Final report:

PROJECT under the module PI-DEV

ERP Bank

Ecole Supérieure Privée
D'Ingénierie et de Technologies

Form otherwise differently for an engineers' new generation

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APPRECIATION

It is with the great pleasure that we reserve these lines in sign of gratitude and recognition to all of those who contributed for the elaboration of this work.

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We also thank the members of the jury for giving us the opportunity to present this project and accepting to judge this modest work.

Finally, we thank infinitely to all those who contributed to the good progress and success of this project.

GENERAL INTRODUCTION

As part of our PI-DEV project in the higher private school of engineering and technology, we are interested in making an ERP to coordinate a bank activities.

Our application have to deal with several points such as customer's management, employee's management, treasury management and others...

This report describes the steps we have taken to realize this project. It has four sections. In the first section which was very vital and it was interesting to us to continue with the project analysis of describing the subject of our project. Then we have continued our work by sprint 1 where we presented the User Interface (UI) part of our project to develop JEE. Then in the sprint 2 section we developed our web application using ASP.Net. Subsequently, for Sprint 3 we have focused on the development of the second section of the User Interface application in JSF. Finally, we will study the Sprint 4 which would demonstrate the application with sharepoint.

CHAPTER 1: SPRINT 0

Introduction

The present chapter is dedicated to the zero sprint of our project. In this chapter we are going to identify the actors, to clear the functional needs and the not functional needs. So, the identification of the main cases of use represented by the use case diagram and lastly, we model the physical architecture and the logic of the application.

I. Context analysis

1. Identification of actors

An actor is an external entity (human user or not) that interacts with the system. In response to the action of an actor, the system provides a service that matches its needs.

The actors of our project are:

- The administrator: He insures the administration of the members and the management of the propositions.
- The Client: It is an authenticated member who can consult the list of the propositions and postulate for it.
- The Visitor: It is an authenticated member who can view our application.

2. Identification of the functional needs

In this part, we are going to study the various procedures of every user (The Client, Visitor and administrators).

The system should allow each actor to:

Inventory Manager :

- Manage Invoices suppliers
- Manage materials
- Manage User Account
- Manage Local

- ❖ Notify Employees
- ❖ Manage Suppliers Profile
- ❖ Documentation

HR Manager :

- ❖ Administrate staff
- ❖ Manage employees contract
- ❖ Manage Candidacies
- ❖ Manage Training sessions
- ❖ Manage Rewardings

Cashier:

- ❖ Manage transactions
- ❖ Discuss with employees
- ❖ Manage bank account

Head of agency:

- ❖ Manage Clients Profile
- ❖ manage loans

Reception agent:

- ❖ Manage Clients Profile
- ❖ Manage loans
- ❖ Manage bank accounts

Financial manager:

- ❖ Manage loans
- ❖ Manage bank accounts

Visitor

- ❖ Make a Candidature

Client;

- ❖ Apply for a credit card

3. Identification of the not functional needs

Non-functional requirements are the constraints to be taken into consideration to establish an adequate solution to the expectations of the designers of dynamic architectures. Our application must necessarily ensure these needs:

- Extensibility: The application must be extensible. What mean that there is a possibility to add or modify new features.
- Security: The information must not be accessible to everyone. That means that the application is accessed only through a username and a password.
- Conviviality: the application should be simple and easy to manipulate by non-experts.
- Minimum response time
- Interoperability of the application
- Availability : The software must be available all the time, users can edit or send information at any time.
- Maintainability: If any maintainability is needed, the software must be maintainable very fast so the enterprise business could not be on hold.

II. Global analysis

1. Modeling of the diagram of global use case

The following figures represents the diagram of global case uses which allows to identify the various features realized by the potential users of our application.

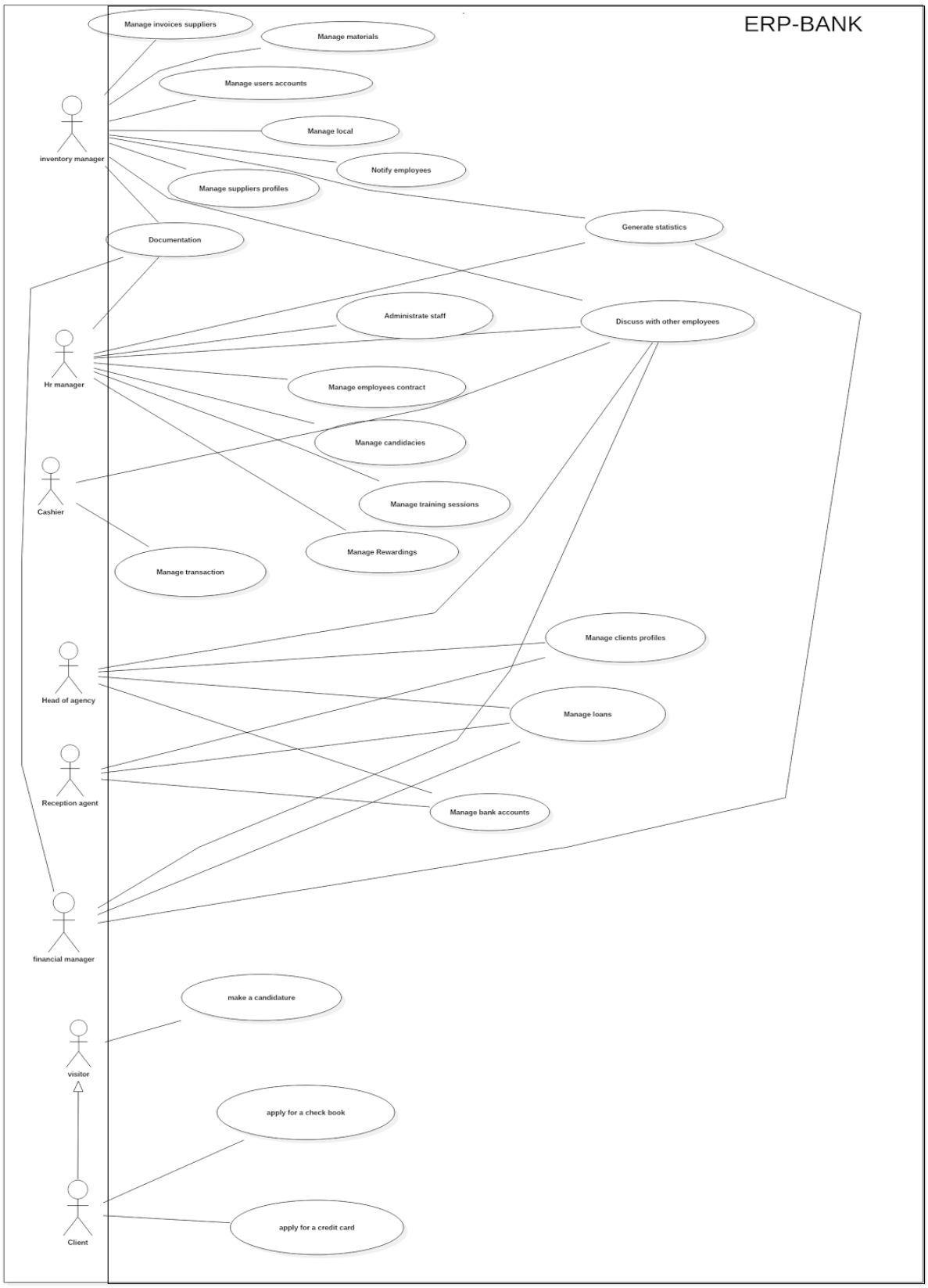


Figure 1 Global use case diagram

2. Textual description

Title : Authenticate

Summary : Case of use allowing a user to authenticate

Actors : users(HR , Financial manager, Administrator, Clients)

Precondition: the user must create an account

Nominal scenario:

Actor Action	System Action
	1) the system displays the authentication interface
2) the user enters his login and password	
3) the user clicks the login button	
	4) the system checks the information entered

Scenario of exception

The user did not seize the good identifiers.

The user does not exist in the database.

Title : Add new material

Summary : Case of use allowing an Administrator is able to submit a new material

Actors : Administrator

Precondition: Administrator authenticated and authorized by the login and password.

Nominal scenario:

Actor Action	System Action
	1) the system displays the interface for adding a material.
2) Administrator check the new	

material.	
3) Administrator clicks the add button	
	4) the system makes the necessary controls seizures and records work in the base

Scenario of exception

The user did not seize the good identifier

Title : Create an account

Summary : Case of use allowing a user of creates an account

Actors : Administrator

Precondition: the user authenticated and authorized by the login and password.

Nominal scenario:

Actor Action	System Action
	1) the system displays the interface for adding a new account.
2) The user enters the information necessary	
3) The user clicks the add button	
	4) the system makes the necessary controls seizures

Scenario of exception

The user did not seize the good identifiers

Title : cancel suppliers

Summary : Case of use allowing an Administrator to delete a suppliers

Actors : Inventory Manager

Precondition: Administrator authenticated and authorized by the login and password.

Nominal scenario :

Actor Action	System Action
1) Inventory Manager clicks the delete button.	.
	2) the system displays a message to confirm the deletion.
3) Inventory Manager clicks the yes button	

Scenario of exception: No

Title : Confirm suppliers

Summary : Case of use allowing a user to confirm suppliers with candidature .

Actors : Inventory Manager

Precondition: HR authenticated and authorized by the login and password.

Nominal scenario:

Actor Action	System Action
1) Inventory Manager selects modified button	.
	2) The system displays the interface to update a supplier
3) Inventory Manager filled accommodates them to modify	
	4) The system displays a message to confirm the update
5) Inventory Manager clicks the yes button	

Scenario of exception : No

3. Class diagram of global analysis

The following figure shows the class diagram that identifies the classes and interfaces of systems, and the various relationships between them.

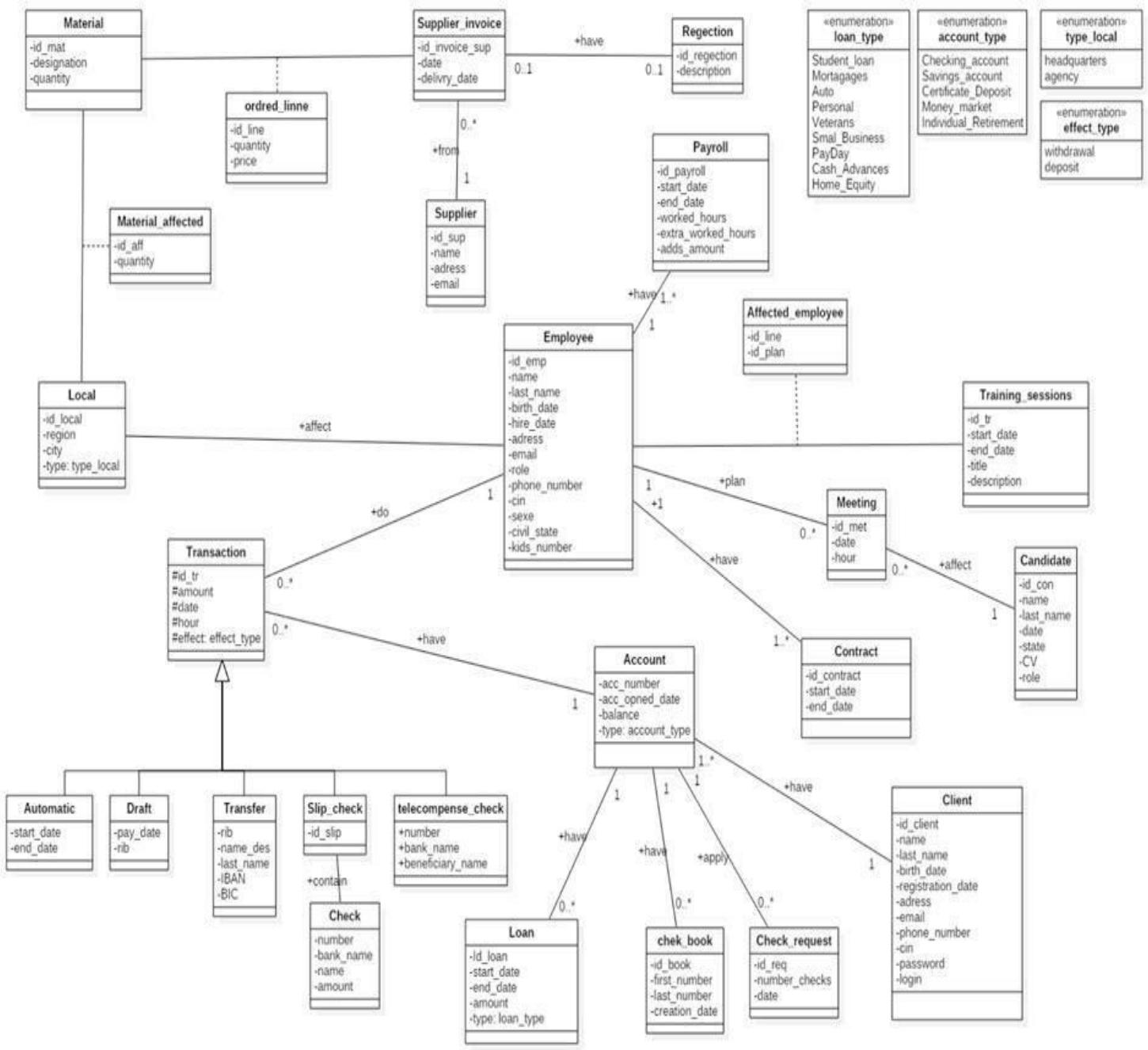


Figure 2 Class diagram of global analysis

III. Modeling the overall physical and logical architecture of the application

1. Physical architecture

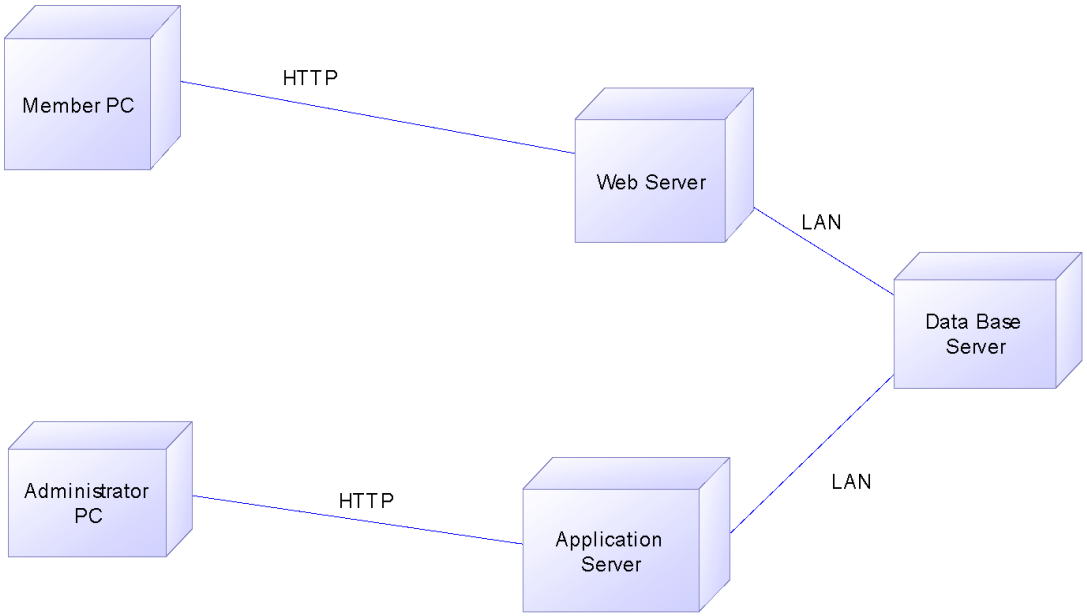


Figure 3 Deployment diagram

2. Logical architecture

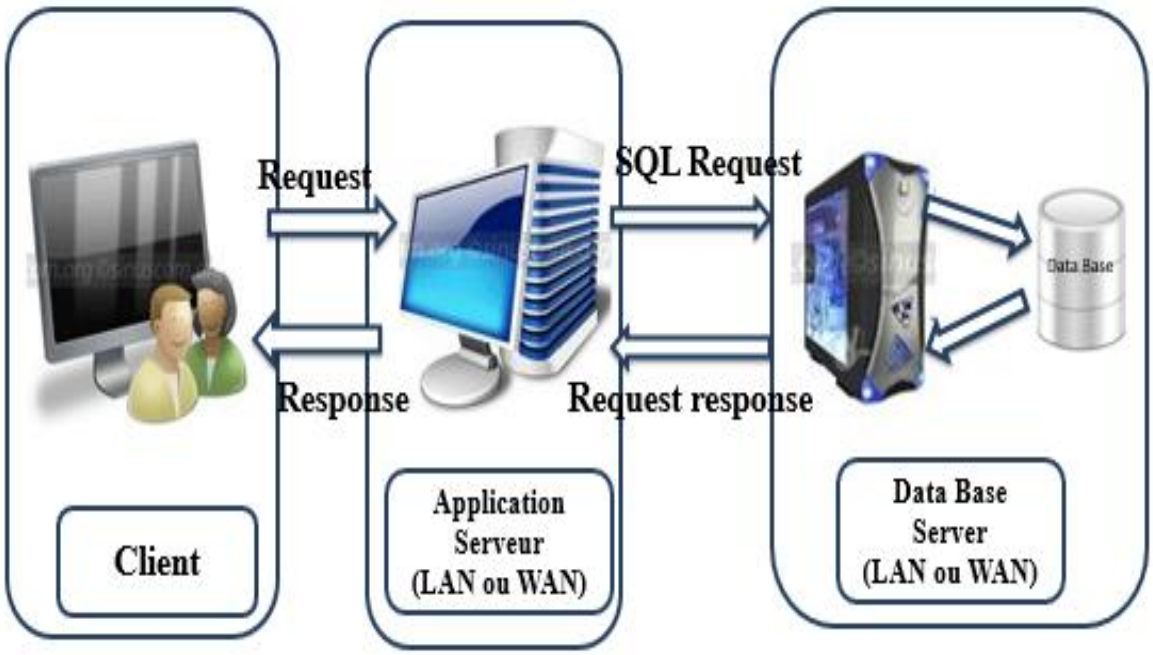


Figure 4 Logical architecture

IV. Developing prototype

JEE

This figure represents the administrative interface to manage users, proposals and have a view of every single statistics.

