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Graduation Project

Field: Business Computing

Designing and developing a prospecting and sales control app

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Dedication

Acknowledgements

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General introduction

In today's fast-paced and ever-changing business environment, companies face the challenge of managing their workforce effectively while ensuring efficient communication and engagement. A mobile application that provides solutions for employee scheduling and communication can be an excellent tool for companies to address these challenges. This mobile application is designed to simplify employee scheduling and communication for companies. It provides an innovative platform that streamlines various aspects of employee management, enabling businesses to efficiently manage their workforce while improving communication and engagement. With this app, companies can enjoy updates on their employee schedules, communicate easily with their team, and ensure everyone is on the same page. The app offers a range of features that can help businesses improve productivity, reduce administrative costs, and improve overall employee satisfaction and retention, which is crucial for the success of any company.

Our report is subdivided into six chapters. The first chapter presents the "General Framework of the project". This includes an overview of the project plan and host organization, and an analysis of the current situation to identify the issues and proposed solutions. This chapter emphasizes the project management methodology adopted. The second chapter, "Product Backlog," lists the requirements and user stories of the application. The third chapter presents the first sprint, which focuses on the user authentication, account management, and visualizing dashboard. It covers the backlog and the fundamental bases for the development. The fourth chapter presents the second sprint, which includes the prospect management, event management, and documents management.

The fifth chapter presents the last sprint, which involves the presentation management, employee management, and notification section.

The sixth chapter delves into the project closure, including the appropriate architecture of the application and the tools used for the realization of this project. Class and deployment diagrams are also presented for a retrospective view of the project.

Chapter 1

1 Project analysis

1.1 Introduction

In this first chapter titled Project Analysis, we will introduce the host organization's presentation and the analysis of the current situation.
Furthermore, we will present the choice of methodology that we have adopted for this project.

1.2 Presentation of the host organization

An IT company is a type of organization that specializes in the development, implementation, and maintenance of information technology systems and services.

1.2.1 Presentation of the company

Lezarts.digital (***Lezart.digital*** n.d.) is a digital agency that offers its clients a range of specialized services. With a focus on digital marketing, design, web and mobile development, and advertising management, Lezarts.digital has developed a reputation for providing innovative and effective solutions to businesses looking to expand their digital presence.

1.2.2 company logo

Figure 1: company logo

1.2.3 Applications developed by the company

For instance, these applications are specifically designed to fulfill the unique requirements of the organization, which may include boosting productivity, optimizing workflows, and improving customer experience.(***Portfolio*** n.d.)

Figure 2: Mall of sousse Website logo

Figure 3: zen Mobile application logo

Figure 4: Baguette et Baguette Mobile application logo

Figure 5: Bee Website logo

1.3 Study of the existing

The initial stage of project realization is to study the current situation. This involves identifying the problems present in the current situation and proposing the necessary solutions to address them.

1.3.1 Similar Solutions

* **Service Prospect Mobile** The Android application 'Service Prospect Mobile' developed by Inside Sistemas Ltda is listed in the Tools category. This application allows users to create sales prospecting and control requests using mobile devices.(***Service Prospect Mobile*** n.d.)

Figure 6: The interface of the Service Prospect Mobile application

* **simple prospect** With this application, users can utilize their mobile devices to generate sales prospecting and control requests.(***Simple prospect app*** n.d.)

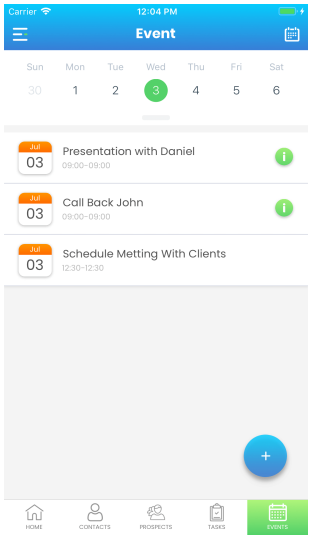


Figure 7: The interface of the Simple Prospect Mobile application

1.3.2 Issues

However, despite the progress of technology and mobile applications, certain companies find it challenging to come across well-cited applications that encompass all the necessary functionalities.

These include features like presentations, file-sharing capabilities between managers and employees, and various other fundamental tasks, particularly within the Tunisian territory.

It is true that there are applications that offer solutions, including the ones mentioned and others.

However, these applications are not very efficient and are not recommended by users.

Additionally, other applications work for specific business needs, but each of these applications is designed for a particular task on smartphones and tablets.

A comprehensive application that truly meets the fundamental requirements and encompasses all the necessary features and tasks of smartphones has not been developed yet.

1.3.3 Solutions

To provide a complete experience, the application being developed aims to include all the necessary features and functions required by businesses.
This includes easy file sharing, powerful presentation capabilities, efficient task management, and other essential aspects that streamline operations.

Moreover, the application is designed to work seamlessly on both Android and iOS platforms, ensuring compatibility across a wide range of devices.
With its user-friendly interface, the application offers a comprehensive solution that boosts productivity and simplifies daily tasks. The goal is to create a versatile tool that optimizes workflows and empowers businesses to thrive in the digital age.

1.3.4 Project objectives

The aim of this project is to develop a user-friendly interface that simplifies the process of prospectus operations for customers and sales representatives.
Additionally, the project aims to provide an uncomplicated method to manage work tasks.

1.4 Technologies used

* **Flutter**

  Flutter is an open-source mobile application development framework from Google. It supports the creation of cross-platform applications.(***Flutter*** n.d.)

Figure 8: Flutter Logo

* **Laravel**

  Laravel offers a highly functional development environment, as well as intuitive and expressive command-line interfaces. In addition, Laravel uses object-relational mapping (ORM) to simplify data access and manipulation.(***Laravel*** n.d.)

Figure 9: laravel Logo

* **MySQL**

  MySQL is an open-source relational SQL database management system developed and supported by Oracle.(***MySQL*** n.d.)

Figure 10: MySQL Logo

* **VS Code**

  Visual Studio Code is an open-source code editor developed by Microsoft that supports a wide range of programming languages through extensions.(***Visual Studio Code*** n.d.)

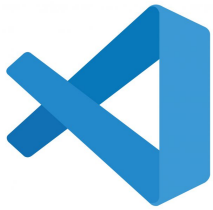


Figure 11: VS Code Logo

* **Postman**

  Postman is an API platform for creating and using APIs. It simplifies every step of the API lifecycle and streamlines collaboration so that you can create better APIs faster. (***Postman*** n.d.)

Figure 12: Postman Logo

* **Latex**

  LaTeX (short for Lamport TeX), created by Leslie Lamport, is a software system for document typesetting, or more precisely: a collection of macros intended to make it easier to use the TeX typesetting processor.(***latex*** n.d.)

Figure 13: Latex Logo

* **Diagrams.net**

  Diagrams.net is an open-source UML modeling software. With this platform, you will be able to design around ten types of diagrams. You will be able to create classes, objects, activities, as well as sequences.(***Diagrams.net*** - n.d.)

Figure 14: Diagrams.net Logo

* **AdobeXd**

  Adobe XD (Adobe Experience Design) is an essential software in the Adobe Creative Cloud suite. Its purpose is to facilitate the design of mockups, wireframes, and prototypes, leading to pleasant and efficient digital interfaces. (***Adobe XD*** n.d.)

Figure 15: AdobeXD Logo

1.5 Modeling approach adopted

The goal of a modeling approach is to create a simplified version of the real-world system that can be studied and analyzed to gain insights, make predictions, or test hypotheses.

1.5.1 Agile Methodology

The Agile methodology is based on a project cycle to meet the client's needs. It operates in an iterative and incremental manner. (***AGIL methodology*** n.d.) With the Agile method, the client has more visibility into task management. This method is designed to accelerate software development.
Furthermore, it ensures the implementation of functional software during its creation.

The fundamentals consist of recommending a version of the software, then integrating additional basic functions through an iterative process.

The following combines a sequence of instructions if necessary and is repeated as many times as possible.
Concerning the development of software, it is important to recall the following:

1. **Planning.**
2. **Requirements.**
3. **Integration.**
4. **Unit testing at the end of each iteration.**
5. **Code review and improvement.**

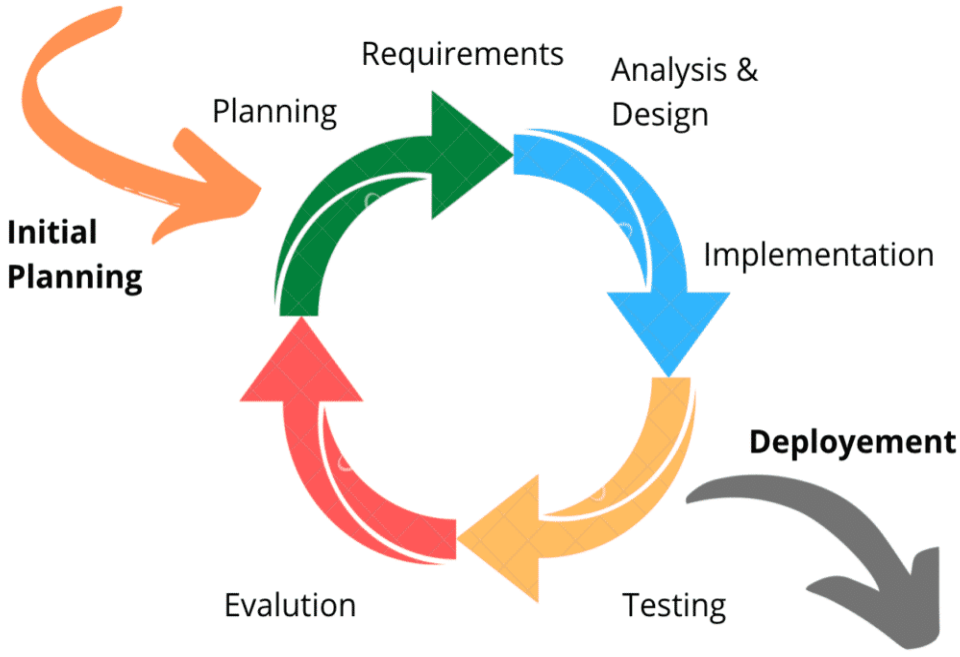


Figure 16: Agile Methodology

Regarding our project, we have chosen Scrum to ensure its success.

1.5.2 Why SCRUM

Scrum is one of the easiest agile methods to understand and explain.

This approach also helps in planning projects over time.

By definition, each sprint has a fixed duration, It is also a useful method for clients or end users as it quickly provides a functional product.

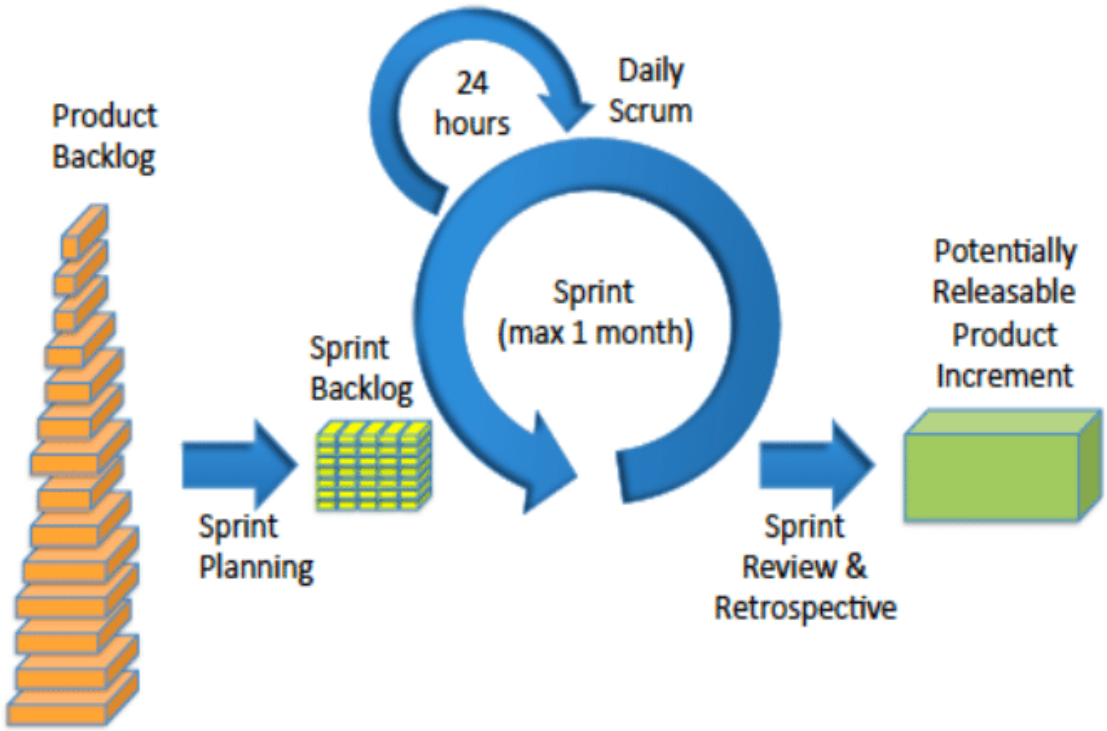


Figure 17: SCRUM cycle

1.5.3 Scrum Process

Scrum is based on an iterative and incremental development process that focuses on collaboration among team members and adaptation to change.(***Scrum Cycle*** n.d.)

1.5.4 Benefits of Scrum

Scrum is the most effective method for teams that create and frequently deploy products, It is the teams that choose the structure.
Scrum gains agility and flexibility, It helps to strengthen collaboration within teams and helps them achieve their goals more effectively.
In addition, Scrum teams always know what they are doing: They complete the tasks of the product backlog and they will always have a clear idea of their objectives because these teams have agreed on the definition of "done" work.

1.6 Conclusion

Throughout this chapter, we discussed the general framework of the project.

We also started with an examination of the host organization's framework, followed by a study of the current situation, This enabled us to gain a better understanding of the needs and identify solutions that align with our client's expectations.

In the next chapter, we will analyze and specify the project's requirements.

Chapter 2

2 The project's requirements

2.1 Introduction

In this chapter, we will formalize the requirements by specifying them and also identifying the system's actors.
At the end of this chapter, we will move on to the Product Backlog and Sprint Planning.

2.2 Requirements specification

In this section, we will begin by defining the actors of the mobile application, and then we will present the functional and non-functional requirements.

2.2.1 Actors identification

Actors are entities that can interact directly with the system.

- Administrator: Responsible for manipulating the data and creating the dashboards.
- Company representatives: The company representative can add employees and access their own dashboard.
- employees : The employees can create their own schedule, add their prospects, and also visit and review all the documents shared by the company.

2.2.2 Functional requirements

Functional requirements express the interaction between the user and the application. The application must ensure the following functionalities:

- Enable user authentication by allowing them to enter their usermane and password to access the application.
- allow the company representative to add employees
- allow the company representative to add their own schedules.
- allow the company representative to add prospects.
- allow the company representative to share documents with the employees based on role permissions.
- allow the company representative to add and view presentations.
- allow the company representative to visualize the dashboard.
- allow the employees to add their own schedules.
- allow the employees to add prospects.
- allow the employees to view the documents shared by the company.
- allow the employees to add, delete and view presentations.

2.2.3 Non-functional requirements specification

Non-functional requirements specify the properties of the system, including environmental constraints, performance requirements, mobile platform dependencies, ease of maintenance, scalability, and reliability.
For this project, the mobile application must meet the following non-functional requirements:

- **Performance and scalability:** The system must have good response time even with higher workloads.

