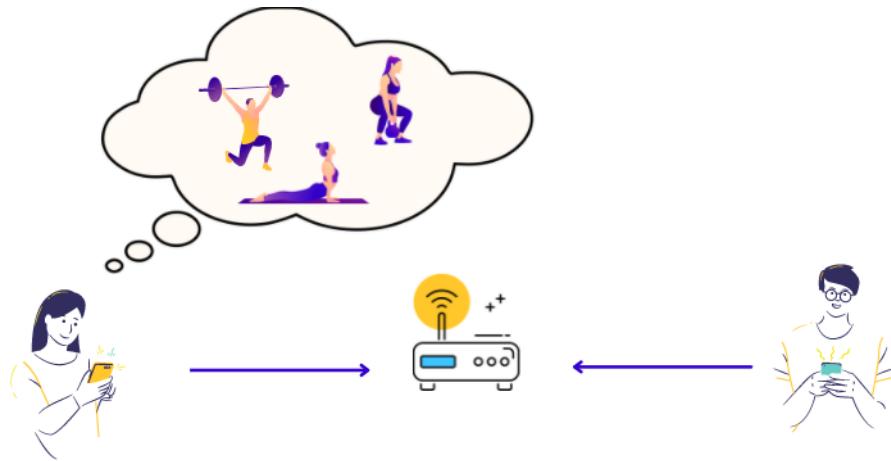


Figure 1.3: Fitnuvo project

1.3 Similar solutions

Our project is likely to represent a solution for a start up in England, so that we will be potentially working on a similar project conducted in England. Then, we move to represent an international project and finally compare them to our solution.

1.3.1 National solution

Trube is the united kingdom's premier on-demand training app, offering 1:1 coaching sessions and group classes with some of the world's best trainers.

The services offered by **Trube** are :

- Trainer management
- Booking management
- Rating management
- Pricing management

The pictures bellow represent interfaces of **Trube** application :

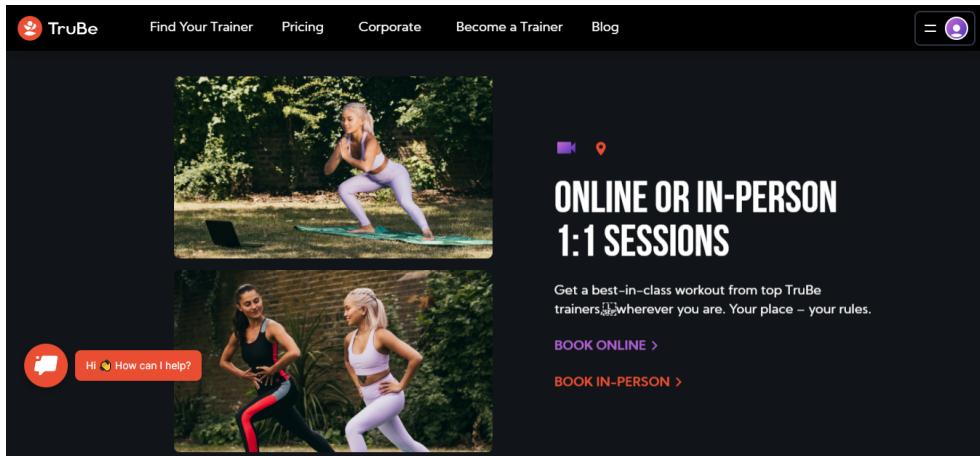


Figure 1.4: Home page

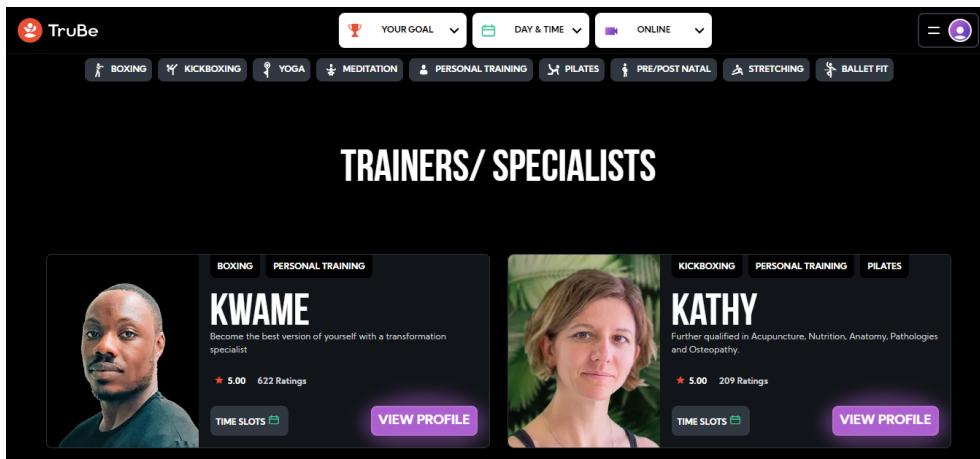


Figure 1.5: Search trainer

According to the interfaces we can represent some advantages and inconvenient of the solution :

– Advantages :

- Responsive platform.
- Pricing strategy.
- Online sport sessions.

– Inconvenient :

- The absence of a space for discussion between trainers and clients.
- Overloaded interfaces.
- Google Docs forms register for trainers.

1.3.2 International solution

Rue du coaching Is a French application to find your coach and make an appointment directly online.

The pictures bellow represent interfaces of **Rue du coaching** application : According

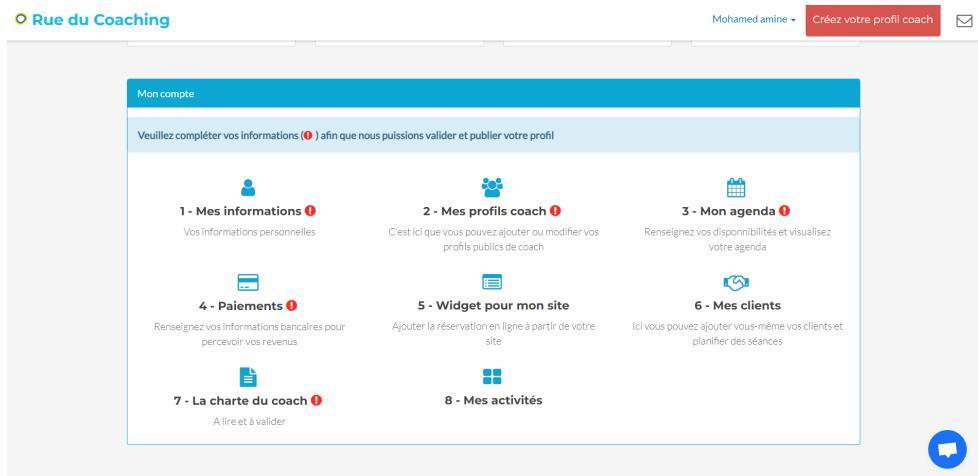


Figure 1.6: Dashboard trainer

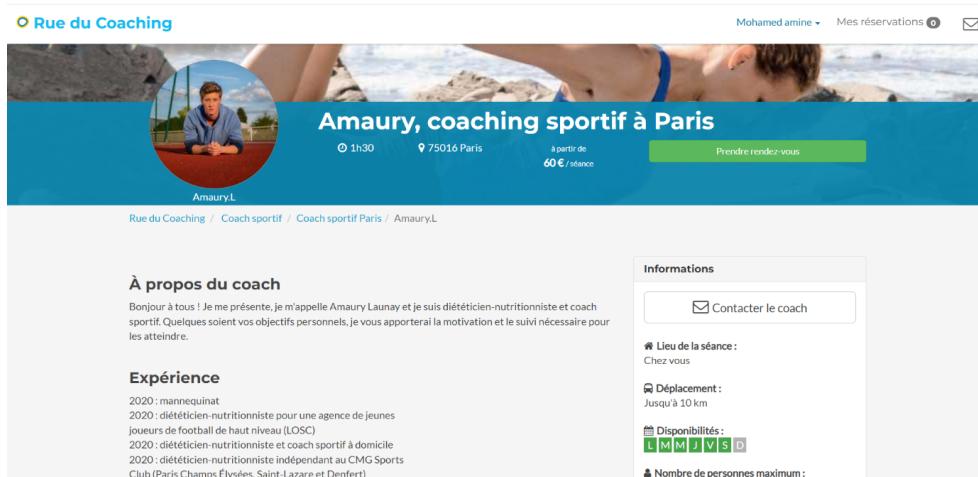


Figure 1.7: Make an appointment

to the interfaces we can represent some advantages and inconvenient of the solution :

- **Advantages :**

- Responsive platform.
- Pricing strategy.
- Online sport sessions.

– **Inconvenient :**

- Manual calendar management.
- Low level of trainer validation.
- Lack of reviewers of trainers.
- Simple search of trainers.

1.3.3 Comparison

Table 1.2: Comparison

	Trube	Rue de coaching	Proposed solution
Trainer Management			
Client Management			
Calendar Management			
Reviews Management			Red
Sport categories management			
Users Management			
Transaction management			
Notifications and messages management	Red		
Payment Management	Red		
Registration Trainer	Google Docs From	Red	
Advanced search	Green	Red	
Mobile Application (IOS, Android)	Green	Red	

1.4 Adopted methodology and modeling language

1.4.1 Project management methodology

In order to ensure effective progress monitoring of the project, a good planning is necessary as well as a strong methodology.

In this project, we choose to work following **Framework Scrum** which is one of many agile methods.

– **Framework Scrum[1].**

Agile methods have emerged since the 1990s as a result of the failure of several projects using classical methods and have become alternatives to old one such as the cascading method.

These methods ensure a good estimation of costs and deadlines, they use an iterative principle that consists in dividing the project into several minis-projects accompanied by customer listening and tests throughout the development cycle.

SCRUM is part of the agile methodologies and has been adopted by our company team for the management of the project, it is an agile framework in which complex problems can be addressed.

SCRUM provides a product with maximum effectiveness and creativity and divides a project (which described with features), into many sprints, each one can be done between two and four weeks.

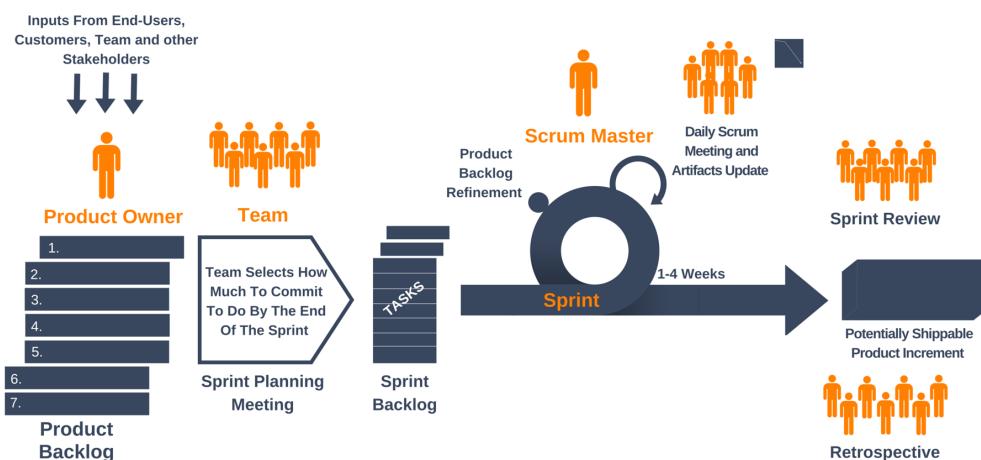


Figure 1.8: Scrum process

To achieve **SCRUM**, three value must be ensured: *Transparency, Inspection and Adaptation*.

SCRUM offers three levels of operational planning: **Sprint**, **release** and **Quotidian**.

- **Sprint:** Scrum is an iterative process: iterations are called sprints and last in theory 30 calendar days. In practice, iterations usually last between 2 and 4 weeks. Each sprint has a goal and is associated with a list of items of products back-

log(functionalities) to be realized. These items are broken down by the team in basic tasks of a few hours- release: To improve the legibility of the project, iterations are generally grouped into releases to mark the delivery of a successful, like version can be putted into operation.

- **Release:** To improve the legibility of the project, iterations and generally grouped into releases. Indeed, as each sprint must lead to the delivery of a product a partial release allows to mark the delivery of a successful, likely version can be putted into operation.
- **The daily:** Allow team to make a progress update on tasks and difficulties met. Each member takes turns answering three questions:
 1. What did I do yesterday?
 2. What do I plan to do today?
 3. What difficulties do I encounter?

1.4.2 Modeling language

In order to design and model this project, the choice was made on using UML: Unified Modeling Language.

This modeling language allows the description of both needs and details of the architecture.

The UML diagrams represent the application within its system and how it is integrated. In the next chapters, there will be a use of this modeling language to show the design of the solution as well as to define its interaction with its software environment.

Conclusion

This chapter presented the project's general scope. It also defined the chosen methodology which was used during the development of the solution. The next chapter will present the requirements of the project as well as the architecture of the solution.

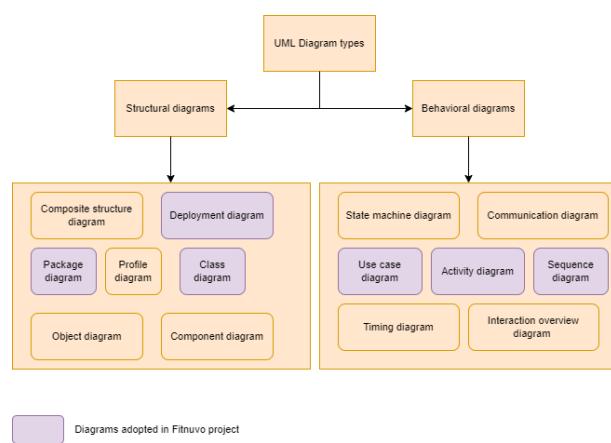


Figure 1.9: UML diagrams

Chapter 2

Project planning

Introduction

This chapter represents an analytical phase in which we fully describe our system's behavior. We first describe the system's main actors, then we iterate over the different functional and non-functional requirements.

Afterwards, we analyze those requirements through a global use case diagram in which we describe every possible interaction between the actors and the system to be. Second, we mention the PB then, describe the work environment and we finally present the system architecture.

2.1 Requirements analysis

To clearly specify the requirements of the studied system, the key participants in the system are defined, then the functional and non-functional requirements are introduced.

2.1.1 Actors

Before studying and classifying the different system requirements, the following actors are identified:

- **Administrator:** He is the supervisor; he manages all the access rights on the system to control user access.
- **Super Administrator:** A super administrator has the same privileges as the administrator but he can also create an administrator account and monitor the plat-

form statistic.

This actor will be presented by the acronym (SA) during the redaction of the report.

- **Client:** This actor can search the available trainer and make an appointment with him.
- **Personal trainer:** He fills in his personal information and schedules, he can validate or cancel an appointment with a client throughout the platform.

This actor will be presented by the acronym (PT) during the redaction of the report.

- **Visitor:** He is the person who can consult the platform home page but cannot reserve a training.

Note :

We represent a general actor " user" that present the common requirements introduced by the personal trainer and the client.

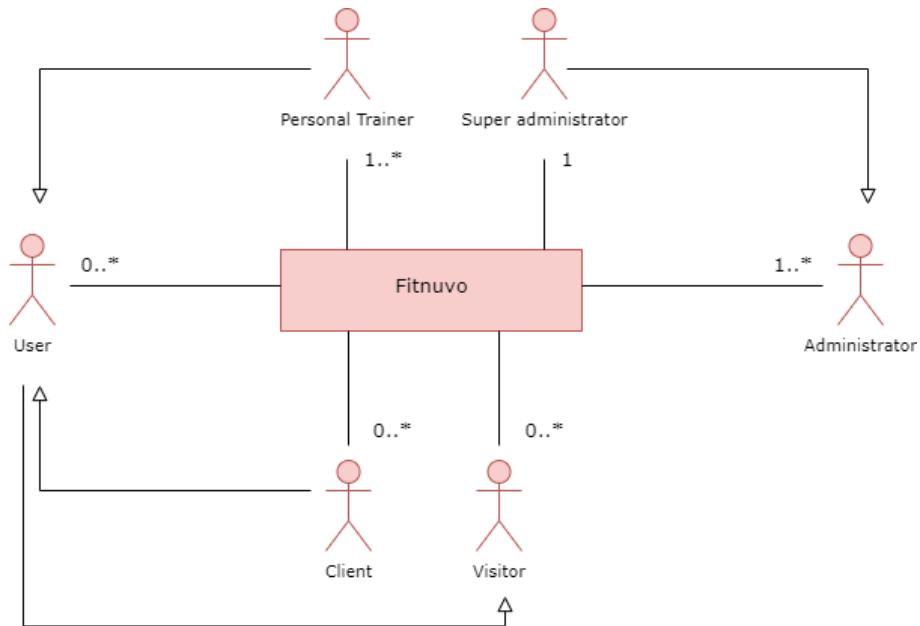


Figure 2.10: Context static diagram

2.1.2 Functional requirements

Functional requirements express an action that the system must perform in response to a request. Therefore, there are requirements related to the system operation to be developed. In this work, our platform should be able to establish the following features:

- **Registration**

- The client and the personal trainer can **register** to platform.

- **Authentication and log out**

- The super administrator, the administrator, the client and the personal trainer can **authenticate**.
- The client and the personal trainer can **log out**.

- **Users account management**

- The super administrator can **add** an administrator account.
- The super administrator and the administrator can **view** the detailed list of all users identified by their roles .
- The super administrator and the administrator can **activate** a personal trainer new account.
- The super administrator and the administrator can **deactivate** a the personal trainer and a client account.
- The Super administrator and the administrator can **activate** a personal trainer and a client blocked account.
- The super administrator and the administrator can **give permissions** to all users.

- **Sport categories management**

- The super administrator and the administrator can **add** a sport category.
- The super administrator and the administrator can **update** a sport category.
- The super administrator and the admin can **delete** a sport category.
- The super administrator and the administrator can **search** a sport category.

– Personal data management

- The super administrator, the administrator, the client and the personal trainer can **consult** their profiles .
- The super administrator, the administrator, the client and the personal trainer can **edit** their profiles .
- The super administrator, the client and the personal trainer can **regenerate password**.
- The client and the personal trainer can **consult** their upcoming appointments.
- The personal trainer can **consult** his list of revenues.
- The client can **manage** the list of revenues to select the best trainers.

– Booking process

- The visitor and client can **search** a personal trainer by an advanced search (Age, schedule, price, gender).
- The client can **consult** the personal trainer calendar.
- The client and the personal trainer can **edit** an appointment.
- The client and the personal trainer can **cancel** an appointment request.
- The personal trainer can **edit** his calendar.
- The personal trainer can **consult** the appointment requests.
- The personal trainer can **consult** clients profiles.
- The personal trainer can **validate** an appointment request .
- The personal trainer can **add** an appointment request for a client.
- The client can **replay** an appointment.

– Payment

- The client can **pay** an appointment.
- The client can **consult** the history of payments.
- The client can **export** an invoice.

– Communication

○ *Notifications :*

- The client and the personal trainer can **receive** notifications to track booking status.

○ *Messages :*

- The client and the personal trainer can **consult** the list of messages.
- The client and the personal trainer can **write, read** messages to contact each others.
- The client and the personal trainer can **achieve** discussion.

○ *Blogs FAQs:*

- The super administrator, the administrator can **manage** the blogs and publish them.
- The super administrator, the administrator can **manage** the FAQs to help user.

– Dashboard

- The super administrator can **consult** the transaction rate via statistics.

– Rating and reporting

After workout :

- The client can **evaluate** the personal trainer.
- The client can **consult** the comments and rating assigned.
- The personal trainer can **report** unwanted comments.
- The super administrator, the administrator can **manage** reports.

2.1.3 Non-Functional requirements

When the functional requirement expresses the specific function of the product, the non-functional requirement is an indicator of the delivery quality of the functional requirement. In other words, functional requirements can only be met when the corresponding

non-functional requirements are also met. Our platform must ensure that the following requirements are met:

- **Performance :** Speed of the system execution, usually in terms of response time.
- **Security :** the user can't access his account unless he has been authenticated. He should already be stored in the database prior to any authentication attempt..
- **Ease of use :** The configuration and access to the account must be simple and easy to handle regardless of the user nature.
- **Scalability :** The system must be scalable through giving the possibility, to add or delete new features.

2.2 Product backlog

Table 2.3: PB

Features	Story ID	User story			Priority	Effort
		As a/an	I want to be able to ..	So that		
Registration	1	- Client - PT	Create account	I can register to website.	1	8
authentication and log out	2	- SA - Admin - Client - PT	Authenticate	I can prove my identity using my credentials to gain access to the application.	2	13
	3	- SA - Admin - Client - PT	Log out	I can close my session.	3	2

Table 2.4: PB

Features	Story ID	User story			Priority	Effort
		As a/an	I want to be able to ..	So that		
Users account management	4	- SA	Add an admin account	I can give him an access to his personal account and identify him.	4	8
	5	- SA - Admin	View the list detailed of all users identified by their roles	I can monitor them and verify their identities.	5	5
	6	- SA - Admin	Activate a new account	I can give a PT the access privileges.	6	3
	7	- SA - Admin	Deactivate an account	I can remove a client/PT the access privileges.	7	2
	8	- SA - Admin	Activate a blocked account	I can grant a client/PT the access privileges.	8	3
	9	- SA - Admin	Give permission to users	I can allow them to get a different access.	9	8
Sport categories management	10	- SA - Admin	Add sport category	I can specify a PT specialty.	10	3
	11	- SA - Admin	Update sport category	I can update the information of given category.	11	3
	12	- SA - Admin	Delete sport category	I can remove a category from the list of categories managed in the application.	12	2
	13	- SA - Admin	Search sport category	I can monitor the list of PT by their specialties.	13	3
Personal data management	14	- Client - PT	Consult appointment	I can view my upcoming appointment.	14	5
	15	- Client - PT	Consult profile	I can view my personal data.	15	5
	16	- Client - PT	Edit profile	I can update my personal data.	16	8

Table 2.5: PB

Features	ID	User story			Priority	Effort
		As a/an	I want to be able to ..	So that		
Personal data management	17	- Client - PT	Regenerate new password	I can change my password.	17	5
	18	- PT	Consult the list of revenues	I can view my income.	18	8
	19	- Client	Manage a list of favorites	I can select the best trainer.	19	5
Booking process	20	- Visitor - Client	Search PT by an advanced search (place, age, gender, price)	I can consult their list and check their profiles.	20	13
	21	- Client	Consult the trainer calendar	I can view his workout planning and availability.	21	5
	22	- Client	Send an appointment request	I can book a PT.	22	8
	23	- Client - PT	Edit an appointment	I can re-plan my workout.	23	8
	24	- Client - PT	Cancel an appointment request	I can delete an appointment.	24	5
	25	-PT	Edit my calendar	I can plan my workout timing in per week.	25	8
	26	- PT	Consult the appointment requests	I can view the list of the appointment requests.	26	5
	27	- PT	Consult my clients' information	I can know details about them.	27	5
	28	- PT	Validate an appointment request.	I approve an appointment.	28	5
	29	- PT	Add an appointment	I can make an appointment for a client.	29	8
	30	- Client	Replay an appointment	I can book a PT again.	30	5

Table 2.6: PB2

Features	ID	User story			Priority	Effort
		As a/an	I want to be able to ..	So that		
Payment	31	- Client	Pay an appointment	I can confirm a training session.	31	13
	32	- Client	Consult the history of payments.	I can view the list of previous payments.	32	5
	33	- Client	Export an invoice	I can have an invoice paper.	33	8
Communication	34	- Client - PT	Receive notification	I can track booking status (Validate/ Cancel).	34	8
	35	- Client - PT	Consult the list of messages.	I can access the discussion .	35	5
	36	- Client - PT	Write message	I can answer the messages.	36	5
	37	- PT - Client	Read a message	I can consult messages .	37	5
	38	- PT - Client	Achieve a discussion	I can have an archived discussion.	38	5
	39	- SA - Admin	Manage the blogs	I can publish them in the website.	39	5
	40	- SA - Admin	Manage FAQs	I can help user.	40	5
	41	- Client	Consult the statistics	I can have a clear vision on the transaction rate.	41	13
Rating and reporting	42	- Client	Assign a rating and leave a comment to PT after workout	I can evaluate him.	42	8
	43	- PT - Visitor - Client	Consult the comments and rating assigned.	I view the client's feedback .	43	5
	44	- PT	Can report unwanted comments and rating.	I can supervise bad feedback.	44	3
	45	- SA - Admin	manage reports	I can delete or approve unwanted comments.	45	8

Total velocity = 275

2.3 Global Use case diagram

To have a better understanding of the required needs, we will model them in a formal way using the use case diagram [figure]

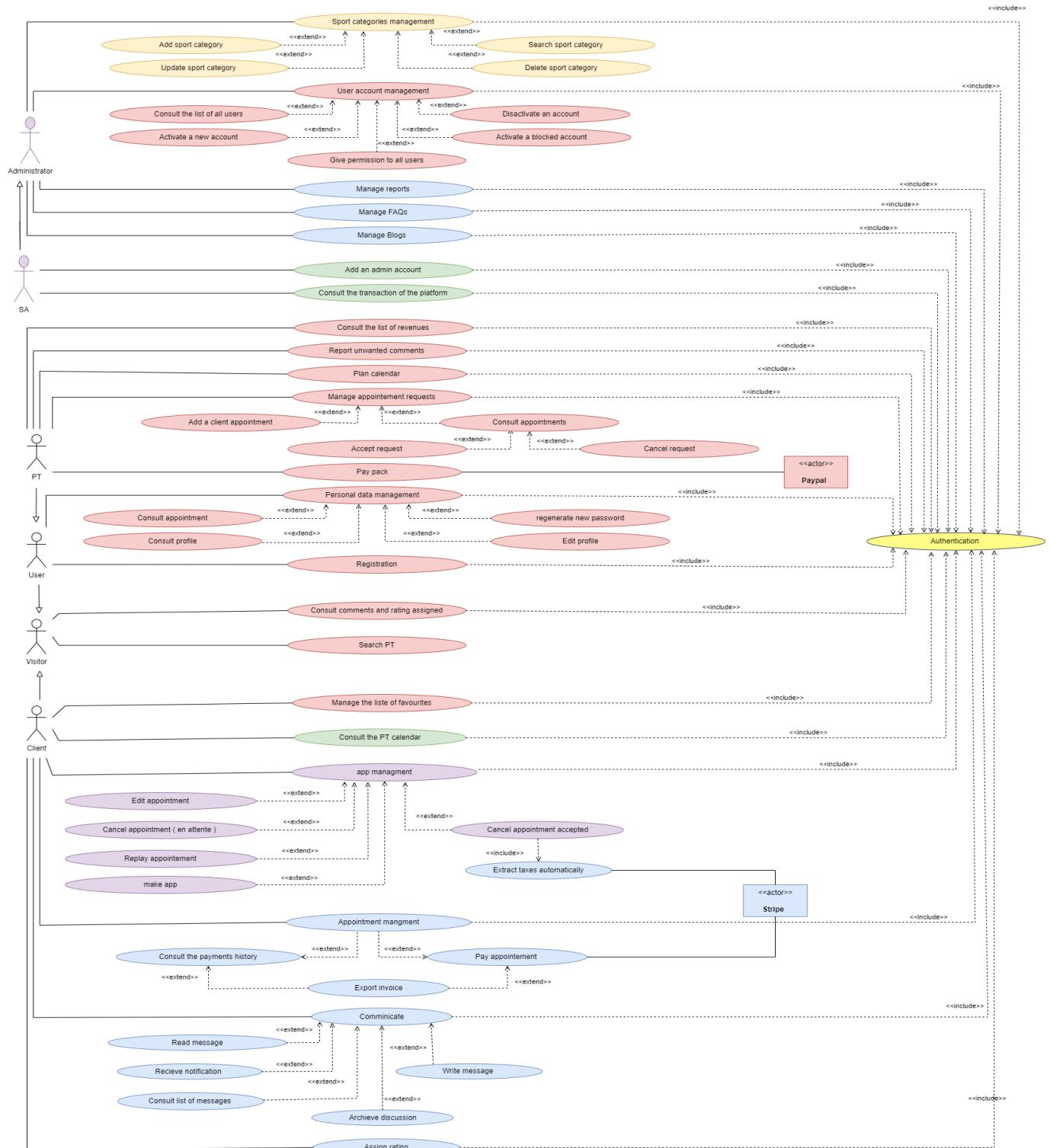


Figure 2.11: SP1 class diagram

2.3.1 Hardware environment

For the implementation of our project, we worked on 2 personal computers, the configuration of which is presented in the table x

Table 2.7: Hardware environment

Brand	Hp	MSI
Processor	Intel i3-7020U @ 2.30GHz	Intel i7 -10750H CPU @ 2.60Hz
Memory	8 GO	16 GO
Hard drive	SSD 224 GO	SSD 512 GO
Operating system	Windows 10 GO	Windows 11

2.3.2 Software environment

In this section we present briefly the technical tools that we chose, in order to develop our application.