This interface allows the **administrator** to view statistics by:

- ✓ materials categories,
- ✓ balance
- ✓ payment ranges,
- ✓ Number of registration

They also allow us to see number of:

- ✓ Programmers,
- ✓ Marketers,

.Net

This interface allows the **Client** to post visit his profile and check his balance and also he can consult his historic which allows him to follow his operations.

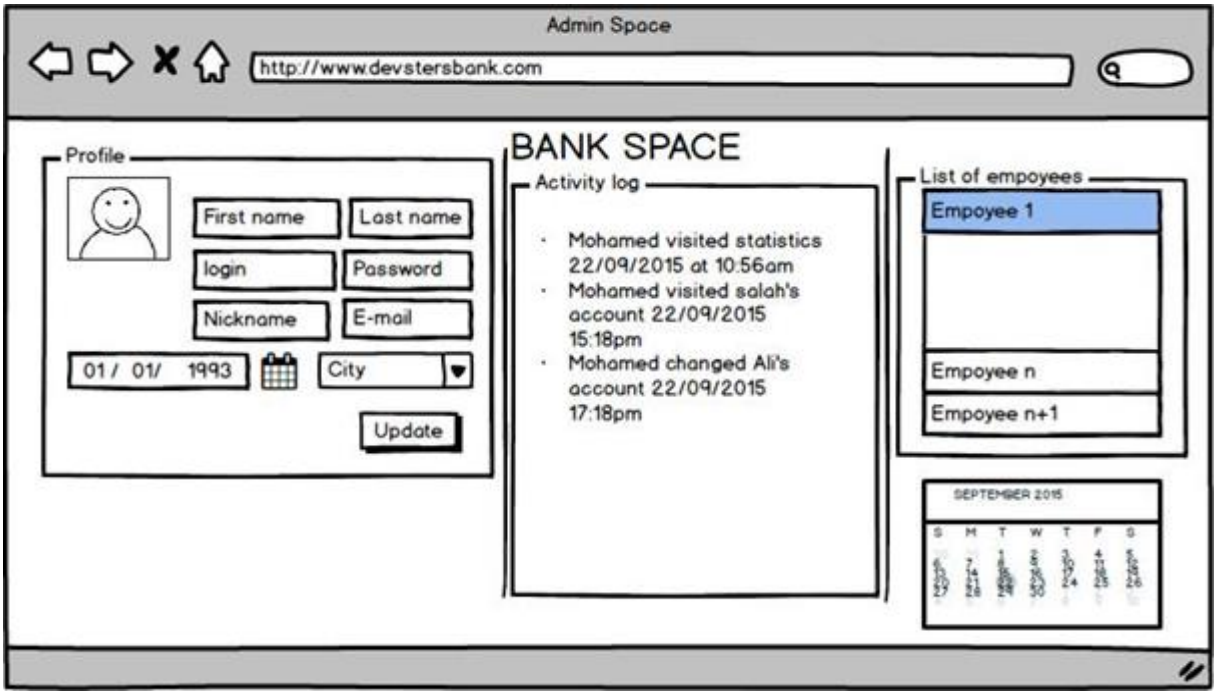


Figure 5 Client interface

JSF and SharePoint

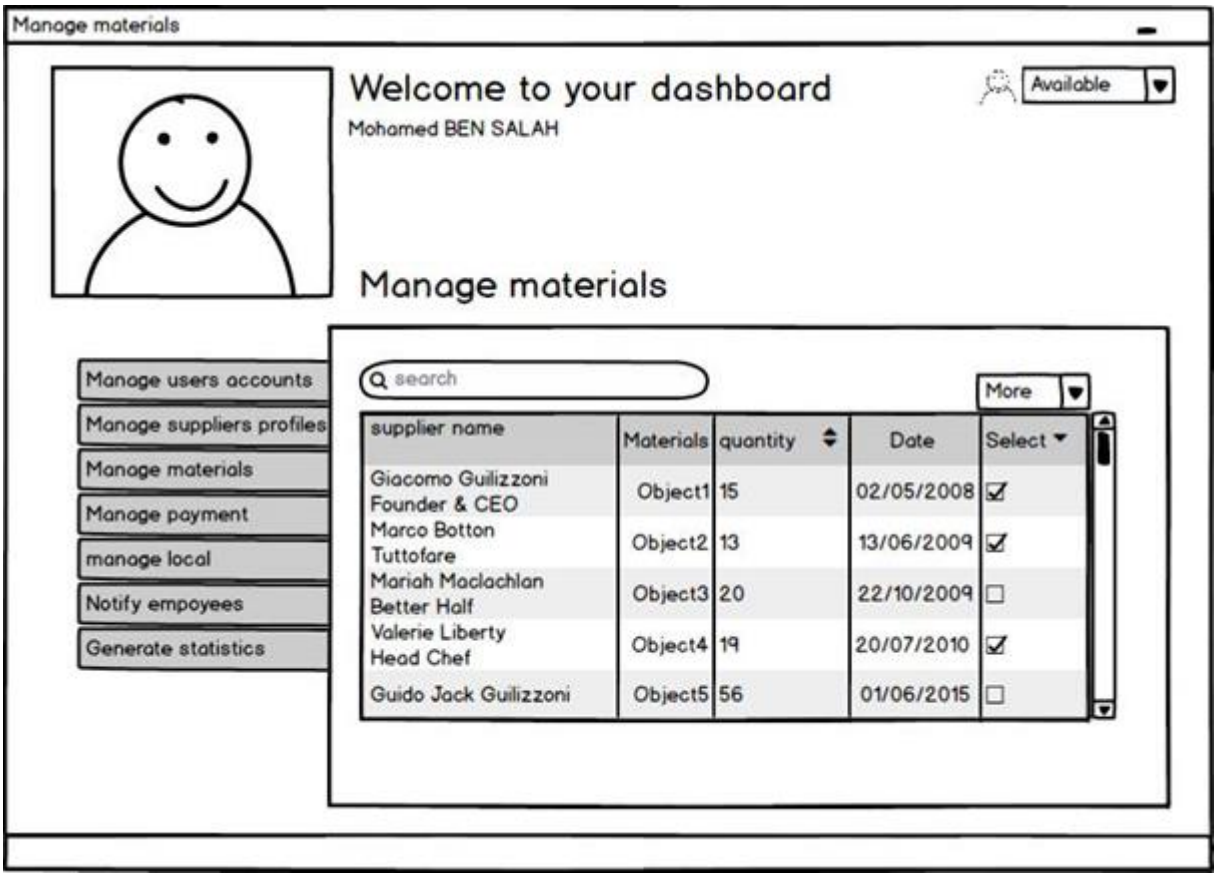


Figure 6 Admin interface

This interface allows the Administrator to consult the list of Materials

They also allow seeing the loyal customer by his assessment and he can do an advanced search by customer skills.

Conclusion

This sprint has allowed us to study the needs and describe the hardware and software component for our project.

The next sprint will be devoted to the development of the administrator part with JEE.

CHAPTER 2 : SPRINT 1

Introduction

This chapter is dedicated to the first sprint of our project in the course of which we are going to conceive and to code the Desktop application of the ERP BANK project to manage the platform.

I. Objective

Our objective has fault this sprint is to manage the platform which consists in managing proposal of the service by our application to allow has a Client to join it,so that the management of the payment and the transactions incrementing the account of the Client after the validation of the operations and one last place we also administer categories, sub-categories and documents.

II. Backlog sprint

1. Distribution of tasks with estimated time

The table below shows the backlog sprint with user story, design tasks and corresponding design, responsible for each task and schedule estimate.

id	feature	id user story	user story	priority	estimate
1	authentificate	1.1	As a Hr Manager I want to identify myself to access to the administrative privilege via desktop	99	1/2h
		1.2	As a financial manager I want to identify myself to access to the administrative privilege via desktop	98	1/2h
		1.3	As a inventory manager I want to identify myself to access to the administrative privilege via desktop	97	1/2h
		1.4	As a Hr Manager I want to identify myself to access to the administrative privilege via Web	65	1/2h

		1.5	As a financial manager I want to identify myself to access to the administrative privilege via Web	64	1/2h
		1.6	As a inventory manager I want to identify myself to access to the administrative privilege via Web	63	1/2h
		1.7	As a inventory manager I want to identify myself to access to the administrative privilege via mobile		1/2h
2	manage employees (users accounts)	2.1	As a HR manager i want to add a new employee via Desktop	96	1/2h
		2.2	As a HR manager i want to edit an employee's contract via desktop	95	1/2h
		2.3	As a HR manager i want to delete an employee's contract via desktop	94	1/2h
		2.4	As a HR manager i want to add a new employee via Web	62	1/2h
		2.5	As a HR manager i want to edit an employee's contract via Web	61	1/2h
		2.6	As a HR manager i want to delete an employee's contract via Web	60	1/2h
		2.7	As a HR manager i want to generate employees list to pdf via desktop	93	1/2h
		2.8	As a HR manager i want to generate employees list to pdf via web	59	1/2h
3	Manage candidacies	3.1	As a HR manager i want to accept an employee's candidature via desktop	92	1/2h
		3.2	As a HR manager i want to accept an employee's candidature via web	58	1/2h
		3.3	As a HR manager i want to deny an employee's candidature via desktop	91	1/2h

		3.4	As a HR manager i want to deny an employee's candidature via web	57	1/2h
		3.5	As a HR manager i want to fix another appointment with a candidate via desktop	90	1/2h
		3.6	As a HR manager i want to fix another appointment with a candidate via web	56	1/2h
4	Manage training sessions	4.1	As a HR manager i want to create a training session Via Desktop	89	1/2h
		4.2	As a HR manager i want to edit a training session via Desktop	88	1/2h
		4.3	As a HR i want to delete a training session via Desktop	87	1/2h
		4.4	As a HR manager i want to create a training session Via Web	55	1/2h
		4.5	As a HR manager i want to edit a training session via Web	54	1/2h
		4.6	As a HR i want to delete a training session via Web	53	1/2h
		4.7	As a HR manager i want to generate training session's details to pdf via desktop	86	1/2h
		4.8	As a HR manager i want to generate training session's details to pdf via web	52	1/2h
5	Manage pay (Rewarding)	5.1	As a HR manager i want to establish pay slips via desktop	85	1/2h
		5.2	As an administrator i want to pay wages via desktop	84	1/2h
		5.3	As a HR manager i want to motivate positively an employee (bonus / promote /training session) via Desktop	83	1/2h
		5.4	As a HR employee i want to sanction an employee via desktop	82	1/2h

		5.5	As a HR manager i want to establish pay slips via web	51	1/2h
		5.6	As an administrator i want to pay wages via web	50	1/2h
		5.7	As a HR manager i want to motivate positively an employee (bonus / promote /training session) via web	49	1/2h
		5.8	As a HR manager i want to sanction an employee via web	48	1/2h
		5.9	As a HR manager i want to generate payslips to pdf via desktop	81	1/2h
		5.91	As a HR manager i want to generate payslips to pdf via web	47	1/2h
6	Manage clients profiles	6.1	As a reception agent i want to add a client via Desktop	80	1/2h
		6.2	As a reception agent i want to consult payable via Desktop	79	1/2h
		6.3	As a reception agent i want to add client via web	78	1/2h
		6.4	As a reception agent i want to consult client via Web	46	1/2h
7	Manage materials	7.1	As an inventory manager i want to add a new material via desktop	77	1/2h
		7.2	As an inventory manager i want to edit an existing material via desktop	76	1/2h
		7.3	As an inventory manager i want to delete a material via desktop	75	1/2h
		7.4	As an inventory manager i want to add a new material via web	43	1/2h
		7.5	As an inventory manager i want to consult materials informations via desktop	74	1/2h
		7.6	As an inventory manager i want to consult ordered	73	1/2h

			materials details via desktop		
		7.7	As an inventory manager i want to consult materials informations via web	42	1/2h
		7.8	As an inventory manager i want to consult ordered materials details via web	41	1/2h
		7.9	As an inventory manager i want to edit an existing material via web	40	1/2h
		7.91	As an inventory manager i want to delete a material via web	39	1/2h
		7.92	As an inventory manager i want to notify employees about materials changes via desktop		1/2h
		7.93	As an inventory manager i want to notify employees about materials changes via web		1/2h
		7.94	As an inventory manager i want to notify employees about materials changes via mobile		1/2h
8	Apply for bank card	8.1	As a client i want to apply for bank card via web	72	1/2h
		8.2	As a client i want to apply for bank card via mobile		1/2h
9	Generate statistics	9.1	As a HR manager i want to generate statistics of human ressource departement via desktop	70	1/2h
		9.2	As a HR manager i want to generate statistics of human ressource departement via web	36	1/2h
		9.3	As an inventory manager i want to generate stock's statistics via desktop	69	1/2h
		9.4	As an inventory manager i want to generate stock's statistics via web	35	1/2h
		9.5	As a financial manager i want to generate statistics via	68	1/2h

			desktop		
		9.6	As a financial manager i want to generate statistics via web	34	1/2h
10	Online chatting	10.1	As an administrator i want to chat with other administrators via desktop	67	1/2h
		10.2	As an administrator i want to chat with other administrators via web	33	1/2h
11	Email sending	11.1	as an inventory manager i want to send emails via desktop	66	1/2h
		11.2	As an inventory manager i want to send emails via Web	32	1/2h
12	Manage bank accounts	12.1	As a reception agent i want to create a bank account via desktop		1/2h
		12.2	As a reception agent i want to consult a bank account via desktop		1/2h
		12.3	As a reception agent i want to close a bank account via desktop		1/2h
		12.4	As a reception agent i want to create a bank account via web		1/2h
		12.5	As a reception agent i want to consult a bank account via web		1/2h
		12.6	As a reception agent i want to close a bank account via web		1/2h
13	Apply for a check book	13.1	As a client i want to send a check book request via web		1/2h
		13.2	As a client i want to send a check book request via mobile		1/2h
14	Manage loans	14.1	As a finance agent i want to create a loan for client via desktop		1/2h
		14.2	As a finance agent i want to configure a loan for client via desktop		1/2h
		14.3	As a finance agent i want to create a loan for client via web		1/2h

		14.5	As a finance agent i want to configure a loan for client via web		1/2h
15	Manage transactions	15.1	As a cashier i want to setup an automatic transaction via desktop		1/2h
		15.2	As a cahier i want to save a draft via desktop		1/2h
		15.3	As a cahier i want to process a transfer via desktop		1/2h
		15.4	As a cahier i want to perform a slip check via desktop		1/2h
		15.5	As a cahier i want to process a deposit via desktop		1/2h
		15.6	As a cahier i want to enter a transaction in a foreign currency via desktop		1/2h
16	Manage employees contracts	16.1	As a HR manager i want to add a contract via desktop		1/2h
		16.2	As a HR manager i want to modify a contract via desktop		1/2h
17	Manage suppliers invoices	17.1	As a inventory manager i want to add a supplier invoice via desktop		1/2h
		17.2	As a inventory manager i want to modify a supplier invoice via desktop		1/2h
		17.3	As a inventory manager i want to archived a supplier invoice via desktop		1/2h
		17.4	As a inventory manager i want to add a supplier invoice via web		1/2h
		17.5	As a inventory manager i want to modify a supplier invoice via web		1/2h
		17.6	As a inventory manager i want to archived a supplier invoice via web		1/2h
18	Manage locals	18.1	As a inventory manager i want to add a local via desktop		1/2h
		18.2	As a inventory manager i want to modify a local via		1/2h

			desktop		
		18.3	As a inventory manager i want to delete a local via desktop		1/2h
19	Manage suppliers profiles	19.1	As a inventory manager i want to add a supplier profile via desktop		1/2h
		19.2	As a inventory manager i want to delete a supplier profile via desktop		1/2h
		19.3	As a inventory manager i want to modify a supplier profile via desktop		1/2h
		19.4	As a inventory manager i want to add a supplier profile via web		1/2h
		19.5	As a inventory manager i want to delete a supplier profile via web		1/2h
		19.6	As a inventory manager i want to modify a supplier profile via web		1/2h
20	Make a candidature	20.1	As a visitor i want to send a candidature via web		1/2h

2. Scenarios test

To assure the good progress of the features of the system we have to make some test implementation.