- **Simplicity:** The system must have a good user experience and easily navigated.
- **Reliability requirements:** the system should continue to work correctly in a way that is expected even when things go wrong.
- **Operability:**Good operability means making routine tasks easy, allowing the operations team to focus their efforts on high-value activities.

2.3 Project planning

This chapter will include three parts: the global use case diagram, the product backlog, and the project allocation.

2.3.1 global use case diagram

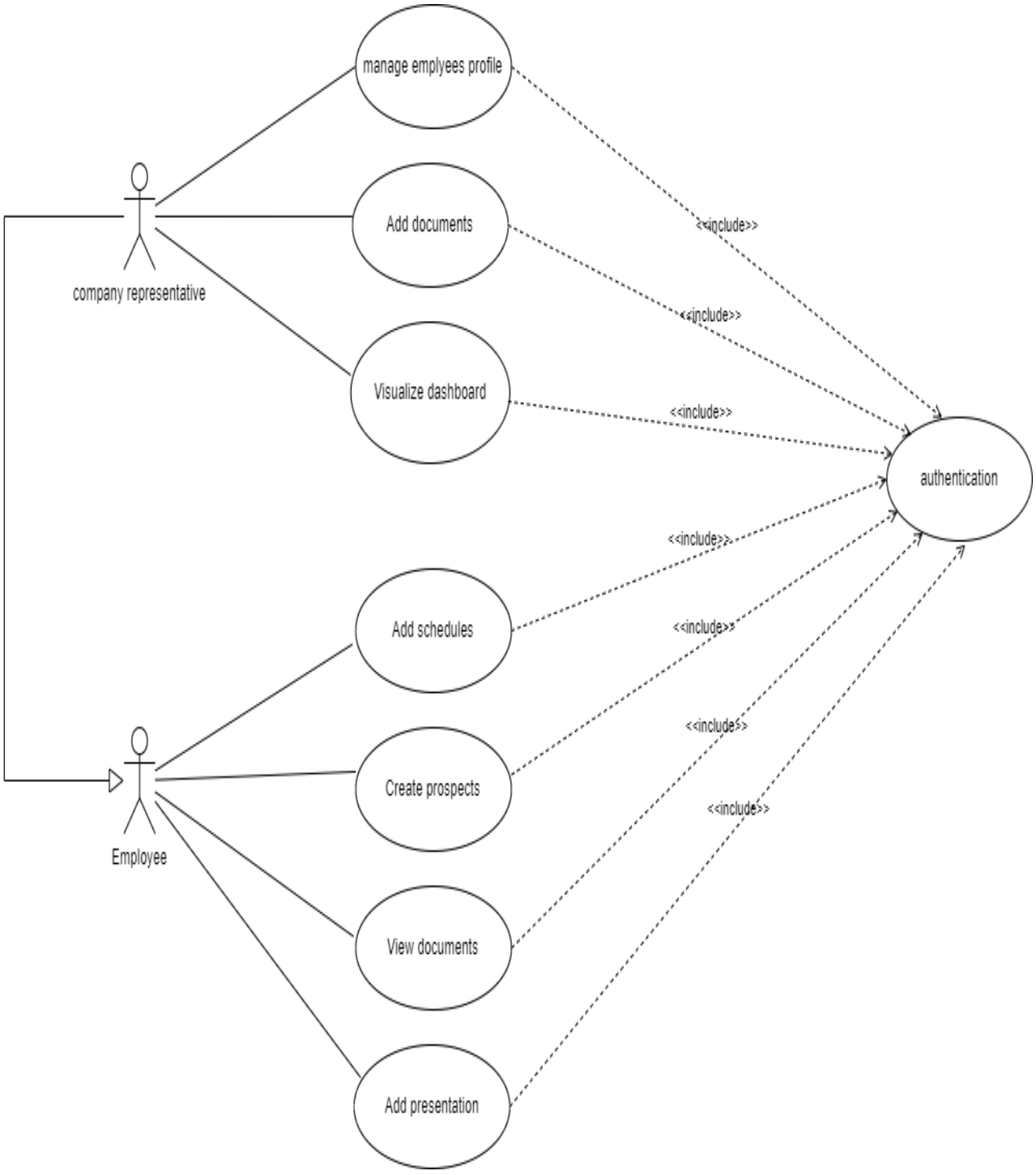


Figure 18: Global Use Case Diagram

The global use case in figure 18 involves two actors: the employee and the company representative.

The employee has several functionalities at their disposal, They can add schedules, create prospects, and have the ability to view documents shared by their representative.

Additionally, the employee can contribute to the system by adding presentations relevant to their work.

On the other hand, the company representative holds administrative control over the system. They can manage employee profiles, ensuring that all necessary information is up to date. Furthermore, the representative has the authority to share documents with their employees, granting them access to important files and resources.

The representative also possesses the capability to view shared documents, thereby maintaining visibility over the information being disseminated within the system.

In addition to these functionalities, the representative can visualize the dashboard, which provides an overview of key metrics, data, and insights relevant to their role. This allows them to monitor the progress, performance, and other essential aspects of the system in a convenient and accessible manner.

2.3.2 Scrum roles

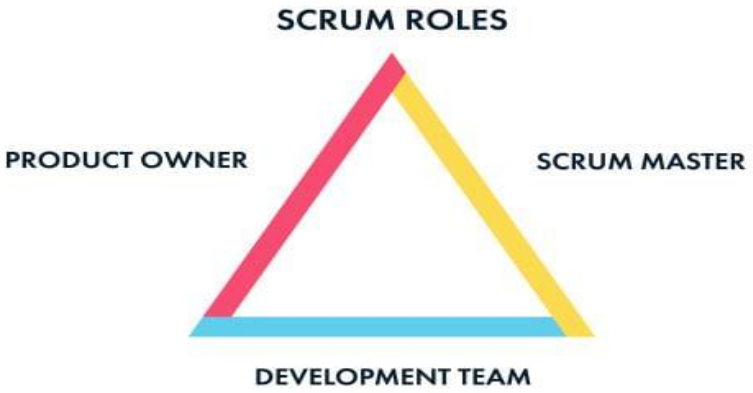


Figure 19: Scrum Roles

Roles	Description
Product owner (Dali Ben Abdallah)	The product owner is the person responsible for translating the vision into a tangible product and interacting with the development team. They are the sole individual responsible for managing the product backlog. The product owner is an expert in the project's domain of activity.
Scrum master (issam jouini)	A Scrum Master is first and foremost a member of the project team who must have a mastery of Scrum and ensure that it is correctly applied.
development team (Iskander Hableni – Mohamed Amine Manai)	It is composed of professionals responsible for transforming the requirements expressed by the Product Owner into available functionality. The team members are multidisciplinary, and it is possible to include other roles such as developers, software architects, functional analysts, etc.

Table 1: Scrum Roles

2.3.3 Product backlog

The Product Backlog is the most important step in Scrum and is the set of functionalities that make up the desired product, A functional characteristic is called a user story.
This table shows the product backlog of the mobile application.
In this table, each user story is characterized by a name and a description.

ID	Tasks	Story Point	Priority	Risk
US1: As an employee, I want to set my credentials so that I can connect to the application.				
1	Create the user interface (UI)	10h	low	medium
2	Develop the back-end system for managing login credentials	15h	high	high
US2: As an employee, I want to reinstall a new password in order to be able to log in again.				
1	Create the user interface (UI)	10h	low	medium
2	Create the email interface	10h	medium	low
3	Processing the password-related database part.	15h	high	high
US3: As a company representative, I want to visualize the dashboard so that I can gain insights into my company's performance and make informed decisions.				
1	Create the user interface (UI)	15h	medium	medium
2	Implement data visualization functionality for the dashboard	20h	high	high
US4: As an employee , I want to manage my general account credentials so that i can modify my personal informations .				
1	Create the user interface (UI)	15h	low	medium
2	Modify the name and last name in the database.	15h	low	medium
2	Modify the password in the database.	15h	medium	medium
US5: As an employee, I want to fill the required prospect information so that I can create a new prospect.				
1	Create the user interface (UI)	15h	medium	medium
2	Add the needed documents	10h	medium	low
3	Develop a function to allow users to add new pins	5h	low	low
4	Create a reminder system for the appointment	15h	medium	medium
US6: As an employee i want to create a new event so that i can add it in the event calendar.				
1	Create the user interface (UI)	10h	medium	medium
2	create a new event	20h	high	high
3	Modify or Delete the events	10h	low	medium
4	Implement server-side code for storing new events in the database	15h	medium	high

ID	Tasks	Story Point	Priority	Risque
US7: As a company responsible for managing sensitive documents I want to share and upload documents so that I can collaborate with my team.				
1	Create the user interface (UI)	10h	medium	low
2	Create a secure document sharing and uploading feature	15h	high	medium
3	Implement an access control system with role-based permissions	15h	high	medium
US8: As an employee I want to create presentations that showcase our products.				
1	create presentation UI	10h	medium	low
2	add and delete presentaions, as well as add images and other presentation file format	25h	high	high
3	Ensure Implement server-side code for modifying presentations from the database	25h	high	medium
US9: As a company representative, I want to add my employees to our account				
1	Create the user interface (UI)	10h	medium	low
2	Develop the back-end system for managing employees	25h	high	high
US10: As an employee, I want to visualize the notification section so that i can stay updated.				
1	create the notification UI	15h	medium	low
2	Develop the back-end system for managing notifications	30h	medium	high

Table 2: Product Backlog

2.3.4 Project breakdown

Sprint planning is an important step in the Scrum process, during a meeting, the team must determine the duration of each sprint.

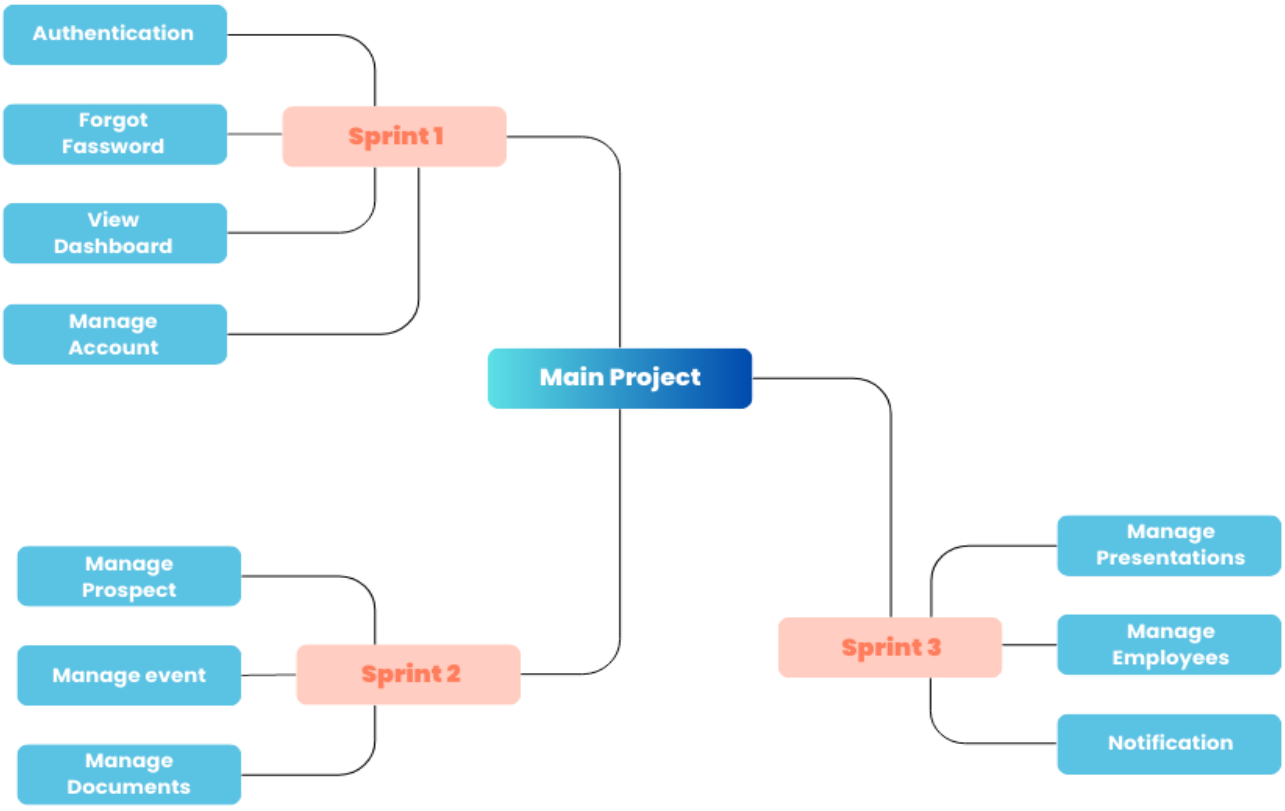


Figure 20: project breakdown

2.4 Conclusion

This chapter examines the existing requirements, a typical use case diagram and a list of product backlogs have been presented.

Chapter 3

3 Sprint 1: Authentication, forgot password, visualize dashboard and account management.

3.1 Introduction

After presenting the general framework of our project, in this chapter we will begin the sprint for Authentication, forgot password, visualize dashboard and account management.

ID	Tasks	Story Point	Priority	Risque
US1: As an employee, I want to set my credentials so that I can connect to the application.				
1	Create the user interface (UI)	10h	low	medium
2	Develop the back-end system for managing login credentials	15h	high	high
US2: As an employee, I want to reinstall a new password in order to be able to log in again.				
1	Create the user interface (UI)	10h	low	medium
2	Create the email interface	10h	medium	low
3	Processing the password-related database part.	15h	high	high
US3: As a company representative, I want to visualize the dashboard so that I can gain insights into my company's performance and make informed decisions.				
1	Create the user interface (UI)	15h	medium	medium
2	Implement data visualization functionality for the dashboard	20h	high	high
US4: As an employee , I want to manage my general account credentials so that i can modify my personal informations .				
1	Create the user interface (UI)	15h	low	medium
2	Modify the name and last name in the database.	15h	low	medium
2	Modify the password in the database.	15h	medium	medium

Table 3: Backlog sprint 1

3.2 Analysis

In this section, the specification of functional requirements in our case is translated into a refinement diagram of the use case 'Authentication, forgot password, visualize dashboard and account management.

This diagram facilitates the transition from the use case to the analysis phase.