- **Framework** At first we will define the framework we choose to develop our project
 - **Front-end**
 - **Angular:**
 - **Choice justification :**
 - **Back-end**
 - **Angular:**
 - **Choice justification :**
- **Data base**
- **Tests**
- **Other tools**
 - **Diagrams.net**
 - **Git**
 - **Vs Code**
 - **Monday.com**
 - **Figma**
 - **Canvas**

2.4 System architecture and design pattern

2.4.1 System architecture

It is very essential to follow an architecture that models the operation of the system in a simple and efficient way before starting the implementation of the solution.

The following (Figure) illustrates a representation of our system architecture.

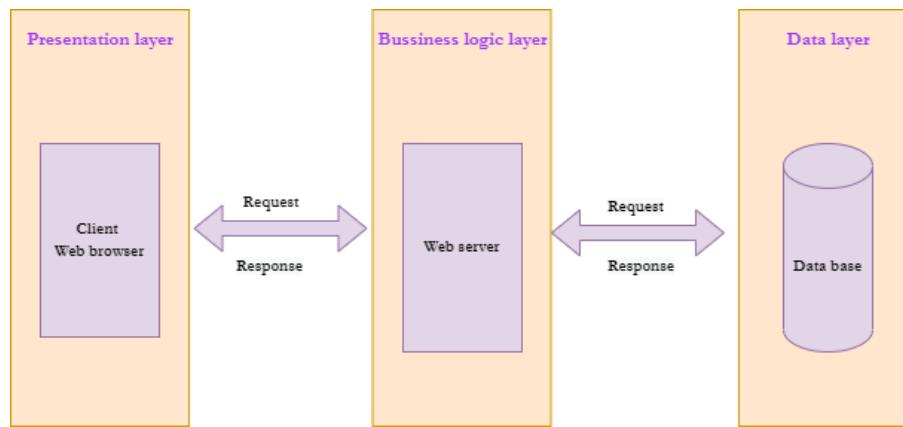


Figure 2.12: 3-tier architecture

Our system is characterized by 3- tiers architecture. The principle of a three- tiers architecture consists in separating the realization into three layers which are the presentation layer, the application layer and the data layer [2].

- **Presentation Layer:** represent the user interface and the communication layer of the application, where the end user interacts with the application.
- **Application layer:** represent the heart of the application where the information collected in the presentation layer are processed using business logic.
- **Data layer:** represent where the information processed by the application are stored and managed.

2.4.2 MVC design pattern

The Model-View-Controller (MVC) pattern is a common architectural pattern that is used to design and create interfaces and the structure of an application.

This pattern divides the application into three parts which are, the model, the view and the controller having each one a specific role in the interface [3]

- **The model:** Stores data that is retrieved according to commands from the controller and displayed in the view.
- **The View:** Generates an output presentation to the user based on changes in the model.
- **The controller:** Send commands to the model to update the model's state. It can also send to its associated view to change the view's presentation of the model.

Why MVC is chosen for our project ?

MVC pattern represents many advantages such as :

- It separates the logic into three layers which facilitates maintenance.
- Easy to make a change thanks to the separation of responsibilities.
- Ensures simultaneous development. As a result, the developers can work simultaneously on models, controller and views.

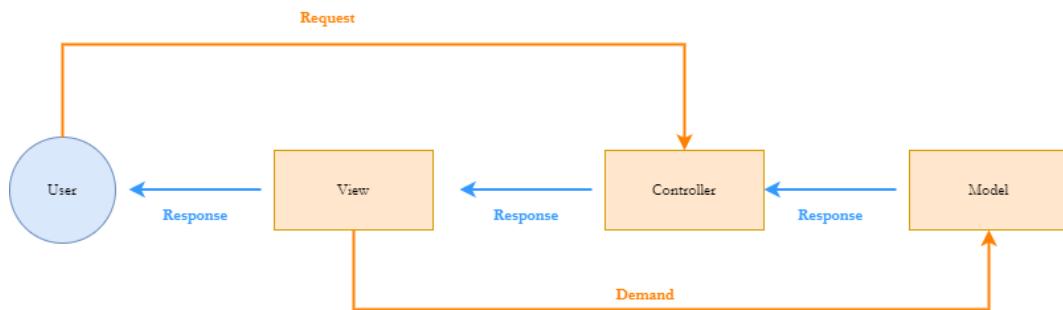


Figure 2.13: MVC pattern

2.4.3 Deployment diagram

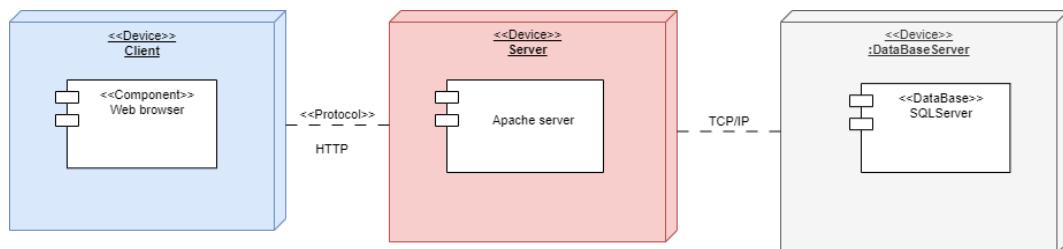


Figure 2.14: Deployment diagram

2.5 Release planning

Release planning is an indispensable step in its realization. It allows accurate monitoring of the tasks progress. For this, it is necessary to put in place a set of sprints to be respected for a better organization according to the defined deadlines. For each sprint, a period of time is assigned for its finalization. Table 2 highlights the different sprints.

Table 2.8: Release planning

	Sprint 1	Sprint 2	Sprint 3
Period	From : 01/03/2022 To : 31/03/2022	From : 01/04/2022 To : 30/04/2022	From : 01/05/2022 To : 31/05/2022
User stories	US1-US2-US3-US4-US5-US6-US7-US8-US9-US10-US11-US12-US14-US15-US16-US17-US18-US19	US20-US21-US22-US23-US24-US25-US26-US27-US28-US29-US30-US31-US32-US33	US34-US35-US36-US37-US38-US39-US40-US41-US42-US43-US44-US45
Estimated effort	99	101	75

Conclusion

Throughout this chapter, we have clearly identified the system actor and the functionalities that the platform should offer. Therefore, the next chapter will start our first sprint.

as well as the technical tools that we used for the development.

Chapter 3

Sprint 1

« Booking process, subscribing to platform and payment services »

Introduction

In this chapter, we will detail the first sprint by explaining the requirements specification, the design and the realization in order to give birth to our first increment.

3.1 Requirements specification

3.1.1 Sprint backlog

Table 3.9: Sprint backlog

ID	User story	Tasks	Effort (hours)
	Userless	- Use case diagram - Class diagram - Sequence diagrams	7
1	As a client, a personal trainer I want to be able to create account so that I can register to website.	- Mock-ups - Back end - Front end - Integration - Tests	2 5 4 2 1

Table 3.10: Sprint backlog

ID	User story	Tasks	Effort (hours)
2	As a super administrator, an administrator, client, a personal trainer I want to be able to authenticate So that, I can prove my credentials to gain access to the application	- Mock-ups - Back end - Front end - Integration - Tests	2 8 2 4 1
3	As a super administrator, an administrator, client,a personal trainer I want to be able to log out So that, I can close my session.	- Mock-ups - Back end - Front end - Integration - Tests	1 2 1 1 1
4	As a super administrator I want to be able to add an admin account So that, I can give him the access to his personal account and identify him.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
5	As a super administrator, an administrator I want to be able to view the detailed list of all users identified by their roles So that, I can monitor them and verify their identities.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
6	As a Super administrator , an administrator I want to be able to activate a new account So that, I can give a personal trainer the access privileges.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
7	As a super administrator, an administrator I want to be able to deactivate an account So that, I can remove the client and the personal trainer the access privileges.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
8	As a super administrator, an administrator I want to be able to activate a blocked account So that, I can grant a client and a personal trainer the access privileges.	- Mock-ups - Back end - Front end - Integration - Tests	1 3 2 2 1
9	As a super administrator, and administrator I want to be able to give permission to all users So that, I can allow them to get a different access.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1

Table 3.11: Sprint 1 backlog

ID	User story	Tasks	Effort (hours)
10	As a super administrator, an administrator I want to be able to add new sport category So that, I can specify a personal trainer speciality.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
11	As a super administrator, an administrator I want to be able to update sport category So that, I can update the information of a given category.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
12	As a super administrator, an administrator I want to be able to delete a sport category So that, I can remove a category from the list of categories managed in the application.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
13	As a super administrator, an administrator I want to be able to search a sport category So that, I can monitor the list of PT by their specialities .	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
14	As a client, a personal trainer I want to be able to consult appointment So that, I can view my upcoming appointments.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
15	As a client, a personal trainer I want to be able to consult profile So that, I can view my personal data .	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
16	As a client, a personal trainer I want to be able to edit profile So that, I can update my personal data.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
17	As a client, a personal trainer I want to be able to regenerate new password So that, I can change my password.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1

Table 3.12: Sprint backlog

ID	User story	Tasks	Effort (hours)
18	<p>As a super administrator, an administrator</p> <p>I want to be able to update sport category</p> <p>So that, I can update the information of a given category.</p>	<ul style="list-style-type: none"> - Mock-ups - Back end - Front end - Integration - Tests 	1 6 4 2 1
19	<p>As a super administrator, an administrator</p> <p>I want to be able to delete a sport category</p> <p>So that, I remove a category from the list of categories managed in the application.</p>	<ul style="list-style-type: none"> - Mock-ups - Back end - Front end - Integration - Tests 	1 6 4 2 1

3.1.2 Use case diagram

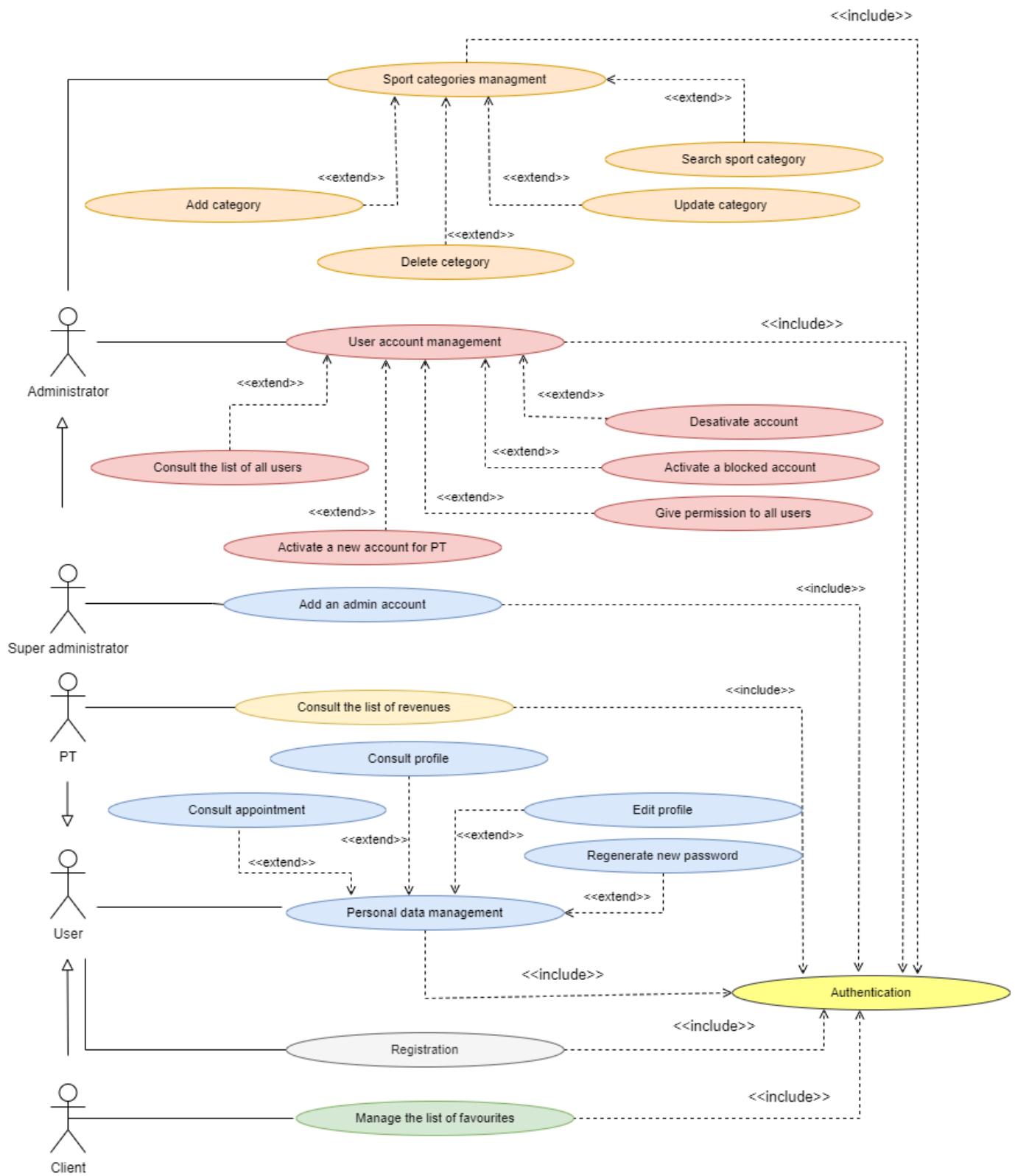


Figure 3.15: Use Case Diagram

3.1.3 User interface mockups

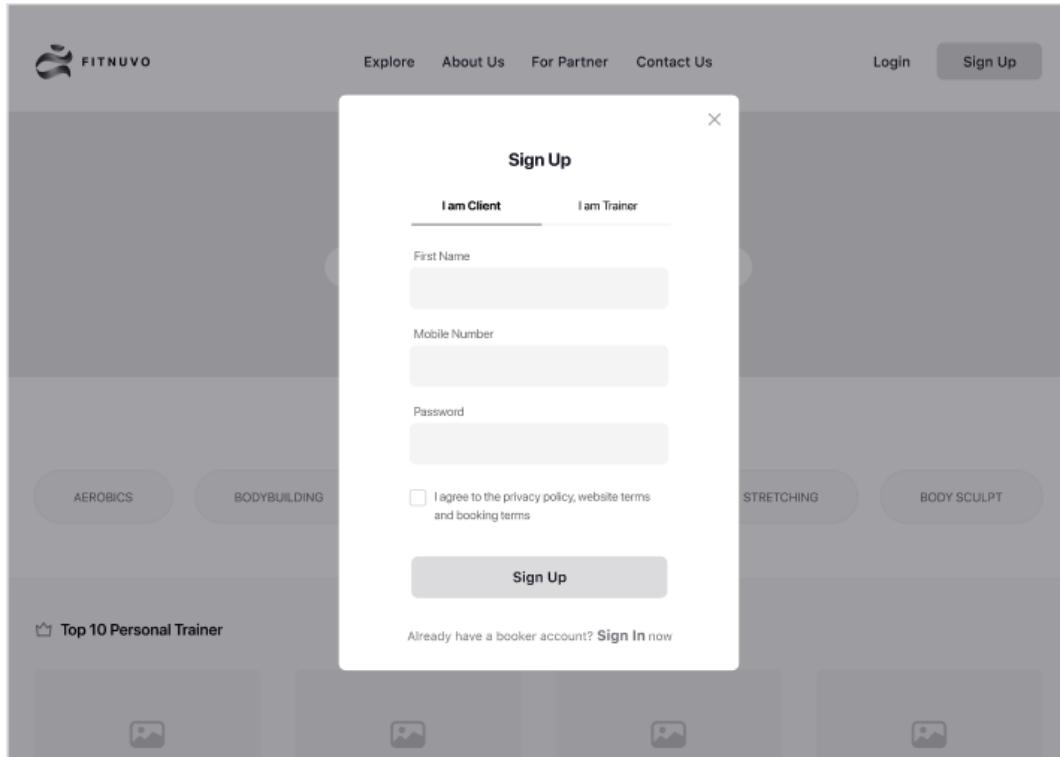


Figure 3.16: Sign up

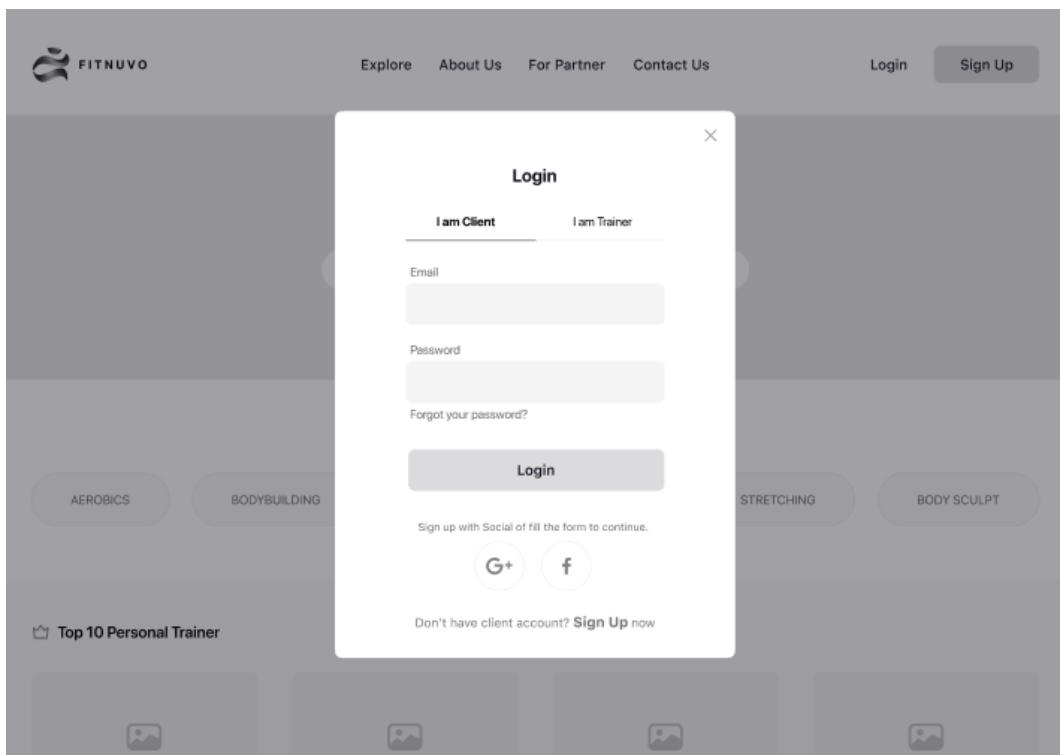


Figure 3.17: Login

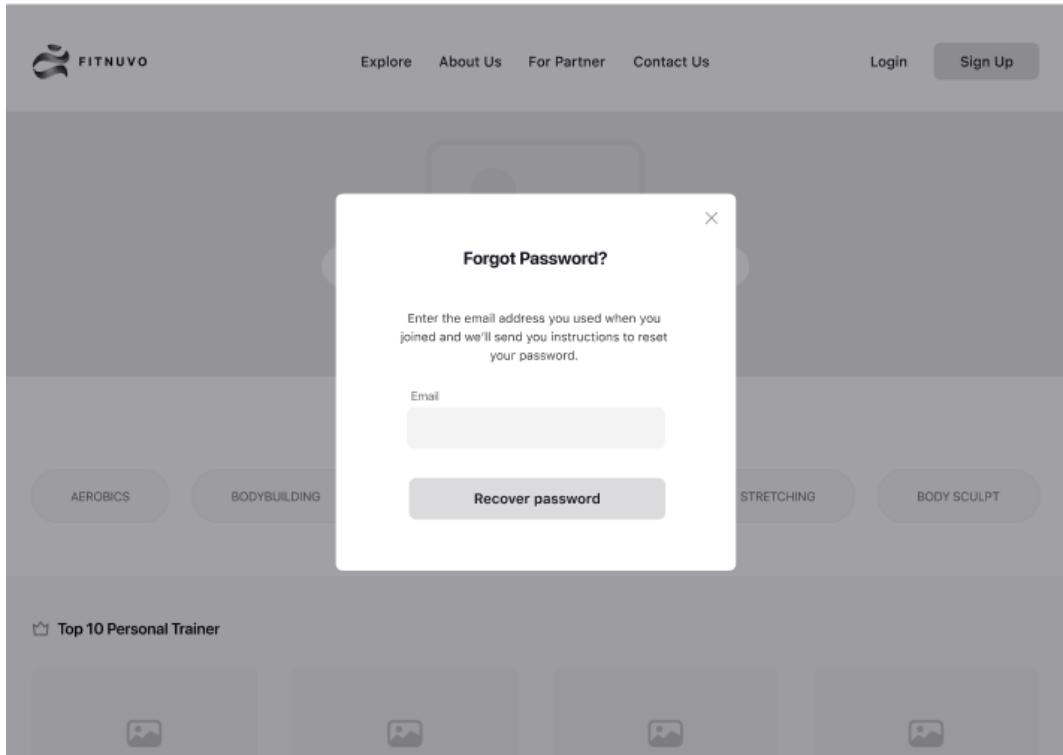


Figure 3.18: Recover password

3.2 Scrum board

The scrum software was chosen as a project management tool using a website called **Monday.com** software to organize our tasks and priorities as a team. It has many features:

- It helps to supervise the work and progress and it gives details about each task, like the person who did or modified the task and the time when it was performed.
- It can give a follow up timeline to respect.
- It can generate an early alert when approaching a specific date without any change in the state of accomplishment.

	Tasks	Admin	Status	BV	Timelines
As a Client, personal trainer I want to be able to create account	⊕	☒	To do	High	mars 1 - 4
As a super administrator , administrator, Client, personal trainer, I want to be a... As a super administrator , administrator, Client, personal trainer, I want to be a...	⊕	☒	To do	High	mars 1 - 4
As a super administrator , administrator, Client, personal trainer, I want to be a...	⊕	☒	To do	High	mars 5 - 8
As a Super administrator, I want to be able to add an admin account	⊕	☒	To do	High	mars 5 - 11
As a super administrator, admin, I want to be able to view the list detailed of a...	⊕	☒	To do	High	mars 5 - 11
As a super administrator, admin, I want to be able to activate new account for ...	⊕	☒	To do	High	mars 5 - 11
As a super administrator, admin, I can deactivate an account	⊕	☒	To do	High	mars 5 - 11
As a super administrator, admin, I can activate a blocked account	⊕	☒	To do	High	mars 12 - 18
As a super administrator, admin, I can give permission to all users	⊕	☒	To do	High	mars 12 - 18
As a Super administrator, administrator, I want to be able to Add sport category	⊕	☒	To do	High	mars 12 - 14
As a Super administrator, administrator, I want to be able to update sport cate...	⊕	☒	To do	High	mars 12 - 14
As a Super administrator, administrator, I want to be able to delete category	⊕	☒	To do	High	mars 12 - 14
As a super administrator, administrator, I want to be able to search a sport categ...	⊕	☒	To do	High	mars 12 - 14
As a client, Personal trainer, I want to be able to consult appointement	⊕	☒	To do	High	mars 15 - 21
As a client, personal trainer, I want to be able to consult profile	⊕	☒	To do	High	mars 15 - 21
As a client, personal trainer, I want to be able to edit profile	⊕	☒	To do	High	mars 15 - 21

Figure 3.19: First daily scrum board

	Tasks	Admin	Status	BV	Timelines
As a Super administrator , administrator, Client, personal trainer, I want to be a...	⊕	☒	Done	High	mars 5 - 11
As a super administrator , admin, I want to be able to view the list detailed of a...	⊕	☒	Done	High	mars 5 - 11
As a super administrator , admin, I want to be able to activate new account for ...	⊕	☒	Done	High	mars 5 - 11
As a super administrator, admin, I can deactivate an account	⊕	☒	Done	High	mars 5 - 11
As a super administrator, admin, I can activate a blocked account	⊕	☒	In progress	High	mars 12 - 18
As a super administrator, admin, I can give permission to all users	⊕	☒	In progress	High	mars 12 - 18
As a Super administrator, administrator, I want to be able to Add sport category	⊕	☒	In progress	High	mars 12 - 14
As a Super administrator, administrator, I want to be able to update sport cate...	⊕	☒	In progress	High	mars 12 - 14
As a Super administrator, administrator, I want to be able to delete category	⊕	☒	In progress	High	mars 12 - 14
As a super administrator, administrator, I want to be able to search a sport categ...	⊕	☒	In progress	High	mars 12 - 14
As a client, Personal trainer, I want to be able to consult appointement	⊕	☒	In progress	High	mars 15 - 21
As a client, personal trainer, I want to be able to consult profile	⊕	☒	To do	High	mars 15 - 21
As a client, personal trainer, I want to be able to edit profile	⊕	☒	To do	High	mars 15 - 21
As a client, personal trainer, I want to be able to regenerate new password	⊕	☒	To do	High	mars 15 - 21
As a personal trainer, I want to be able to consult the list of revenues	⊕	☒	To do	High	mars 15 - 21
As a client, I want to be able to select the best personal trainers	⊕	☒	To do	High	mars 15 - 21

Figure 3.20: Intermediate daily scrum board

	Tasks	Admin	Status	BV	Timelines
As a Super administrator, I want to be able to add an admin account	⊕	☒	Done	High	mars 5 - 11
As a super administrator , admin, I want to be able to view the list detailed of a...	⊕	☒	Done	High	mars 5 - 11
As a super administrator , admin, I want to be able to activate new account for ...	⊕	☒	Done	High	mars 5 - 11
As a super administrator, admin, I can deactivate an account	⊕	☒	Done	High	mars 5 - 11
As a super administrator, admin, I can activate a blocked account	⊕	☒	Done	High	mars 12 - 18
As a super administrator, admin, I can give permission to all users	⊕	☒	Done	High	mars 12 - 18
As a Super administrator, administrator, I want to be able to Add sport category	⊕	☒	Done	High	mars 12 - 14
As a Super administrator, administrator, I want to be able to update sport cate...	⊕	☒	Done	High	mars 12 - 14
As a Super administrator, administrator, I want to be able to delete category	⊕	☒	Done	High	mars 12 - 14
As a super administrator, administrator, I want to be able to search a sport categ...	⊕	☒	Done	High	mars 12 - 14
As a client, Personal trainer, I want to be able to consult appointement	⊕	☒	Done	High	mars 15 - 21
As a client, personal trainer, I want to be able to consult profile	⊕	☒	Done	High	mars 15 - 21
As a client, personal trainer, I want to be able to edit profile	⊕	☒	Done	High	mars 15 - 21
As a client, personal trainer, I want to be able to regenerate new password	⊕	☒	Done	High	mars 15 - 21
As a personal trainer, I want to be able to consult the list of revenues	⊕	☒	Done	High	mars 15 - 21
As a client, I want to be able to select the best personal trainers	⊕	☒	Done	High	mars 15 - 21

Figure 3.21: Last daily scrum board

3.3 Design

We expose, in this section, the design of our solution, in order to facilitate the transition to the implementation phase.