Step	User story	Test	Result
1	Authentication of the administartor	« acceptance scenario » Given an administrator with a "Login"=admin and "password" = admin When I am entering this login and password, then the session will be opened. « refusal scenario » If the textbox is empty or the login and password are incorrect an error message will be displayed	Success Failure
2	Add category	« acceptance scenario » If I add a valaible name of category a successfully message will be displayed. « refusal scenario » If the textbox is empty an error message will be displayed	Success Failure

3. Burndown chart

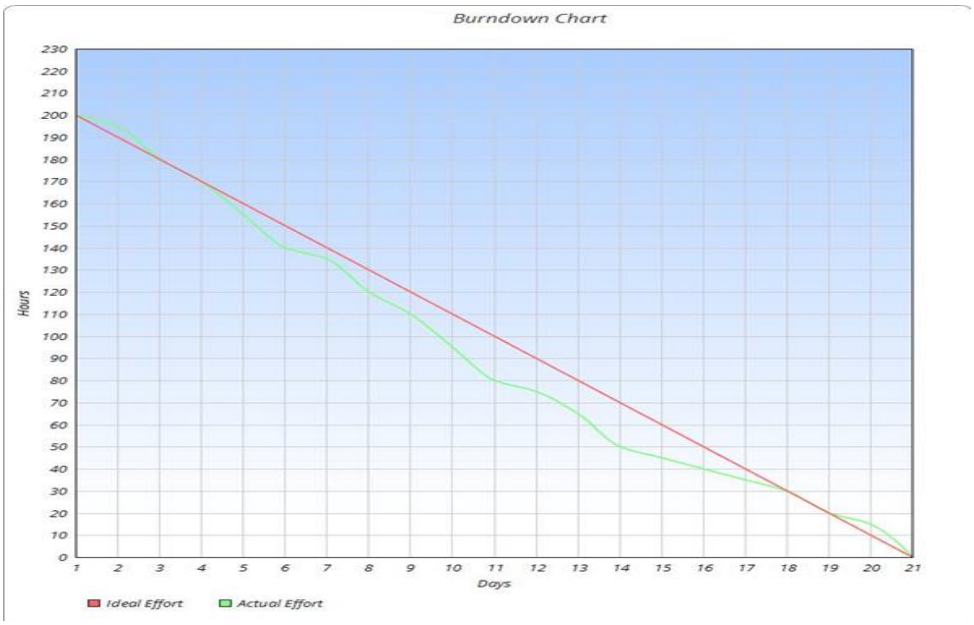


Figure 7 Burndown chart

The figure above represents the daily progress of the project compared with an axis from time per hour.

The sprint 1 lasts 22 days and the affected allocated hours are 2hours in this figure but actually it's 40 hours.

The shape of the curve shows the passing of time compared with the numbers of days.

III. Analysis

1. Modeling of the diagram of detailed use case

The following figure represent the diagram of global case uses which allows to identify the various features realized by the administrator of our platform.

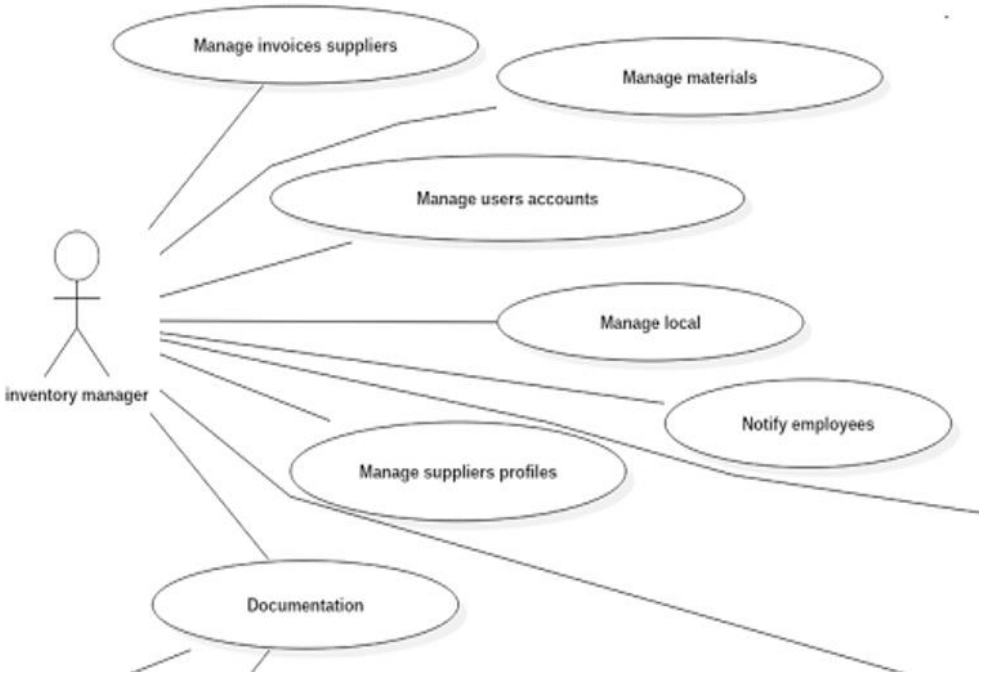


Figure 8 Use case diagram

2. System sequence diagram

The following figure shows the sequence diagram for the authentication.

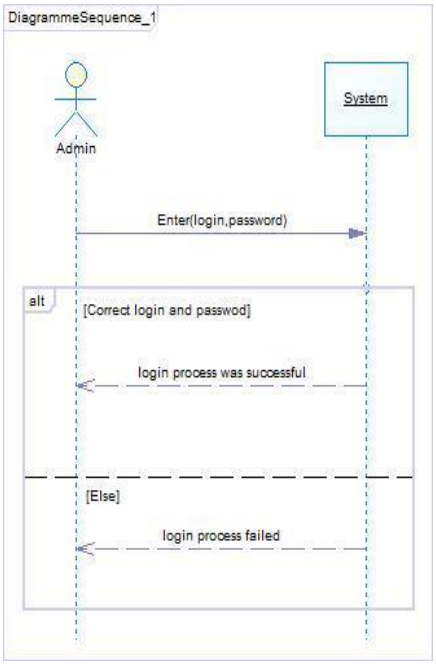


Figure 9 Authentication sequence diagram

To log in, the administrator should enter his login and password. Then, the system checks these information, if the login and the password are correct, the system allows the user to access the application else an error (message) is going to be displayed.

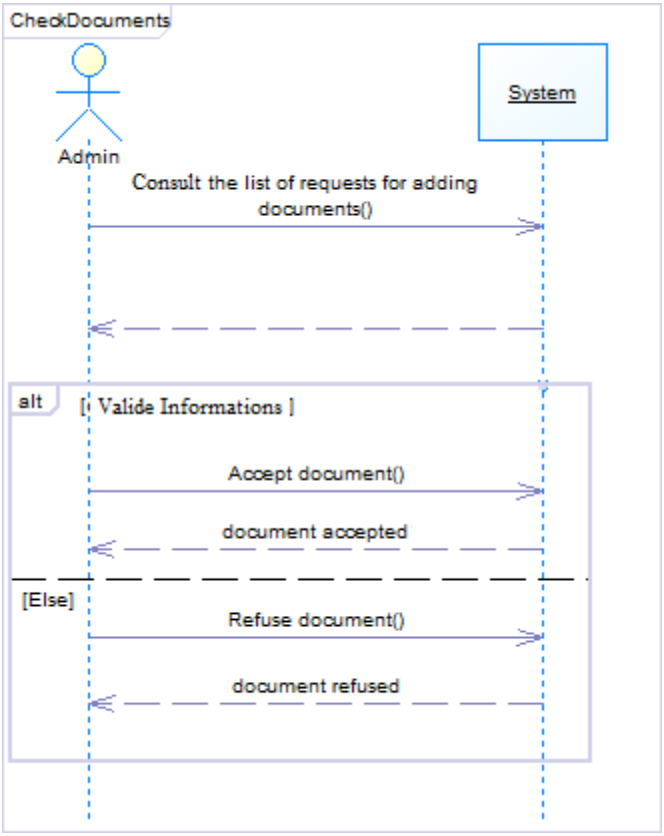


Figure 10 Check documents sequence diagram

The administrator consults the request list of added documents, if the information are valid, The admin accept the document else he refuses it

IV. Design class diagram

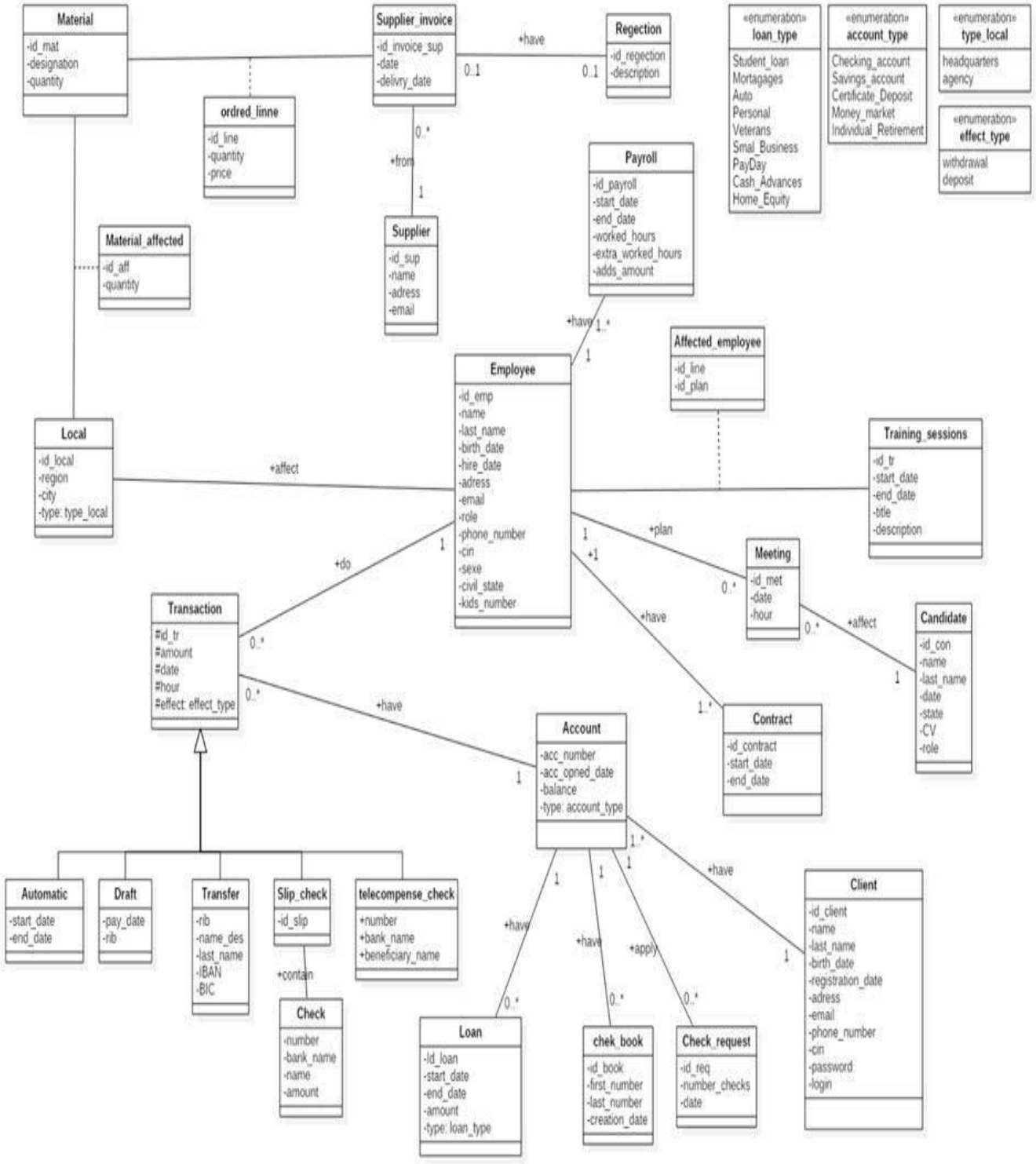


Figure 11 Class diagramme

V. Achievement

1. Tools

Power AMC :

PowerAMC is a design software created by the company SDP, which models the information processing and their associated databases.

Jboss developer studio :

JBossDeveloper Studio (JBDS) is a development environment created and currently developed by JBoss and Exadel.It integrates and certifies both tooling and runtime components by combining Eclipse, Eclipse Tooling, and the JBoss Enterprise Application Platform.The built-in development tools are used to build rich Web applications using open source technologies like JBoss Seam, JBoss Application Server, Hibernate and JBossjBPM.

My sql querry browser :

MySQL Workbench provides and integrated GUI environment for MySQL database design, SQL development, administration and migration.

wildfly-9.0.1:

wildfly Application Server (or JBoss AS) is a free software/open-source Java EE-based application server. An important distinction for this class of software is that it not only implements a server that runs on Java, but it actually implements the Java EE part of Java. Because it is Java-based, the wildfly application server operates cross-platform: usable on any operating system that supports Java. JBoss AS was developed by JBoss, now a division of Red Hat.

Library

Hibernate–core :

Hibernate ORM is an object-relational mapping library for the Java language, providing a framework for mapping an object-oriented domain model to a traditional relational database.

Jboss client :

Jboss client is an api to connect the jboss server

Synthetica :

Synthetica is a 'Look and Feel' for Swing and is based on Synth which is part of version 1.5 of the Java2 Platform, Standard Edition. It provides components with rounded borders, shadowed popup menus, nice icons and a new, fresh look.We have used SyntheticaBlueLight

jFreeChart :

JFreeChart is a free 100% Java chart library that makes it easy for developers to display professional quality charts in their applications.

2. Screenshot

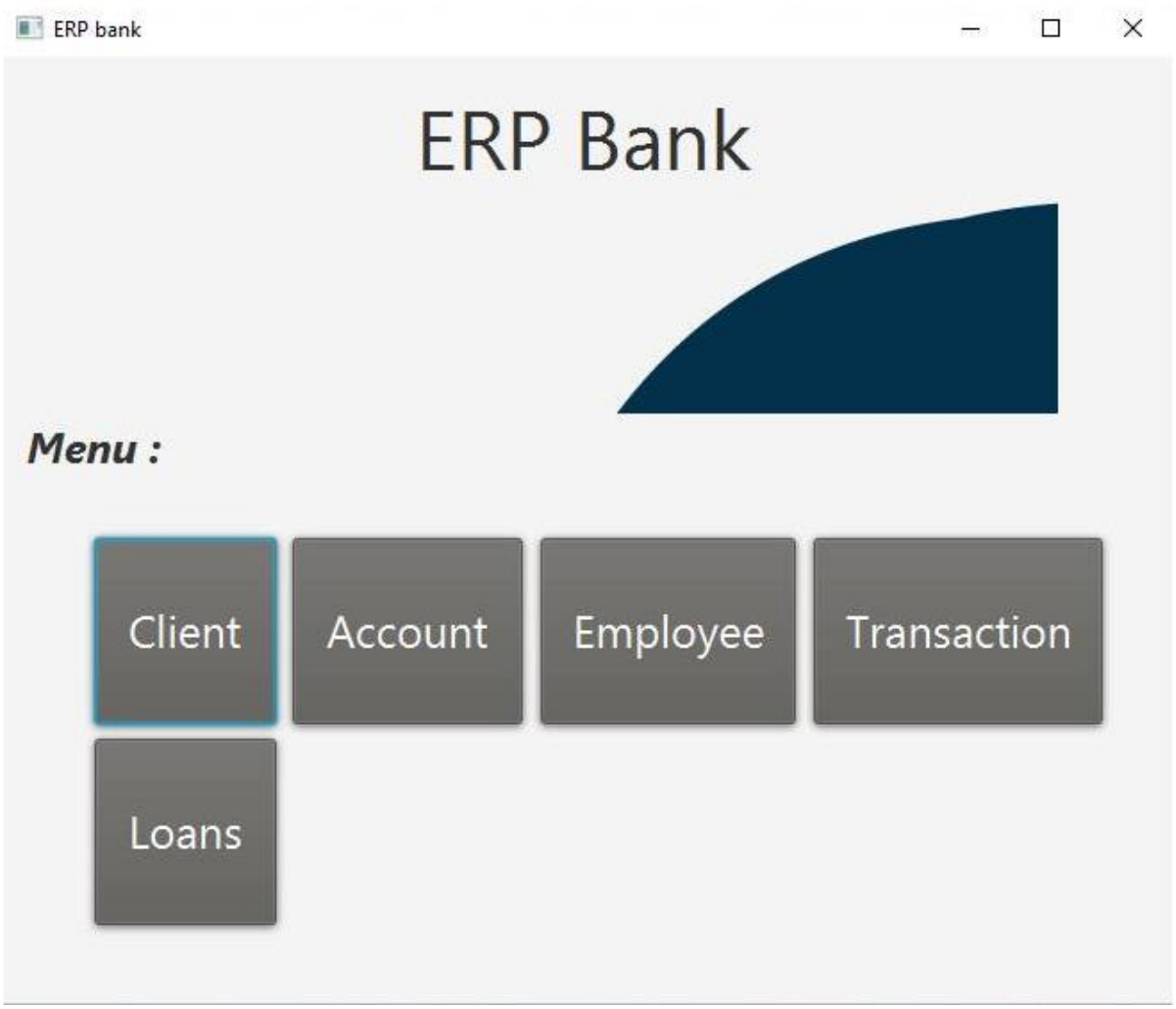


Figure 12 Menu

This is the first screen of our plateform where all option for the main menu.