3.3 The refinement of the global use case for the first sprint.

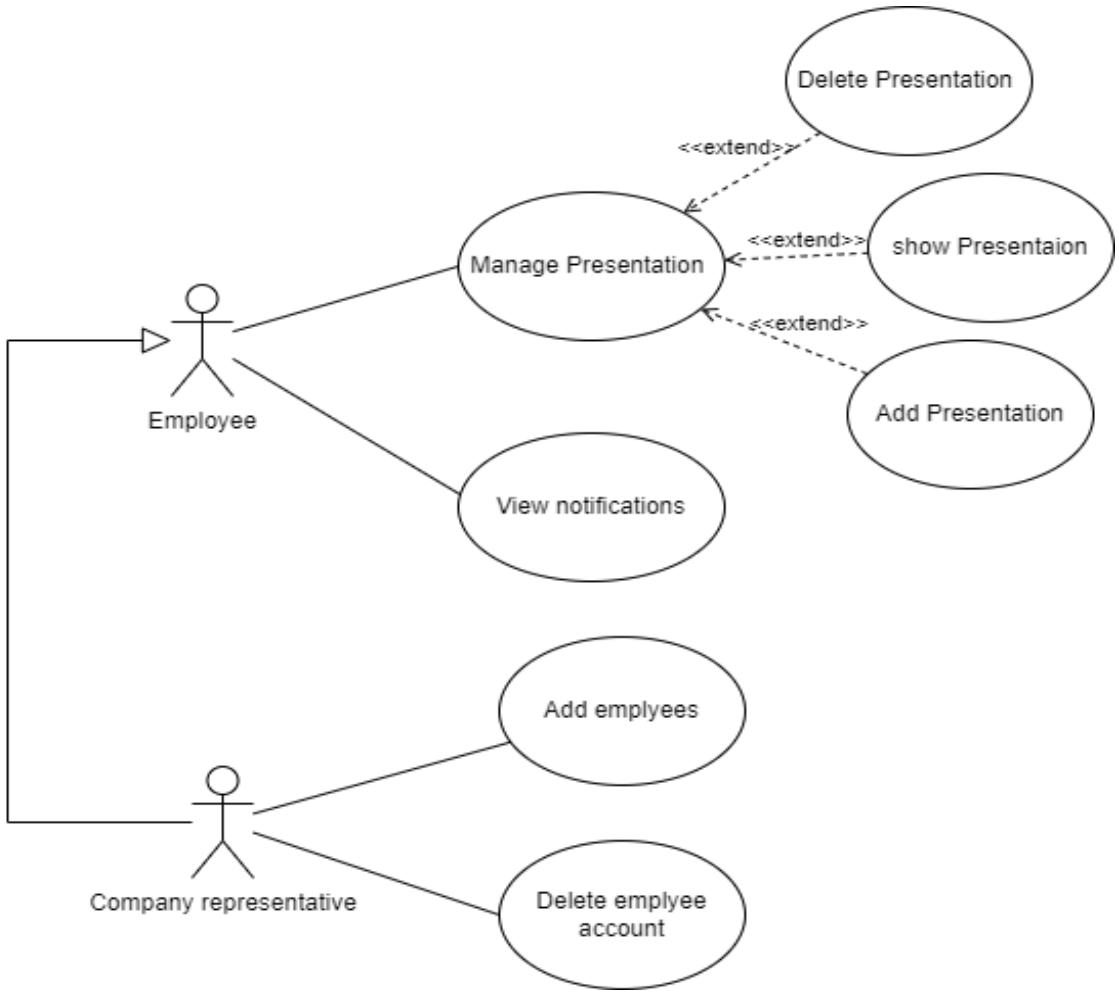


Figure 21: The refinement of the global use case for the first sprint

The Use Case of the first sprint figure 21 The authentication feature allows employees and company representatives to log in to their respective accounts using their email addresses and password.
Once logged in, they have access to a dashboard where they can view important information and perform various actions.
Additionally, both employees and representatives have the ability to manage their own account credentials, including changing their passwords or updating their personal information, this ensures that users can securely access their accounts, view relevant data, and maintain control over their account settings.

3.4 Design

The design phase is the second stage of the first sprint, and in this phase, we will present the system sequence diagram.

3.4.1 system sequence diagram

The design diagram of the "Authentication, forgot password, visualize dashboard and account management." use case is presented in the following figure.

***Description of the system sequence diagram of the «Authentication»**

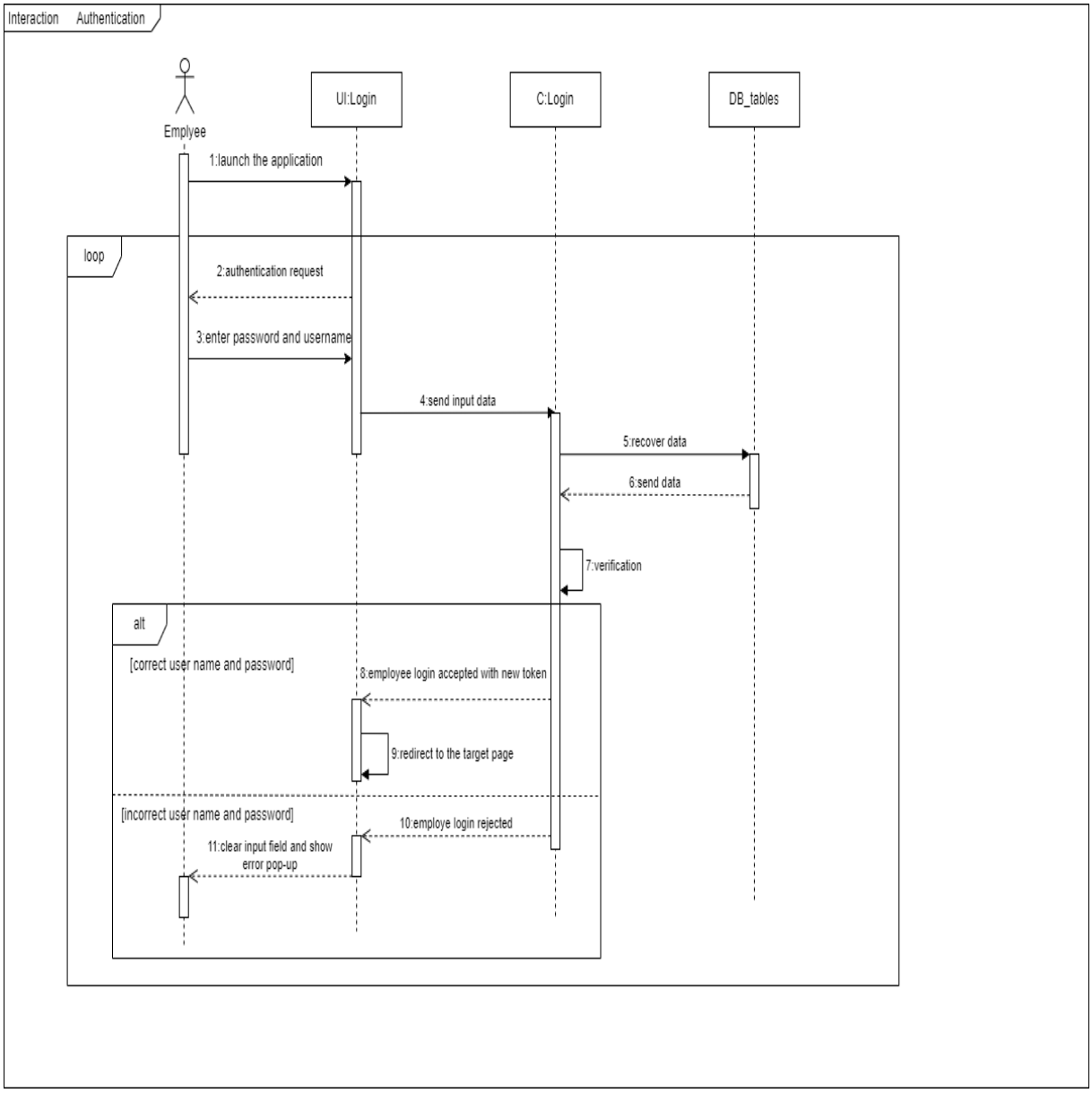


Figure 22: Sequence diagram of the «Authentication»

All users can authenticate themselves as shown in the SSD (System Sequence Diagram) of Figure 22, This SSD represents the interaction between connected users (employees and representatives) and the system.

During the login process, the system verifies the incoming data against the database, if there is any issue with the data, such as non-existent or missing data, the system will display an error message to the user, prompting them to reenter their information.

***Description of the system sequence diagram of the «Forgot password»**

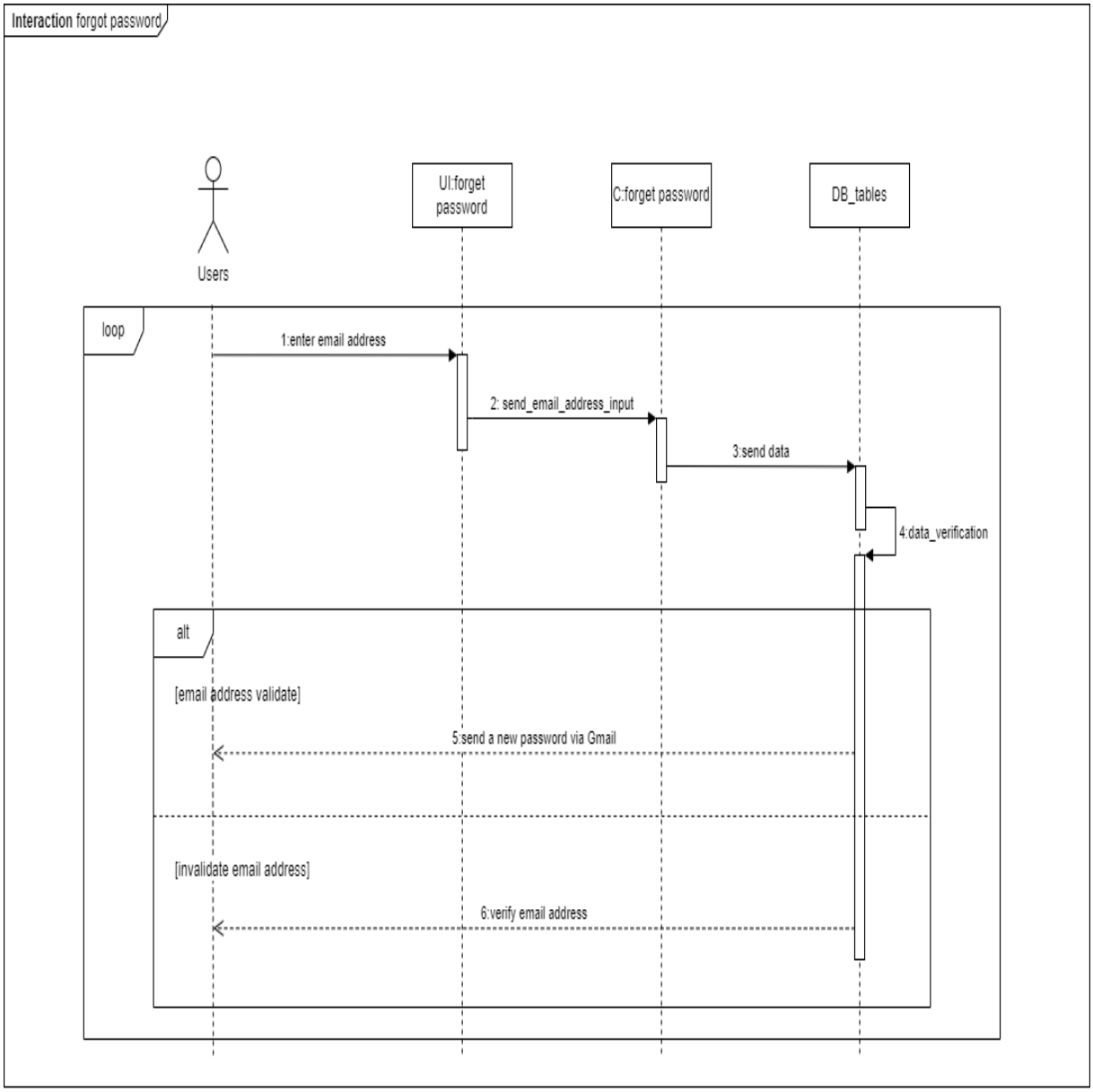


Figure 23: Sequence diagram of the «Forgot password»

The System Sequence Diagram (SSD) shown in Figure 23 illustrates the step-by-step process of the "Forgot Password" feature.

The user, whether an employee or a company representative, initiates the process by entering their email address.

The system then performs a verification phase by checking the entered email against the database to ensure its existence.

If the email is not found in the database, a pop-up message will appear, indicating that the email is invalid, The process will then restart, prompting the user to re-enter their email.

On the other hand, if the verification is successful and the email is found in the database, the system proceeds to send an email to the provided address. The email contains a link that allows the user to regenerate their password.

This link serves as a secure mechanism for the user to reset their password and regain access to their account.

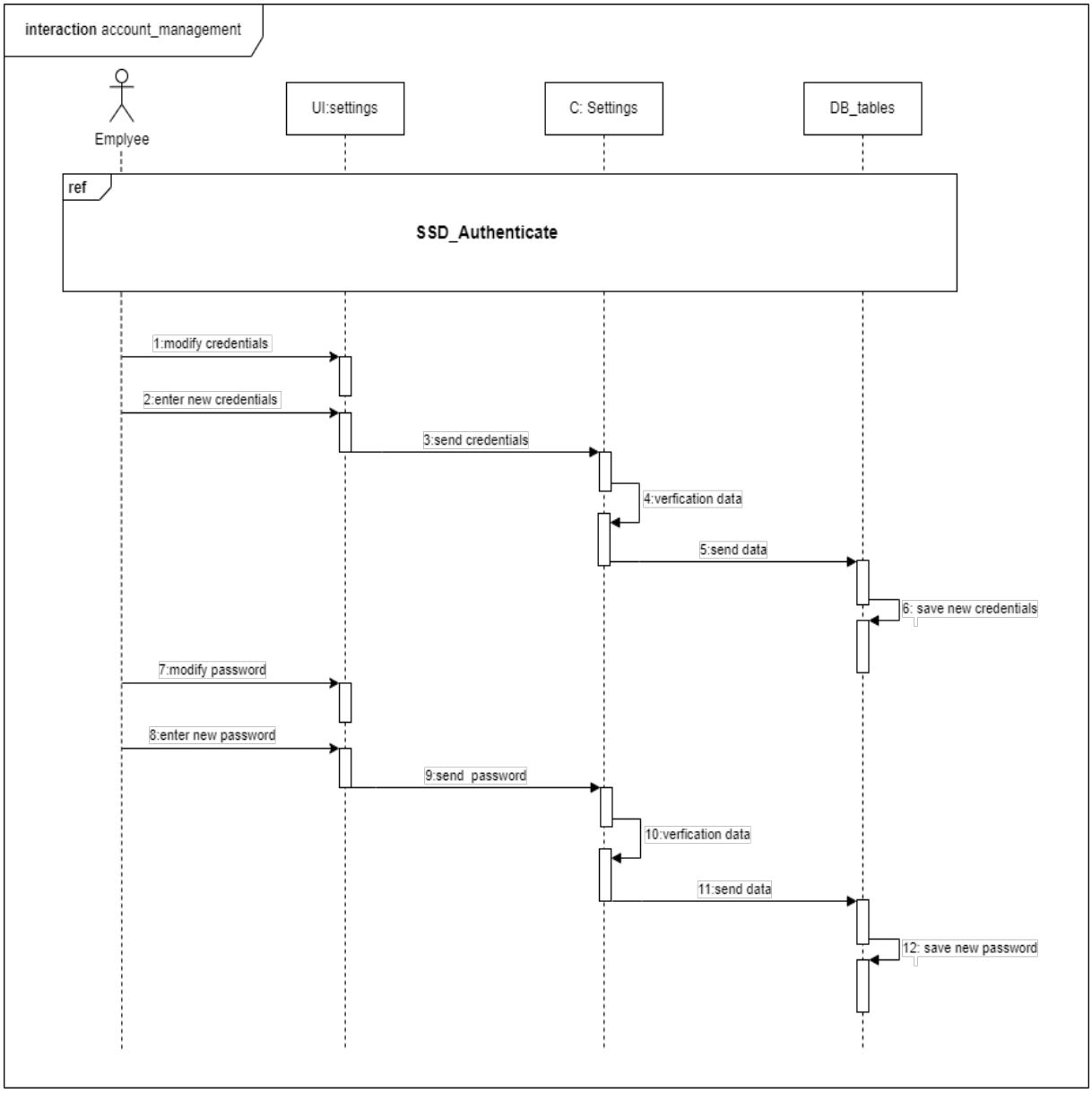


Figure 24: Sequence diagram of the «Account management»

In Figure 29, the sequence diagram illustrates the process of employees and representatives managing their account credentials, they can access this functionality by navigating to the settings section within the application.