3.3.1 Class diagram

In this sprint, the class diagram is defined in Figure 3.1 For clarity purposes, we mentioned the most important attributes and methods of the classes.

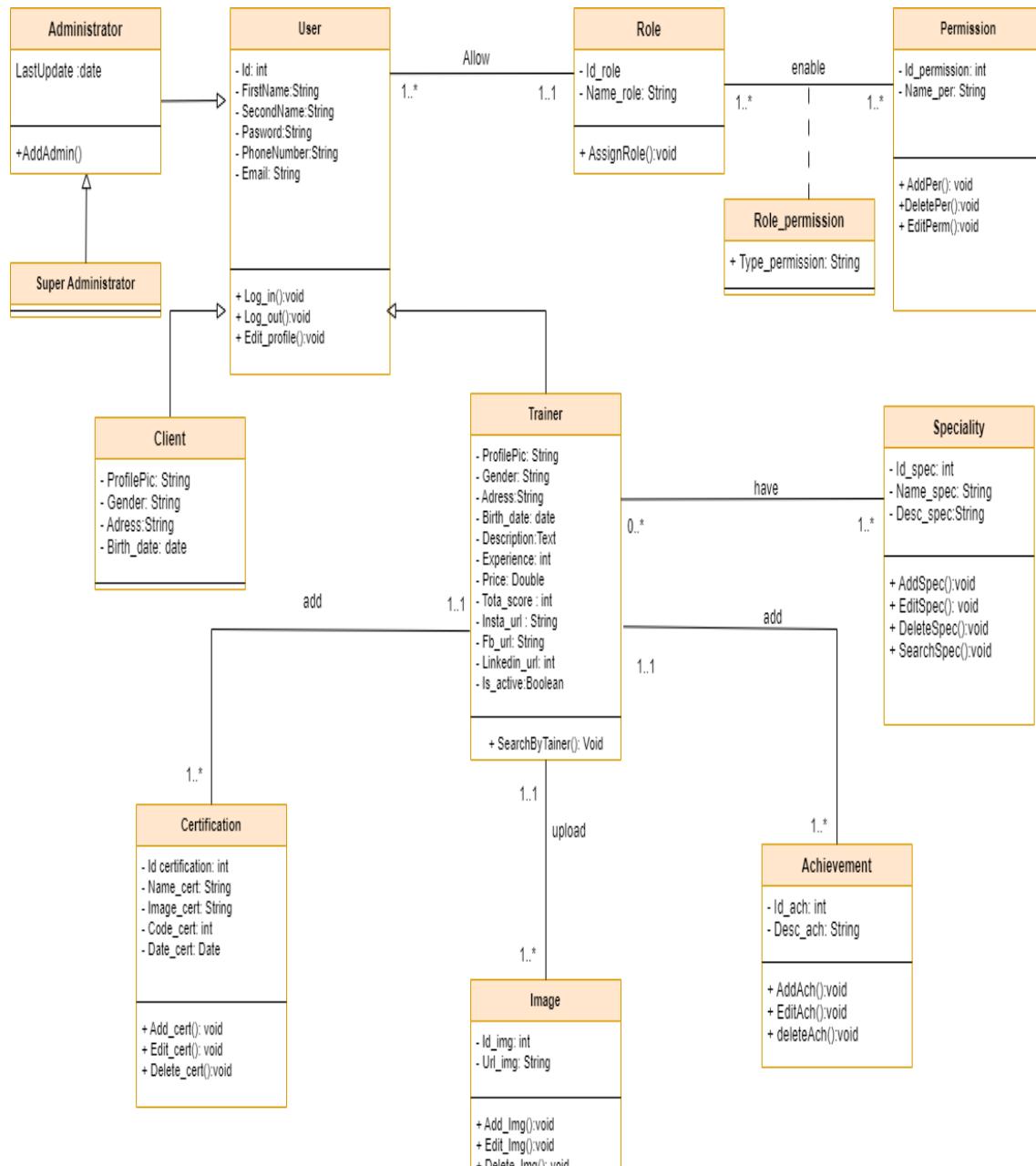


Figure 3.22: SP1 class diagram

3.3.2 Sequence diagram

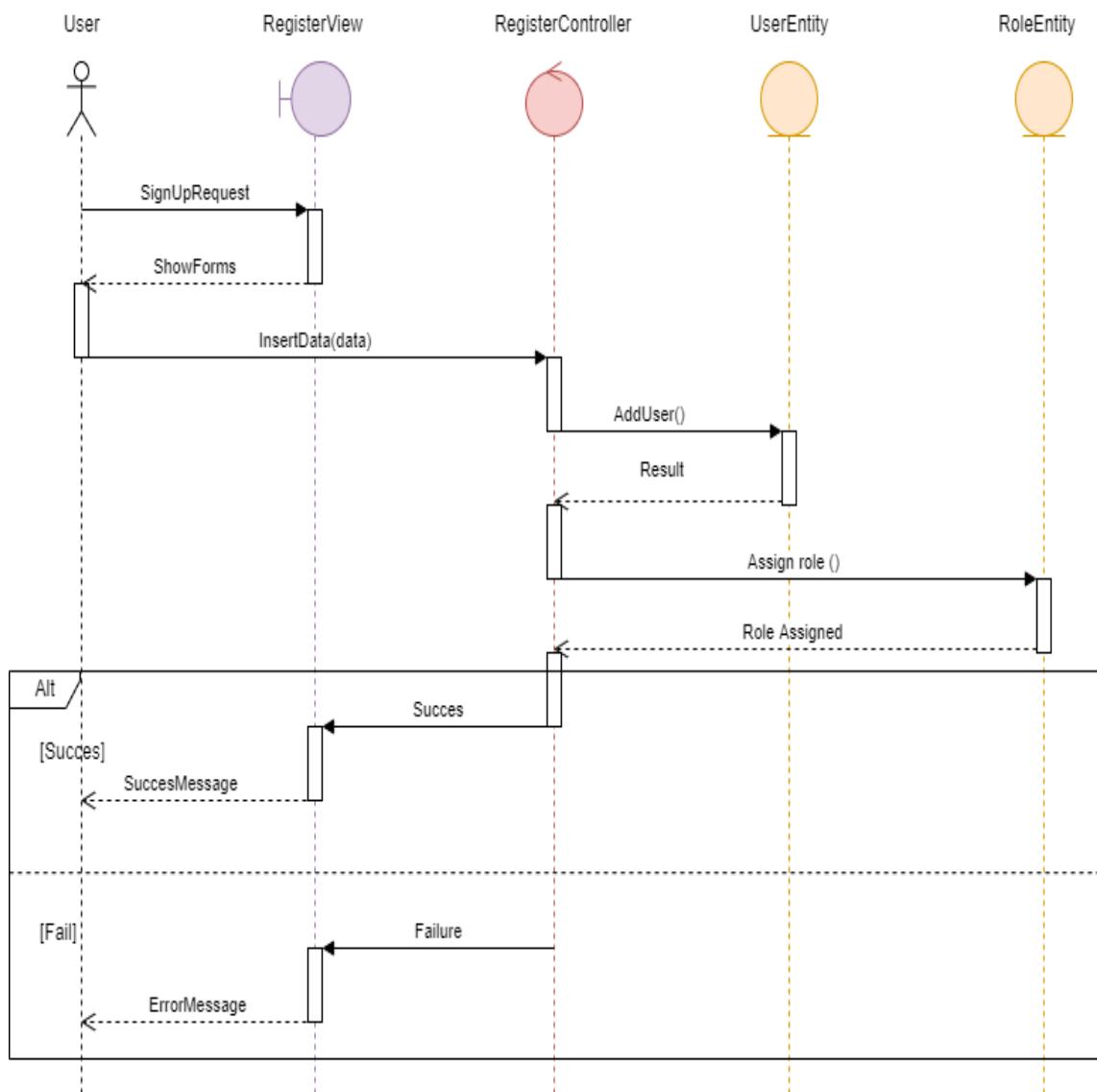


Figure 3.23: Register sequence diagram

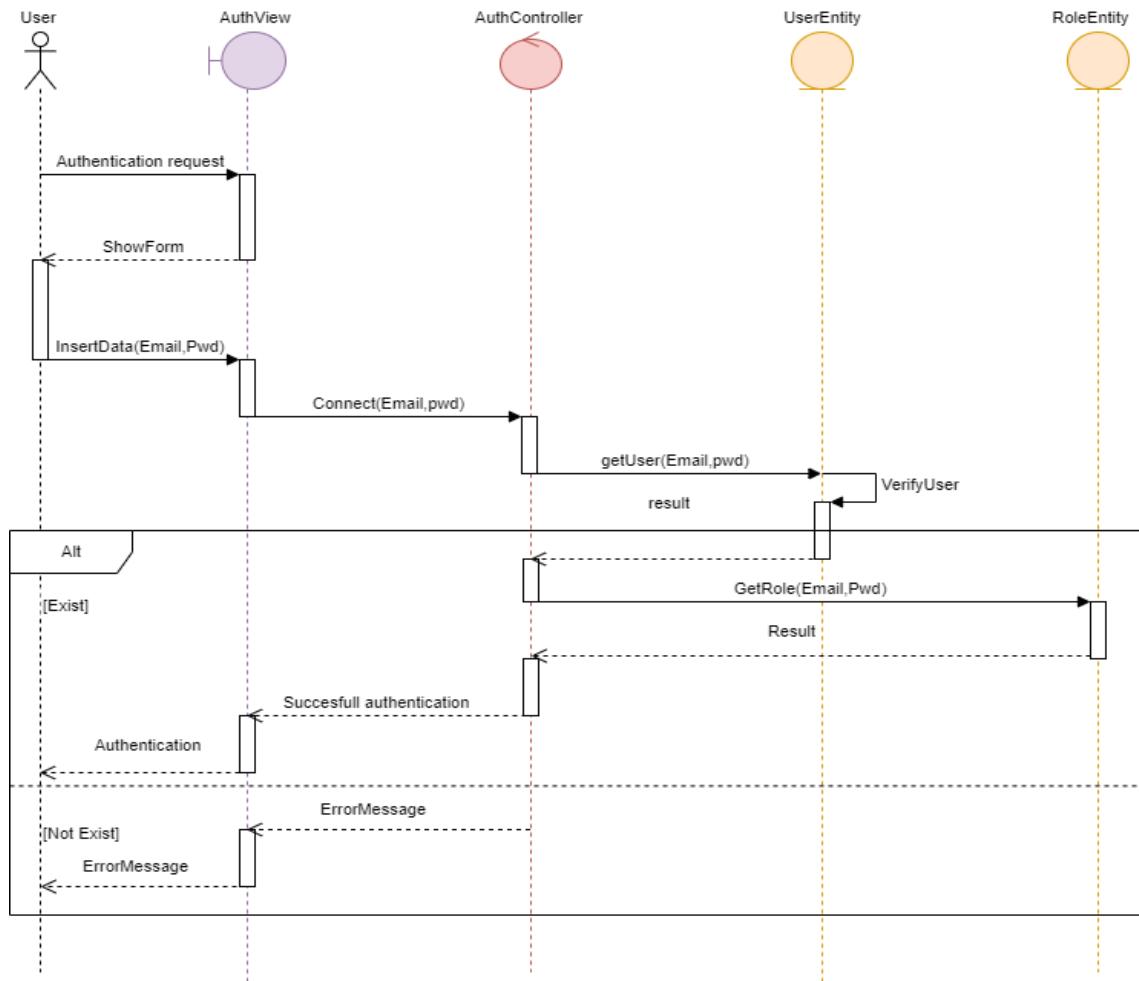


Figure 3.24: Register sequence diagram

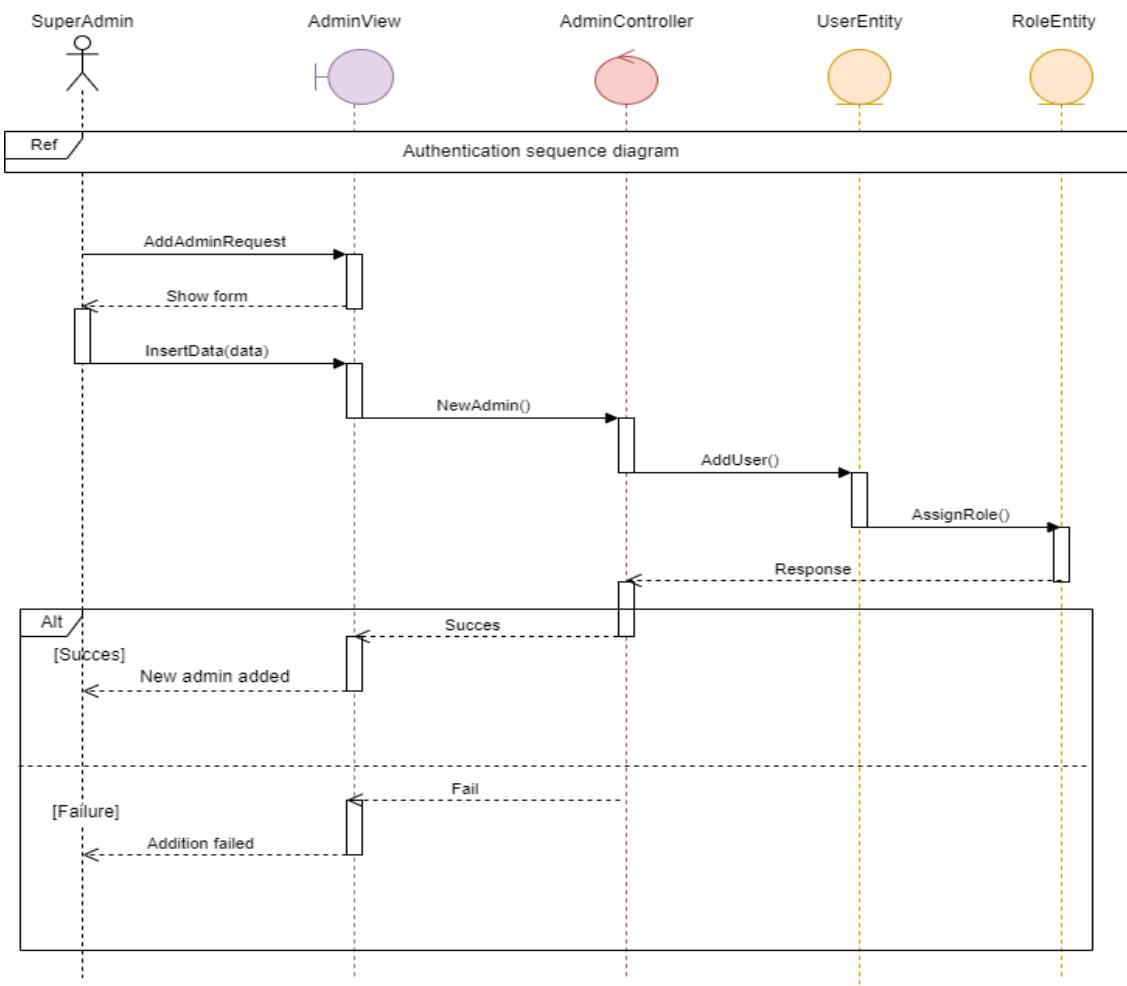


Figure 3.25: Add admin sequence diagram

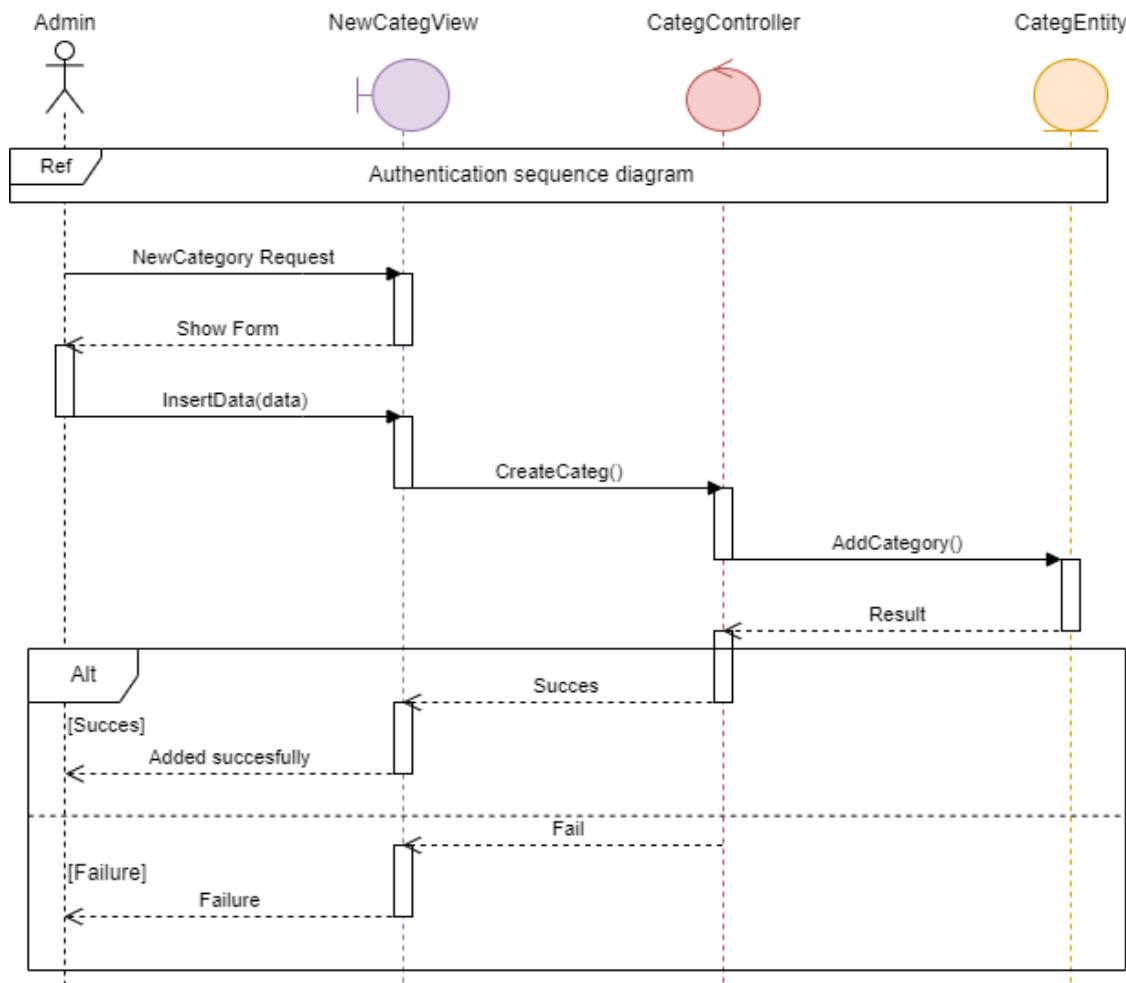


Figure 3.26: Add sport category sequence diagram

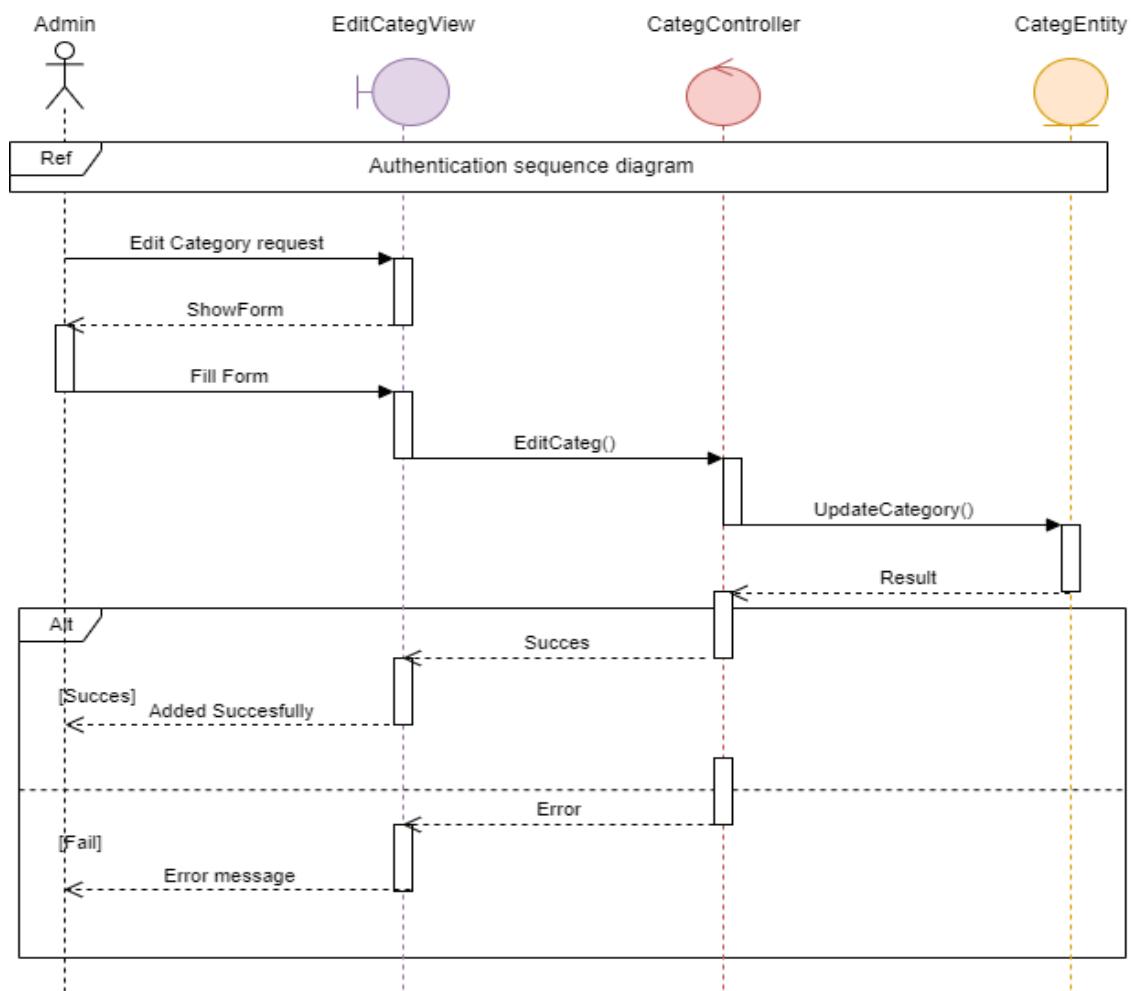


Figure 3.27: Edit sport category sequence diagram

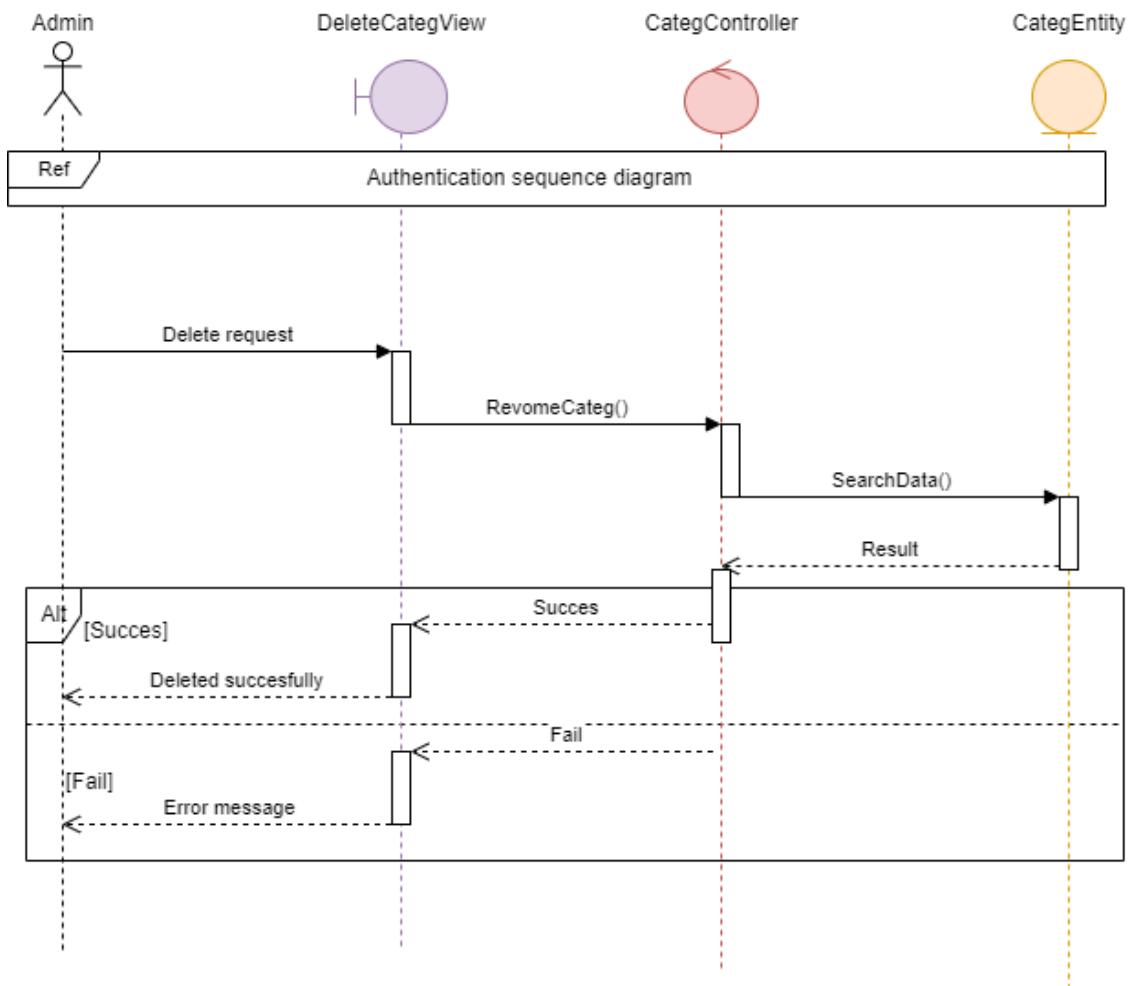


Figure 3.28: Delete sport category sequence diagram

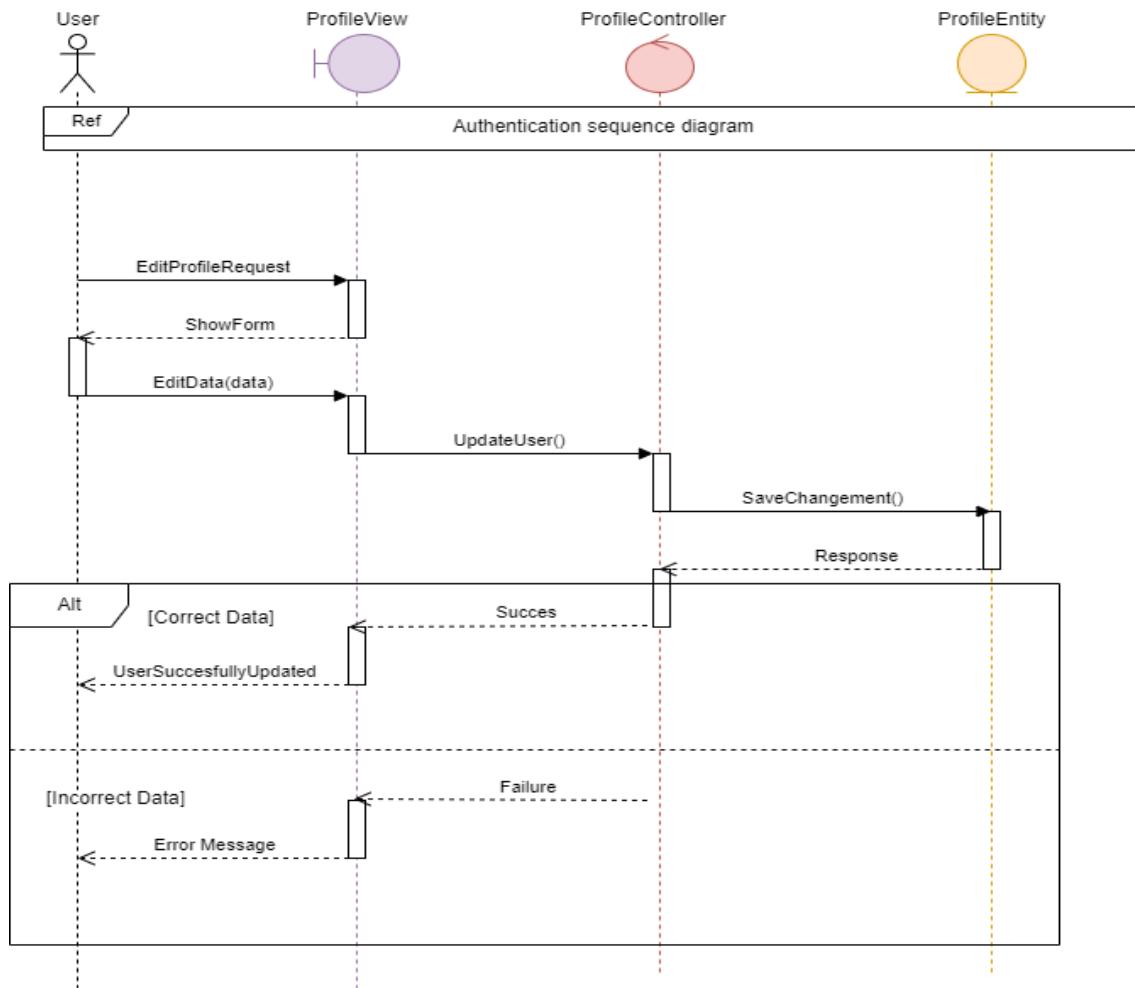


Figure 3.29: Edit profile sequence diagram

3.4 Implementation

In this section, we will represent the different scenarios that highlights the implementation phase.

- Home page interface

The figure [] illustrate the home page.

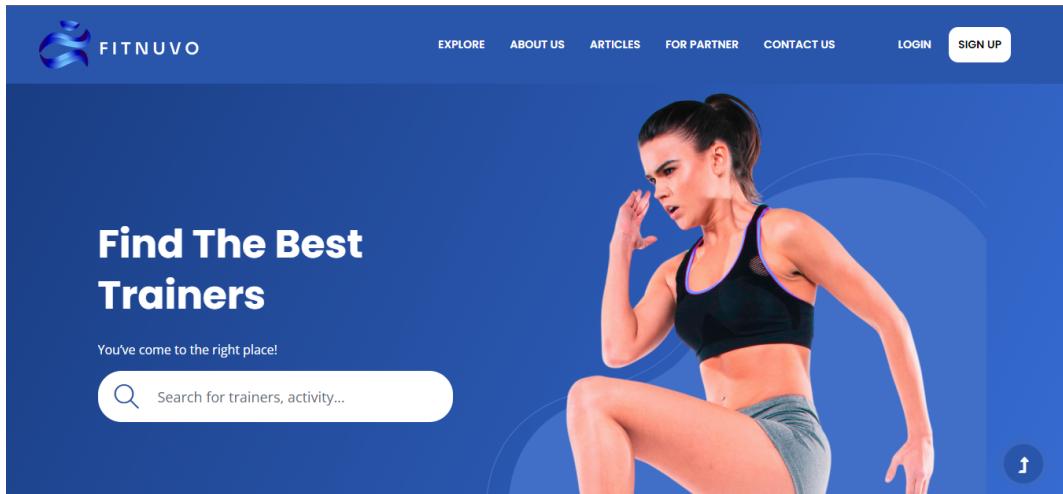


Figure 3.30: Home page

- Sign up interface for the personal trainer

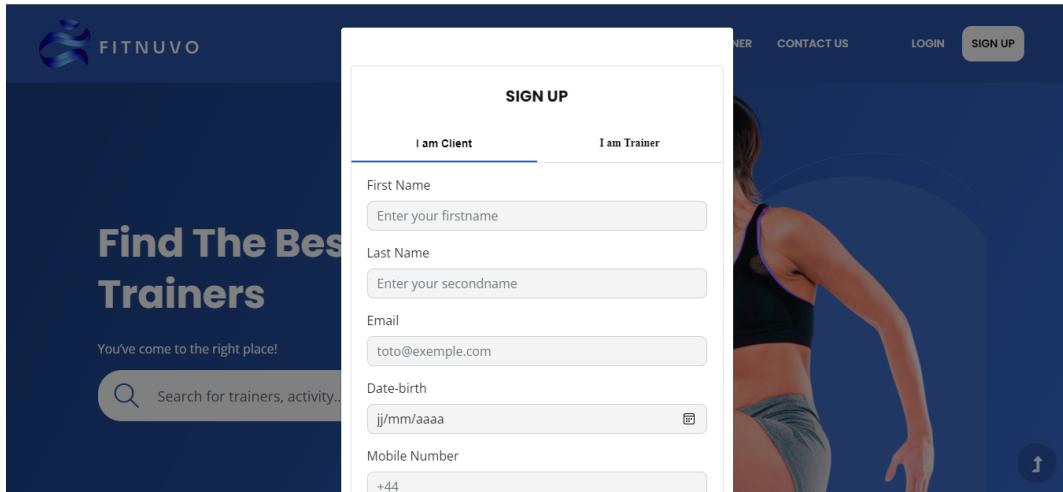
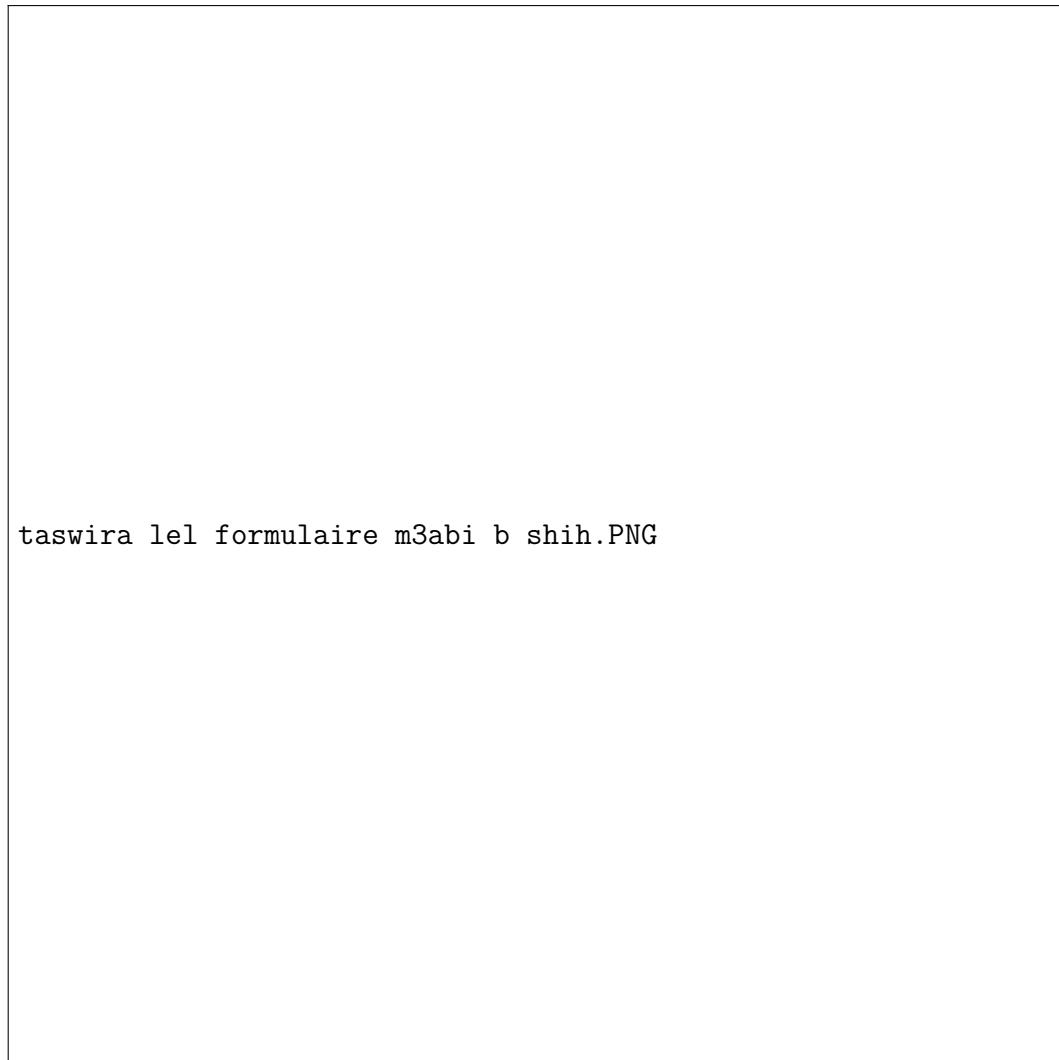


Figure 3.31: Sign Up

The figure [x] shows the sign up interface which allows the personal trainer to create account in our platform.

In order to create account, he needs to fills the form shown correctly and wait for the administrators to verify and activate his account.



taswira lel formulaire m3abi b shih.PNG