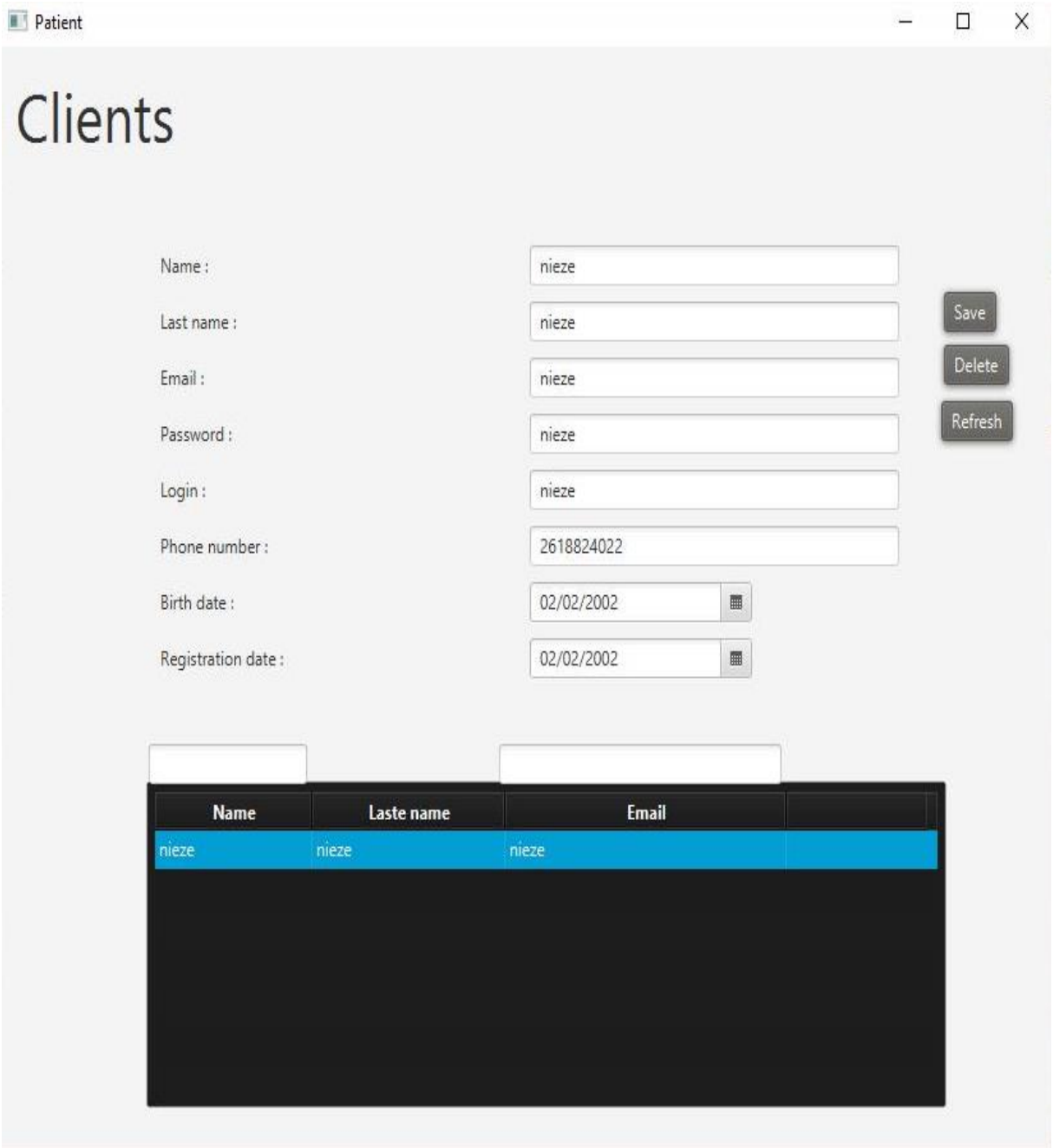


Figure 13 Creat client

This screen represent the interface of management Client proposition where the Administrator can add a Client

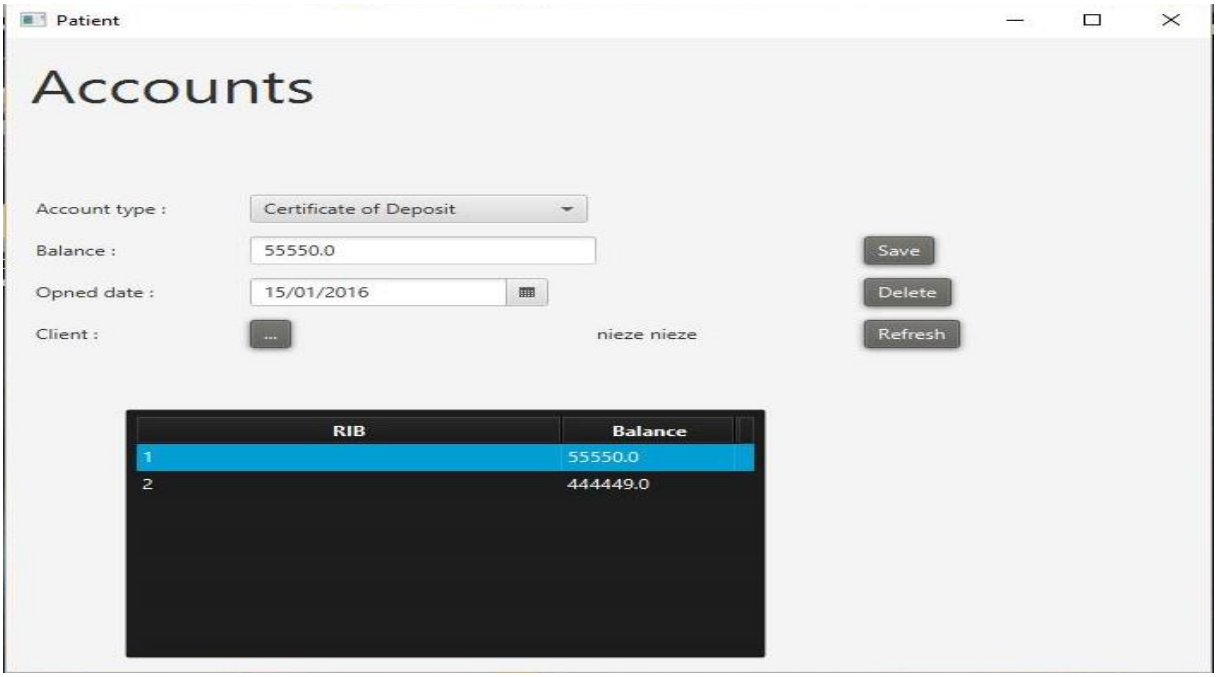


Figure 14 Create Account

This screen represent the interface of management Account for a specified Client .

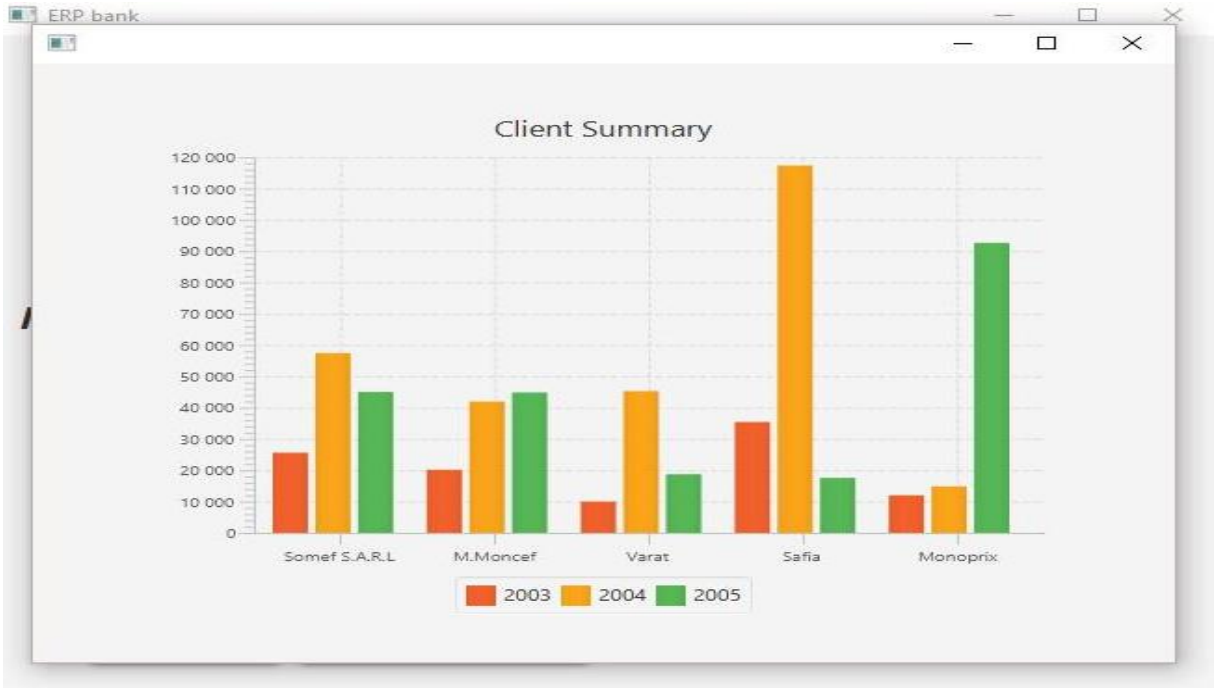


Figure 15 Chart

Conclusion

Following this sprint, we have succeeded in developing a Desktop application of ERP Bank project for the administrator.

This sprint has enabled us to gain expertise with knowledge for coding with jee.

Despite the mass and charge of the work, we were able to work under pressure which will allow us to begin the next sprint with experience.

CHAPTER 3: SPRINT 2

Introduction

This chapter is dedicated to the second sprint of our project in the course of which we are going to conceive and to code the web application of the Bank platform.

I. Objective

Our objective has fault this sprint is to manage the front office platform which consists in managing tasks necessary for the ERP-Bank.

II. Backlog sprint

1. Distribution of tasks with estimated time

The table below shows the backlog sprint with user story, design tasks and corresponding design, responsible for each task and schedule estimate.

id	feature	id user story	user story	priority	estimate
1	authentificate	1.1	As a Hr Manager I want to identify myself to access to the administrative privilege via desktop	99	1/2h
		1.2	As a financial manager I want to identify myself to access to the administrative privilege via desktop	98	1/2h
		1.3	As a inventory manager I want to identify myself to access to the administrative privilege via desktop	97	1/2h
		1.4	As a Hr Manager I want to identify myself to access to the administrative privilege via Web	65	1/2h

		1.5	As a financial manager I want to identify myself to access to the administrative privilege via Web	64	1/2h
		1.6	As a inventory manager I want to identify myself to access to the administrative privilege via Web	63	1/2h
		1.7	As a inventory manager I want to identify myself to access to the administrative privilege via mobile		1/2h
2	manage employees (users accounts)	2.1	As a HR manager i want to add a new employee via Desktop	96	1/2h
		2.2	As a HR manager i want to edit an employee's contract via desktop	95	1/2h
		2.3	As a HR manager i want to delete an employee's contract via desktop	94	1/2h
		2.4	As a HR manager i want to add a new employee via Web	62	1/2h
		2.5	As a HR manager i want to edit an employee's contract via Web	61	1/2h
		2.6	As a HR manager i want to delete an employee's contract via Web	60	1/2h
		2.7	As a HR manager i want to generate employees list to pdf via desktop	93	1/2h
		2.8	As a HR manager i want to generate employees list to pdf via web	59	1/2h
3	Manage candidacies	3.1	As a HR manager i want to accept an employee's candidature via desktop	92	1/2h
		3.2	As a HR manager i want to accept an employee's candidature via web	58	1/2h
		3.3	As a HR manager i want to deny an employee's candidature via desktop	91	1/2h

		3.4	As a HR manager i want to deny an employee's candidature via web	57	1/2h
		3.5	As a HR manager i want to fix another appointment with a candidate via desktop	90	1/2h
		3.6	As a HR manager i want to fix another appointment with a candidate via web	56	1/2h
4	Manage training sessions	4.1	As a HR manager i want to create a training session Via Desktop	89	1/2h
		4.2	As a HR manager i want to edit a training session via Desktop	88	1/2h
		4.3	As a HR i want to delete a training session via Desktop	87	1/2h
		4.4	As a HR manager i want to create a training session Via Web	55	1/2h
		4.5	As a HR manager i want to edit a training session via Web	54	1/2h
		4.6	As a HR i want to delete a training session via Web	53	1/2h
		4.7	As a HR manager i want to generate training session's details to pdf via desktop	86	1/2h
		4.8	As a HR manager i want to generate training session's details to pdf via web	52	1/2h
5	Manage pay (Rewarding)	5.1	As a HR manager i want to establish pay slips via desktop	85	1/2h
		5.2	As an administrator i want to pay wages via desktop	84	1/2h
		5.3	As a HR manager i want to motivate positively an employee (bonus / promote /training session) via Desktop	83	1/2h
		5.4	As a HR employee i want to sanction an employee via desktop	82	1/2h

		5.5	As a HR manager i want to establish pay slips via web	51	1/2h
		5.6	As an administrator i want to pay wages via web	50	1/2h
		5.7	As a HR manager i want to motivate positively an employee (bonus / promote /training session) via web	49	1/2h
		5.8	As a HR manager i want to sanction an employee via web	48	1/2h
		5.9	As a HR manager i want to generate payslips to pdf via desktop	81	1/2h
		5.91	As a HR manager i want to generate payslips to pdf via web	47	1/2h
6	Manage clients profiles	6.1	As a reception agent i want to add a client via Desktop	80	1/2h
		6.2	As a reception agent i want to consult payable via Desktop	79	1/2h
		6.3	As a reception agent i want to add client via web	78	1/2h
		6.4	As a reception agent i want to consult client via Web	46	1/2h
7	Manage materials	7.1	As an inventory manager i want to add a new material via desktop	77	1/2h
		7.2	As an inventory manager i want to edit an existing material via desktop	76	1/2h
		7.3	As an inventory manager i want to delete a material via desktop	75	1/2h
		7.4	As an inventory manager i want to add a new material via web	43	1/2h
		7.5	As an inventory manager i want to consult materials informations via desktop	74	1/2h
		7.6	As an inventory manager i want to consult ordered	73	1/2h

			materials details via desktop		
		7.7	As an inventory manager i want to consult materials informations via web	42	1/2h
		7.8	As an inventory manager i want to consult ordered materials details via web	41	1/2h
		7.9	As an inventory manager i want to edit an existing material via web	40	1/2h
		7.91	As an inventory manager i want to delete a material via web	39	1/2h
		7.92	As an inventory manager i want to notify employees about materials changes via desktop		1/2h
		7.93	As an inventory manager i want to notify employees about materials changes via web		1/2h
		7.94	As an inventory manager i want to notify employees about materials changes via mobile		1/2h
8	Apply for bank card	8.1	As a client i want to apply for bank card via web	72	1/2h
		8.2	As a client i want to apply for bank card via mobile		1/2h
9	Generate statistics	9.1	As a HR manager i want to generate statistics of human ressource departement via desktop	70	1/2h
		9.2	As a HR manager i want to generate statistics of human ressource departement via web	36	1/2h
		9.3	As an inventory manager i want to generate stock's statistics via desktop	69	1/2h
		9.4	As an inventory manager i want to generate stock's statistics via web	35	1/2h
		9.5	As a financial manager i want to generate statistics via	68	1/2h

			desktop		
		9.6	As a financial manager i want to generate statistics via web	34	1/2h
10	Online chatting	10.1	As an administrator i want to chat with other administrators via desktop	67	1/2h
		10.2	As an administrator i want to chat with other administrators via web	33	1/2h
11	Email sending	11.1	as an inventory manager i want to send emails via desktop	66	1/2h
		11.2	As an inventory manager i want to send emails via Web	32	1/2h
12	Manage bank accounts	12.1	As a reception agent i want to create a bank account via desktop		1/2h
		12.2	As a reception agent i want to consult a bank account via desktop		1/2h
		12.3	As a reception agent i want to close a bank account via desktop		1/2h
		12.4	As a reception agent i want to create a bank account via web		1/2h
		12.5	As a reception agent i want to consult a bank account via web		1/2h
		12.6	As a reception agent i want to close a bank account via web		1/2h
13	Apply for a check book	13.1	As a client i want to send a check book request via web		1/2h
		13.2	As a client i want to send a check book request via mobile		1/2h
14	Manage loans	14.1	As a finance agent i want to create a loan for client via desktop		1/2h
		14.2	As a finance agent i want to configure a loan for client via desktop		1/2h
		14.3	As a finance agent i want to create a loan for client via web		1/2h