Within the settings section, they have the option to modify various information fields such as their name, username, and other relevant details.

Additionally, employees and representatives have the ability to change their passwords through this interface, by selecting the password change option, they can initiate the process

of updating their existing password to a new one, this ensures that individuals have control over their account information and can make necessary updates to reflect accurate and up-to-date details.

Overall, the sequence diagram demonstrates the user-friendly approach of the system, allowing employees and representatives to conveniently manage their account credentials and maintain control over their personal information.

3.5 Navigation Diagram

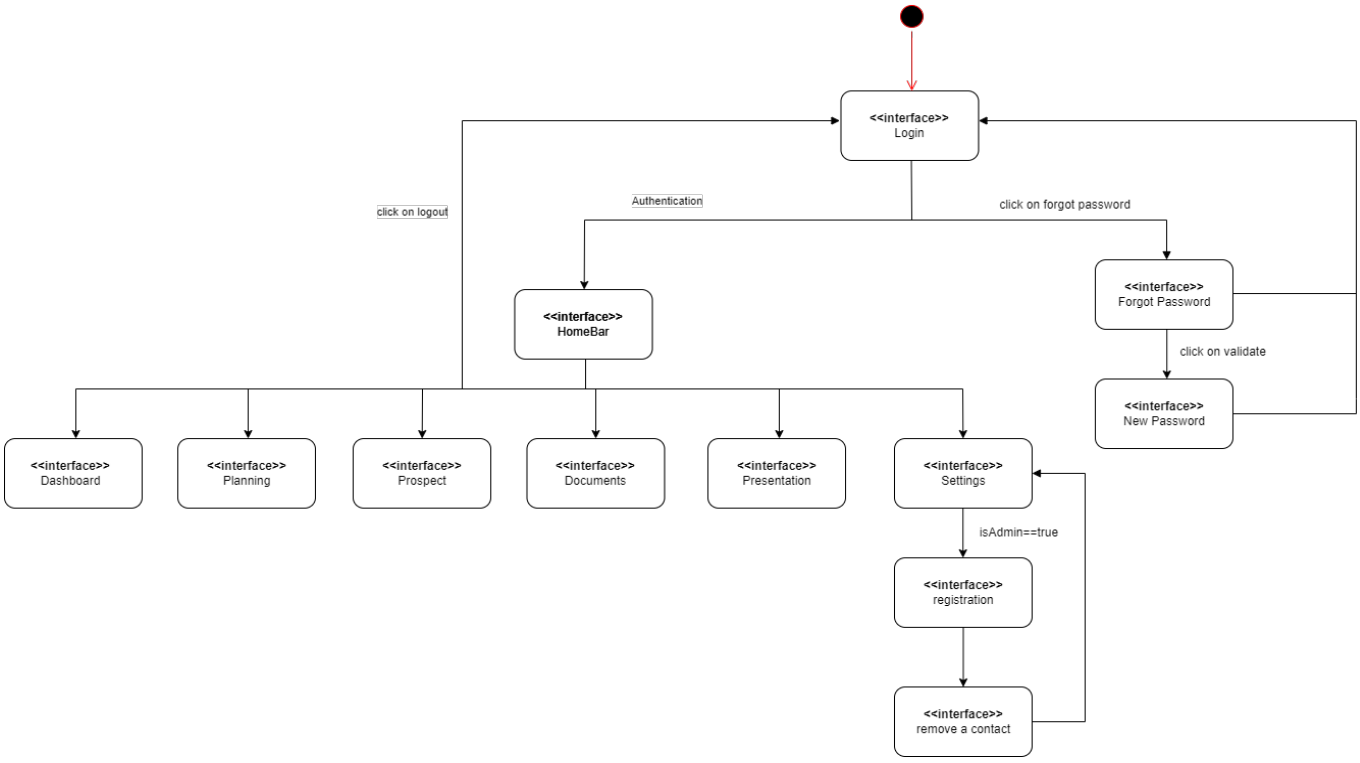


Figure 25: Navigation Diagram

Indeed, the Navigation diagram shown in figure 25 present how the various interfaces of the application navigate between each other.

Certainly, the user must first go through the login interface in order to access the application as an employee or company representative, if the user forgets their password, they can navigate to the interface for forgotten passwords to reset their login information.

Once the user has installed a new password, they must return to the login interface.
After authenticating, the employee or responsible representative will be directed to the homepage interface, from which they can navigate to various interfaces such as prospecting, planning, documents, and presentations.

Additionally, the application includes a 'parameter' interface that contains the user's information and a registration button, this button is exclusively accessible to company representatives, enabling them to add new employees to the application.
Furthermore, from the same screen, representatives have the capability to remove any employee as needed.
Finally, the user can choose to log out, and upon logging out, they will be redirected back to the login interface.

3.6 Testing

The test at this sprinting level reveals various interface designs for different parts of the application that pertain to presentation and user management.

3.6.1 UI of the Authentication

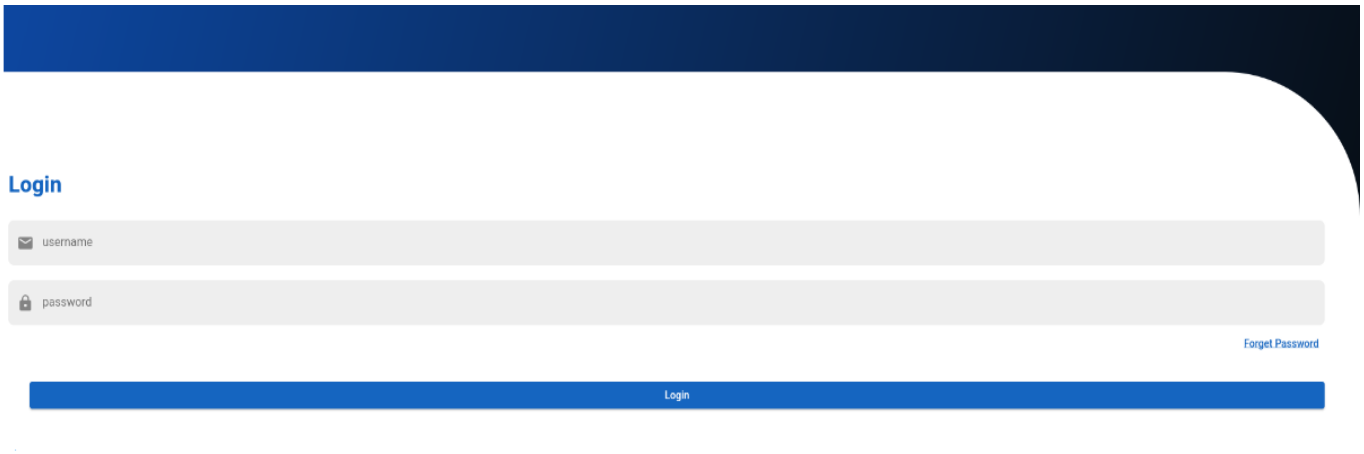


Figure 26: Authenticaqtion UI

3.6.2 UI of the Forgot Password

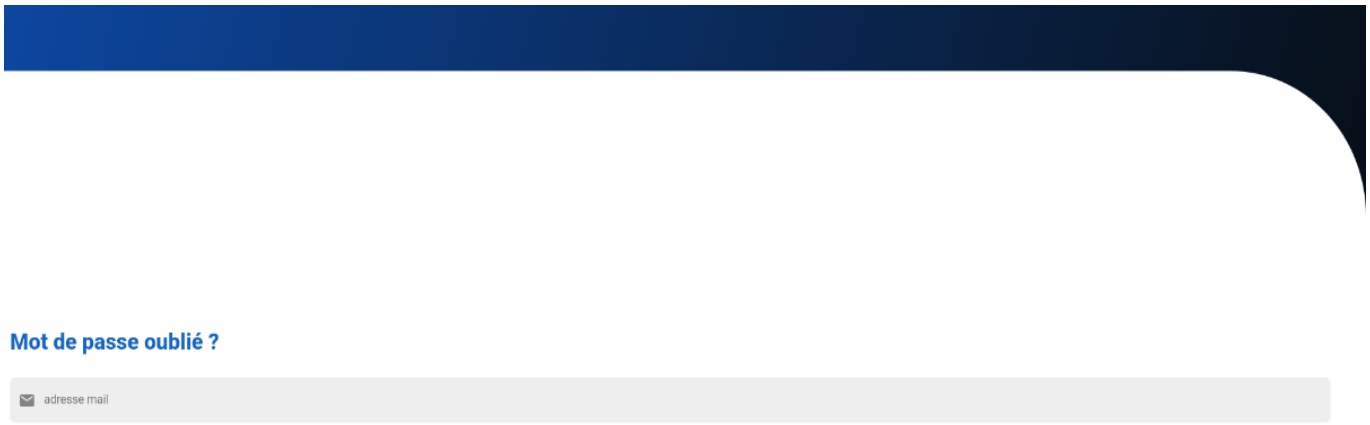


Figure 27: Forgot Password UI

3.6.3 UI of the Dashboard

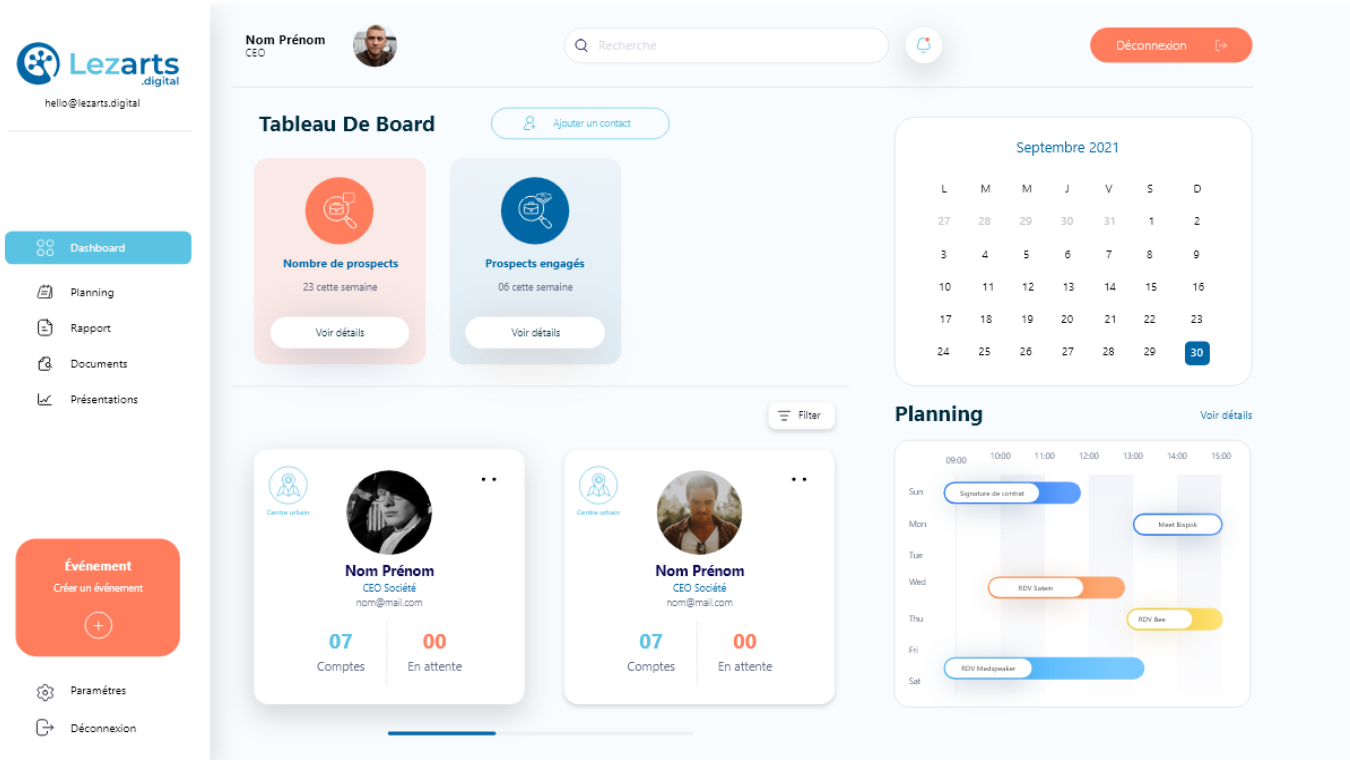


Figure 28: Dashboard UI

3.6.4 UI of the account management

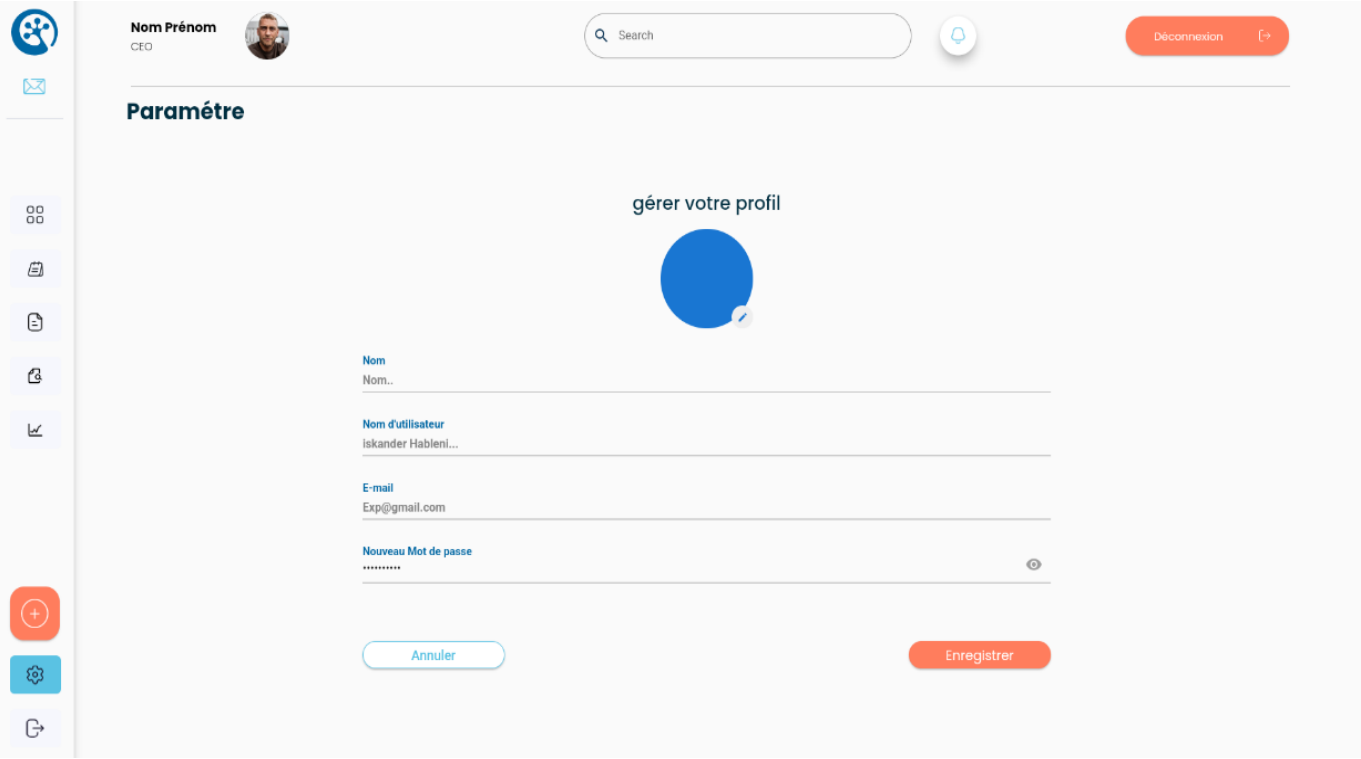


Figure 29: account management UI

The Figure 26 and 27 depict the user interfaces for authentication and forgot password functionality.
In Figure 26, the user is required to enter their credentials to log in and access the application. However, if the user forgets their password, they can initiate the password recovery process through the interface shown in Figure 27.