Figure 3.32: Sign up filled form

Any wrong information introduced is this interface will warn the user to not be able to create account [figure].

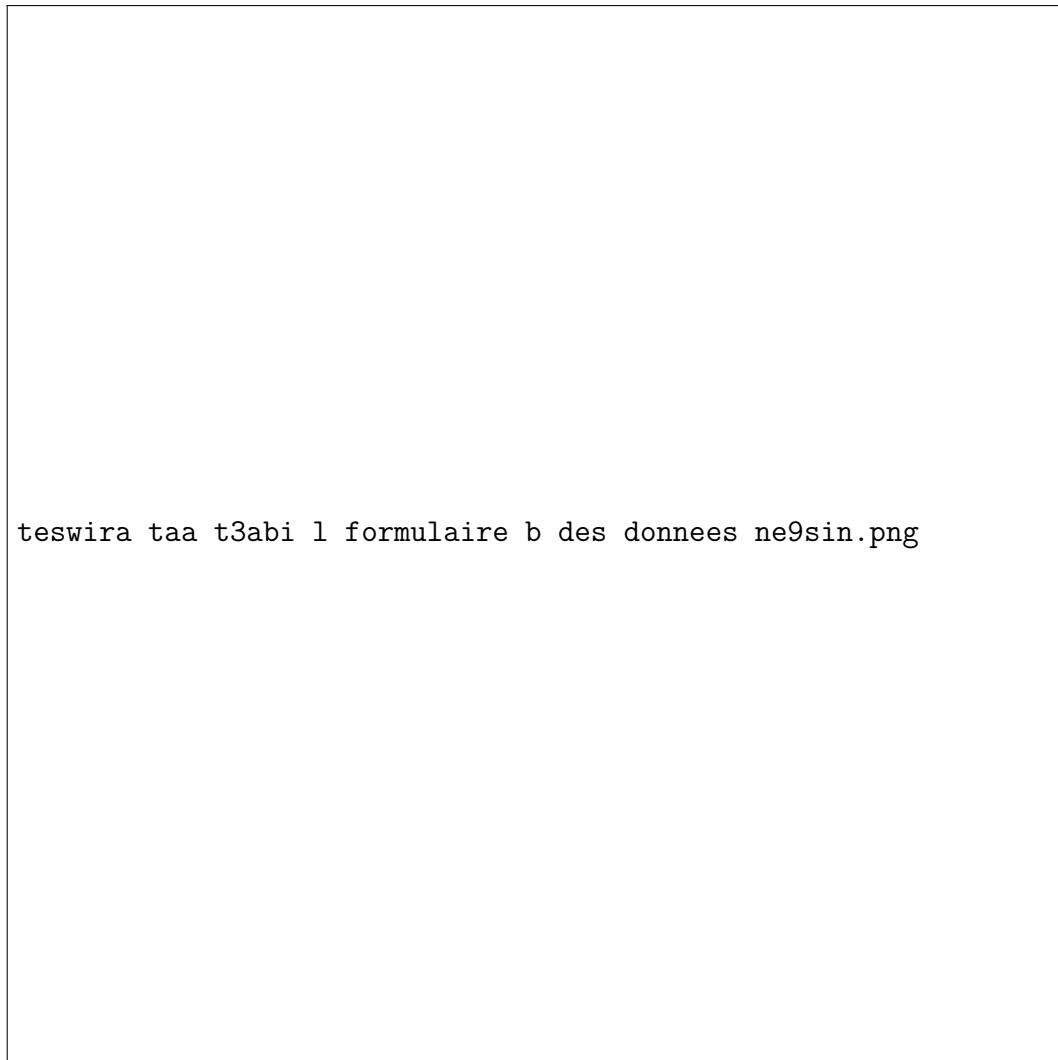


Figure 3.33: Sign up wrong interface

Note : All the steps presented above are also required for the client, except that the client can create an account without any access approving from the administrators.

- Login interface for personal trainer

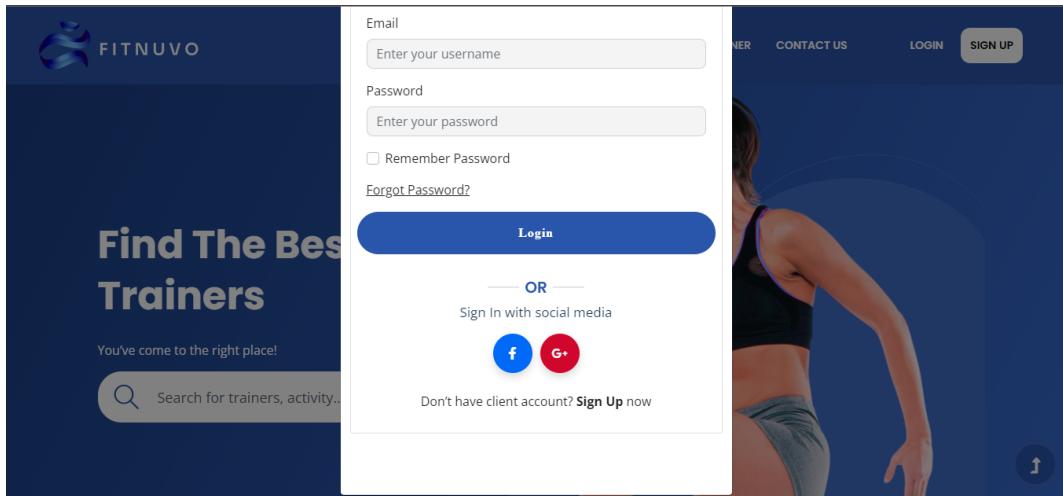


Figure 3.34: Login interface for personal trainer



taswira fiha les donnees taa login ghaltin.PNG

Figure 3.35: Login wrong interface for personal trainer

The personal trainer must enter his credentials correctly to get access to his ac-

count. Otherwise, an alert message will be visible explaining his login issue.

Note : Login phase is required for all users.

- Recover password interface for personal trainer

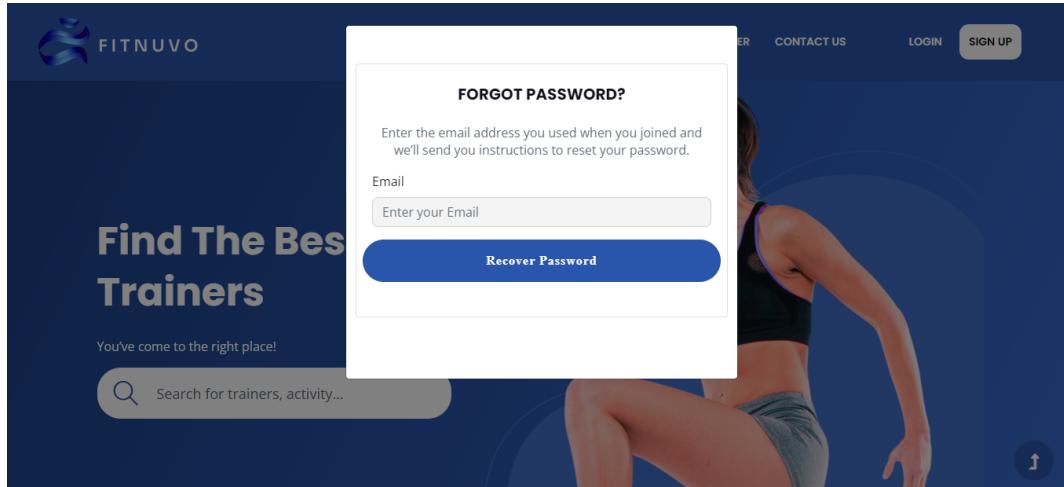


Figure 3.36: Recover password

Figure [] illustrates how to recover password via email.

- Activate a personal trainer account interface

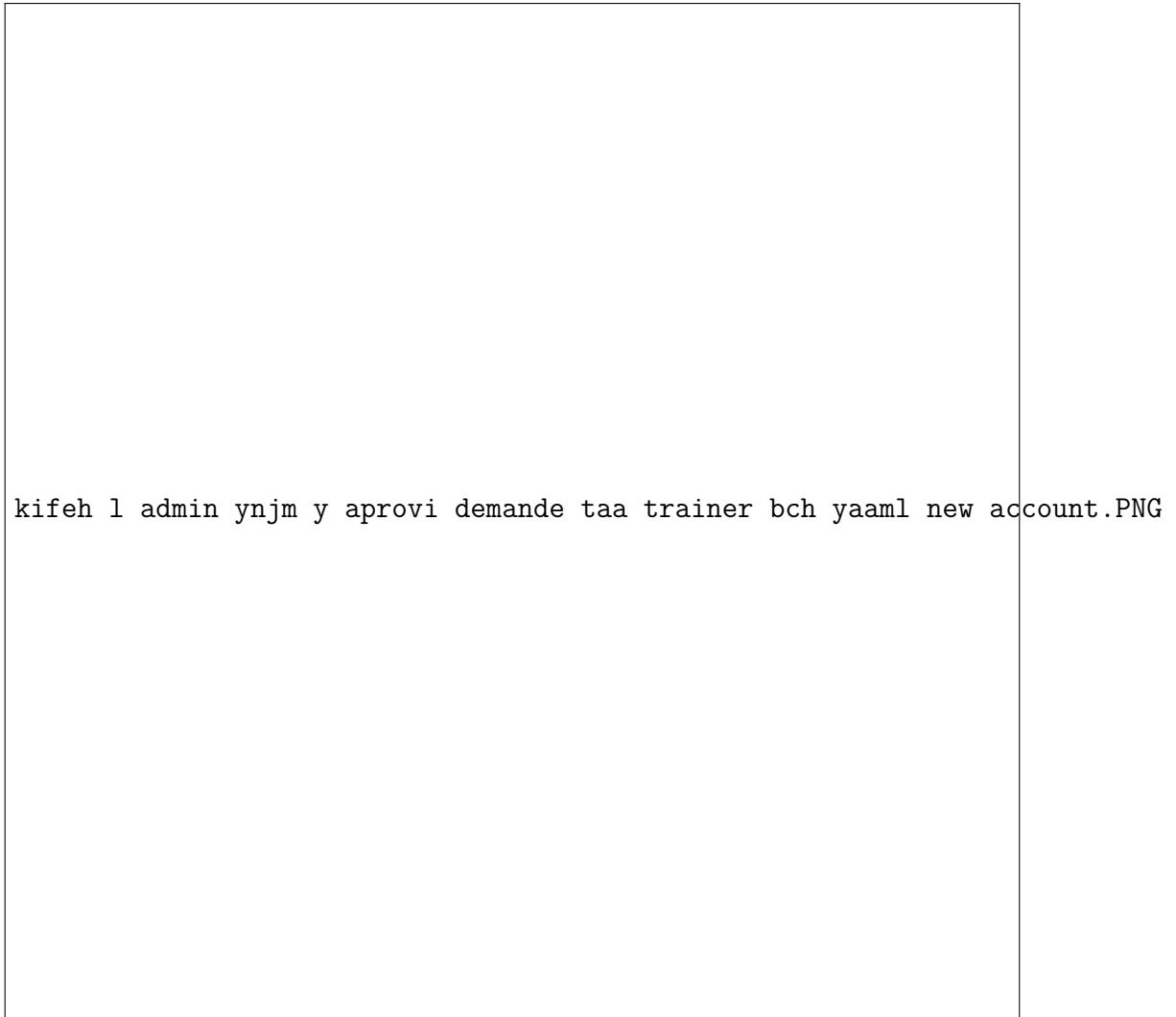


Figure 3.37: Activating personal trainer account

The administrator can check the personal trainer's information and approve or deny his account.

Once the activation request is accepted, the account will be visible for all users.

- Users account management

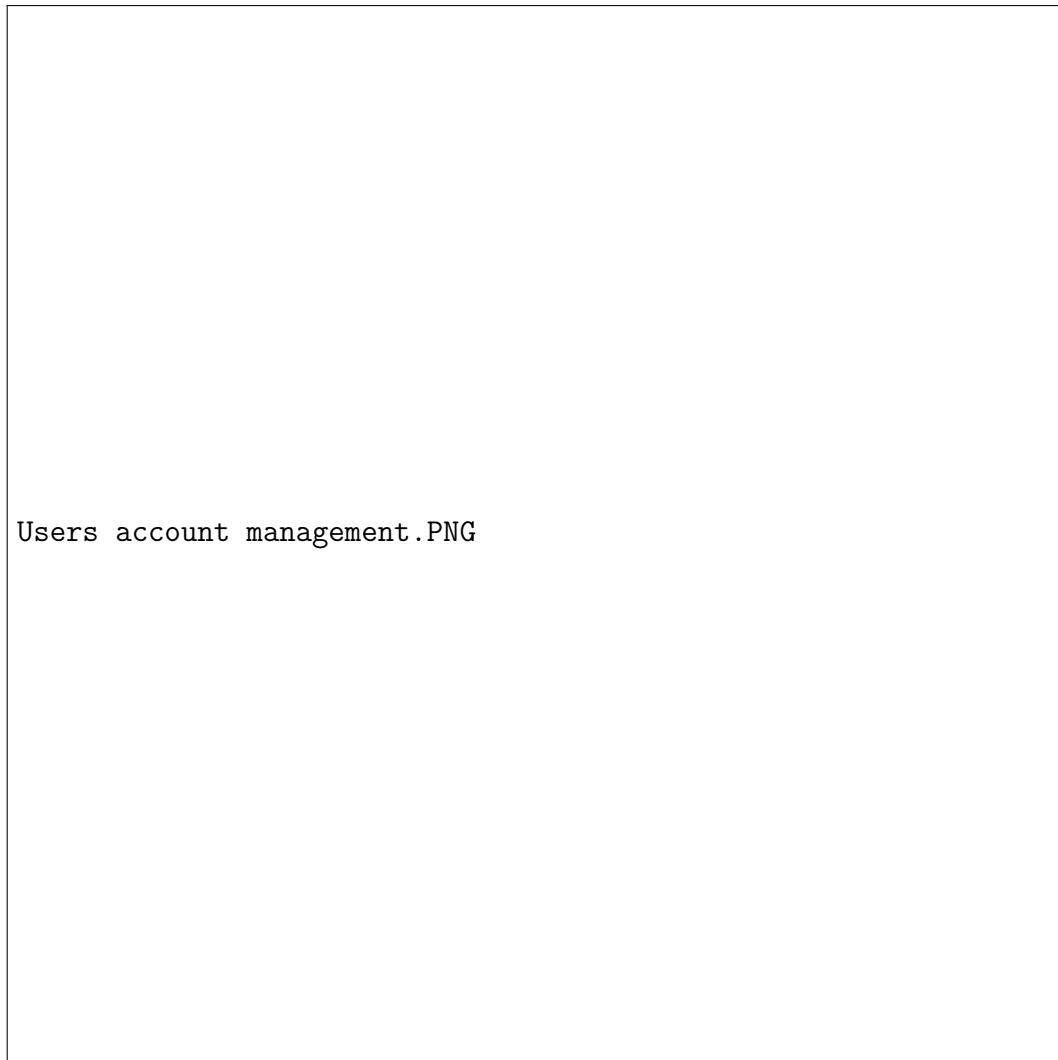


Figure 3.38: Users account management interface

The figure [] represent how the administrator can manage users depending on their behaviors in the platform.