		14.5	As a finance agent i want to configure a loan for client via web		1/2h
15	Manage transactions	15.1	As a cashier i want to setup an automatic transaction via desktop		1/2h
		15.2	As a cahier i want to save a draft via desktop		1/2h
		15.3	As a cahier i want to process a transfer via desktop		1/2h
		15.4	As a cahier i want to perform a slip check via desktop		1/2h
		15.5	As a cahier i want to process a deposit via desktop		1/2h
		15.6	As a cahier i want to enter a transaction in a foreign currency via desktop		1/2h
16	Manage employees contracts	16.1	As a HR manager i want to add a contract via desktop		1/2h
		16.2	As a HR manager i want to modify a contract via desktop		1/2h
17	Manage suppliers invoices	17.1	As a inventory manager i want to add a supplier invoice via desktop		1/2h
		17.2	As a inventory manager i want to modify a supplier invoice via desktop		1/2h
		17.3	As a inventory manager i want to archived a supplier invoice via desktop		1/2h
		17.4	As a inventory manager i want to add a supplier invoice via web		1/2h
		17.5	As a inventory manager i want to modify a supplier invoice via web		1/2h
		17.6	As a inventory manager i want to archived a supplier invoice via web		1/2h
18	Manage locals	18.1	As a inventory manager i want to add a local via desktop		1/2h
		18.2	As a inventory manager i want to modify a local via		1/2h

			desktop		
		18.3	As a inventory manager i want to delete a local via desktop		1/2h
19	Manage suppliers profiles	19.1	As a inventory manager i want to add a supplier profile via desktop		1/2h
		19.2	As a inventory manager i want to delete a supplier profile via desktop		1/2h
		19.3	As a inventory manager i want to modify a supplier profile via desktop		1/2h
		19.4	As a inventory manager i want to add a supplier profile via web		1/2h
		19.5	As a inventory manager i want to delete a supplier profile via web		1/2h
		19.6	As a inventory manager i want to modify a supplier profile via web		1/2h
20	Make a candidature	20.1	As a visitor i want to send a candidature via web		1/2h

2. Burndown chart

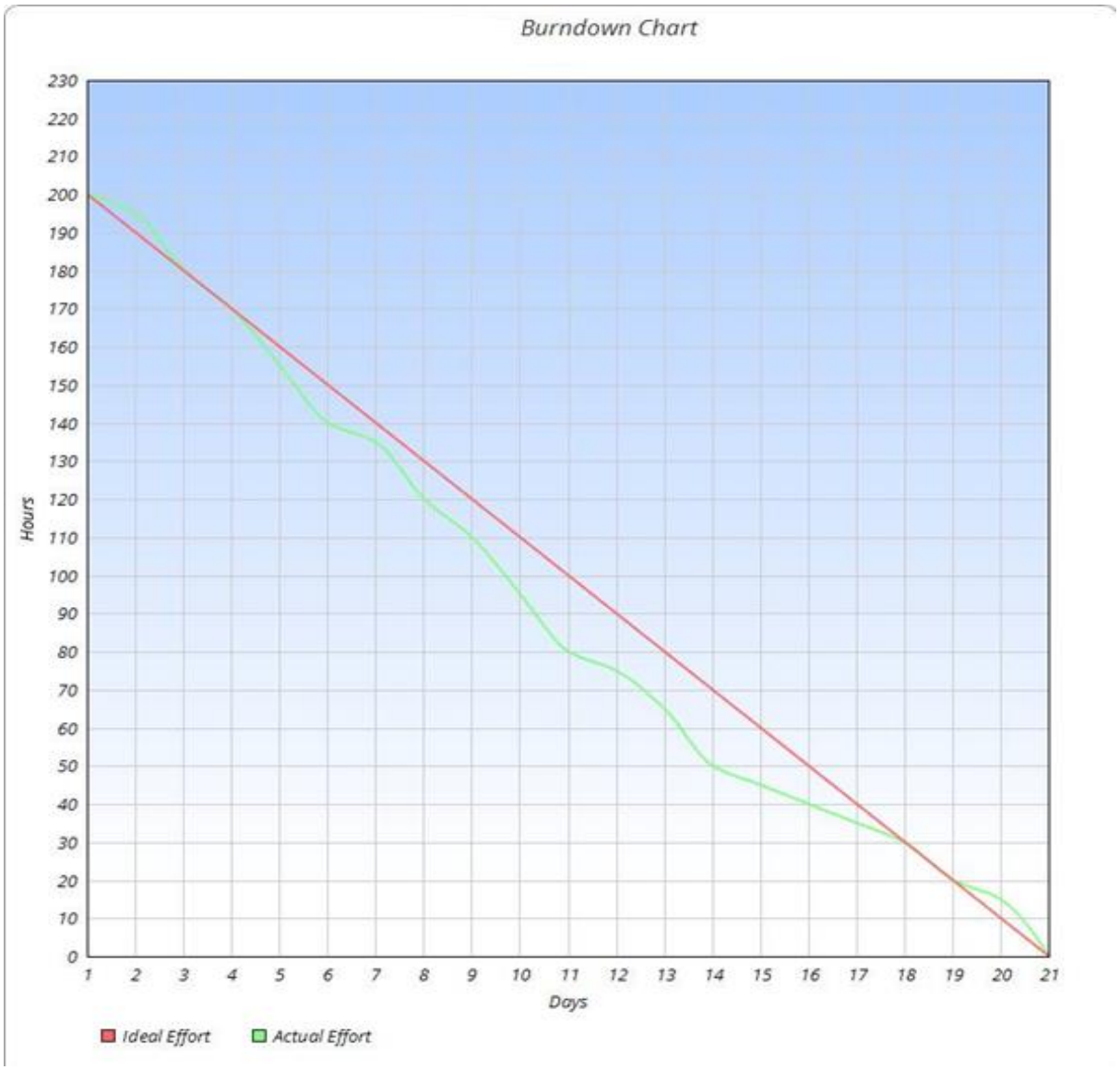


Figure 16 Burndown chart

The figure above represents the daily progress of the project compared with an axis from time per hour.

The shape of the curve shows the passing of time compared with the numbers of days.

III. Analysis

1. Modeling of the diagram of detailed use case

The following figure represent the diagram of global case uses which allows to identify the various features realized by the administrator of our platform.

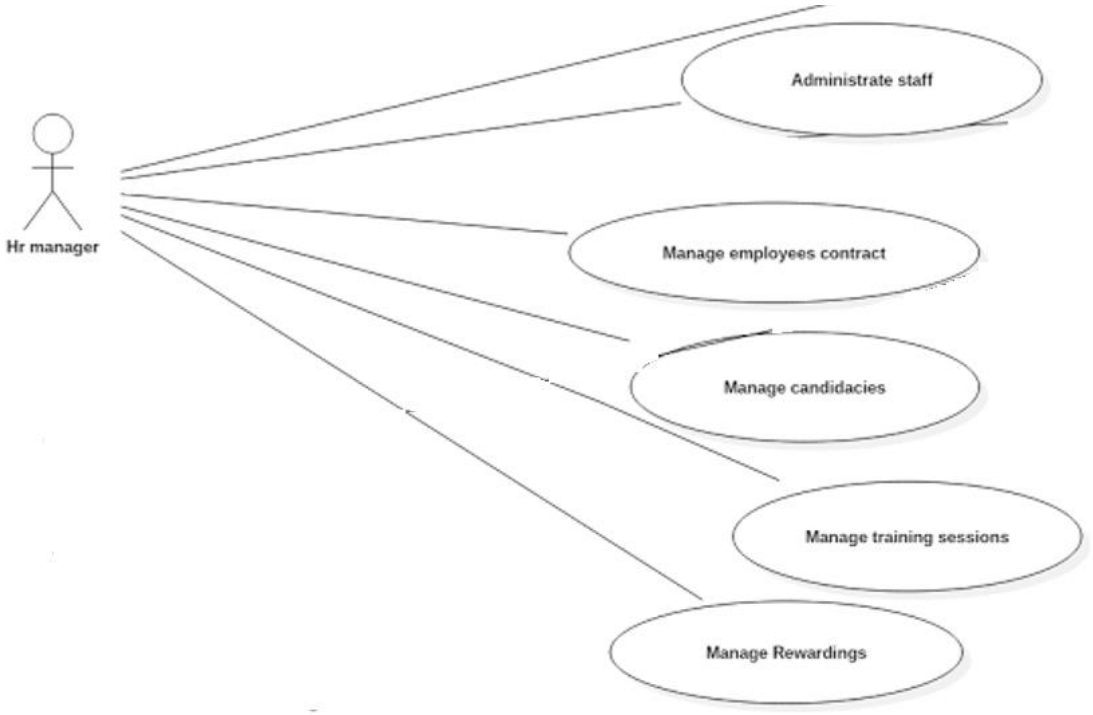


Figure 17 HR Manager use case diagram

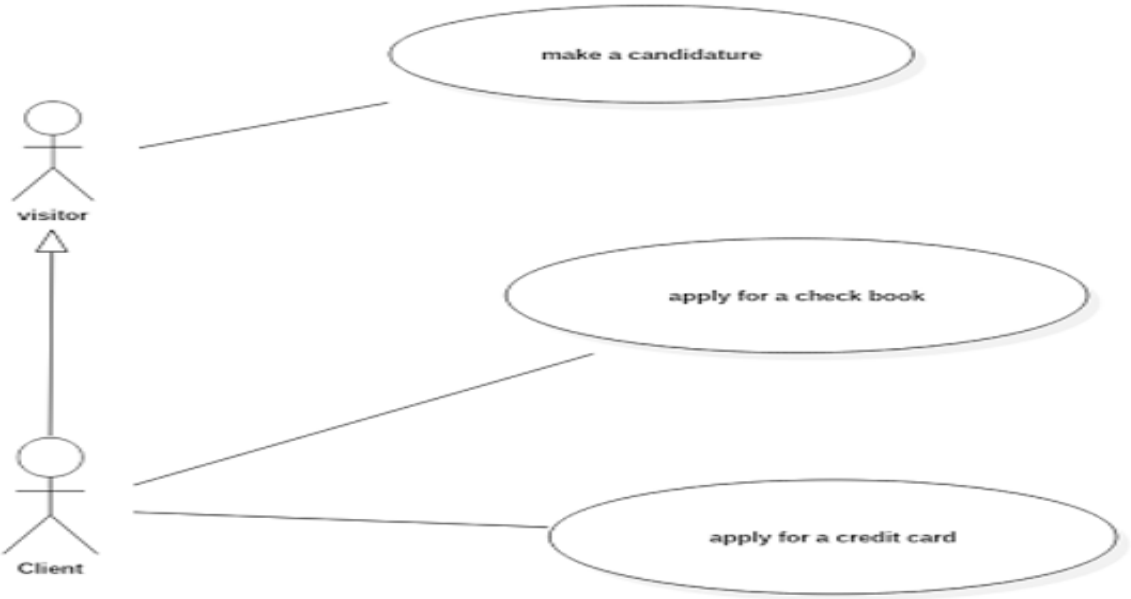


Figure 18 Client use case

2. System sequence diagram

The following figure shows the sequence diagram for the authentication.

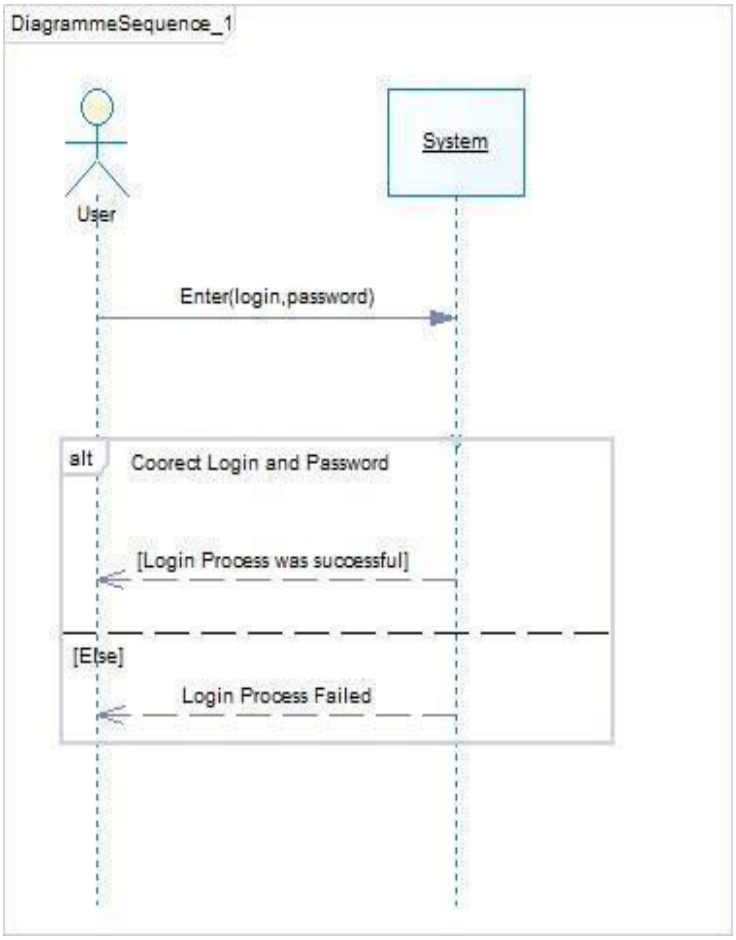


Figure 19 Authentication sequence diagram

To log in, the user should enter his login and password. Then, the system checks these information, if the login and the password are correct, the system allows the user to access the application else an error (message) is going to be displayed.