Moving on to Figure 28, it represents the dashboard interface where company representatives have a comprehensive overview of the application. The dashboard provides valuable insights and a holistic view of the app's current situation, allowing representatives to monitor and manage various aspects effectively. Additionally, employees have the ability to access their own account settings, enabling them to consult and modify their own credentials as needed.

In addition to the previous description, Figure 29 illustrates the settings interface where representatives and employees can manage their account credentials.

This interface enables users to customize their account information, including updating their passwords and modifying personal details.
The settings interface empowers users to maintain control over their accounts and ensure the accuracy and security of their credentials.

3.7 Conclusion

In this chapter, we have presented the backlog for this sprint along with its design for various use cases.
We have also provided an overview of some parts of the code related to the first sprint and showcased the testing process, including screenshots of the interfaces.
In the next chapter, we will proceed with our second sprint.

Chapter 4

4 Sprint 2: prospect managment , event management and document managment

4.1 Introduction

In the previous chapter, we introduced our first sprint.

For this second increment, we will focus on implementing a crucial component of our application: Prospect Management, event Creation, and Document Collaboration, we will then present the product backlog before moving on to the analysis phase.

The following table contains all the functionalities that will be developed in this sprint.

ID	Tasks	Story Point	Priority	Risque
US5: As an employee, I want to fill the required prospect information so that I can create a new prospect.				
1	Create the user interface (UI)	15h	medium	medium
2	Add the needed documents	10h	medium	low
3	Develop a function to allow users to add new pins	5h	low	low
4	Create a reminder system for the appointment	15h	medium	medium
US6: As an employee i want to create a new event so that i can add it in the event calendar.				
1	Create the user interface (UI)	10h	medium	medium
2	create a new event	20h	high	high
3	Modify or Delete the events	10h	low	medium
4	Implement server-side code for storing new events in the database	15h	medium	high

2	Implement an API that allows the front-end to interact with the back-end	10h	medium	low
US7: As a company responsible for managing sensitive documents I want to share and upload documents so that I can collaborate with my team.				
1	Create the user interface (UI)	10h	medium	low
2	Create a secure document sharing and uploading feature	15h	high	medium
3	Implement an access control system with role-based permissions	15h	high	medium

Table 4: Backlog Sprint 2

4.2 Analysis

In this section, the specification of the functional requirement in our case is translated into a refinement diagram, which will allow us to move from use case to analysis.
In order to have a clear understanding of our application, we will refine the use cases that are part of the first sprint.

4.2.1 The refinement of the global use case for the first sprint.

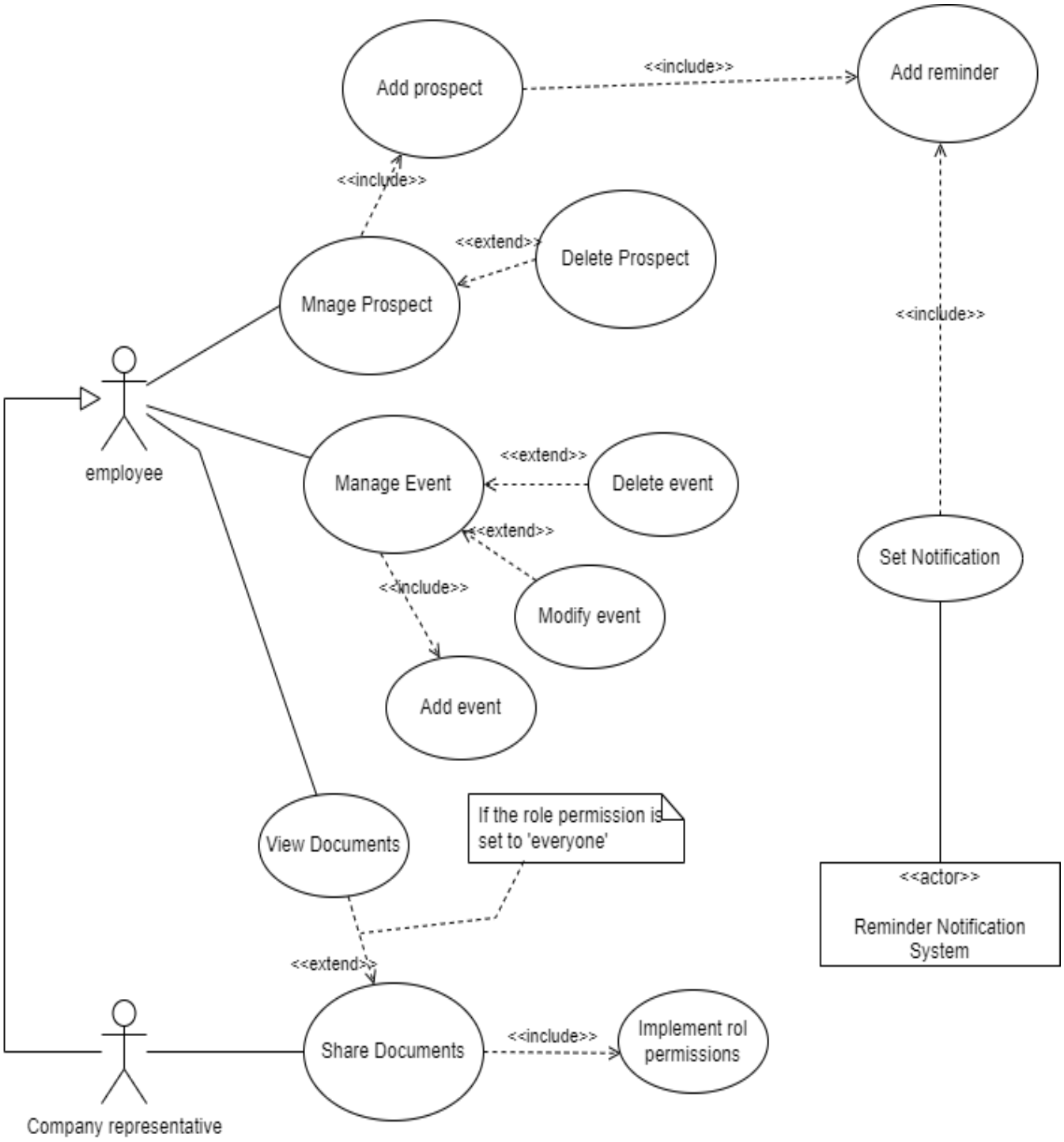


Figure 30: The refinement of the global use case for the first sprint

The employee actively participates in the system by creating prospects, during this process, they have the option to provide various prospect details such as title, meeting location, pins, description, documents, and more.
Additionally, the employee has the freedom to modify or delete the documents associated with the prospect, ensuring the accuracy and currency of the content.
Moreover, the employee can add reminders for specific prospects, serving as helpful prompts for important dates or tasks.

On the other hand, the representative is responsible for sharing documents with employees and granting them access to view the shared materials, this facilitates effective collaboration and seamless resource sharing within the system, especially when the role permission is set to 'Everyone'. By utilizing these functionalities, both employees and representatives can streamline their workflows and enhance their overall productivity.

4.3 Design

The conceptual study is one of the major phases for solving problems and clarifying the project's solution.
In fact, to solve some issues, we illustrated this sprint with its backlog as well as its design, which is represented by a system sequence diagram, navigation diagram, and class diagram.

4.3.1 system sequence diagram

The design diagram of the "Creating prospect and event" use case is presented in the following figure.

***Description of the system sequence diagram of the «Creating prospect and event» use case.**

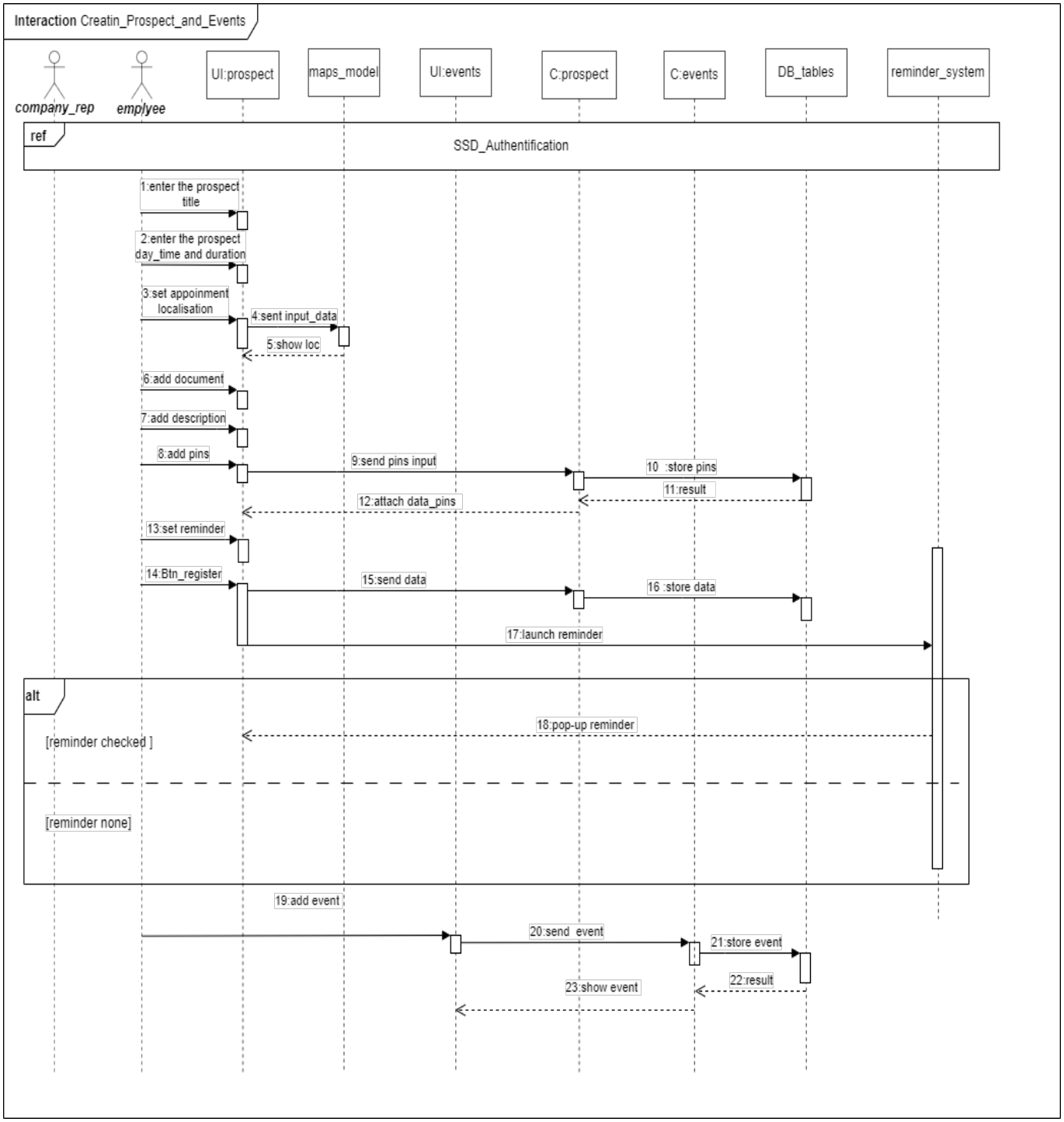


Figure 31: Sequence diagram of the use case «Creating prospect and Event»

The System Sequence Diagram (SSD) shown in Figure 37 illustrates the step-by-step

process involved in creating a new prospect and adding an event to the calendar using the system.

To create a new prospect, the employee enters the prospect's general information such as title, time, and duration into a simple input field. The employee then sets the location of the prospect using a map with an auto-complete address feature through the Map UI and API, the employee can also attach a multi-type extension document and modify or delete it as needed.

Additionally, the employee can set pins that provide additional details about the prospect, which are automatically saved in the database for easy retrieval and display in the UI.

Furthermore, the employee can choose to set a reminder for the event, which generates a small notification at the specified time, the employee has the option to either set a reminder or not.

All the data entered by the employee is saved in the database by clicking on a register button.

To create an event, the employee must first set the contact information related to the event, which is then stored in the database.

Finally, the event must appear in the calendar with all the necessary details for a good viewing experience.

***Description of the system sequence diagram of the «sharing documents**

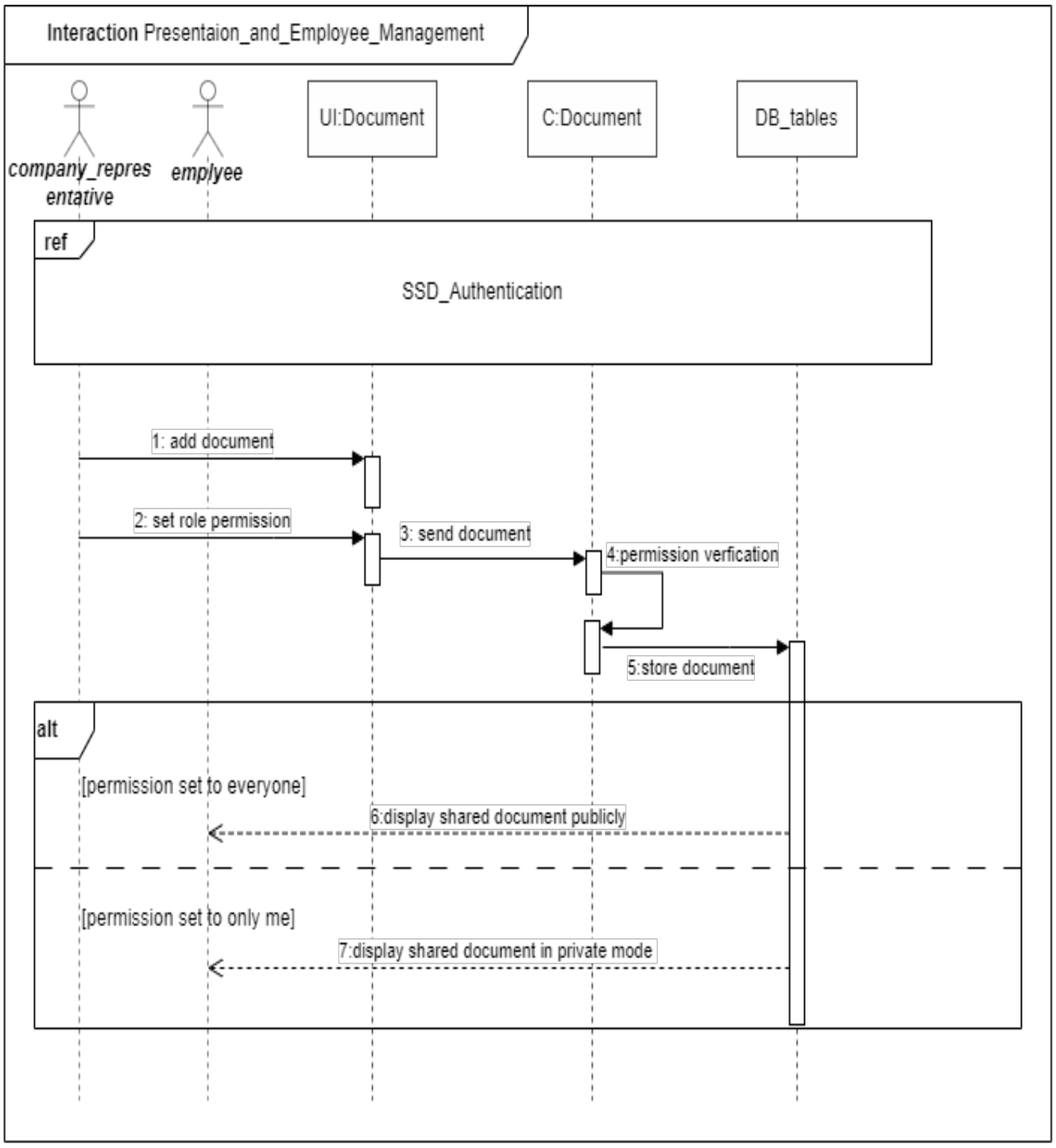


Figure 32: Sequence diagram of the use case «share Documents»

The System Sequence Diagram (SSD) for the document sharing shown in figure 32 feature illustrates the interaction between the user and the system when company representatives add and share documents with specific permissions.