- Sport category management

The administrator can check all sport categories via category interface, as well as, he can add, edit and delete any category.

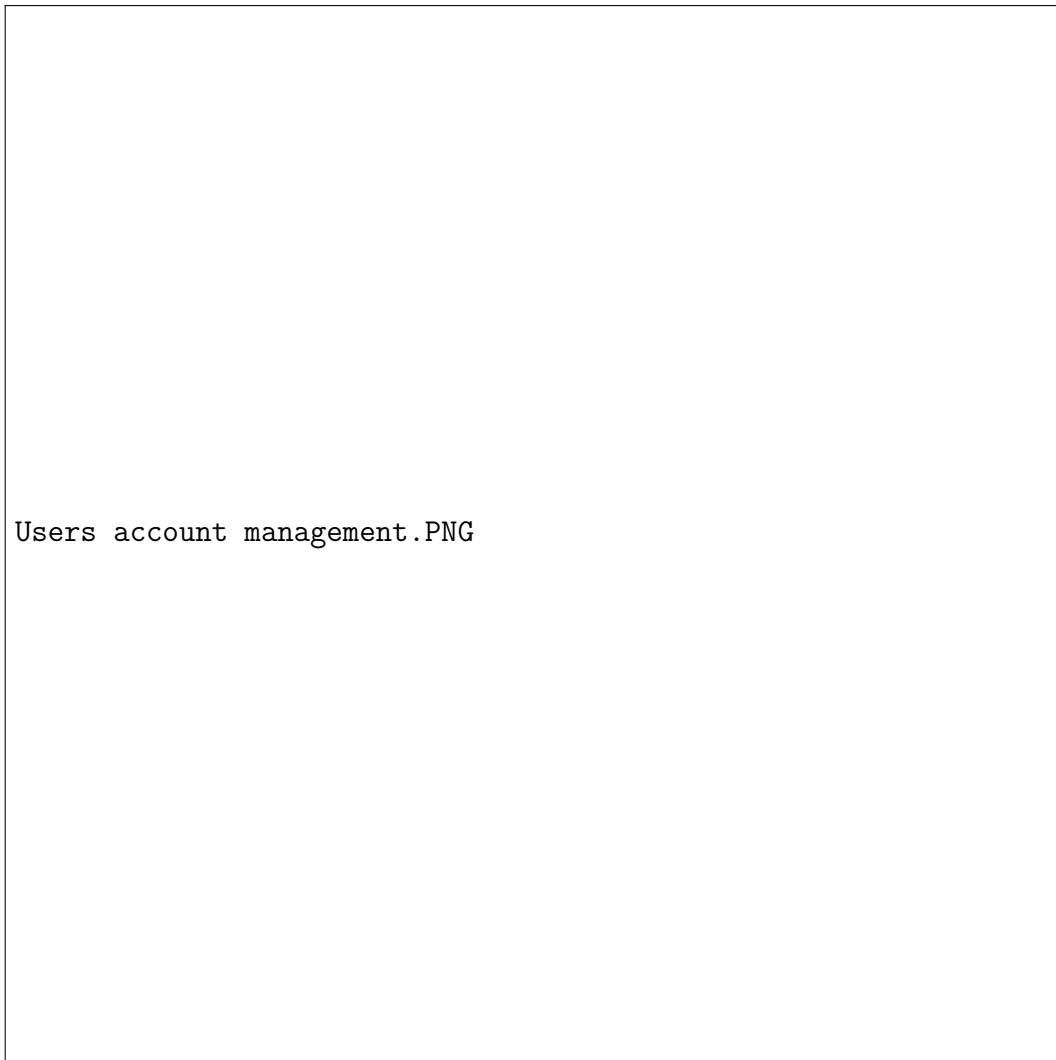


Figure 3.39: consult the list of categories interface

The figure [] represent how the administrator can manage users depending on their behaviors in the platform.

3.5 Tests

When creating REST APIs, it's important to make sure the data and functionality produced by the application are correct. On top of that, we also have to make sure we are following the HTTP protocol and returning the right status codes, headers, and a slew of other pieces of data in case we give it unexpected input or no input at all.

We tested our REST API manually using POSTMAN.

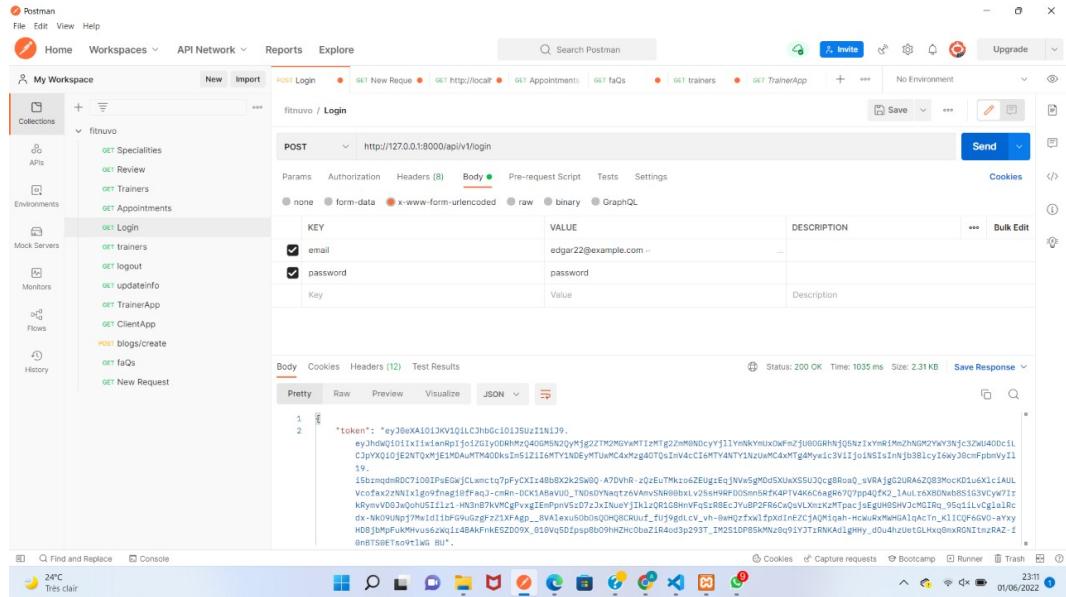


Figure 3.40: Login test

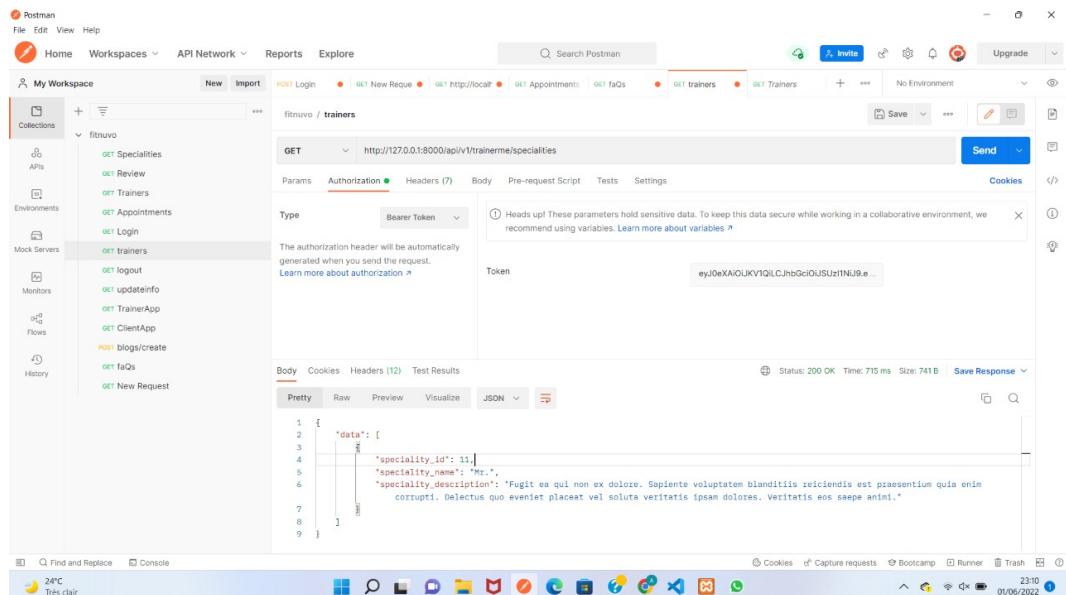


Figure 3.41: Get PT identified by his role

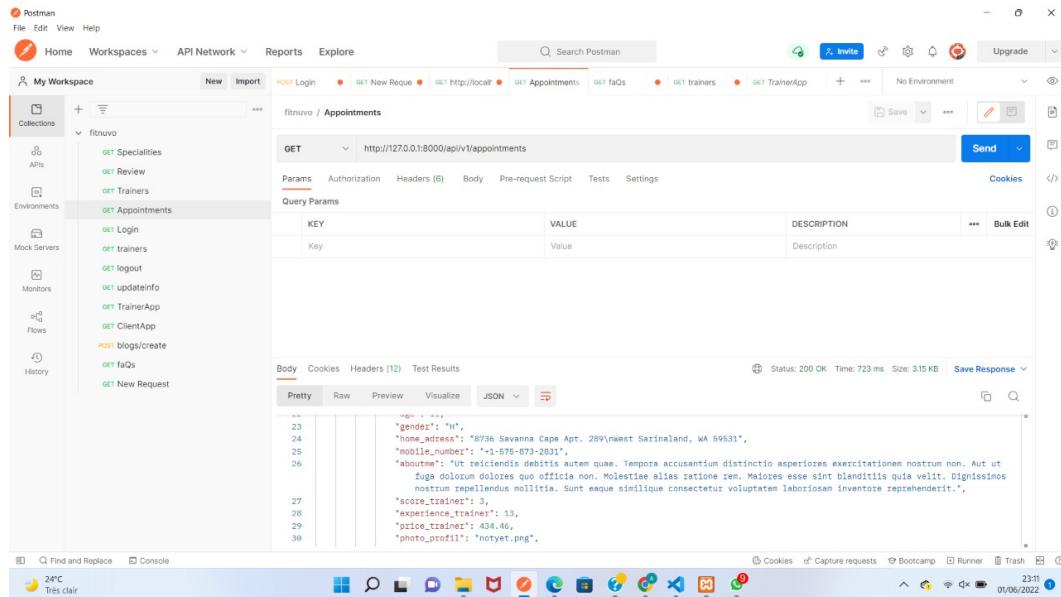


Figure 3.42: Consult appointment test

3.6 Sprint revue

Our sprint increment was accepted. During this meeting, new requirements were added by the customer which will result in the update of our backlog.

- User account management
- The super administrator can regenerate new password for an admin.
- Payment
- The personal trainer can pay pack and subscribe to platform.

Note : The packs available are :

- Premium : 3 months
- Silver : 6 months
- Premium : 1 year

3.7 Burn down chart

The burn down chart is a graphical phase representation of work left to do versus time[figure].

In the first sprint, our estimated effort relative to tasks planned is 120 hours.

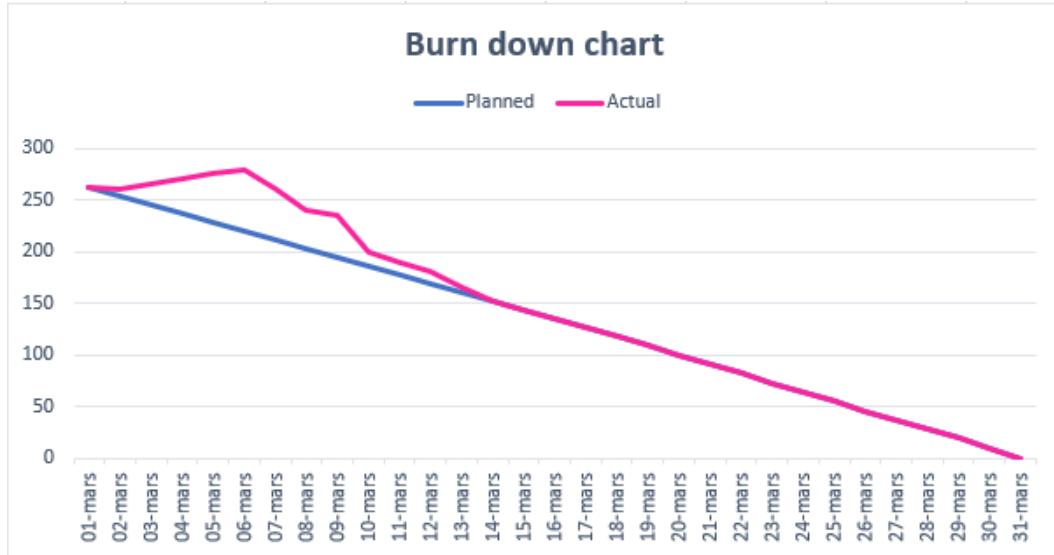


Figure 3.43: Burn down chart

We notice a delay in the first two weeks because we encounter some issues in the understanding the needs of the project.

3.8 Sprint retrospective

The purpose of the Sprint Retrospective is to plan ways to increase quality and effectiveness.In this section, We will expose the problems we faced during the development as well as the possible improvements that might be brought in the future [Table].

Table 3.13: SP1 Evaluation table

What went right in the sprint?	What went wrong in the sprint?	How can we fix what went wrong?
- Rapid adaptability	- Communication issues - Bad distribution of time and efforts - Time-bound difficulties	- Organise meeting to facilitate the communication. - Find an optimal rhythm to ensure that it meets the objectives of a Sprint.

3.9 Velocity calculating

At the end of the sprint, we finished all the tasks planned. So that, the velocity of this sprint remains 99 points.

3.10 Backlog updates

Following the addition of the new functionalities, an update of the Product Backlog must be performed:

Table 3.14: PB

Features	Story ID	User story			Priority	Effort
		As a/an	I want to be able to ..	So that		
Users account management	20	- SA	regenerate new password for an admin	I can change his password account .	20	5
Booking process	21	- Visitor - Client	Search PT by an advanced search (place, age, gender, price)	I can consult their list and check their profiles.	21	13
	22	- Client	Consult the trainer calendar	I can view his workout planning and availability.	22	5
	23	- Client	Send an appointment request	I can book a PT.	23	8

Table 3.15: PB

Features	Story ID	User story			Priority	Effort
		As a/an	I want to be able to ..	So that		
Booking process	24	- Client - PT	Edit an appointment	I can re-plan my workout.	24	7
	25	- Client - PT	Cancel an appointment request	I can delete an appointment.	25	5
	26	- PT	Edit my calendar	I can plan my workout timing in per week.	26	8
	27	- PT	Consult the appointment requests	I can view the list of the appointment requests.	27	5
	28	- PT	Consult my clients' information	I can know details about them.	28	5
	29	- PT	Validate an appointment request.	I can approve an appointment.	29	5
	30	- PT	Add an appointment	I can make an appointment for a client.	30	8
	31	- Client	Replay an appointment	I can book a PT again.	31	5
Payment	32	- Client	Pay an appointment	I can confirm an appointment.	32	13
	33	- Client	consult the history of payments.	I can view the list of previous payments.	33	5
	34	- Client	Export an invoice	I can have an invoice paper.	34	8
	35	- PT	choose a pack to pay	I can have a different possibilities to cover my needs .	35	5
	36	- PT	pay pack	I can subscribe to platform and gain the total amount of the training sessions .	36	13

Table 3.16: updated product backlog

Features	ID	User story			Priority	Effort
		As a/an	I want to be able to ..	So that		
Communication	37	- Client - PT	Receive notification	I can track booking status (Validate/Cancel).	37	8
	38	- Client - PT	Consult the list of messages.	I can access the discussion .	38	5
	39	- Client - PT	Write a message	can answer messages .	38	5
	40	- PT - Client	Read a message	I can consult messages .	40	5
	41	- PT - Client	Achieve a discussion	I can have an archived discussion.	41	5
	42	- SA - Admin	Manage the blogs	I can publish them in the website.	42	5
	43	- SA - Admin	Manage FAQs	I can help user.	43	5
Dashboard	44	- Client	Consult the statistics	I can have a clear vision on the transaction rate.	44	13
Rating and reporting	45	- Client	Assign a rating and leave a comment to PT after workout	I can evaluate him.	45	8
	46	- Visitor - Client - PT	Consult the comments and rating assigned.	I view the client's feedback .	46	5
	47	- PT	Can report unwanted comments and rating.	I can supervise bad feedback.	47	3
	48	- SA - Admin	manage reports	I can delete or approve unwanted comments.	48	8

3.11 Release re-planning

Table 3.17: Release re-planning

	Sprint 2	Sprint 3
Period	From : 01/04/2022 To : 30/04/2022	From : 01/05/2022 To : 31/05/2022
User stories	US20-US21-US22- US23-US24-US25- US26-US27-US28- US29-US30-US31- US32-US33-US34- US35-US36-US37	US37-US38-US39- US40-US41-US42- US43-US44-US45- US46-US47-
Estimated effort	124	75

Conclusion

Chapter 4

Sprint 2

« Booking process, subscribing to platform and payment services »

Introduction

4.1 Requirements specification

4.1.1 Sprint backlog

Table 4.18: Sprint backlog

ID	User story	Tasks	Effort (hours)					
	Userless	<ul style="list-style-type: none">- Use case diagram- Class diagrams- Sequence diagrams- Activity diagram	7					
20	As a super administrator I want to be able to regenerate a new password for an administrator so that, I can change his password account	<ul style="list-style-type: none">- Mock-ups- Back end- Front end- Integration- Tests	<table><tr><td>1</td></tr><tr><td>5</td></tr><tr><td>3</td></tr><tr><td>2</td></tr><tr><td>1</td></tr></table>	1	5	3	2	1
1								
5								
3								
2								
1								

Table 4.19: Sprint backlog

ID	User story	Tasks	Effort (hours)
21	As a visitor, client I want to be able to search a personal trainer by an advanced search so that , I can consult their list and check their profiles.	- Mock-ups - Back end - Front end - Integration - Tests	1 9 6 2 1
22	As a client I want to be able to consult the personal trainer's calendar so that , I can view his schedules and his availability.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
23	As a client I want to be able to send an appointment request So that , I can book a personal trainer.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
24	As a client, personal trainer I want to be able to edit an appointment So that , I can re-plan my workout.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
25	As a client, personal trainer I want to be able to cancel an appointment request So that , I can delete an appointment.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
26	As a personal trainer I want to be able to edit my calendar So that , I can plan my workout timing per week.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
27	As a personal trainer I want to be able to consult the appointment requests So that , I can view the list of the appointment requests.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
28	As a personal trainer I want to be able to consult my clients information So that , I can know details about them.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1

Table 4.20: Sprint backlog

ID	User story	Tasks	Effort (hours)
29	As a personal trainer I want to be able to validate an appointment request So that, I can approve an appointment.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
30	As a personal trainer I want to be able to add an appointment So that, I can make an appointment for a client.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
31	As a client I want to be able to replay an appointment So that, I can book a personal trainer again.	- Mock-ups - Back end - Front end - Integration - Tests	1 1 1 1 1
32	As a client I want to be able to pay an appointment So that, I can confirm an appointment.	- Mock-ups - Back end - Front end - Integration - Tests	1 9 6 4 1
33	As a client I want to be able to consult the history of payments So that, I can view the list of previous payments .	- Mock-ups - Back end - Front end - Integration - Tests	1 4 2 1 1
34	As a client I want to be able to export an invoice So that, I can have an invoice paper.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
35	As a personal trainer I want to be able to choose a pack to pay So that, I can have a different possibilities to cover my needs.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
36	As a personal trainer I want to be able to pay pack So that, I can subscribe to platform and gain the total amount of the training sessions.	- Mock-ups - Back end - Front end - Integration - Tests	1 9 6 4 1