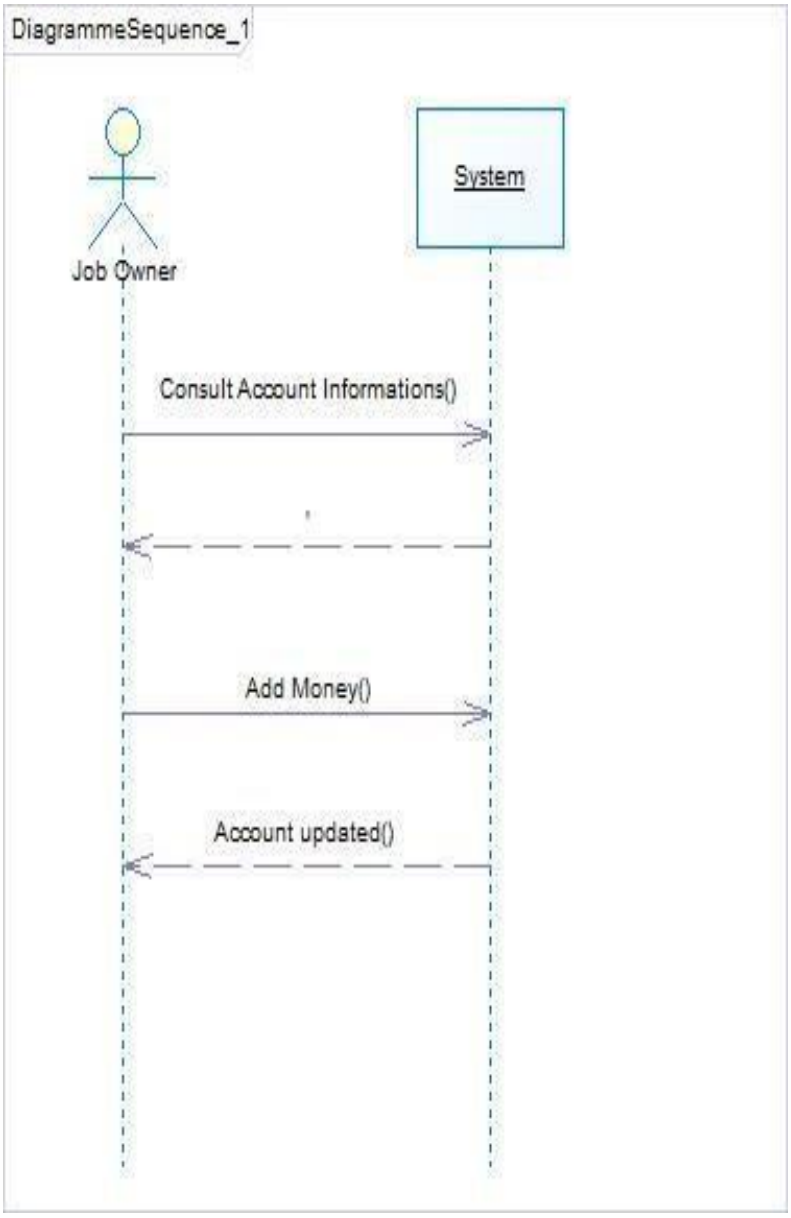


Figure 20 Check account sequence diagram

The Client consult his bank account; he can add money on it

1) déploiement diagramme

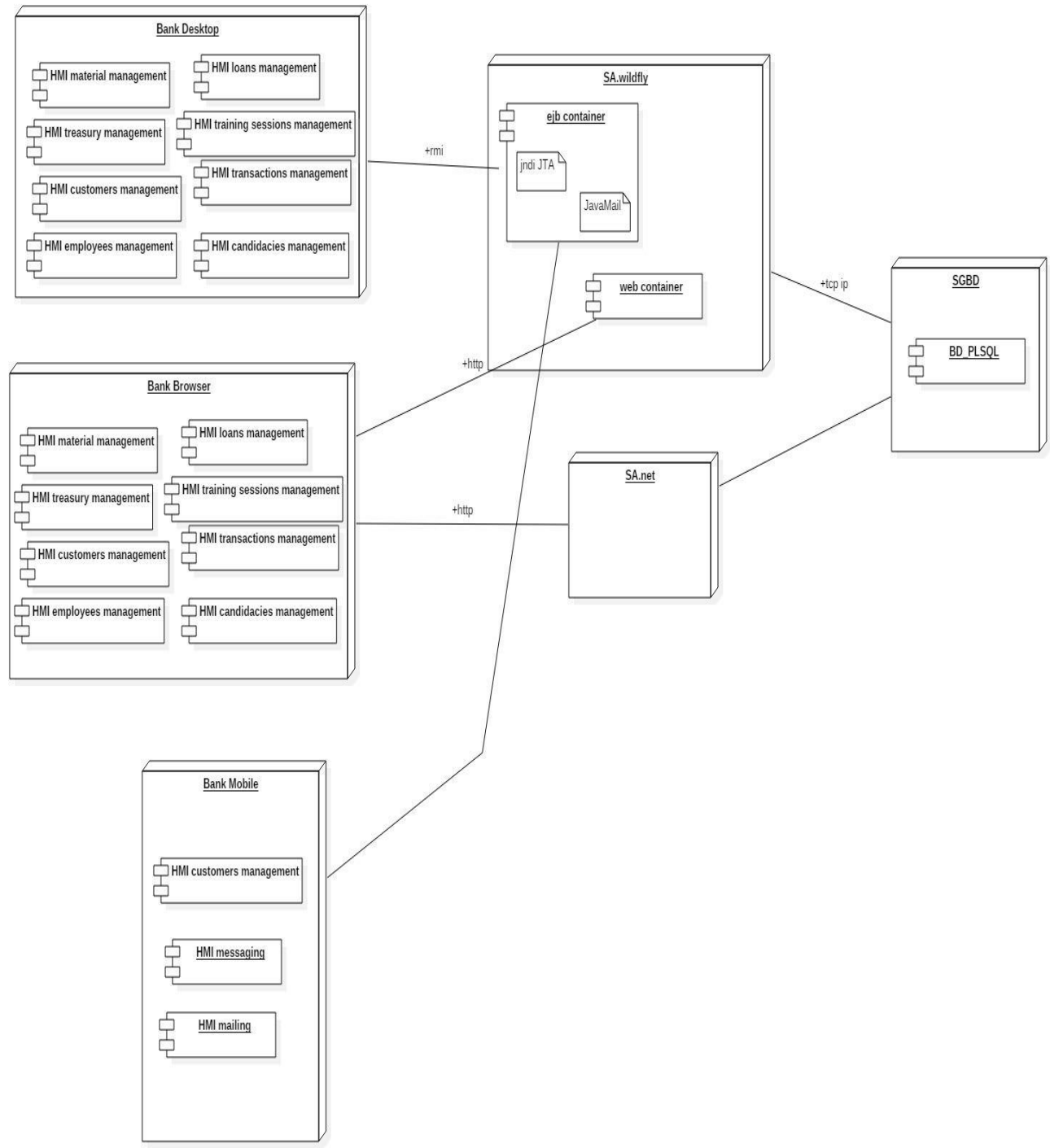


Figure 21 déploiement diagramme

1. Class diagram

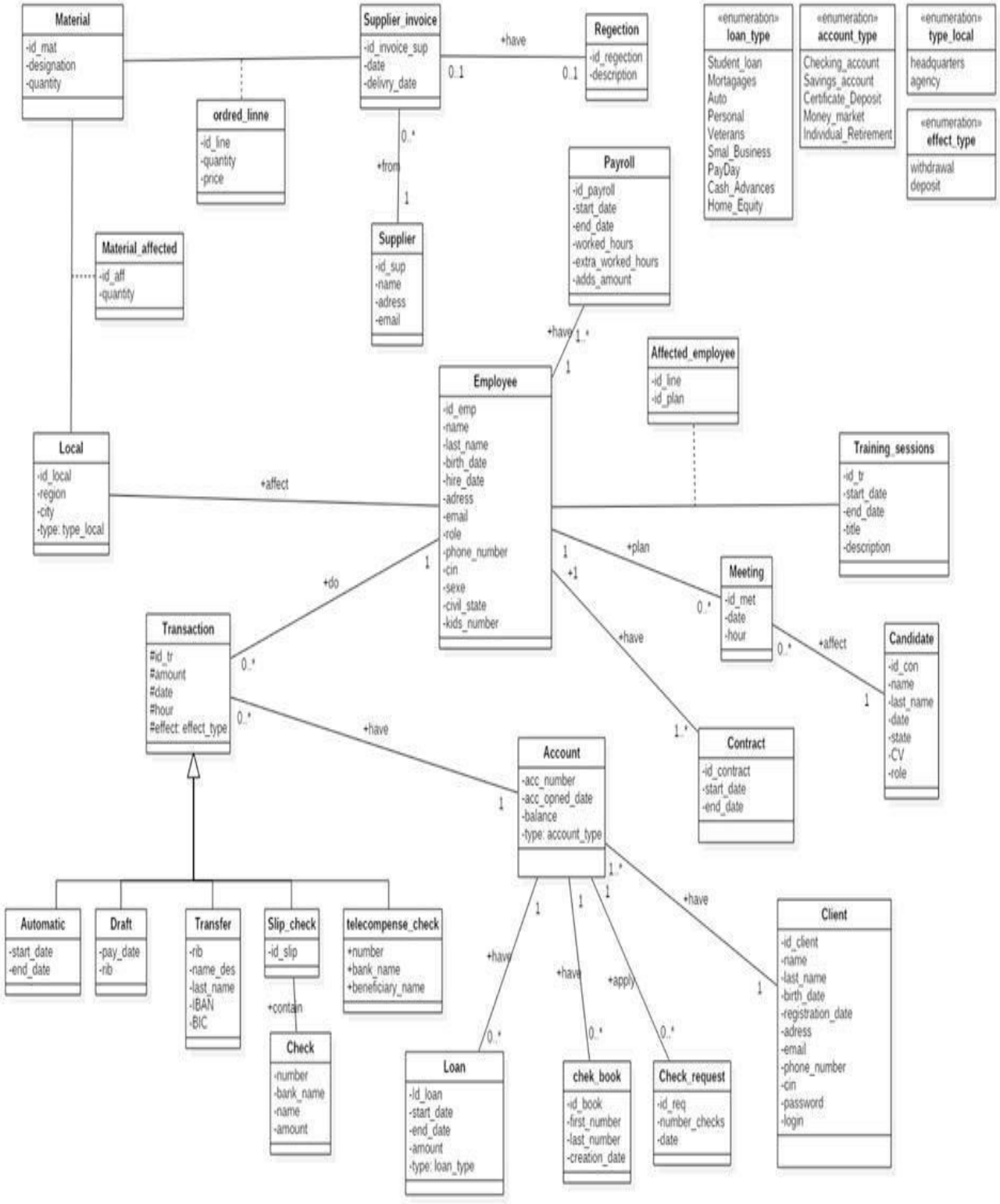


Figure 22 Class diagram

IV. Achievement

1. Tools

Power AMC :

PowerAMC is a design software created by the company SDP, which models the information processing and their associated databases.

Visual studio 2015:

Visual studio is our development environment.

2. Screenshot

Authentification

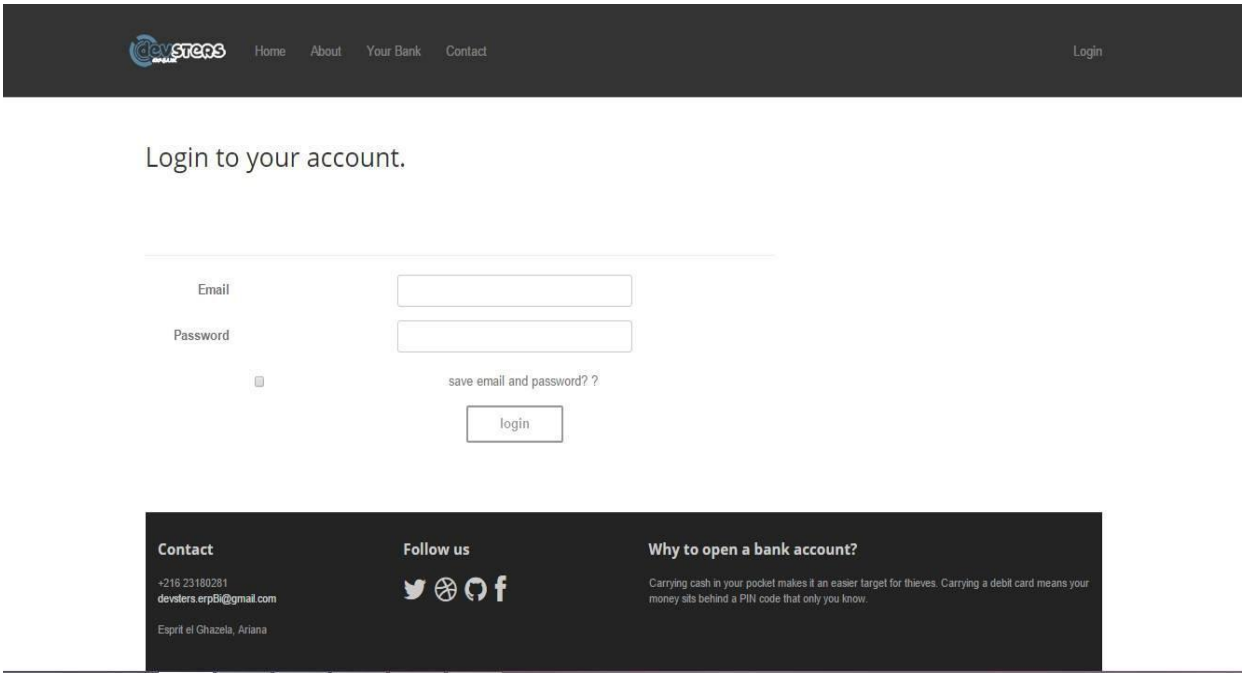


Figure 23 Authentification

This is the first screen of our platform where the user will enter his login and password to authenticate.

List of employees

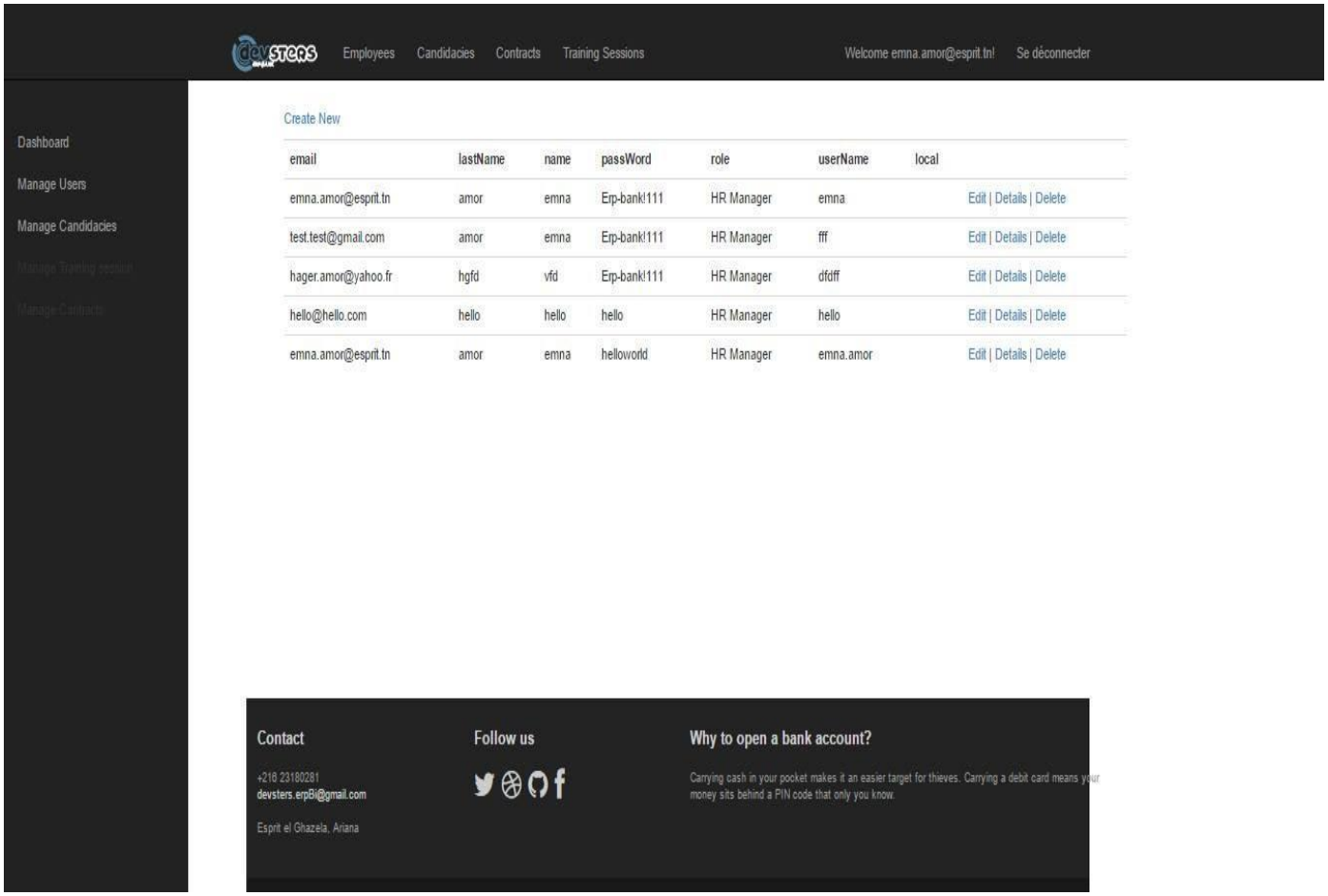


Figure 24 List of employees

This screen represent the list of employees, you can search employee by name and when you click on details the details of the employee will be shown in the next screen

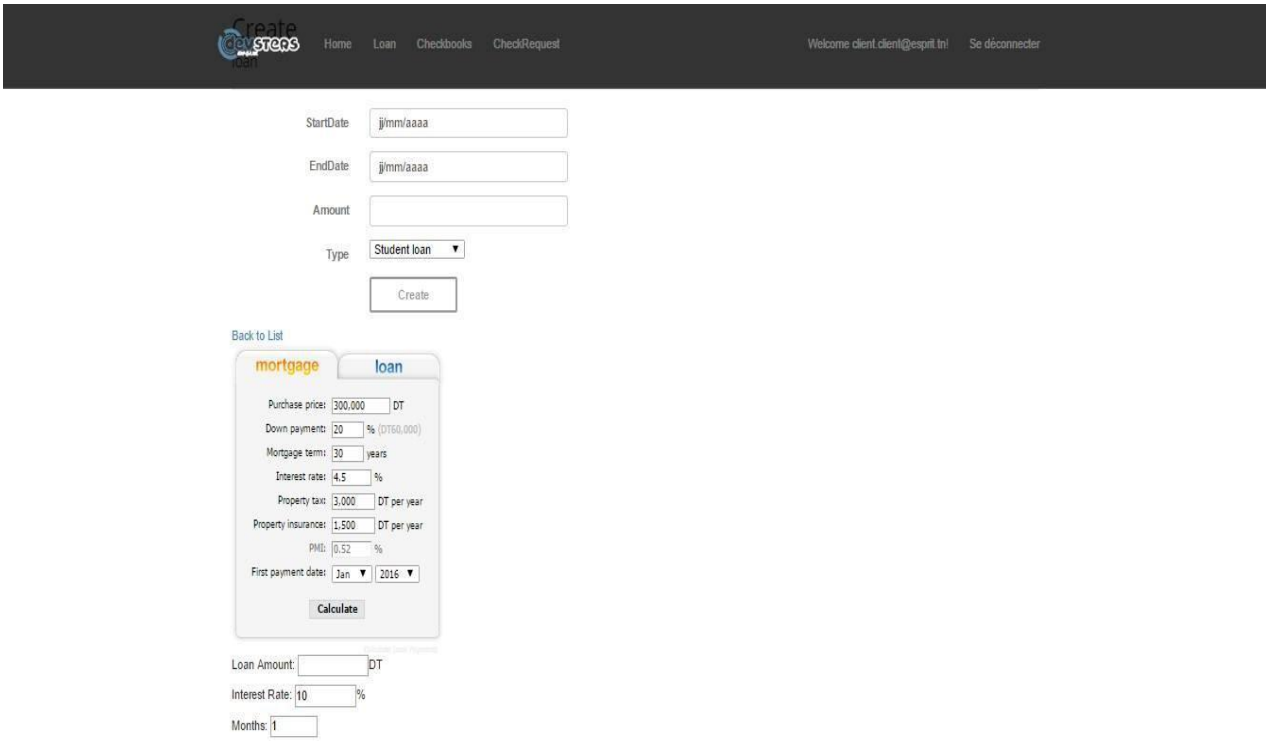


Figure 25 Apply for a loan

This screen represent the apply for loan and a small application which can calculate the deadline loan payment

Conclusion

Following this sprint, we have succeeded in developing a web application of Freelancer project for the front office part.