The representative initiates the document sharing process by accessing the document sharing functionality within the system.

The system presents the representative with options to set the role permission for the shared document. The representative can choose between two options: "Everyone" and "Only Me."

If the representative selects "Everyone" as the role permission, the system allows employees to access and view the shared document.

This promotes collaboration and enables seamless sharing of resources within the system.

The system notifies the representative that the document has been shared successfully with the employees.

On the other hand, if the representative selects "Only Me" as the role permission, the system restricts access to the shared document to the representative alone.

This ensures privacy and confidentiality, limiting document visibility to authorized personnel, the system confirms to the representative that the document has been set as private successfully.

In both cases, the system records the sharing action, including the document details, role permission settings, and the representative who shared the document.

This information can be used for auditing and tracking purposes.

The SSD for document sharing showcases how company representatives can add documents and define role permissions to determine who can access and view them.

The options of "Everyone" and "Only Me" provide flexibility and control over document visibility, catering to different sharing needs and ensuring data security.

4.4 Testing

Testing is a vital part of the application development process, as it ensures that the software meets the requirements and works as intended.

4.4.1 UI of the prospect creation

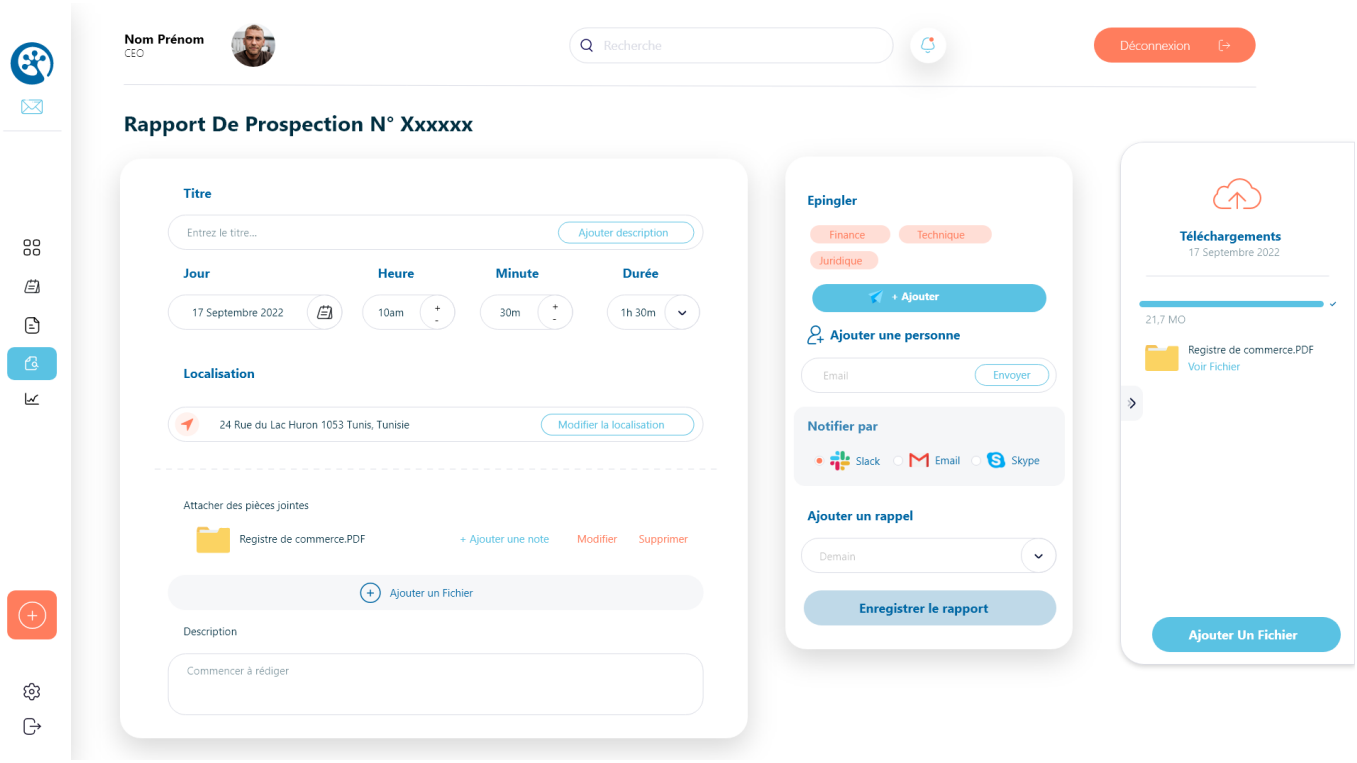


Figure 33: Prospect UI

4.4.2 UI of the event creation

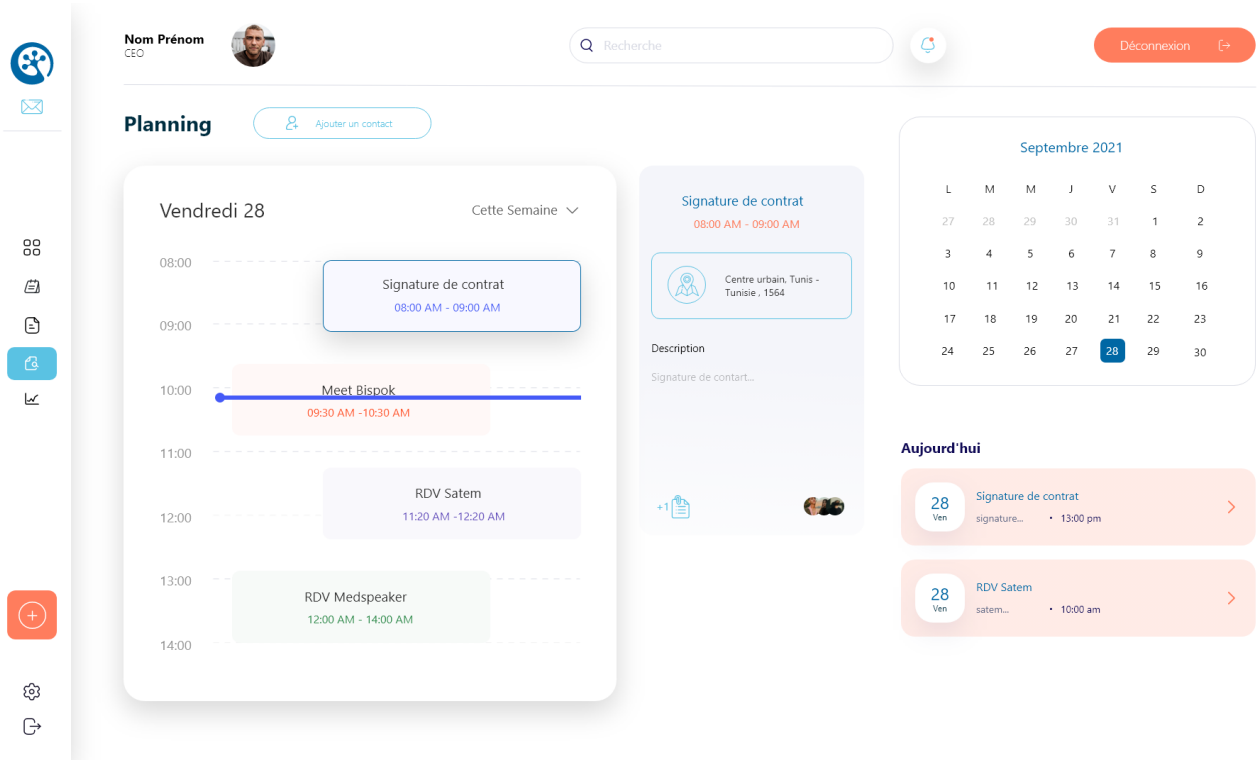


Figure 34: Event UI

4.4.3 The user interface (UI) design of the Share Documents feature

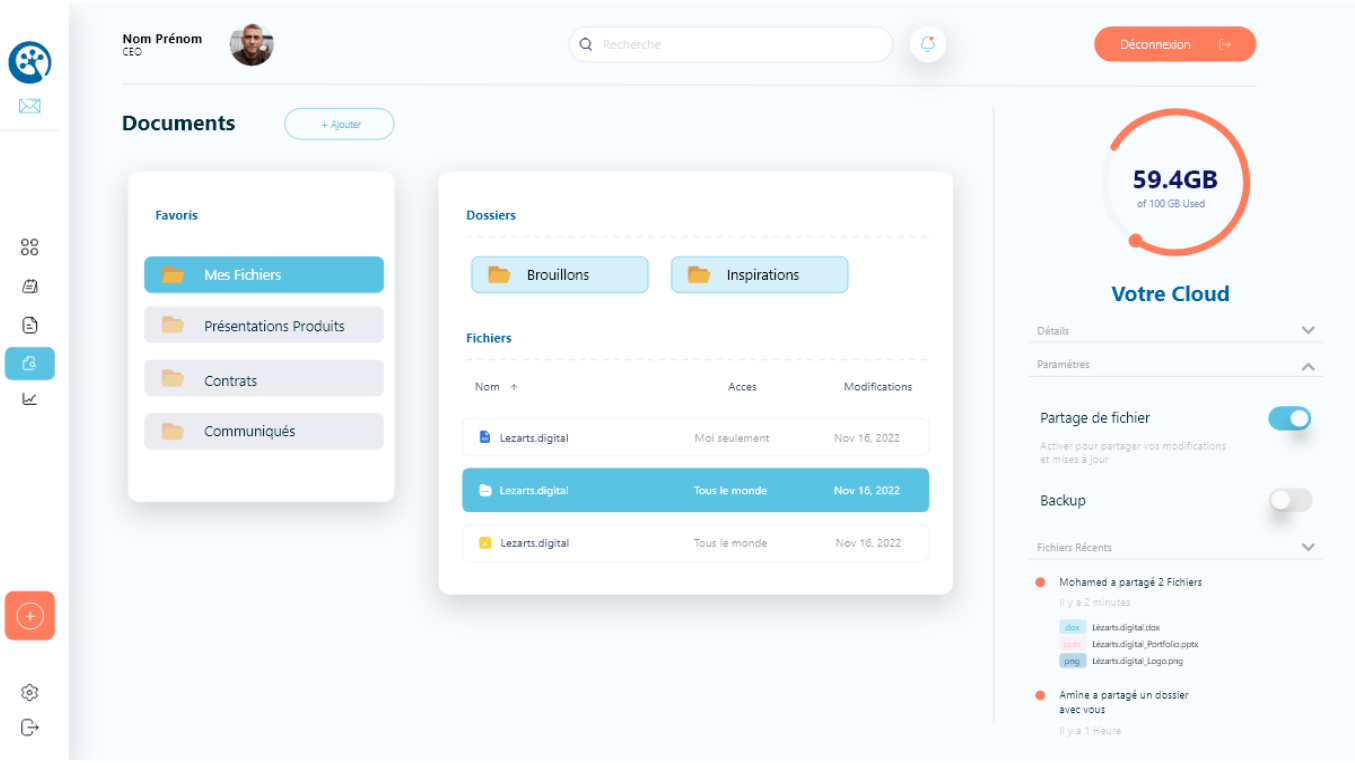


Figure 35: share documents UI

these interfaces enable users to create prospects, events, and share documents.

4.5 Conclusion

In this chapter, we presented the main functionalities of our application, which were detailed in sprint 2 along with their backlog, illustrated by the design of their use cases.
Additionally, we presented the portion of code related to this sprint, as well as a test represented by screenshots of certain interfaces.
Subsequently, we will proceed to the third sprint.

Chapter 5

5 Sprint 3:presentation management, employee management, and notification management

5.1 Introduction

After presenting the previous chapters, we will now showcase the last sprint, which includes presentation management.
This feature will allow employees to showcase their products to their respective clients.
In addition, we will also work on implementing the management of employees and the notification section within the application.

ID	Tasks	Story Point	Priority	Risk
US8: As an employee I want to create presentations that showcase our products.				
1	create presentation UI	10h	medium	low
2	add and delete presentaions, as well as add images and other presentation file format	25h	high	high
3	Ensure Implement server-side code for modifying presentations from the database	25h	high	medium
US9: As a company representative, I want to add my employees to our account				
1	Create the user interface (UI)	10h	medium	low
2	Develop the back-end system for adding and deleting employees	25h	high	high
US10: As an employee, I want to visualize the notification section so that i can stay updated.				
1	create the notification UI	15h	medium	low
2	Develop the back-end system for managing notifications	30h	medium	high

5.2 Analysis

In this section, the functional requirements specification will be translated into a refinement diagram that will facilitate the transition from use cases to analysis.
To gain a clear understanding of our application, we will refine the use cases that are relevant to the second sprint.