4.1.2 Use case diagram

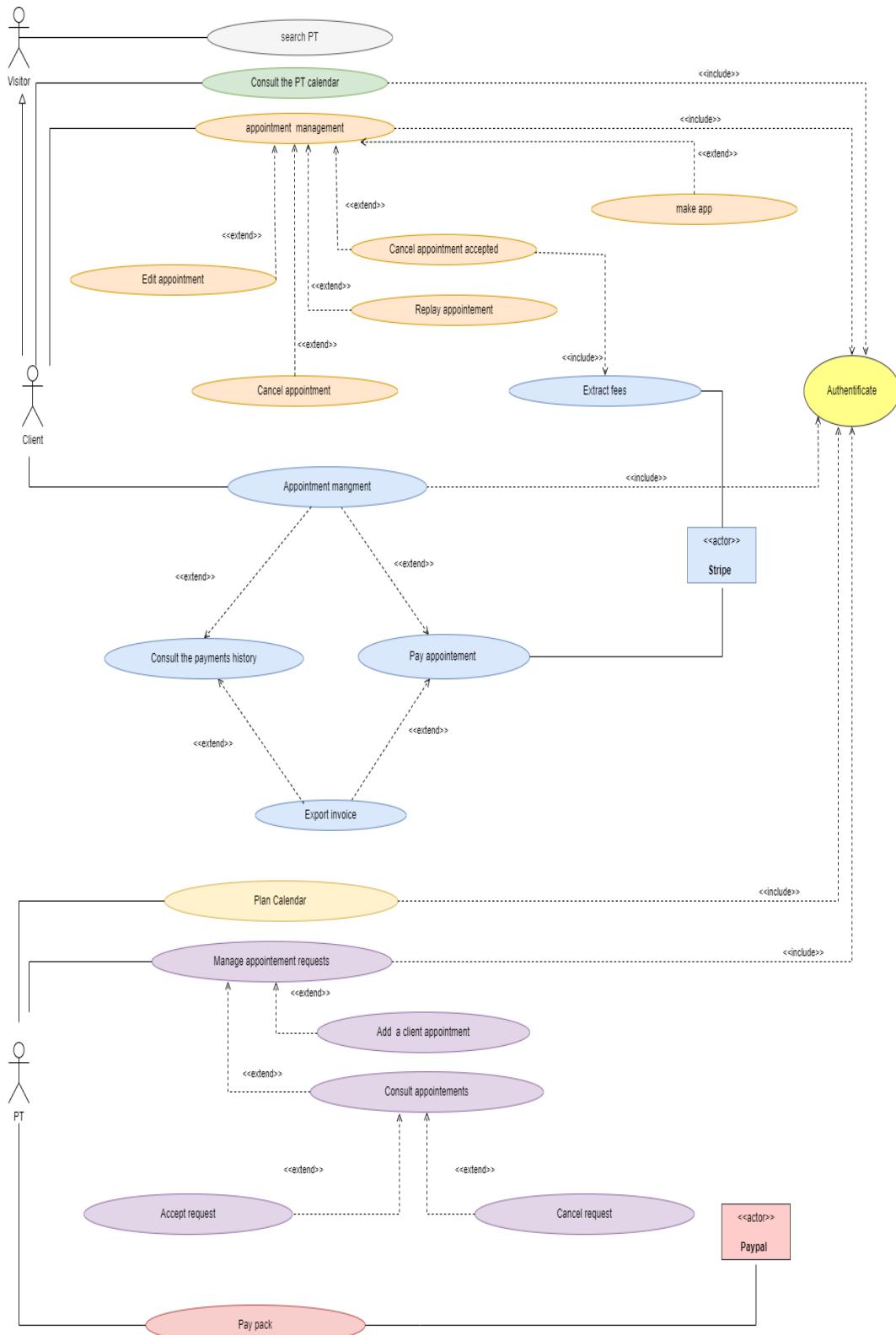


Figure 4.44: Use case

4.1.3 User interface mock ups

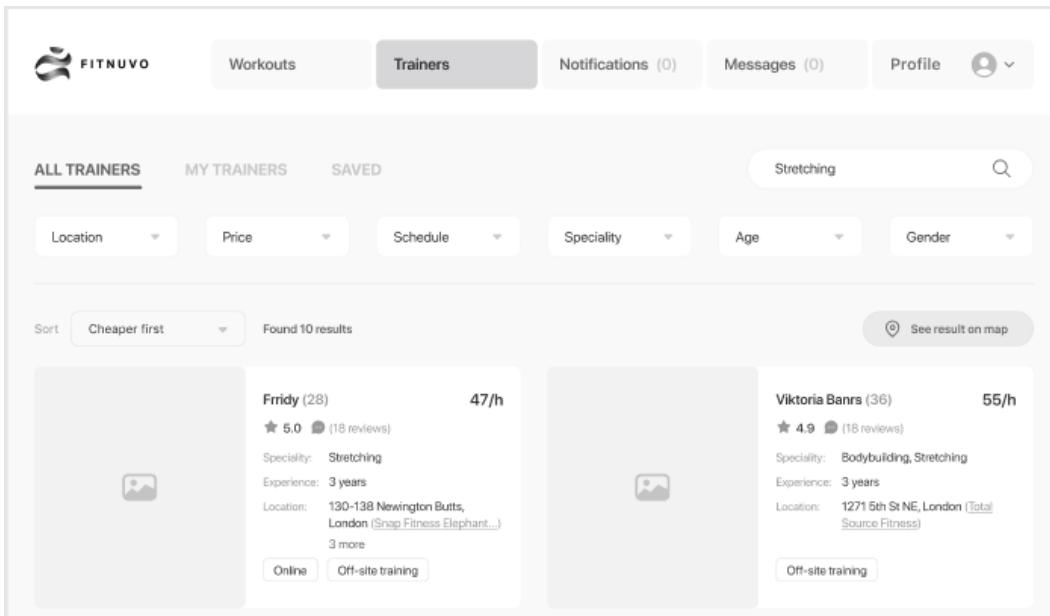


Figure 4.45: Search PT

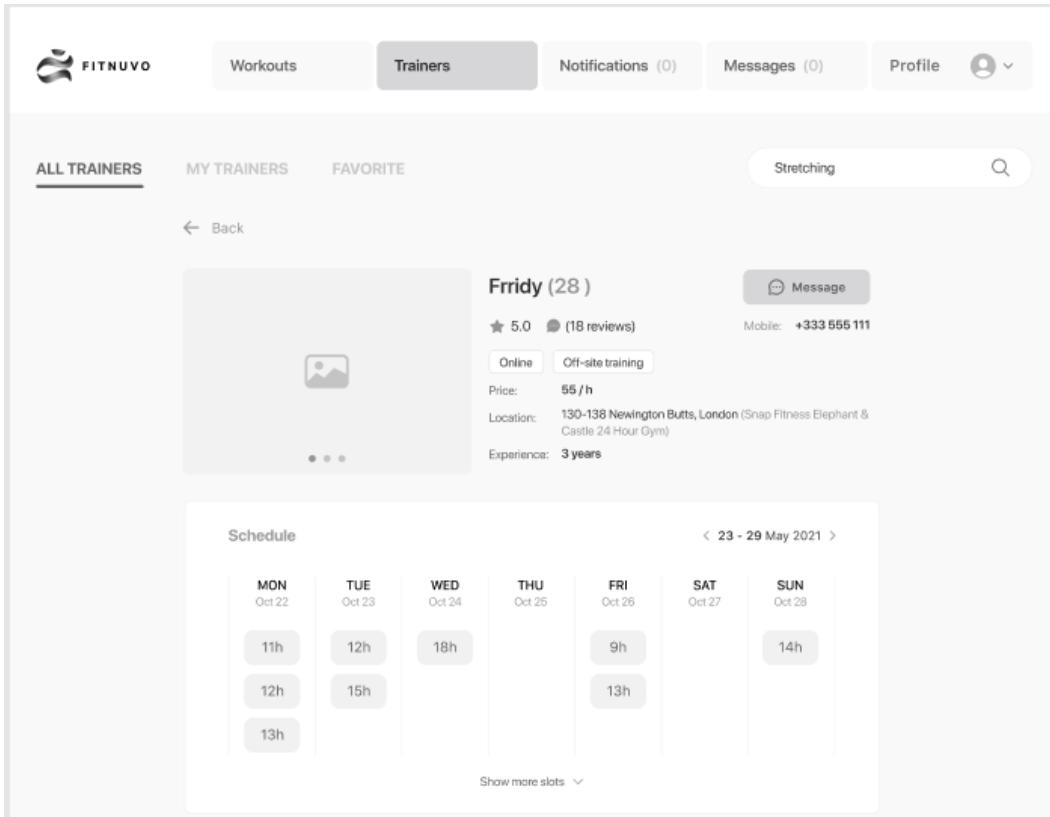


Figure 4.46: Consult PT calendar

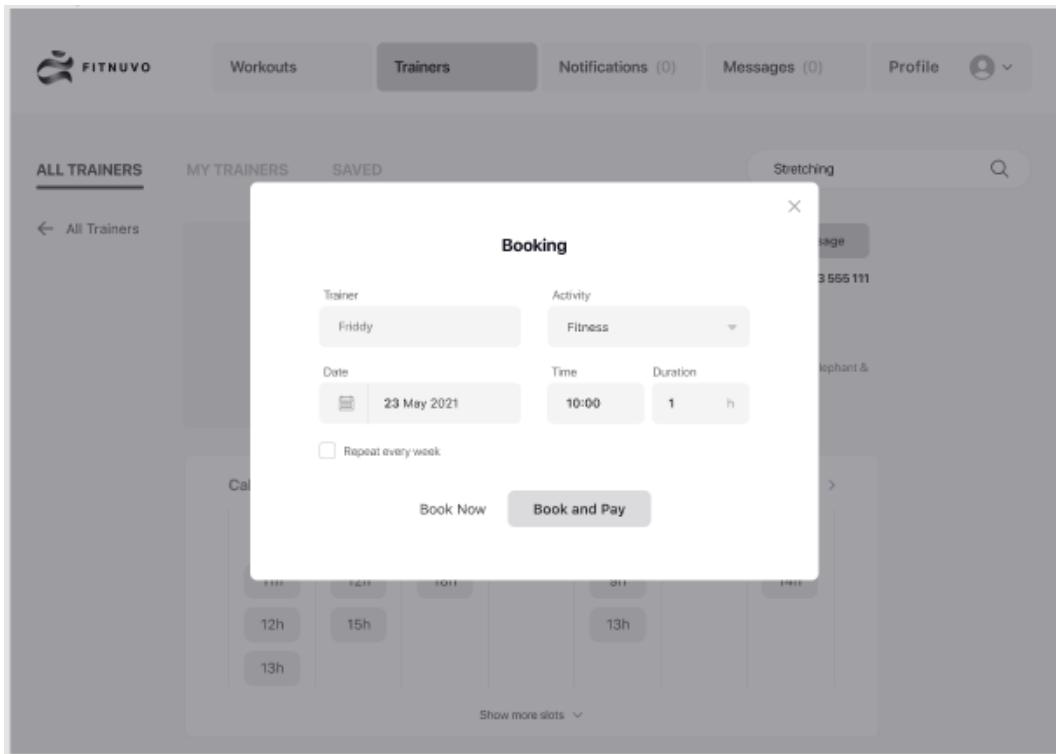


Figure 4.47: Booking

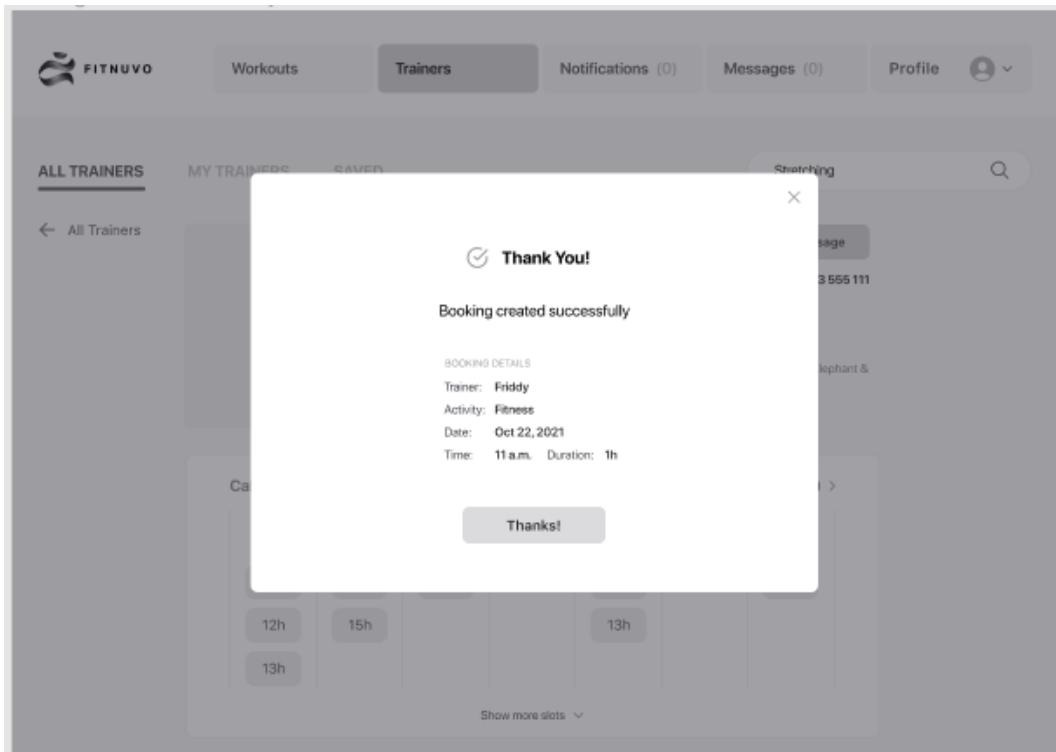


Figure 4.48: Booking created successfully

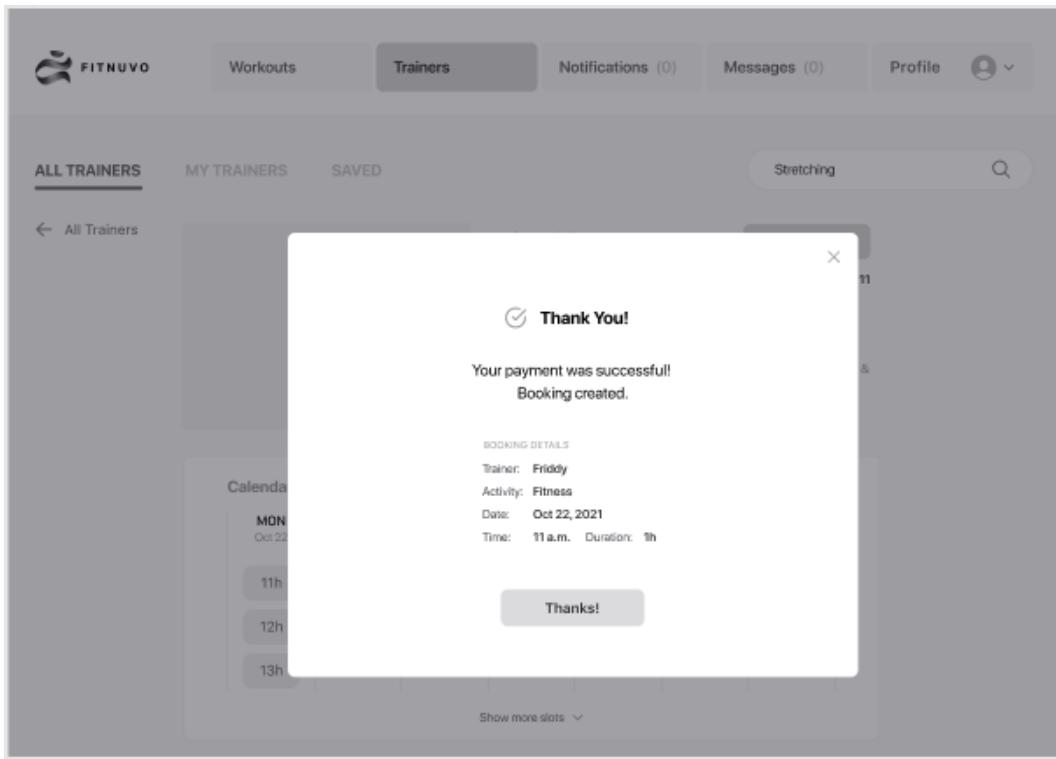


Figure 4.49: Payment was successful

4.2 Design

4.2.1 Class diagram

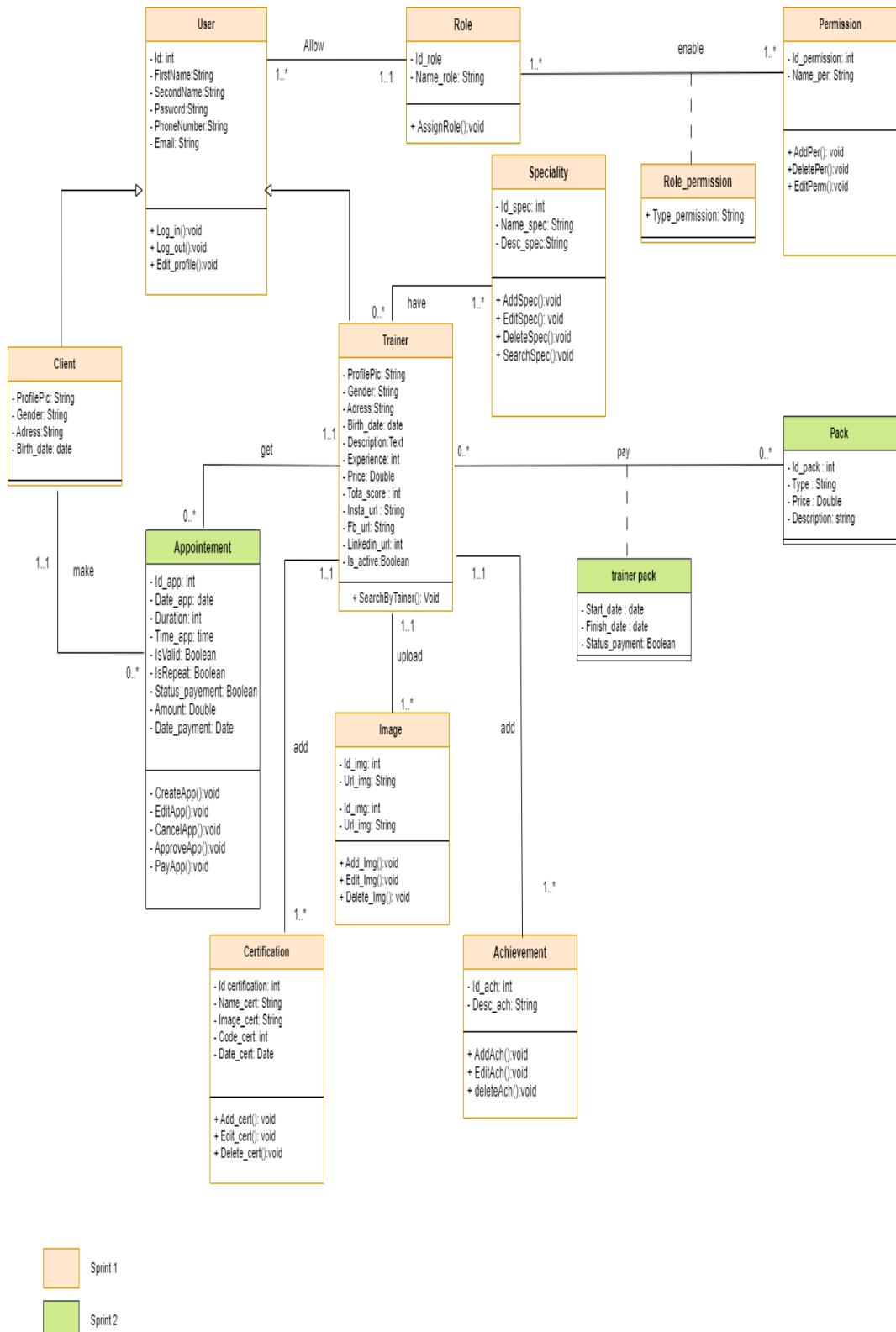


Figure 4.50: Class diagram

4.2.2 Sequence diagram

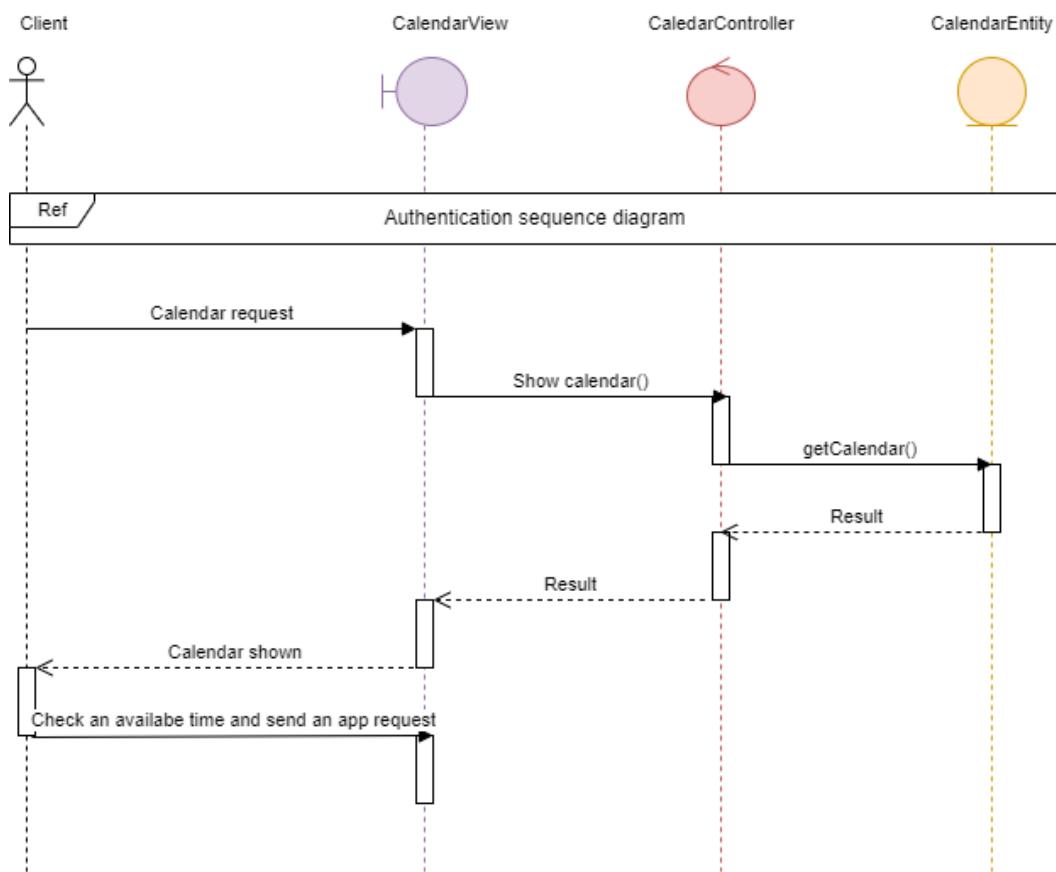


Figure 4.51: Booking sequence diagram

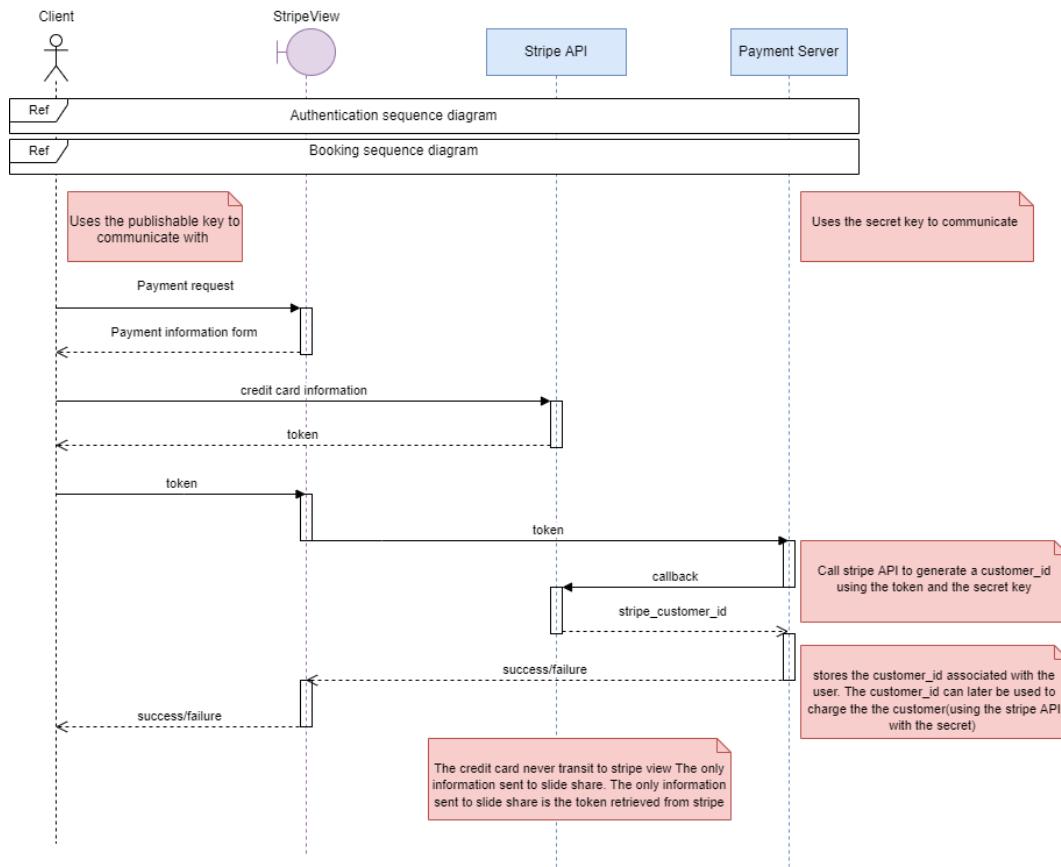


Figure 4.52: Stripe payment sequence diagram

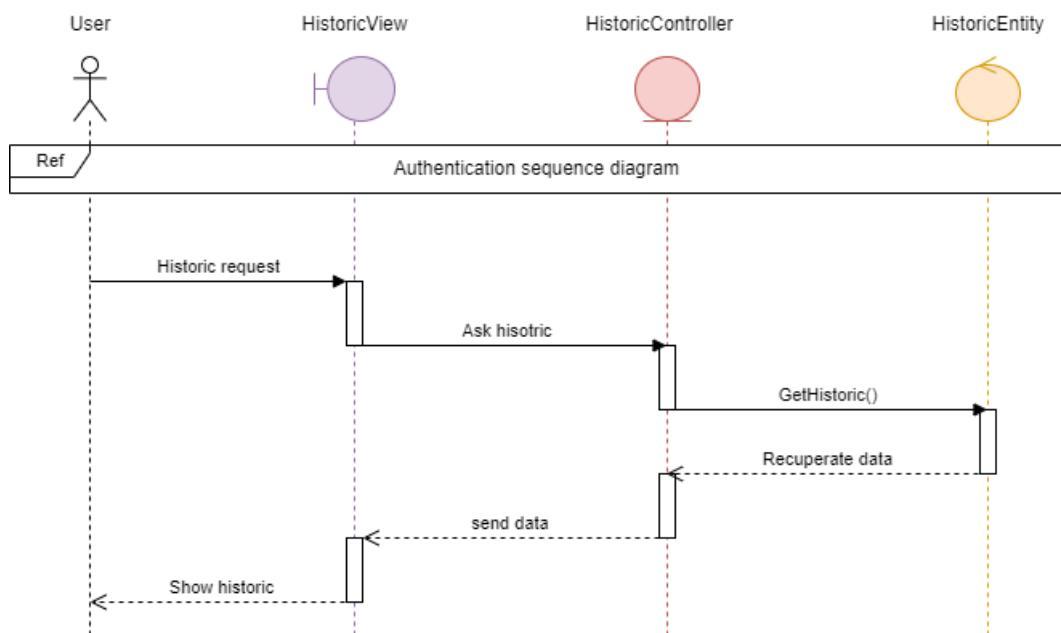


Figure 4.53: Consult the history of payments

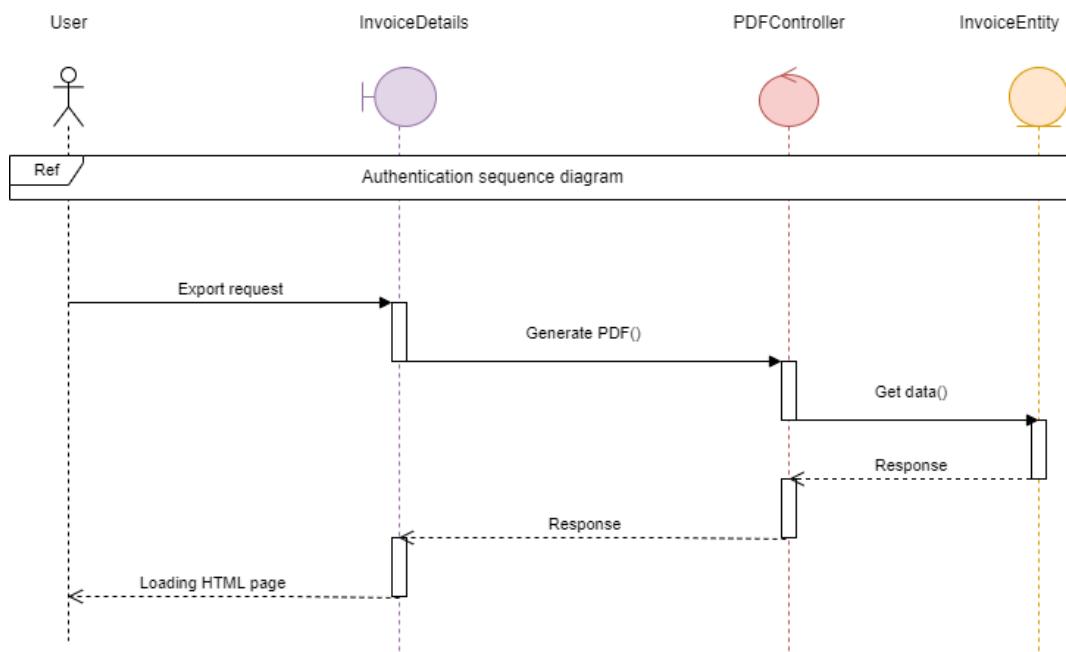


Figure 4.54: Export a payment invoice

4.2.3 Activity diagram

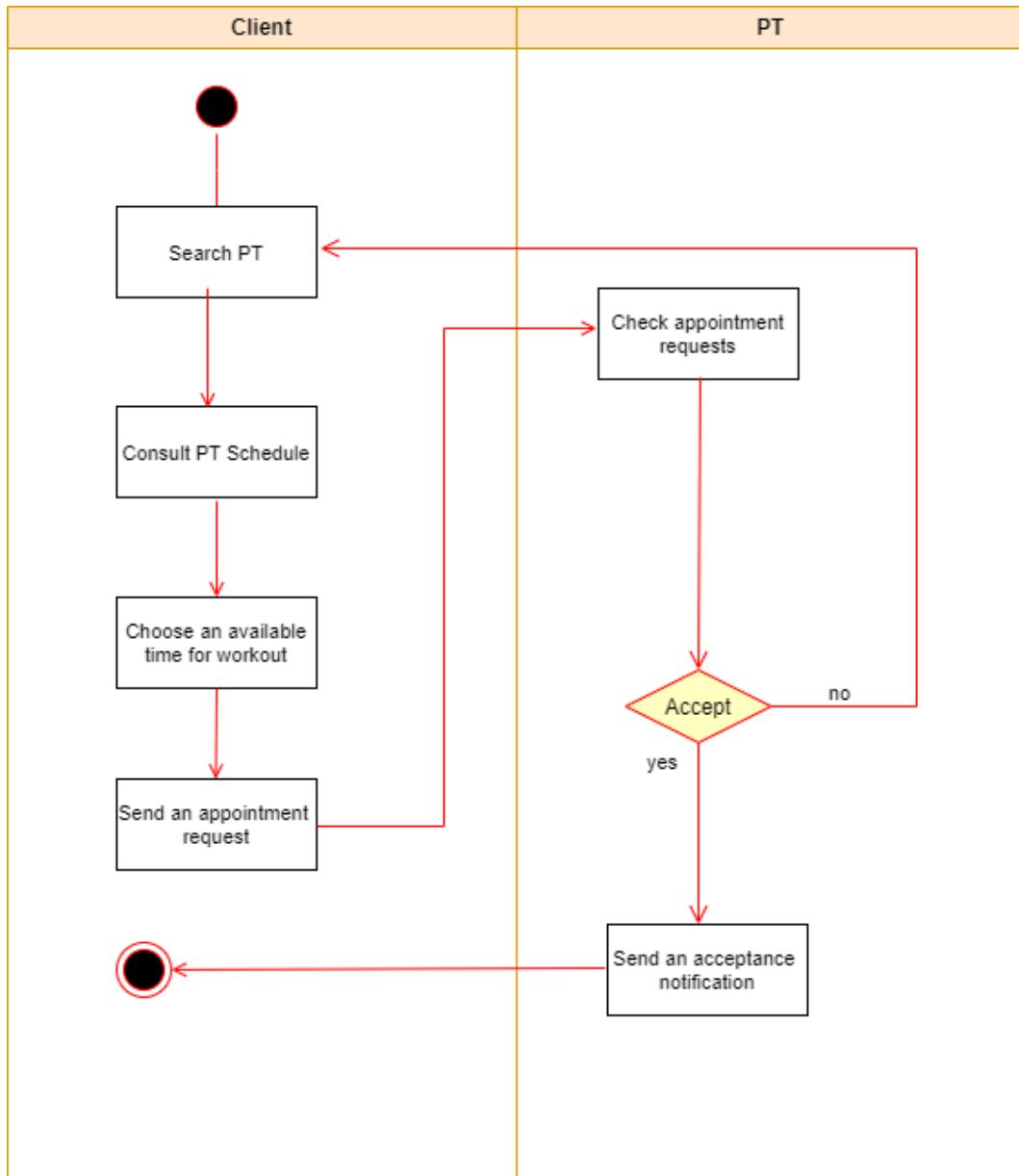


Figure 4.55: Booking activity diagram

4.3 Implementation

4.4 Tests

4.5 Sprint revue

During the sprint revue meeting, our increment is accepted.