This sprint has enabled us to gain expertise with knowledge for coding with the framework .net using the MVC 5 architecture.

Despite the mass and charge of the work, we were able to work under pressure which will allow.

CHAPTER 4: SPRINT 3

Introduction

Following the sprint 2, in which we make our preliminary study the customer space of devsters's Erp-Bank, we will now work on the sprint 3 JSF during 3 weeks. We will see the objectives of the sprint and the sprint backlog studied in detail. Then we will turn to the analysis and design of our application. We will eventually achieve the realization.

I. Backlog sprint

1. Distribution of tasks with estimated time

The table below shows the backlog sprint with user story, design tasks and corresponding design, responsible for each task and schedule estimate.

Id	User story	Tâche	responsable	Estimation(h)
1.1	As a HR Manager I want to identify myself to access to the administrative privilege via Web	Prepare UI of authentication	EMNA	1/2
		Use employee's JPA entity	EMNA	1/2
		Use the IEmployee interface	EMNA	1/2
		Implement the authentication functionality	EMNA	1/2
		Do the test of the HR manager authentication	Yosri	1/2
1.2	As a financial manager I want to identify myself to access to the administrative privilege via Web	Do the test of the financial manager authentication	Niez	1/2
1.3	As an inventory manager I want to identify myself to access to the administrative privilege via Web	Do the test of the inventory manager authentication	Kais	1/2
2.1	As a HR manager i want to add a new employee via Web	prepare the UI of management	Yosri	1/2
		Implement the employee's add functionality		1/2
		Do the employee adding test		1/2
2.2	As a HR manager i want to edit an employee's contract via Web	Implement the employee's edit functionality	Yosri	1/2
		Do the employee editing test	Oussema	1/2
2.3	As a HR manager i want to delete an employee's contract via web	Implement the employee's deleting functionality	EMNA	1/2
		Do the employee deleting test	Nieze	1/2
2.7	As a HR manager i want to generate employees	Implement the pdf's generation functionality	EMNA	1/2

	list to pdf via web	Do the test of employee's generation to pdf	Yosri	1/2
3.1	As a HR manager i want to accept an employee's candidature via web	Prepare the UI of candidacies management	EMNA	1/2
		Use the candidate's JPA entity	EMNA	1/2
		Use the meeting's JPA entity	EMNA	1/2
		Use the ICandidate interface	EMNA	1/2
		Use the Imeeting interface	EMNA	1/2
		implement the candidacy approval functionality	EMNA	1/2
		Do the candidacy approval test	kais	1/2
3.2	As a HR manager i want to deny an employee's candidature via web	Use the candidacy deny function	EMNA	1/2
		develop the candidacy deny test	Oussema	1/2
3.3	As a HR manager i want to fix another appointment with a candidate via web	Implement the functionality which helps to fix another appointment for a candidacy	EMNA	1/2
		Do the candidacy appointment test	Nieze	1/2
4.1	As a HR manager i want to Use a training session Via web	Prepare UI of training sessions	Oussema	1/2
		Use JPA's training sessions entity	Oussema	1/2
		Use the ItrainingSession interface	Oussema	1/2
		Implement the training session's add functionality	Oussema	1/2
		Do the training session's adding test	Yosri	1/2
4.2	As a HR manager i want to edit a training session via web	Implement the training session's edit functionality	Oussema	1
		Do the training session editing test	Kais	1
4.3	As a HR manager i want to delete a training session via web	Implement the training session's deleting functionality	Oussema	1/2
		Do the training session's delete test	Emna	1/2
4.7	As a HR manager i want to generate training session's details to pdf via web	Implement the training session's generation to pdf functionality	EMNA	1
		Do the training session's generation to pdf test	Nieze	1/2
5.2	As an HR manager i want to pay wages via web	Implement the pay wages functionality	EMNA	1
		Do the pay wages test	Kais	1/2
5.3	As a HR manager i want to motivate positively an employee (bonus / promote /training session) via web	Prepare the UI for the employee evaluation	EMNA	1
		Implement the motivation functionality	EMNA	1
		Do the employee motivation test	EMNA	1/2

5.4	As a HR manager employee i want to sanction an employee via web	Implement the sanction functionality	EMNA	1
		Do the employee sanction test	Oussema	1/2
5.9	As a HR manager i want to generate pay slips to pdf via web	Implement the pay slip's generation to pdf functionality	EMNA	1
		Do the pay slip's generation to pdf test	Nieze	1/2
6.1	As a reception agent i want to add a client via web	Prepare the UI of the reception management	Nieze	1
		Use the Iclient interface	Nieze	1
		Use the client's JPA entity	Nieze	1
		Use the Icontract interface	Nieze	1
		Use the contract's JPA entity	Nieze	1
		Implement the client adding functionality	Nieze	1
		Do the client adding test	Emna	1/2
7.1	As an inventory manager i want to add a new material via web	Prepare the UI of material management	Kais	1
		Use the Imaterial interface	Kais	1
		Use the material's JPA entity	Kais	1
		Implement the material adding functionality	Kais	1
		Do the material adding test	Oussema	1/2
7.2	As an inventory manager i want to edit an existing material via web	Implement the material editing functionality	Kais	1
		Do the material editing test	Yosri	1/2
7.3	As an inventory manager i want to delete a material via web	Implement the material deleting functionality	Kais	1
		Do the material deleting test	Emna	1/2
7.5	As an inventory manager i want to consult materials information's via web	Implement the display functionality of the materials details	Kais	1
		Do the material detail's display	Nieze	1/2
7.6	As an inventory manager i want to consult ordered materials details via web	Implement the display functionality of the ordered materials	Kais	1
		Do the material detail's display	Oussema	1/2
7.92	As an inventory manager i want to notify employees about materials changes via web	Implement the employee's notify functionality	Kais	1
		Do the employee notification test	Yosri	1/2
9.1	As a HR manager i want to generate statistics of human resource	Implement the human resource statistics functionality	EMNA	1
		Do the human resource statistics	Yosri	1/2

	department via web	generation test		
9.3	As an inventory manager i want to generate stock's statistics via web	Implement the stock's statistics functionality	Kais	1
		Do the stock statistics generation test	Emna	1/2
9.5	As a financial manager i want to generate statistics via web	Implement the financial statistics functionality	Nieze	1
		Do the financial statistics generation test	Oussema	1/2
11.1	As an inventory manager i want to send emails via web	Implement the email's sending functionality	Kais	1
		Do the email sending test	Emna	1/2
12.1	As a reception agent i want to Use a bank account via web	Prepare the UI of account management	Yosri	1
		Use the IAccount interface	Yosri	1
		Use the account's JPA entity	Yosri	1
		Implement the bank account creating	Yosri	1
		Do the account adding test	Kais	1/2
12.2	As a reception agent i want to consult a bank account via web	Implement the account displaying functionality	Yosri	1
		Do the account displaying test	Oussema	1/2
12.3	As a reception agent i want to close a bank account via web	Implement the closing bank account functionality	Yosri	1
		Do the closing account test	Nieze	1/2
12.4	As a reception agent i want to reactive a bank account via web	Implementer bank account reactivation functionality	Yosri	1
		Do the bank account reactivation test	Nieze	1/2
14.1	As a finance agent i want to Use a loan for a client via web	Prepare the UI of loan	Nieze	1
		Use the Iloan interface	Nieze	1
		Use the loan's JPA entity	Nieze	1
		Implement the loan attribute functionality	Nieze	1/2
		Do the loan creation test	Emna	1
14.2	As a financial agent i want to configure a loan for a client via web	Implement the loan configuration functionality	Nieze	1
		Do the loan configuration test	Kais	1/2
15.1	As a cashier i want to setup an automatic transaction via web	Prepare the UI of transactions	Nieze	1
		Use the Itransaction interface	Nieze	1
		Use the transaction's JPA entity	Nieze	1
		Implement the automatic setting UP transaction functionality	Nieze	1
		Do the automatic setting up transaction test	Oussema	1/2

15.2	As a cashier i want to save a draft via web	Use Idraft interface	Nieze	1
		Use draft JPA entity	Nieze	1
		Implement the draft saving functionality	Nieze	1
		Do the draft saving test	Yosri	1/2
15.3	As a cahier i want to process a transfer via web	Prepare the UI of transfer	Nieze	1
		Use the Itransfer interface	Nieze	1
		Use the transfer JPA entity	Nieze	1
		Implement the transfer functionality	Nieze	1
		Do the transfer test	Emna	1/2
15.4	As a cahier i want to perform a slip check via web	Use the IslipCheck interface	Yosri	1
		Use the slipCheck JPA entity	Yosri	1
		Use the Icheck interface	Yosri	1
		Use the check JPA entity	Yosri	1
		Implement the slip check performing functionality	Yosri	1
		Do the slip check performing test	Oussema	1/2
15.5	As a cahier i want to process a deposit via web	Implement the deposit process functionality	Niez	1
		Do the deposit process test	Kais	1/2
16.1	As a HR manager i want to add a contract via web	Implement the contract adding functionality	EMNA	1
		Do the contract adding test	Nieze	1/2
16.2	As a HR manager i want to modify a contract via web	Implement the contract editing functionality	EMNA	1
		Do the contract editing test	Kais	1/2
17.1	As an inventory manager i want to add a supplier invoice via web	Prepare the UI of suppliers	Kais	1
		Use the Isupplier interface	Kais	1
		Use the supplier JPA entity	Kais	1
		Implement the supplier adding functionality	Kais	1
		Do the supplier adding test	Emna	1/2
17.2	As an inventory manager i want to modify a supplier invoice via web	Implement the supplier editing functionality	Kais	1
		Do the supplier editing test	Yosri	1/2
18.1	As an inventory manager i want to add a local via web	Prepare the UI of local management	Oussema	1
		Use the Ilocal interface	Oussema	1
		Use the local JPA entity	Oussema	1
		Implement the local adding functionality	Oussema	1
		Do the local adding test	Nieze	1/2
18.2	As an inventory manager i want to delete a supplier	Implement the supplier deleting functionality	Kais	1

	profile via web	Do the supplier deleting test	Emna	1/2
18.3	As an inventory manager i want to delete a local via web	Implement the local deleting functionality	Oussema	1
		Do the local deleting test	Yosri	1/2
19.1	As an inventory manager i want to add a supplier profile via web	Implement the supplier adding functionality	Kais	1
		Do the supplier adding test	Nieze	1/2
19.2	As an inventory manager i want to delete a supplier profile via web	Implement the supplier deleting functionality	Kais	1
		Do the supplier deleting test	Emna	1/2

2. Burndown chart

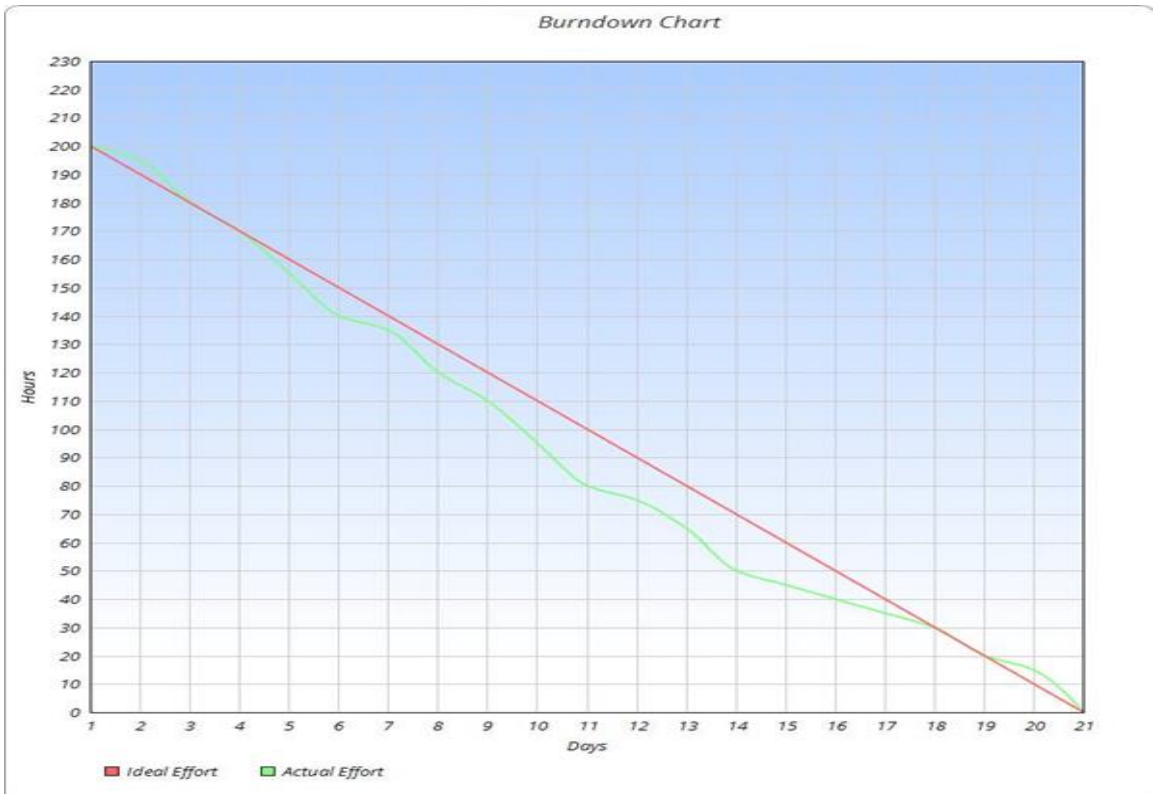


Figure 26 Burndown chart

The figure above represents the daily progress of the project compared with an axis from time per hour.

The shape of the curve shows the passing of time compared with the numbers of days.

II. Analysis

1. Modeling of the diagram of detailed use case

The following figure represent the diagram of global case uses which allows to identify the various features realized by the actor of our plateform.

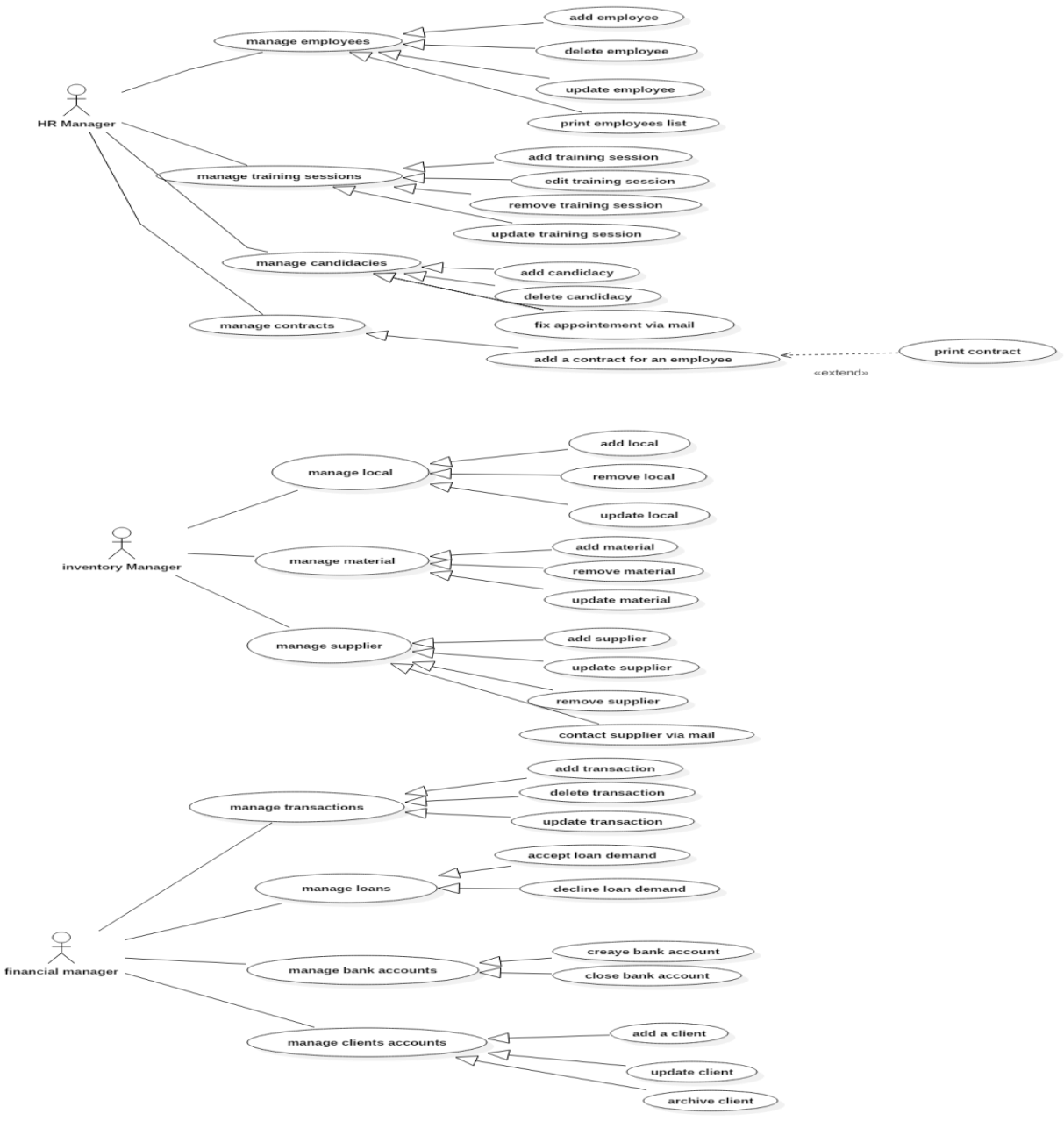


Figure 27 Use case diagramme

2. System séquence diagramme

The following figure shows the sequence diagram for the authentication.