5.2.1 The refinement of the global use case for the second sprint.

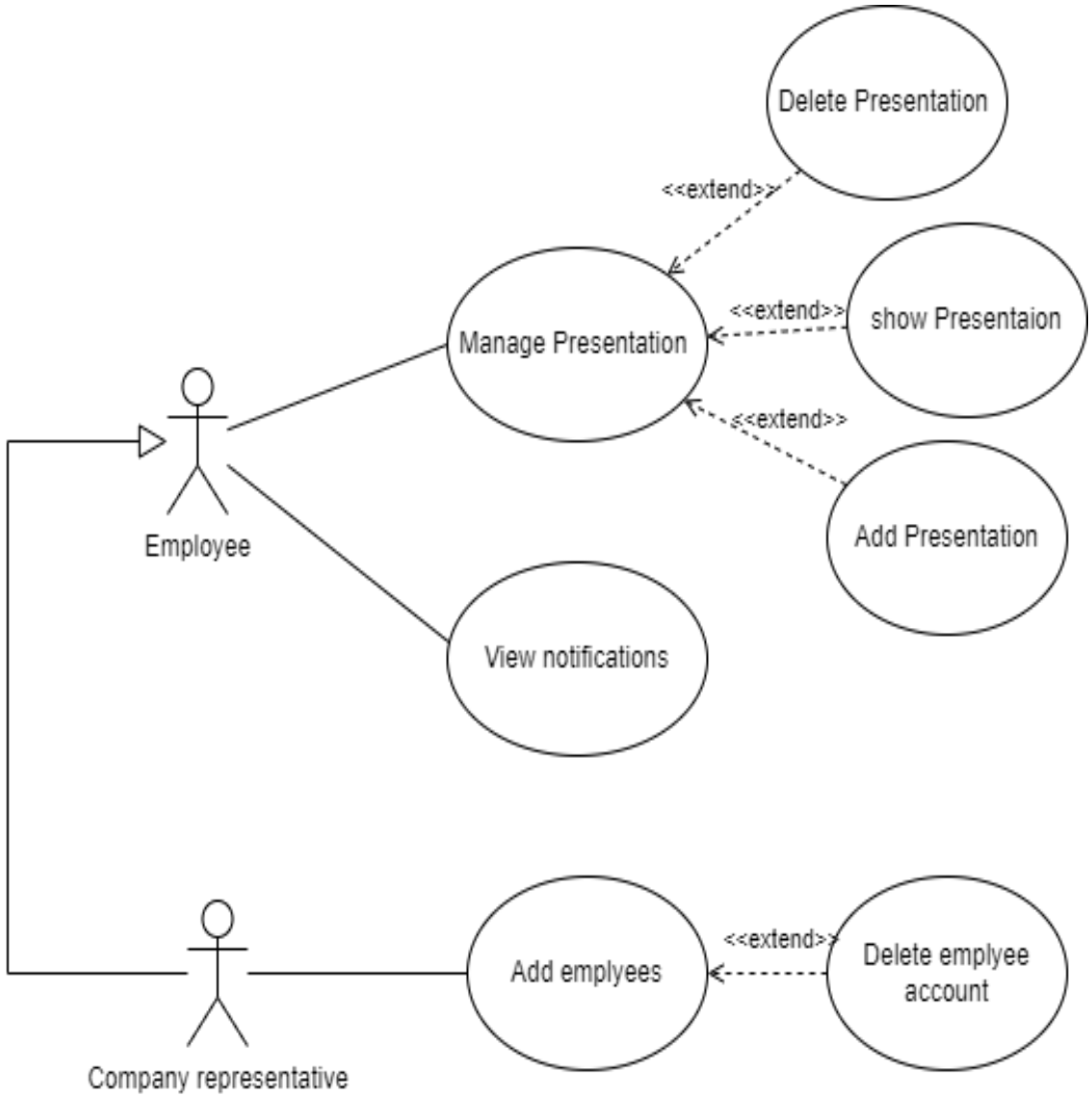


Figure 36: The refinement of the global use case for the third sprint

The third sprint's use case, as shown in Figure 36, focuses on the employee's ability to manage presentations within the system. They have the authority to add, delete, and view presentations, ensuring the relevance and currency of their collection.

Furthermore, there is an inheritance relationship between the employee and the representative. This means that the representative inherits all attributes, permissions, or roles from the employee, promoting consistency and facilitating communication between the two roles.

The company representative holds the authority to add new employees to the platform, enabling the seamless integration of new team members and facilitating their onboarding process. Additionally, representatives can remove employees when necessary, ensuring that the system maintains accurate and up-to-date workforce information.

Moreover, both employees and representatives have access to the notification section, where they can view notifications relevant to their roles and responsibilities.

Overall, this use case highlights the collaborative nature of employees and representatives within the system, showcasing efficient presentation management and streamlined employee onboarding processes.

5.3 Design

The design phase is the second stage of the second sprint, and in this phase, we will present the system sequence diagram.

5.3.1 system sequence diagram

The design diagram of the "presentation management, employees management, and notification management" use case is presented in the following figure.

***Description of the system sequence diagram of the «Presentation and User Management» use case.**

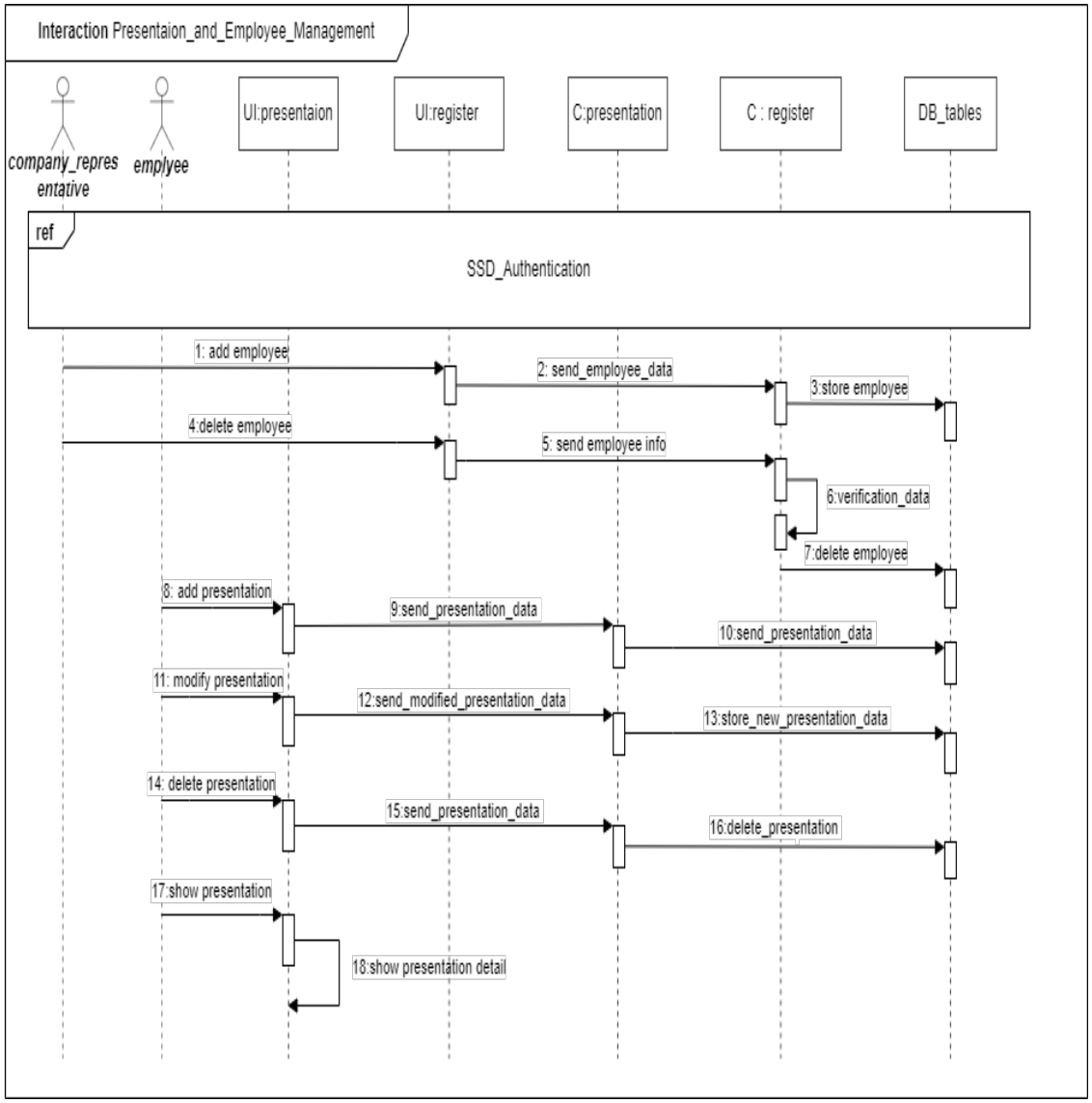


Figure 37: Sequence diagram of the use case «Presentation and User Management»

The System Sequence Diagram depicted in Figure 37 provides a visual representation of the sequential steps involved in various actions related to presentations. It illustrates the process of selecting a presentation after adding it, opening the chosen presentation, as well as the options to modify or delete the presentation and access its details.

Additionally, to streamline the process of adding new employees, the application provides a user-friendly registration section. This allows representatives to effortlessly add new employees by following simple steps and also offers the capability to delete employees, thereby enhancing the overall efficiency of employee management within the system.

***Description of the system sequence diagram of the «View Notification» use case.**

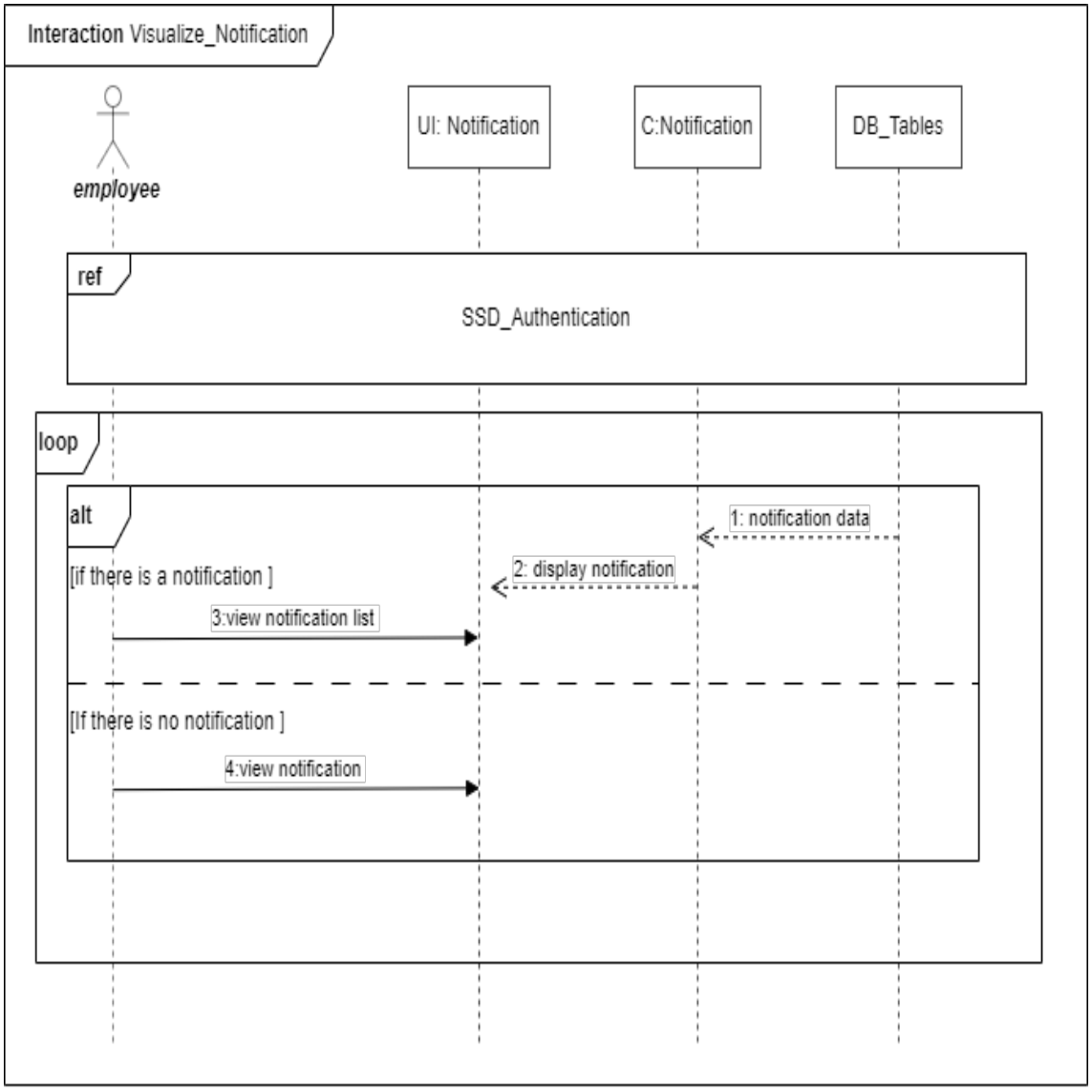


Figure 38: Sequence diagram of the use case «View Notification »

The "View Notification" feature allows employees to access and view notifications within the system.

This feature provides timely updates and important information to employees, ensuring effective communication and collaboration.

When a new notification is generated, the system stores the notification data in the database, The database then returns the notification data to the controller, which handles the retrieval

and display of notifications.

Upon accessing the notification interface, the employee can view any new notifications that have been generated.

The system displays the notification content, including relevant details and any associated actions or tasks.

If there are no new notifications, the employee can still access the notification interface to review previously received notifications, this allows employees to revisit important information and stay informed about past events or tasks.

5.4 Testing

The test at this sprinting level reveals various interface designs for different parts of the application.