4.6 Burn down chart



Figure 4.56: Burn down chart

We notice a delay at the beginning of the sprint due to some technical problems.

At the end, we encounter a problems because of the payment solution.

4.7 Sprint retrospective

Table 4.21: SP2 Evaluating table

What went right in the sprint?	What went wrong in the sprint?	How can we fix what went wrong?
- Good synchronization between team members	- Difficulties in developing the advanced search - Manage calendar. - Difficulties in integrating the payment solutions.	

ReactJS [2]

4.8 Velocity calculating

At the end of this sprint, we could be able to finish all task planned. As a result, the velocity is 124 points.

Conclusion

Chapter 5

sprint 3

« Communicate, visualise the platform transaction and control comments and rating assigned »

Introduction

After having presented the planning and specification of the needs of our project, we will detail the first sprint by explaining the analysis, the design and the realization in order to give birth to our first increment.

5.1 Requirements specification

5.1.1 Sprint backlog

Table 5.22: Sprint backlog

ID	User story	Tasks	Effort (hours)
	Userless	- Use case - Class diagram - Sequence diagrams	7
37	As a client, personal trainer I want to be able to receive notification So that , I can track booking status (Approve or Cancel appointment).	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1

Table 5.23: Sprint backlog

ID	User story	Tasks	Effort (hours)
38	As a client, personal trainer I want to be able to consult the list of messages So that, I can access the discussion.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
39	As a client, personal trainer I want to be able to write message. So that, I can answer the messages	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
40	As a client, personal trainer I want to be able to read messages so that, I can consult messages.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
41	As a client, personal trainer I want to be able to achieve a discussion So that, I can have an archived discussion.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
42	As a super administrator, administrator I want to be able to manage the blogs So that, I can publish them in the platform.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
43	As a super administrator, administrator I want to be able to manage FAQs So that, I can help user.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
44	As a super administrator I want to be able to consult the statistics So that, I can have a clear vision on the transaction rate.	- Mock-ups - Back end - Front end - Integration - Tests	2 7 5 2 1

Table 5.24: Sprint backlog

ID	User story	Tasks	Effort (hours)
45	As a client I want to be able to assign a rating and leave a comment to PT after workout So that, I can evaluate him.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
46	As a visitor, client, personal trainer I want to be able to consult the comments and rating assigned So that, I can view the client's feedback.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
47	As a personal trainer I want to be able to report unwanted comments and ratings So that, I can supervise bad feedback.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1
48	As a personal trainer I want to be able to manage reports So that, I can delete or approve unwanted comments.	- Mock-ups - Back end - Front end - Integration - Tests	1 6 4 2 1

5.1.2 Use case diagram

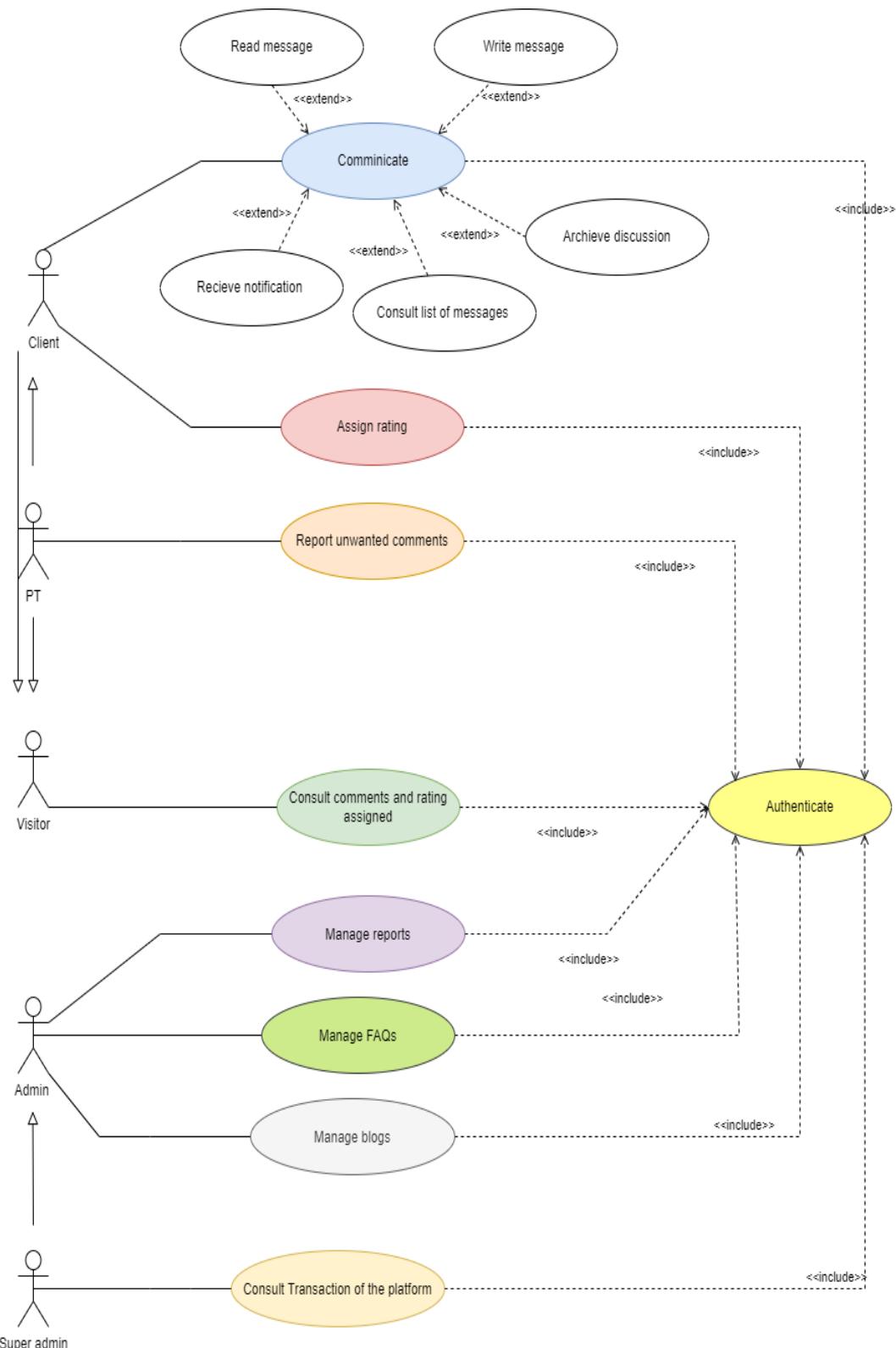


Figure 5.57: Notification

5.1.3 User interface mock-ups

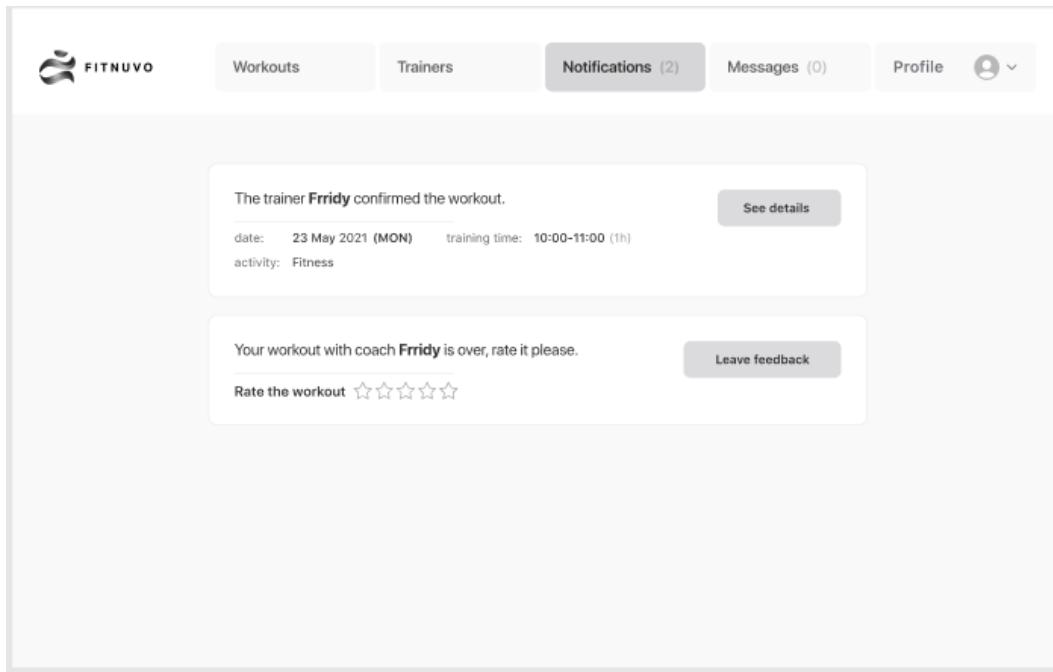


Figure 5.58: Notification

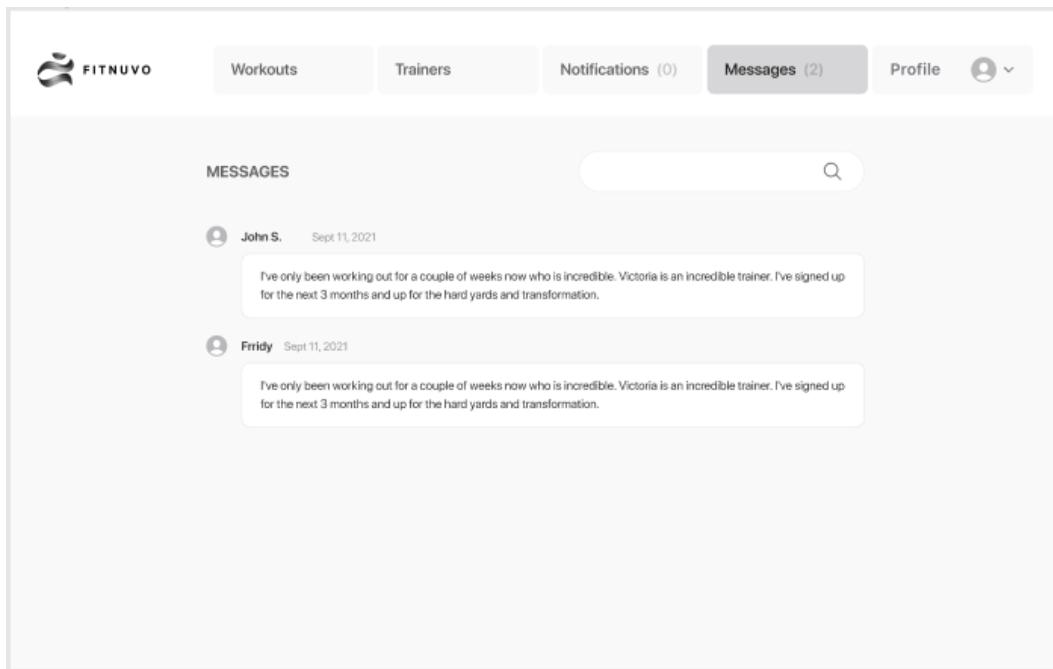


Figure 5.59: Consult list of messages

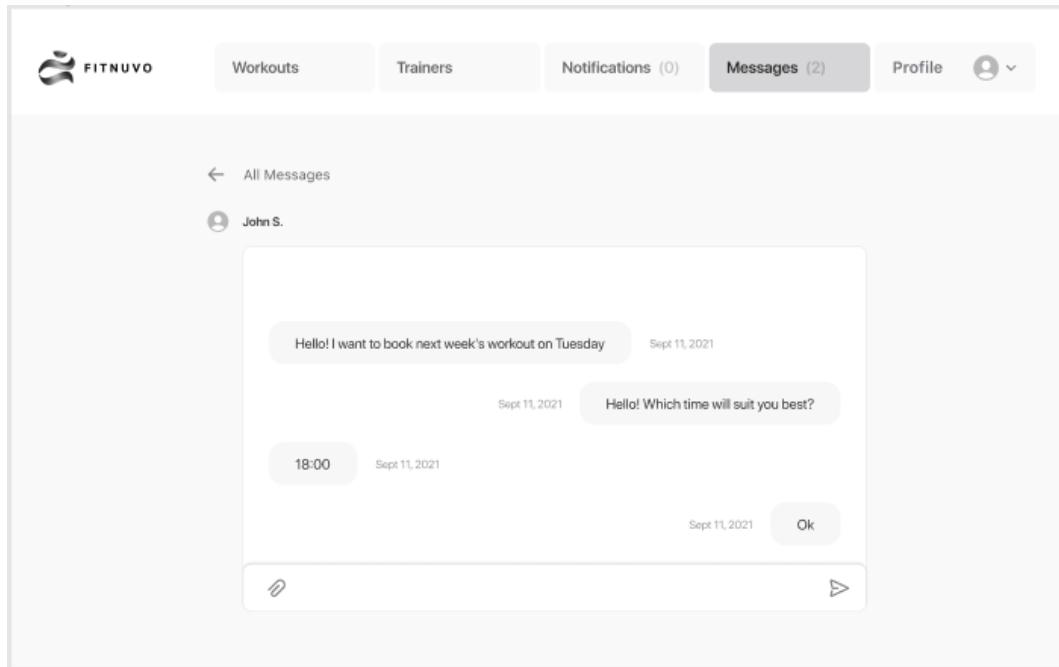


Figure 5.60: Discussion

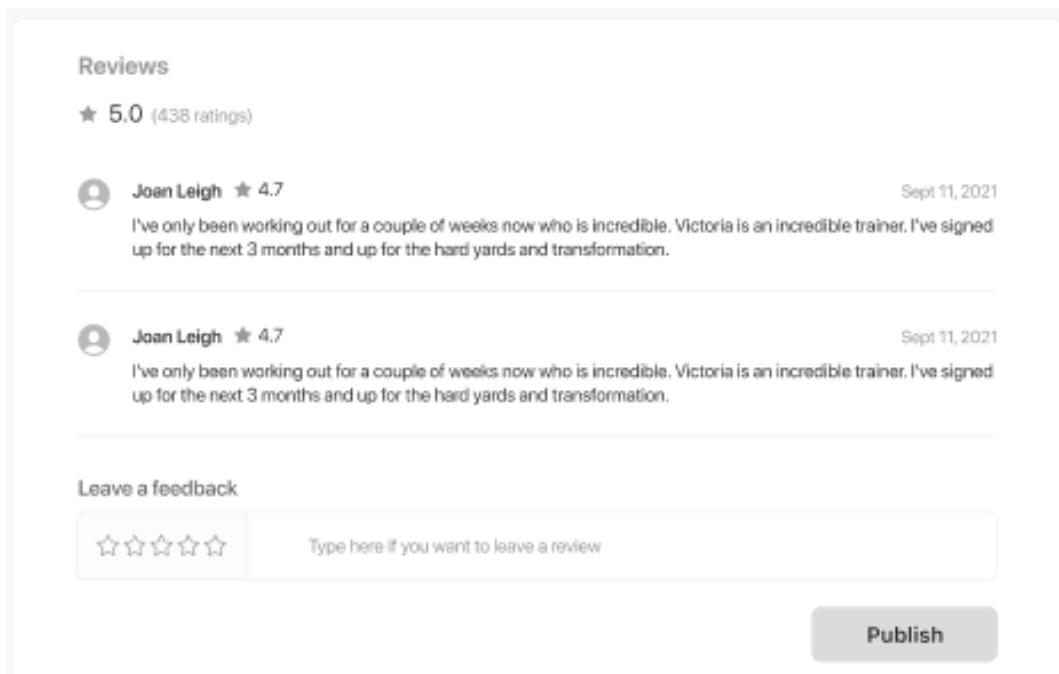


Figure 5.61: Review

5.2 Design

5.2.1 Class diagram

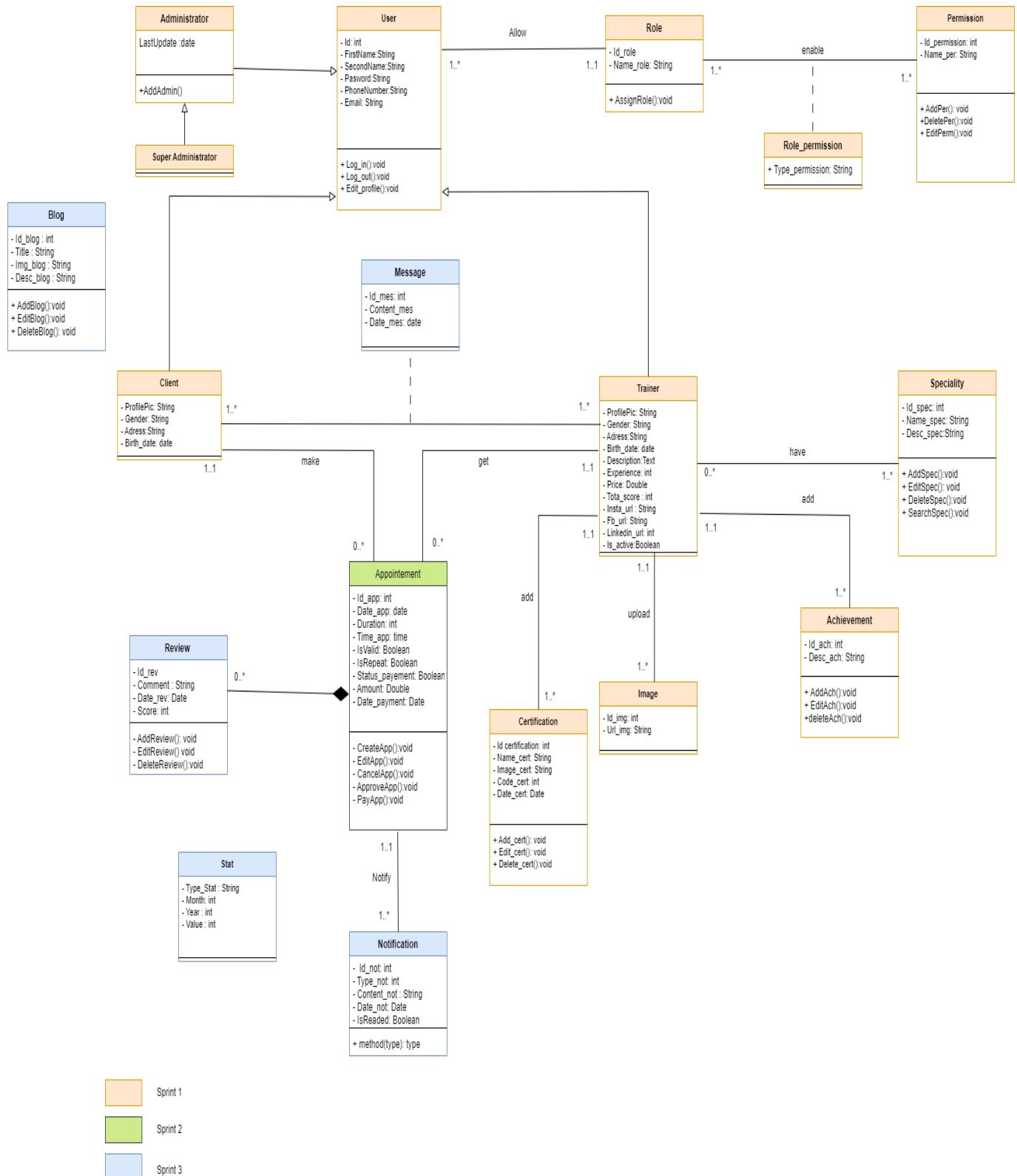


Figure 5.62: Review

5.2.2 Sequence diagram

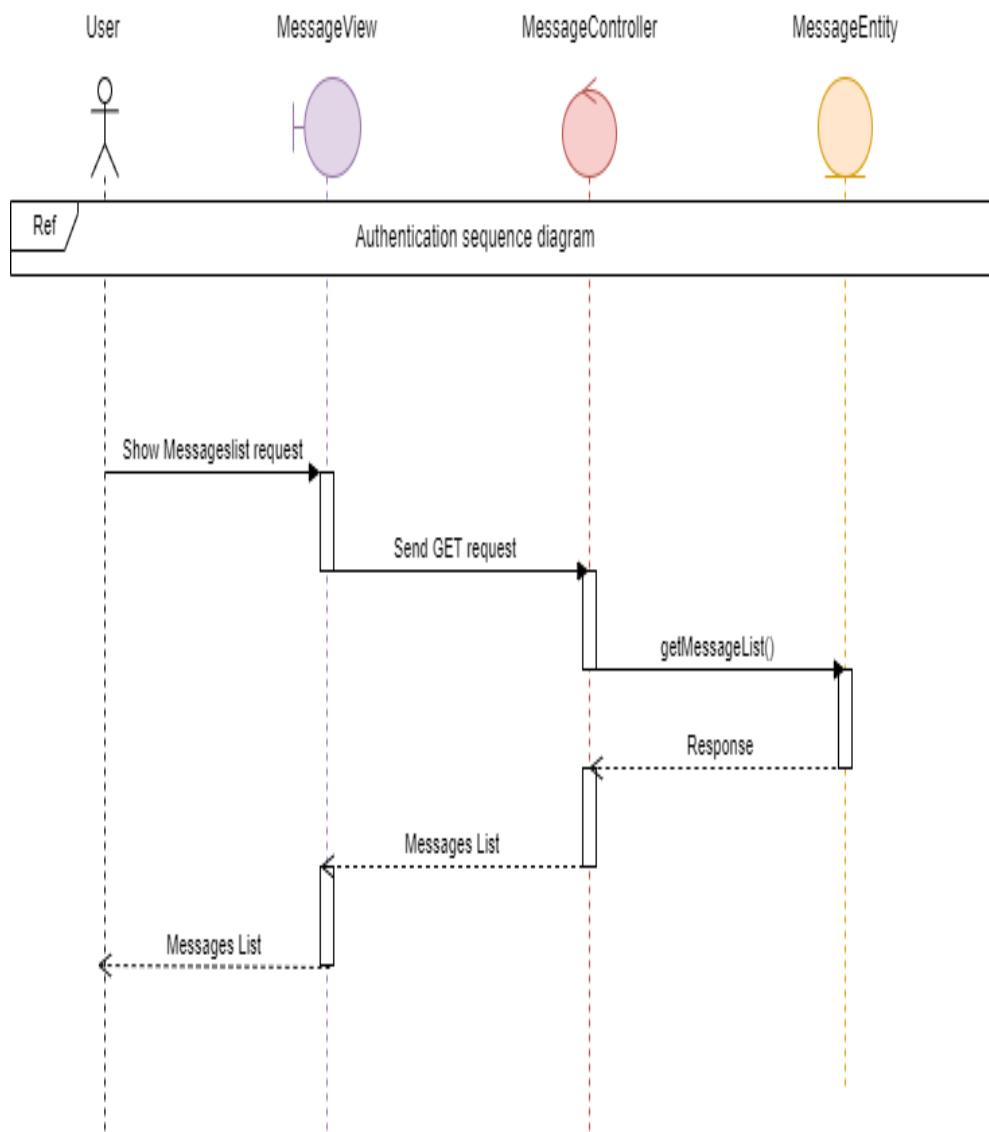


Figure 5.63: Consult the list of messages sequence diagram

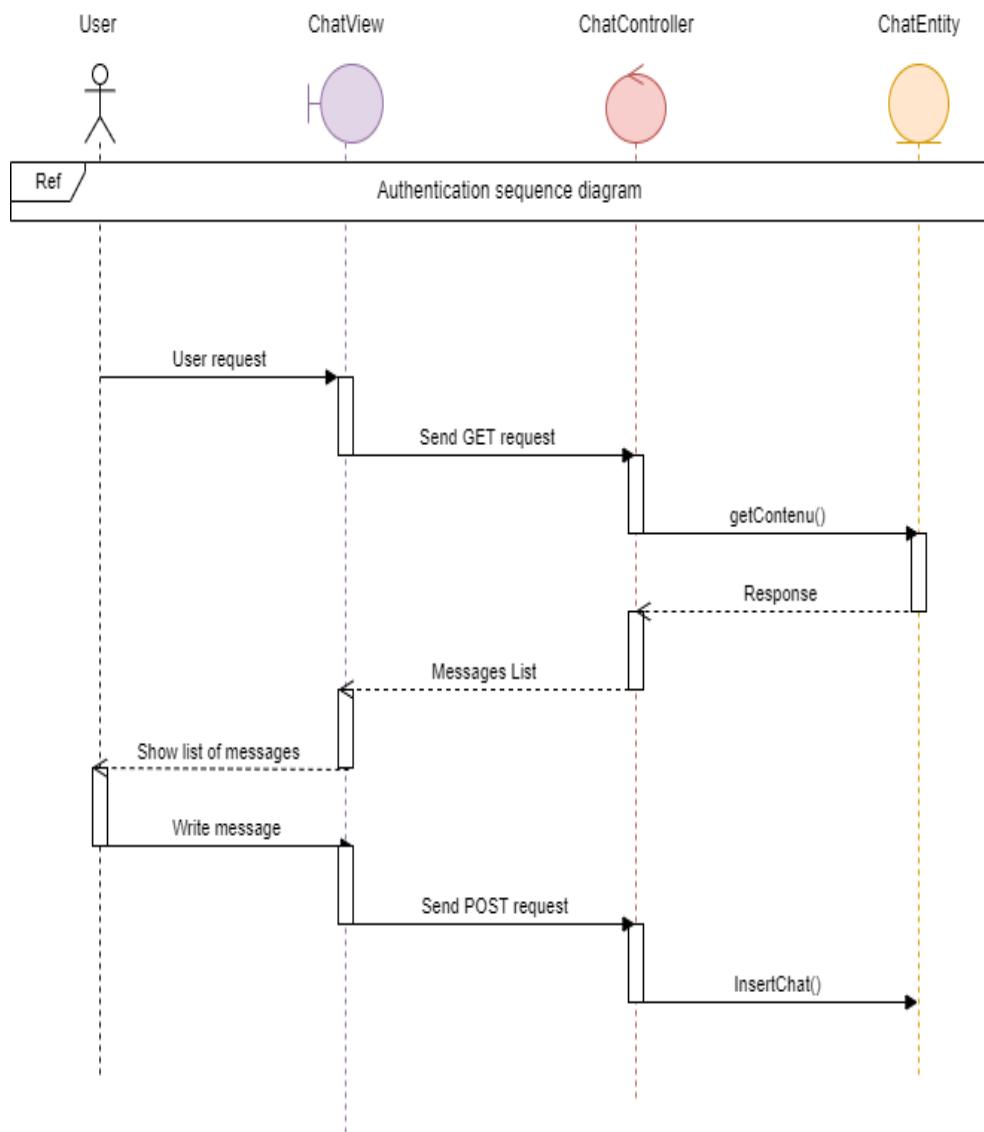


Figure 5.64: Contact sequence diagram

5.2.3 Activity diagram

5.3 Implementation

5.4 Unified tests

5.5 Sprint revue

5.6 Burn down chart

The following figure represent the burn down chart of our last sprint with a 178 hours estimated effort.

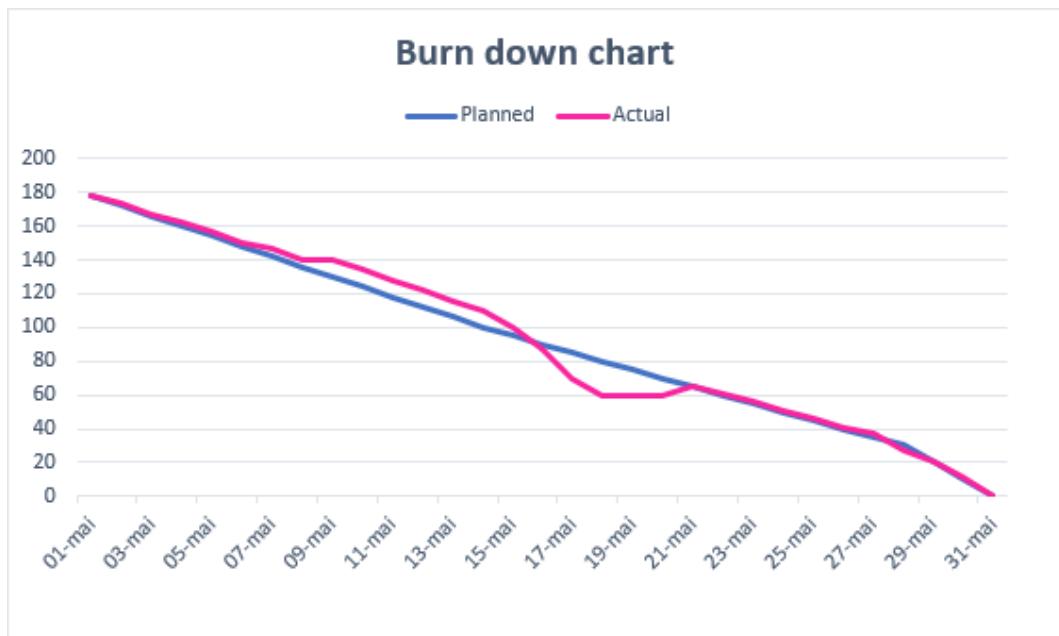


Figure 5.65: Burn down chart of sprint 3

During the sprint progress, we encounter some technical problems. As a result, a delay takes part.

Fortunately, we quickly fixed the problem and continue working on the tasks planned till we produced the last increment in the correspond deadlines.

5.7 Sprint retrospective

Table 5.25: SP3 Evaluating table

What went right in the sprint?	What went wrong in the sprint?	How can we fix what went wrong?
-Respect the time boxing -Ensure continuous process improvement	-Technical problems: a team member had an issue with his PC which causes the loss of some finished tasks. - A lot of stress and a waste of time to recover the problem.	- Predicate the technical issues. -Push finished tasks in git.

5.8 Velocity calculating

Conclusion

General conclusion

Bibliography

- [1] <https://www.scrum.org/resources/what-is-scrum>. [scrum].
- [2] <https://www.ibm.com/cloud/learn/three-tier-architecturetoc-three-tier-sEeuA4gc>.
[3-tier architecture].
- [3] What is MVC Design Pattern | How it Works | Skills | Scope | Advantages
(educba.com). [MVC pattern].

Acronyms

- **MVC** = *Model View Controller*
- **UML** = *Unified Modeling Language*
- **API** = *Application Programming Interface*

Annexes

Chapter 1

1. Detailed use case diagram

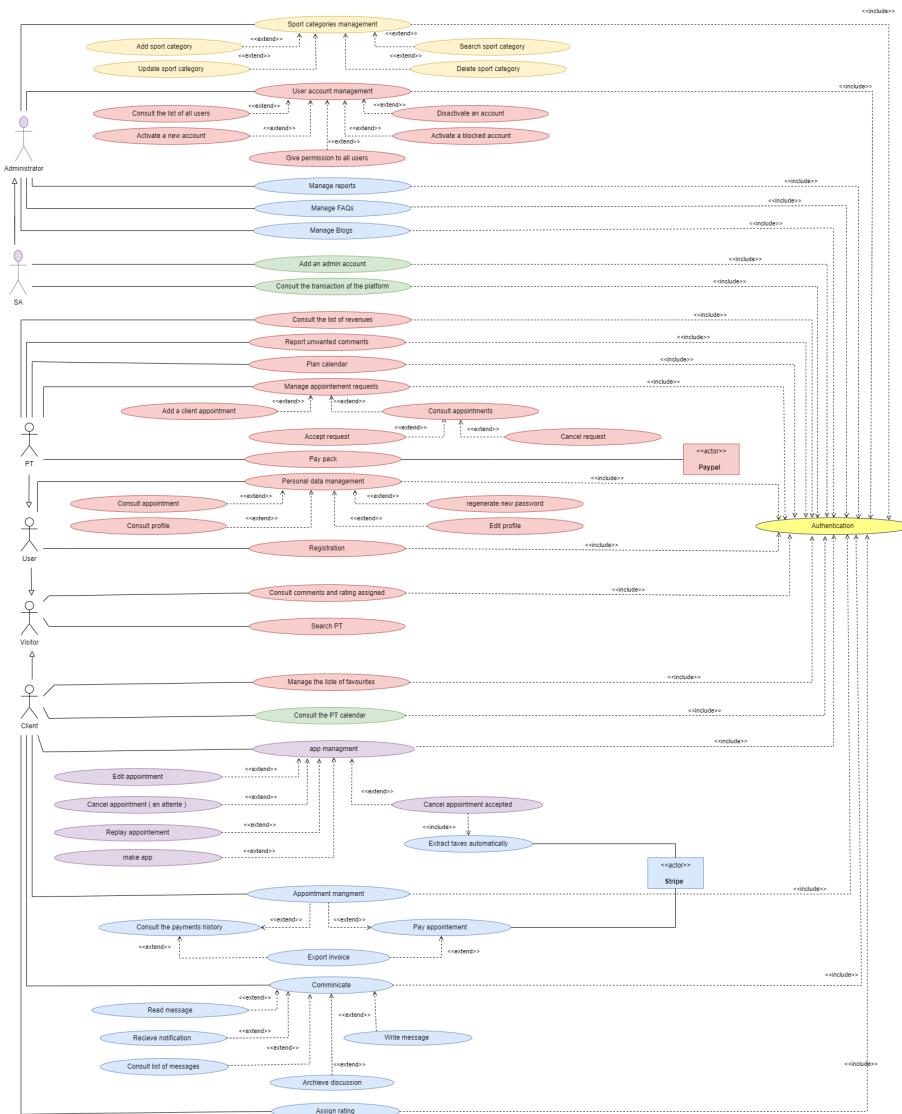


Figure 5.66: Detailed use case diagram

2. User interface lockups

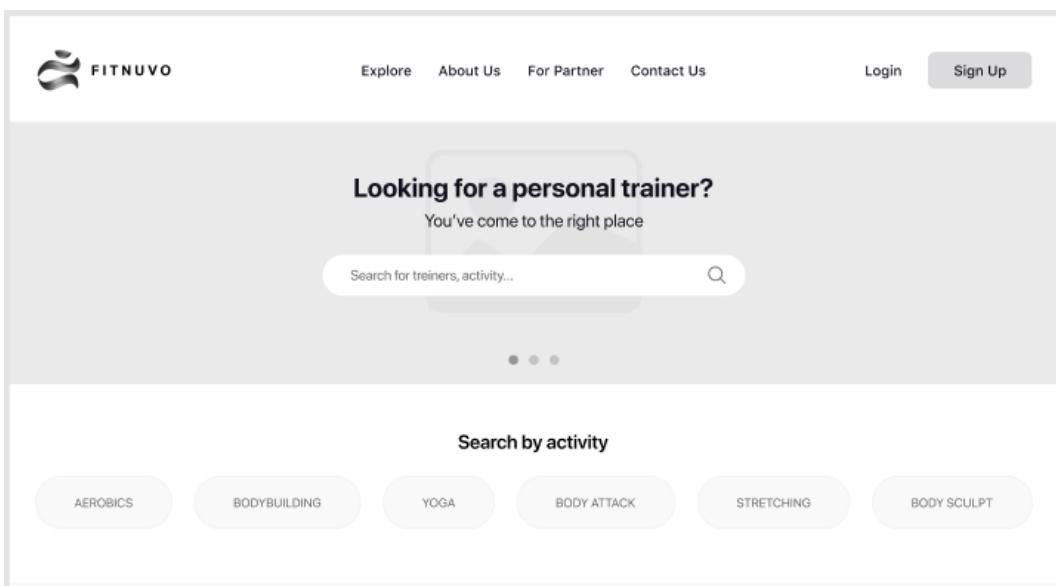


Figure 5.67: Home page

The image shows the 'General Information' edit page. At the top, there is a navigation bar with links for 'Workouts', 'Trainers', 'Notifications (0)', 'Messages (2)', and 'Profile'. Below the navigation bar, there are tabs for 'GENERAL INFORMATION', 'IMAGES', and 'PASSWORD'. Under the 'GENERAL INFORMATION' tab, there are fields for 'First Name' (empty), 'Second Name' (empty), 'Mobile' (+3), 'Email' (empty), 'Social' (with a link to 'http://'), and a 'More' button. There is also a text area for 'Describe yourself' (empty). At the bottom, there is a 'Save' button.

Figure 5.68: General information edit

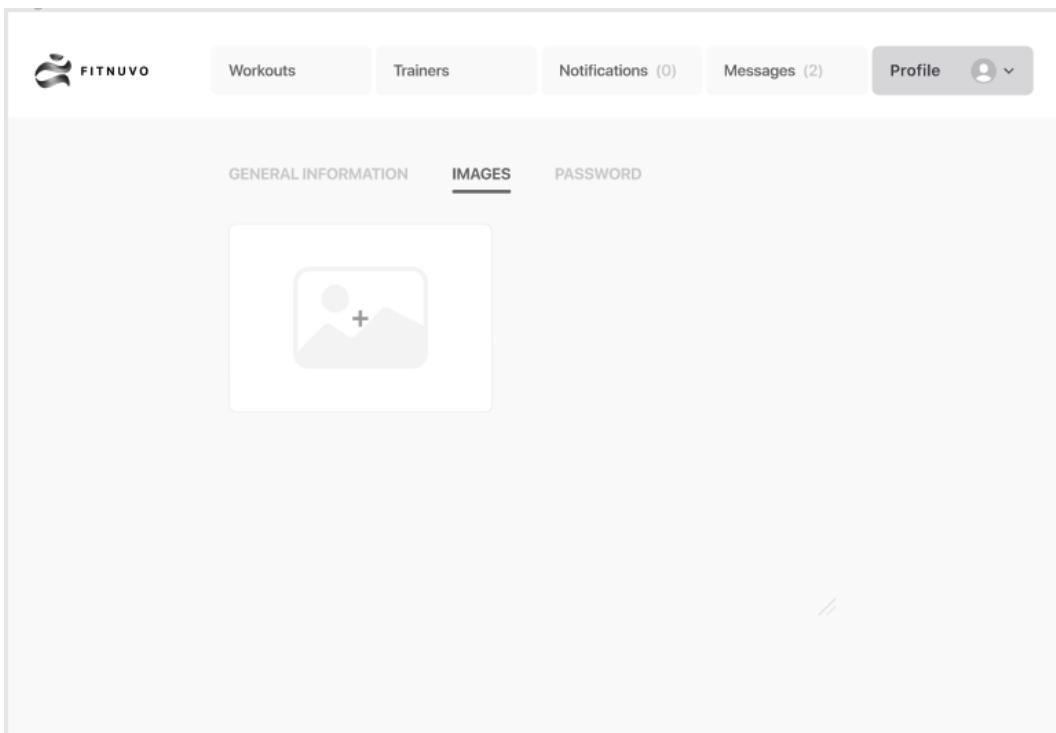


Figure 5.69: Image

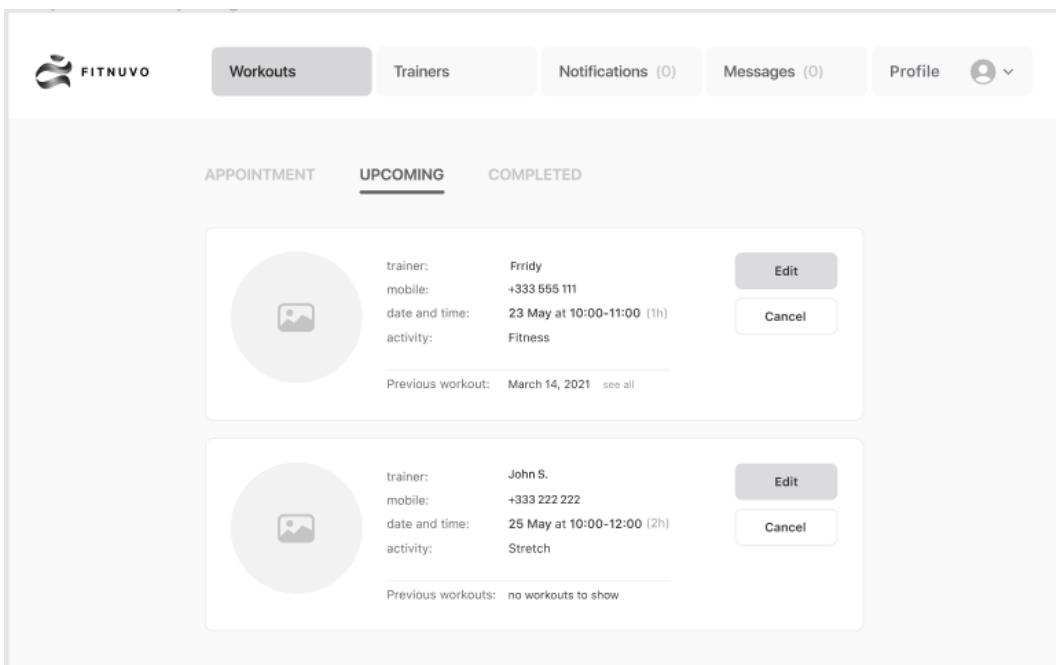


Figure 5.70: Client upcoming workout

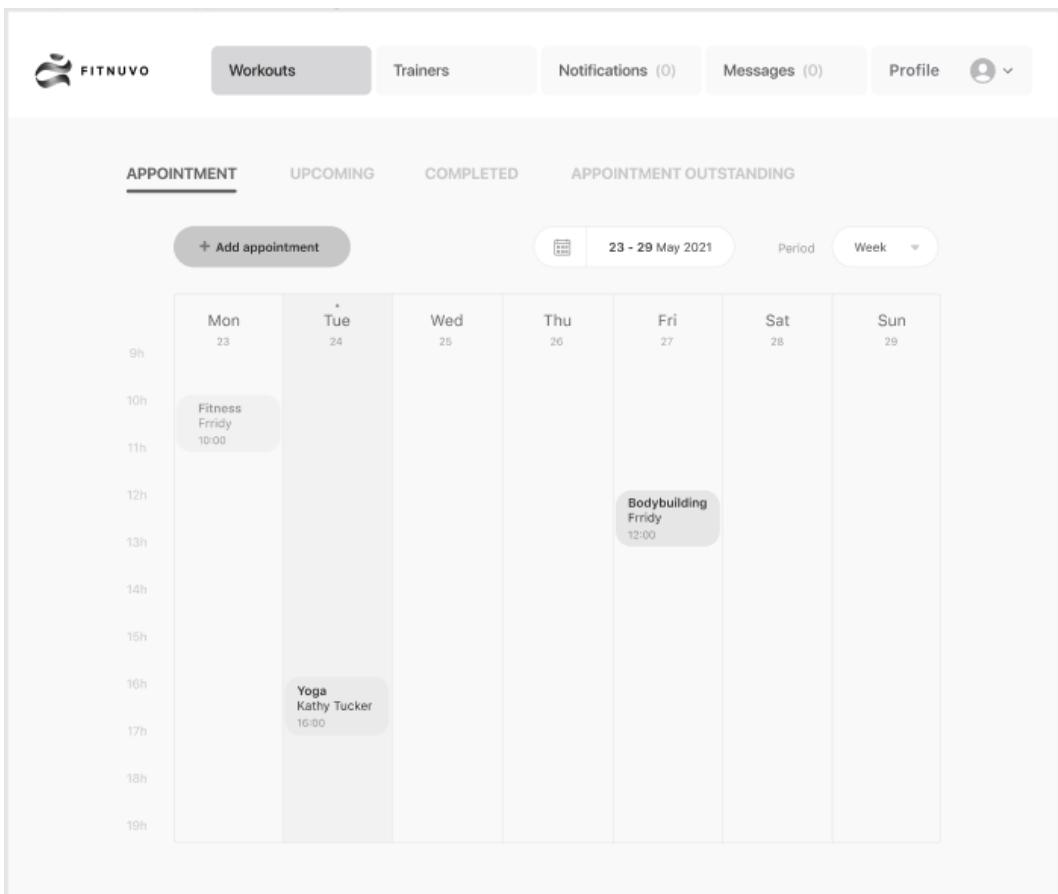


Figure 5.71: Client schedule

3. Three

Chapter 4

The screenshot shows the FITNUVO mobile application interface. At the top, there is a navigation bar with icons for Workouts, Trainers (highlighted in grey), Notifications (0), Messages (0), and Profile. Below the navigation bar, there are three tabs: ALL TRAINERS, MY TRAINERS, and SAVED. A search bar with the text "Stretching" and a magnifying glass icon is positioned above a filter panel. The filter panel includes dropdowns for Location, Price, Schedule, Speciality, Age, and Gender, along with a "Sort" button set to "Cheaper first". A modal window titled "Schedule" is open, prompting the user to "Choose a time that fits your schedule" and displaying a weekly grid from Monday to Sunday with time slots from 9:00 to 19:00. Several time slots are marked with checkmarks or gray shading. Below the grid are checkboxes for "Online" and "Off-site training". To the right of the grid, there is a summary of results: 55/h, 36 reviews, and a location entry for 1271 5th St NE, London (Total Source Fitness). At the bottom of the filter panel, there are "Reset" and "Filter" buttons, and a total count of 51/h results.

Figure 5.72: Filter

The screenshot shows the FITNUVO mobile application interface with a modal window titled "Edit appointment" overlaid. The modal contains fields for "Client" (set to Victoria D.), "Activity" (set to Fitness), "Date" (set to 23 May 2021), "Time" (set to 10:00), and "Duration" (set to 1 h). There is also a checkbox for "Repeat every week". At the bottom of the modal are two buttons: "Book Now" and "Book and Pay". Below the modal, a summary of the appointment details is shown: activity: Stretch, rating: 5 stars, Burned: 326 cal, Distance: 1.3 mi.

Figure 5.73: Edit not paid appointment

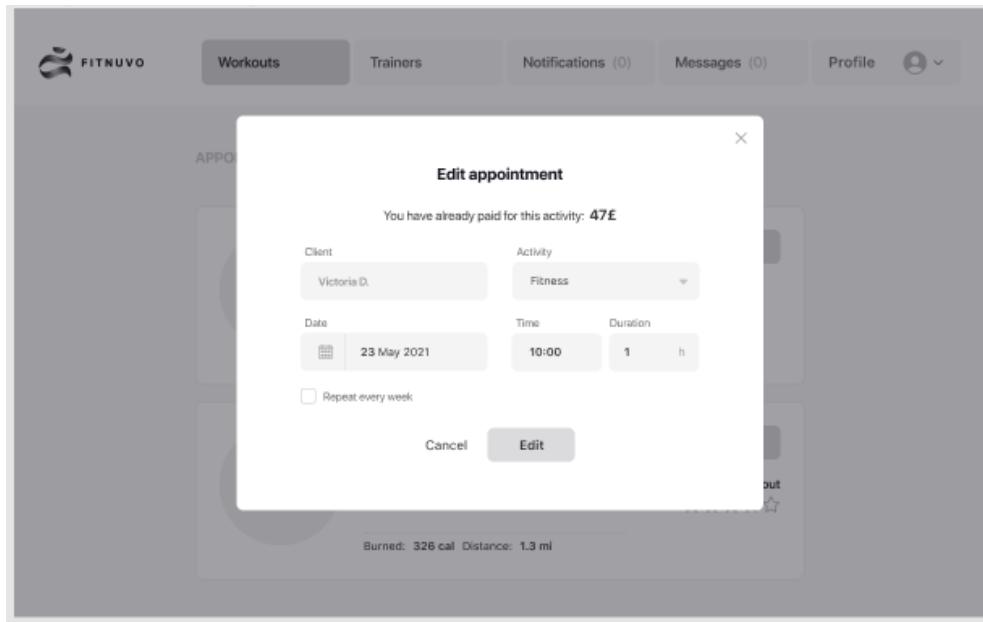


Figure 5.74: Edit paid appointment

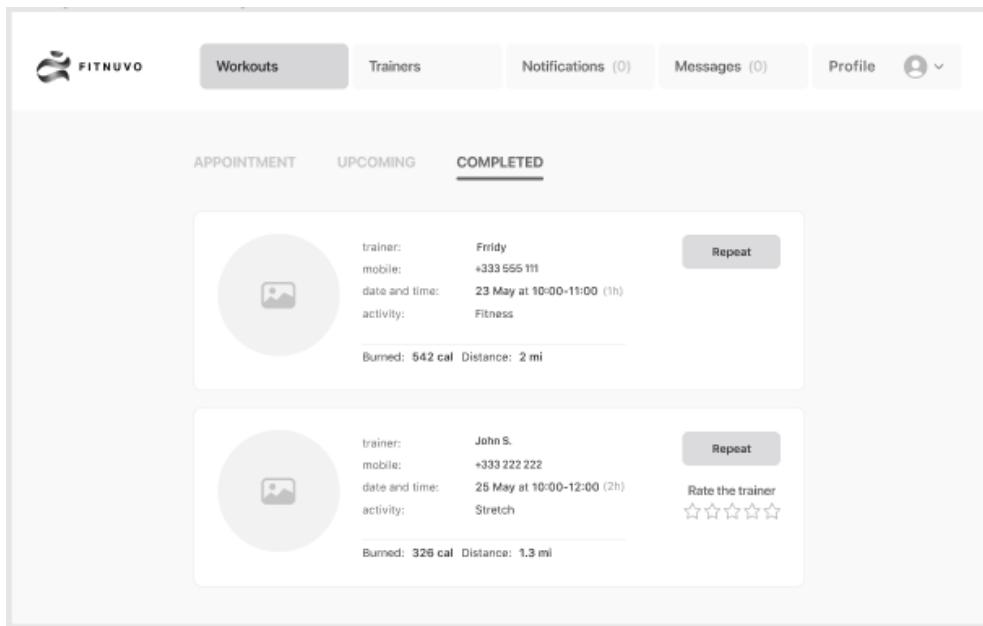


Figure 5.75: Workout completed

The image shows a client profile page from the FITNUVO platform. At the top, there is a navigation bar with links for 'Workouts', 'Trainers', 'Notifications (0)', 'Messages (2)', and 'Profile'. The 'Profile' link is highlighted with a dropdown arrow. Below the navigation bar, there is a placeholder for a profile picture with a small camera icon. To the right of the placeholder, the name 'Victoria D.' is displayed in bold. Below the name, there is contact information: 'Mobile: +333 555 111', 'Email: victoria@mail.com', and 'Location: London'. Underneath this, there is a section for social media links with icons for Twitter, Instagram, and Facebook. A bio section follows, stating: 'I started to train about six months ago and the results I've had have been amazing and I'm encouraged and motivated every time I train.' There are three small circular dots at the bottom of this bio section.

Figure 5.76: Client profile

Resumé

Ce travail fait partie de notre projet de fin d'études, présenté afin d'obtenir la licence appliquée en technologie de l'informatique, développement de systèmes d'information de l'Institut supérieur des études technologiques de charguia (IETCH).

L'objectif de ce projet est la conception et la réalisation d'un système de réservation des entraîneurs personnels en ligne. Ce projet est réalisé au sein de l'entreprise Solid Wall consulting pour La start-up Fitnuvo.

Mots clés : SCRUM ;SQL server ; Stripe ;

Abstract

This Work is a part of our graduation project, presented in order to obtain the applied license in Computer technology,development of Information systems from the Higher Institute of technological studies of Charguia (IETCH).

We focused on implementing an online booking system for personal trainers. This project is carried out within the solid wall consulting company for the owner of Fitnuvo start-Up.

Keywords : SCRUM, SQL Server,Stripe,

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