5.4.1 UI of the presentation

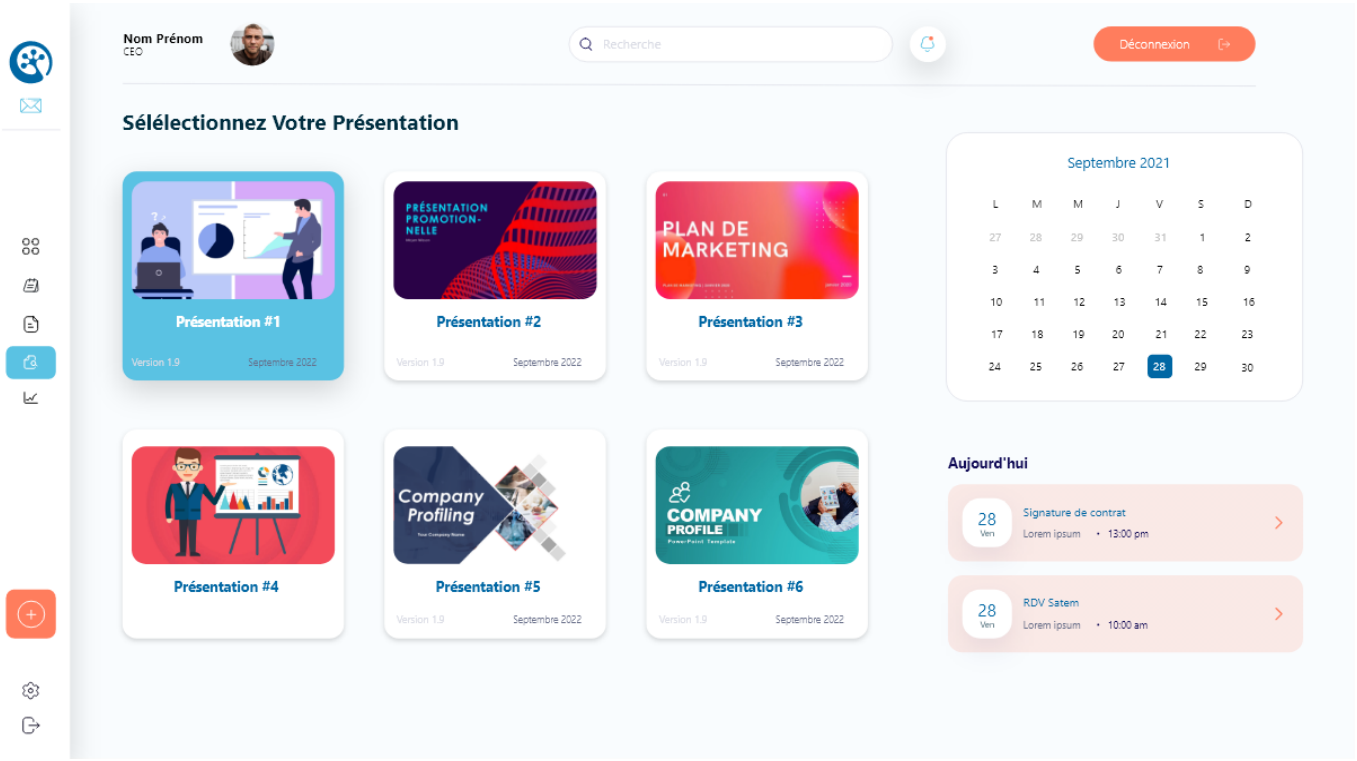


Figure 39: presentation UI

5.4.2 The user interface (UI) design for the presentation detail screen

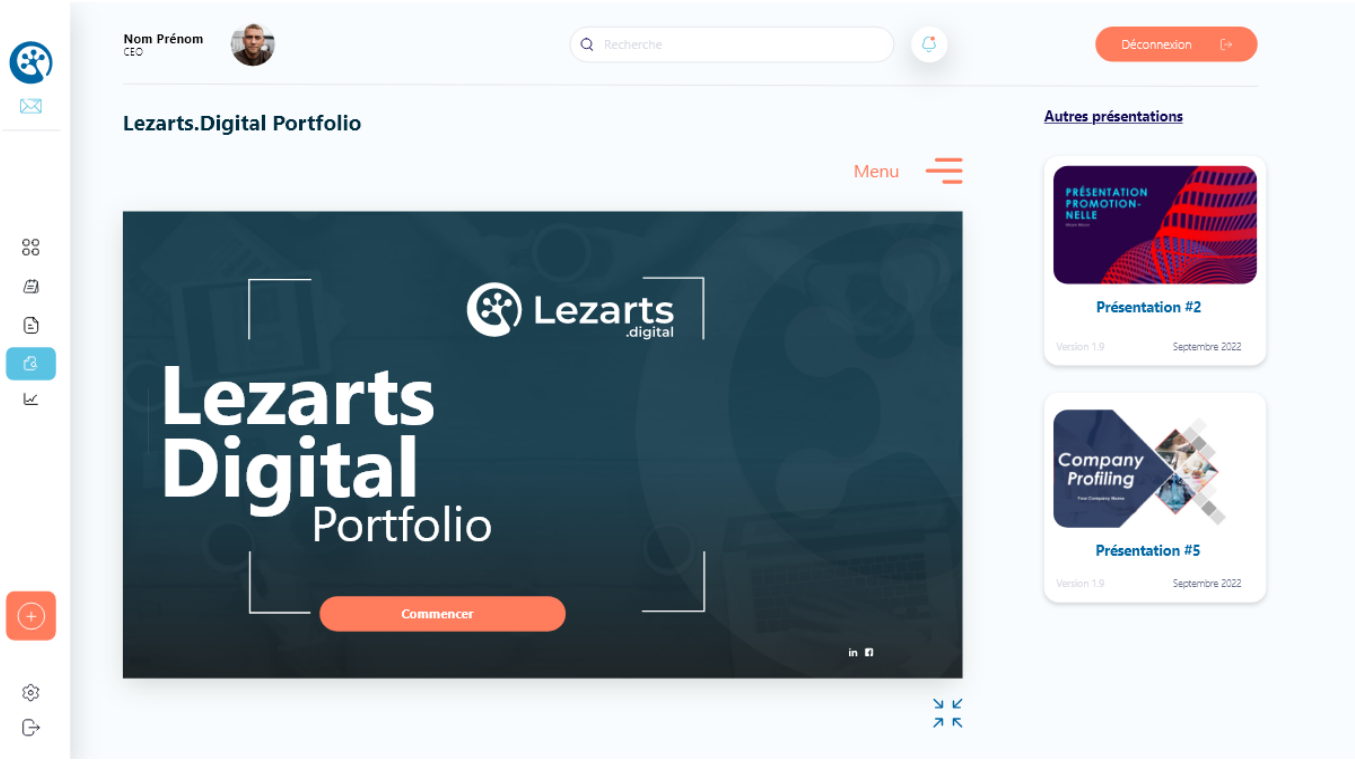


Figure 40: presentation Detail UI

5.4.3 The user interface (UI) design of the register

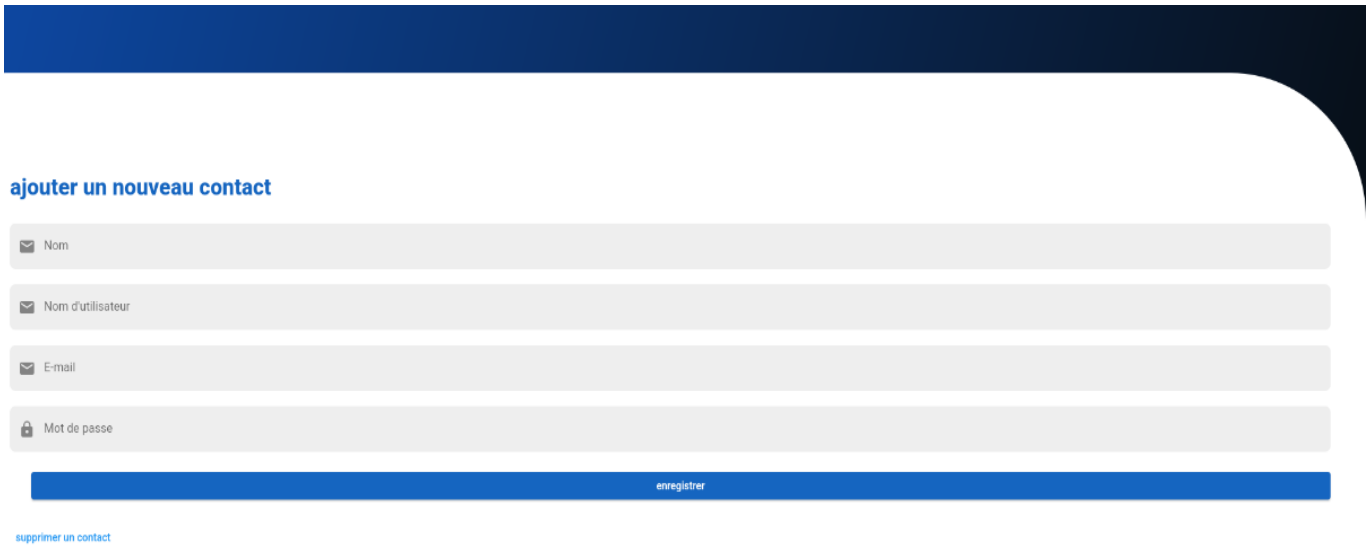


Figure 41: register UI

These interfaces 41, 40 enable users to select the presentation they want to open after adding it.

The final figure 41 displays the settings interface, where company representatives can add their employees.

5.5 Conclusion

In the last chapter, we concluded our sprints with the presentation of the third sprint, which defines an indivisible part of the development of our application. This sprint is illustrated by the design of its various use cases, a product backlog, as well as a portion of the code, and a test that showcases the interfaces related to the deployment of this part.

Chapter 6

6 PROJECT CLOSURE

6.1 Introduction

The closure phase marks the end of the project and is the final stage of our application development cycle using SCRUM. In this last chapter, we will explain the project architecture and the plan we have used.

6.2 MVC architecture

The MVC (Model-View-Controller) architecture is one of the most commonly used software architectures for applications. It enables the creation of an application that effectively manages the structure of a project into three parts.(***MVC architecture*** n.d.)

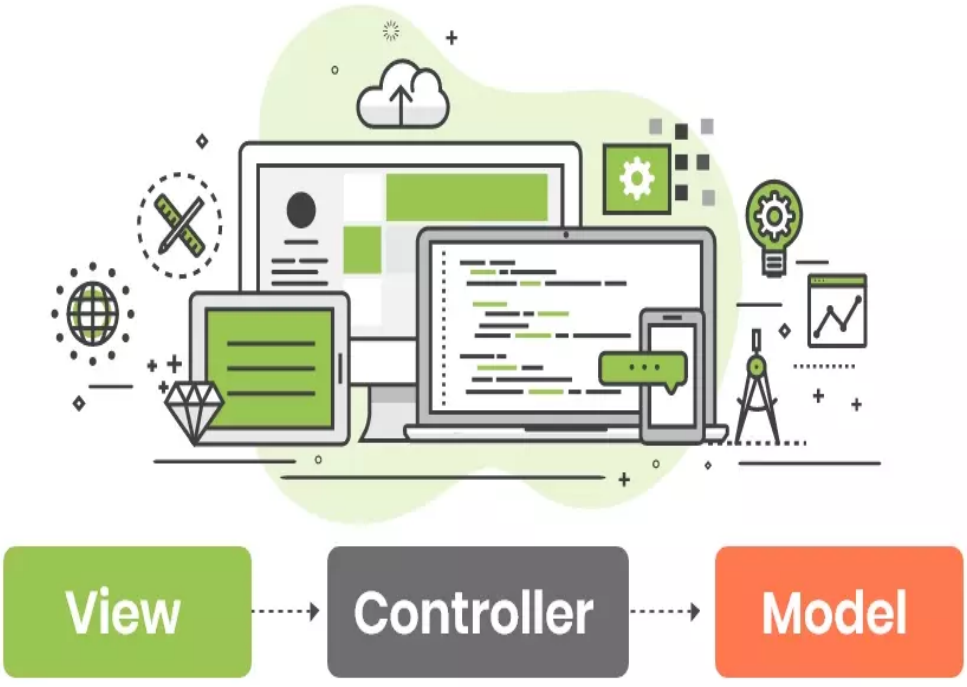
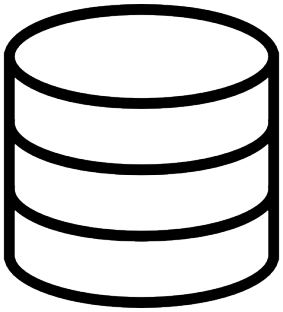


Figure 42: MVC architecture

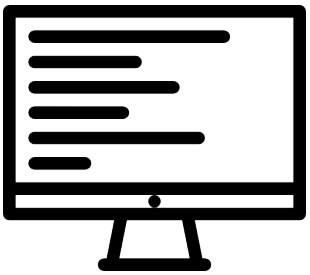
Indeed, the MVC is composed of three types of components:

2.Model



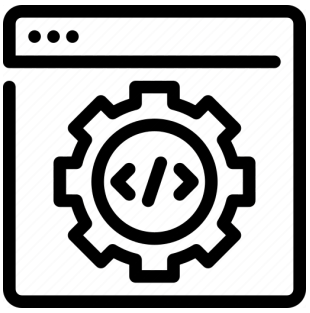
Model is an entity OR object that consists list of attributes and functions. It can be view as a representation of real-world knowledge that the application stores, processes and delivers to end user.(***MVC architecture*** n.d.).

1.View



It is used for all the UI logic of the applications. Usually it will display the model that the controller pass to it.(***MVC architecture*** n.d.).

3.Controller



Act as an interface that control all the request and responds. As request coming in from user, the controller will manipulate the models respectively and display it by rendering view file accordingly. (***MVC architecture*** n.d.).

6.3 Project planning

To accomplish our project, we have chosen the Gantt chart to plan it. It allows us to visualize the development journey of our application.

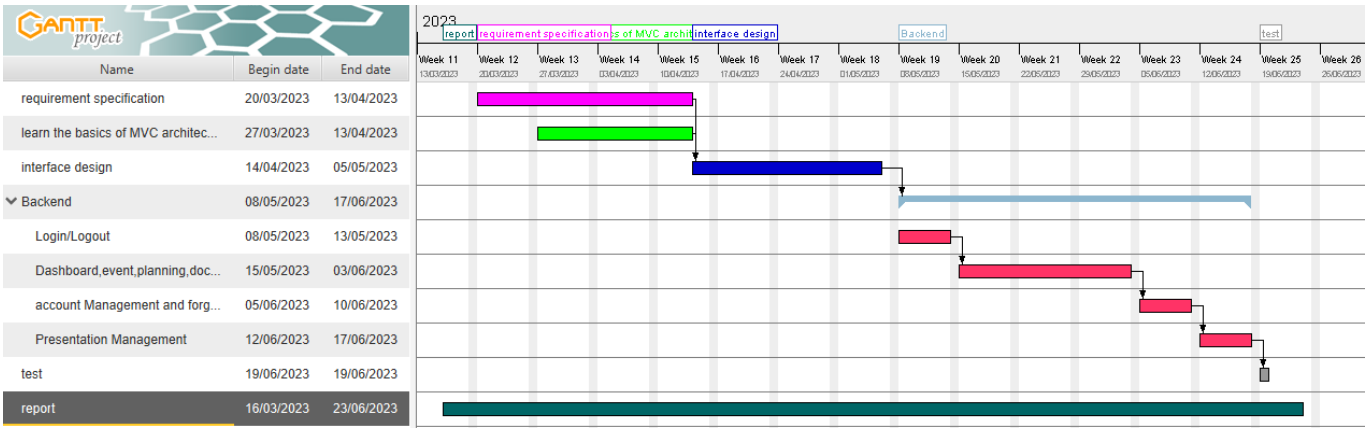


Figure 43: Gantt Diagram

6.4 Deployment diagram

A deployment diagram in the Unified Modeling Language (UML) models the physical deployment of artifacts on nodes.

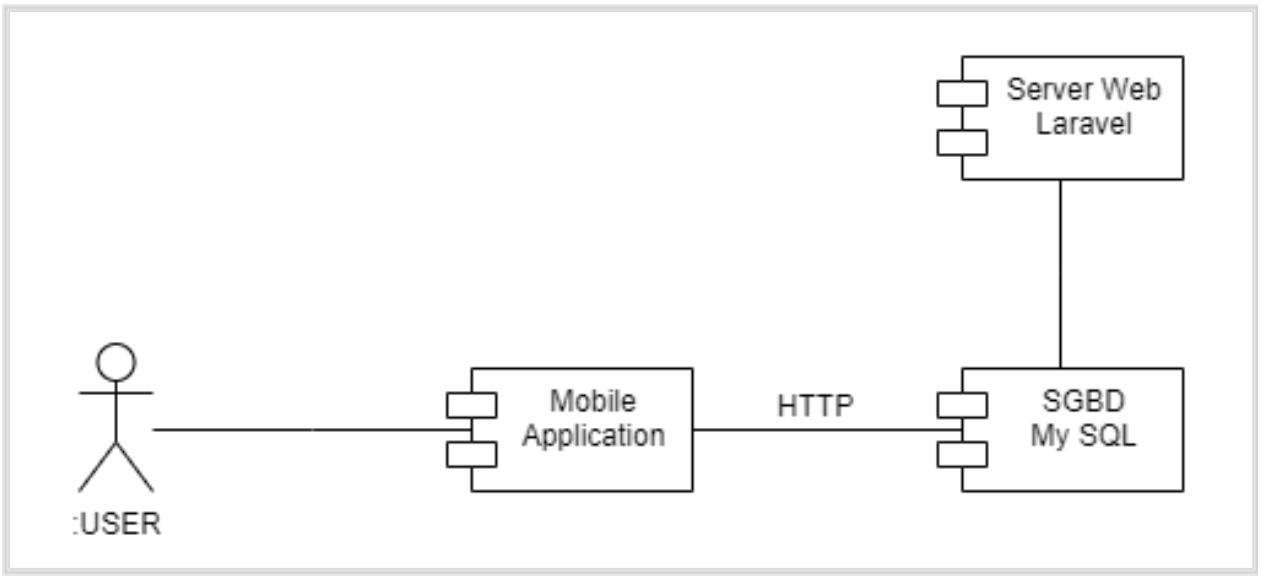


Figure 44: Deployment diagram

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