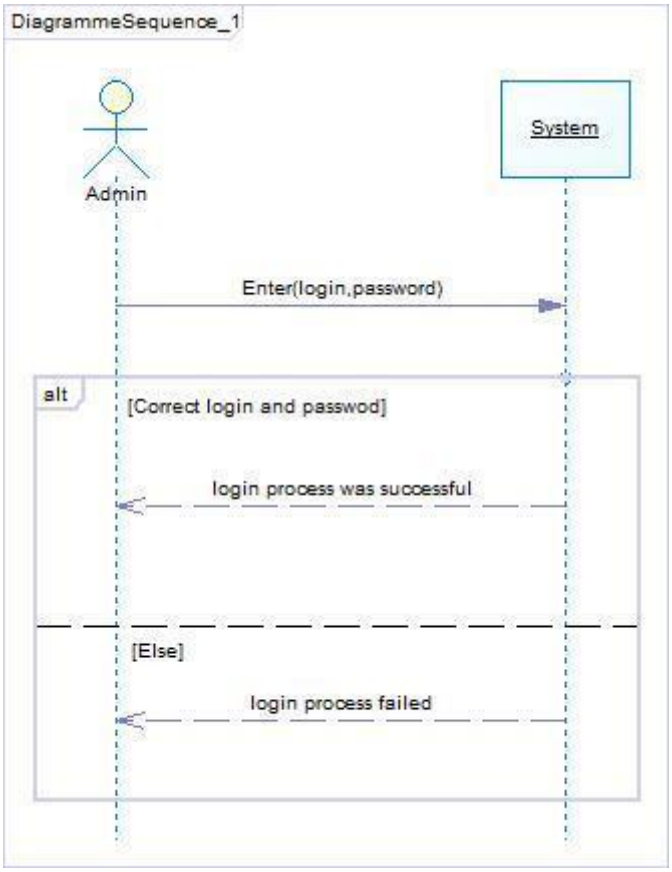


Figure 28.Authentication sequence diagram

To log in, the administrator should enter his login and password. Then, the system checks these information, if the login and the password are correct, the system allows the user to access the application else an error (message) is going to be displayed.

III. Design class diagram

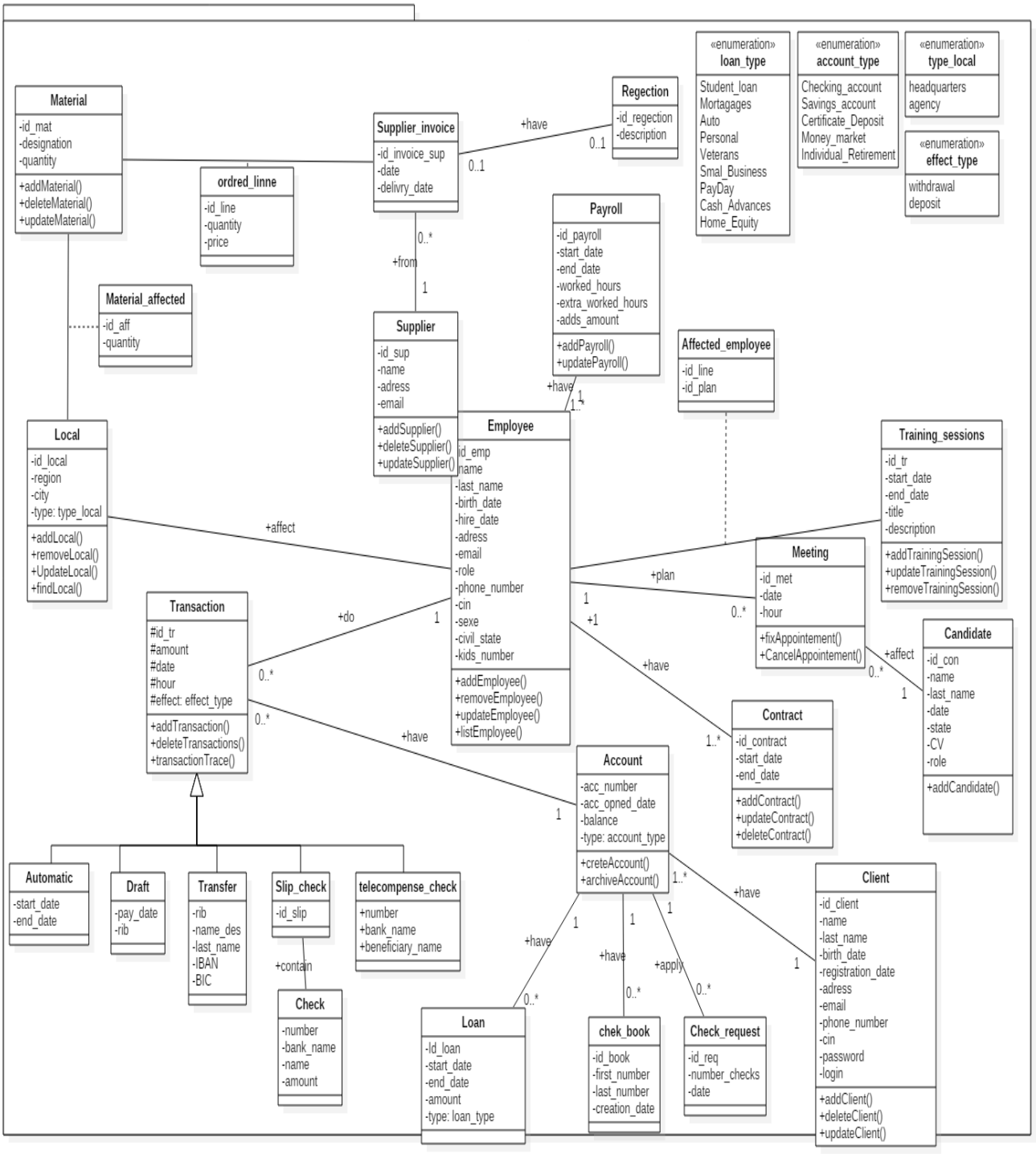


Figure 29 Class diagramme

IV. Achievement

1. Tools

Power AMC :

PowerAMC is a design software created by the company SDP, which models the information processing and their associated databases.

Jboss developer studio :

JBossDeveloper Studio (JBDS) is a development environment created and currently developed by JBoss and Exadel.It integrates and certifies both tooling and runtime components by combining Eclipse, Eclipse Tooling, and the JBoss Enterprise Application Platform.The built-in development tools are used to build rich Web applications using open source technologies like JBoss Seam, JBoss Application Server, Hibernate and JBossjBPM.

My sql querry browser :

MySQL Workbench provides and integrated GUI environment for MySQL database design, SQL development, administration and migration.

wildfly-9.0.1:

wildfly-9.0.1 Application Server is a free software/open-source Java EE-based application server. An important distinction for this class of software is that it not only implements a server that runs on Java, but it actually implements the Java EE part of Java. Because it is Java-based, the wildfly-9.0.1 application server operates cross-platform: usable on any operating system that supports Java. wildfly-9.0.1 AS was developed by JBoss, now a division of Red Hat.

2. Screenshot

Authentification

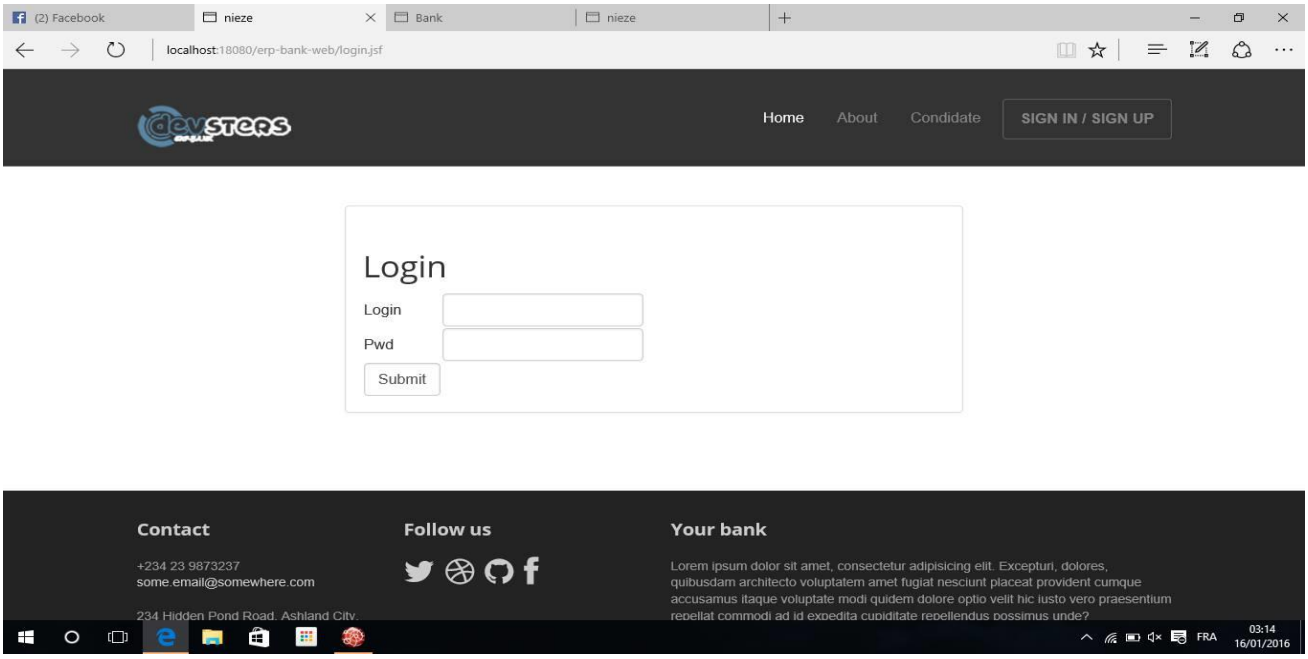


Figure 30 Authentification

This is the first screen of our platform where the administrator will enter their login and password to authentificate.

Home Page

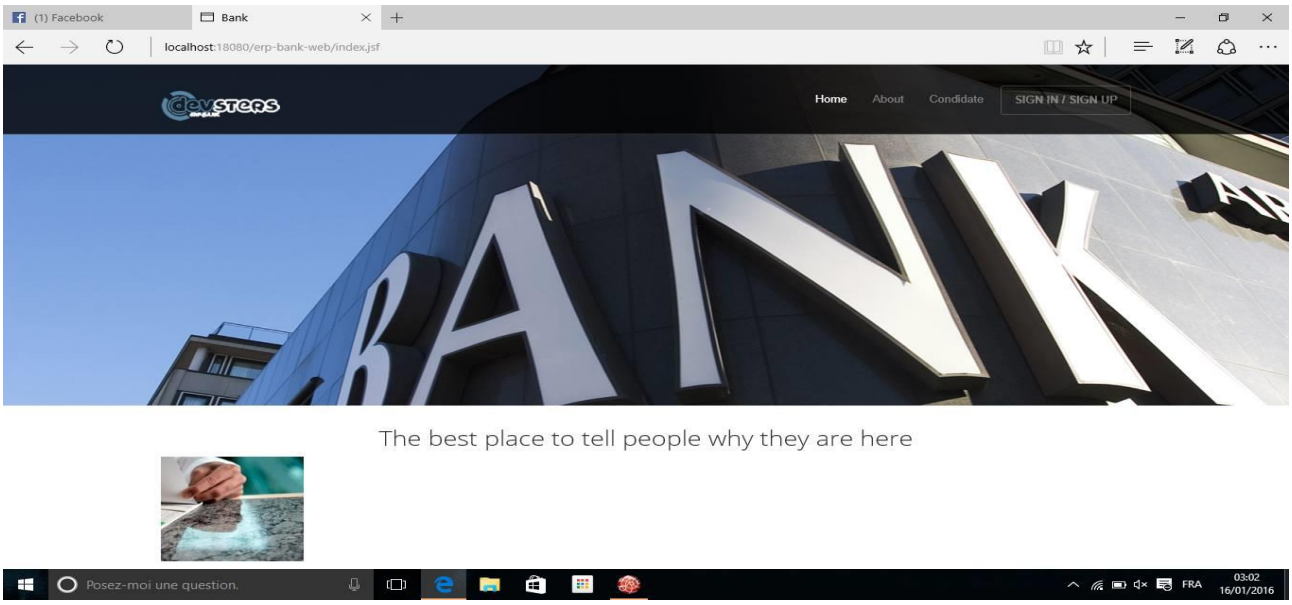


Figure 31 Home

Map

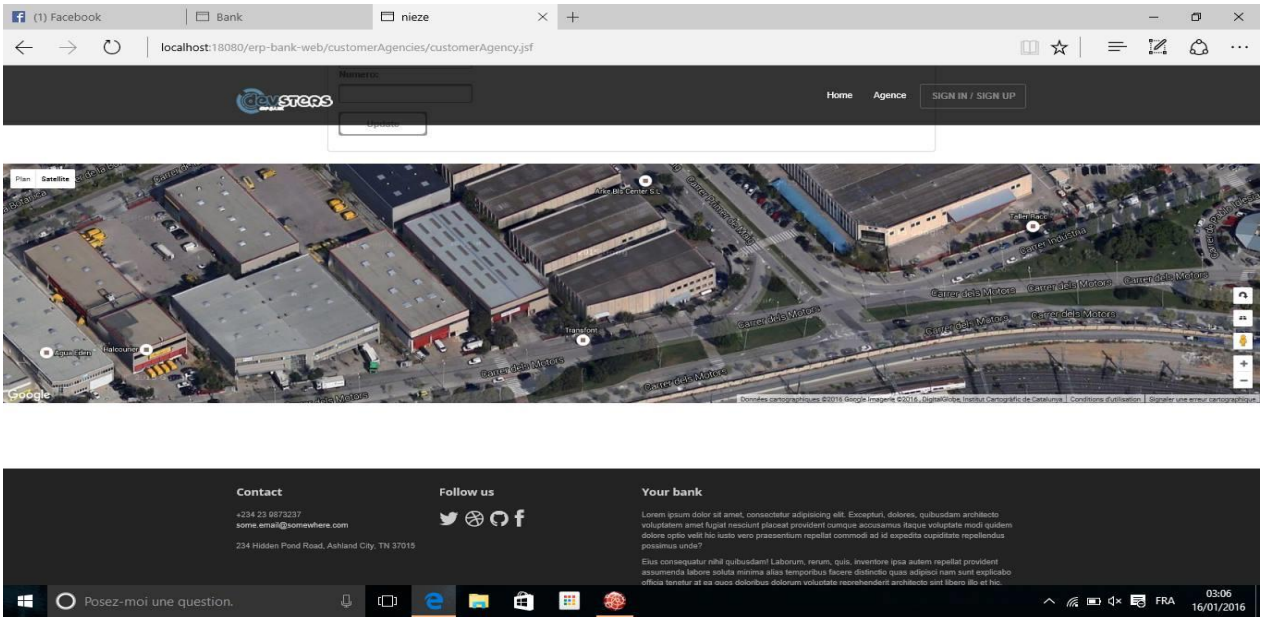


Figure 32 Map

This screen represent the interface of Map to search some location .

Apply for Job

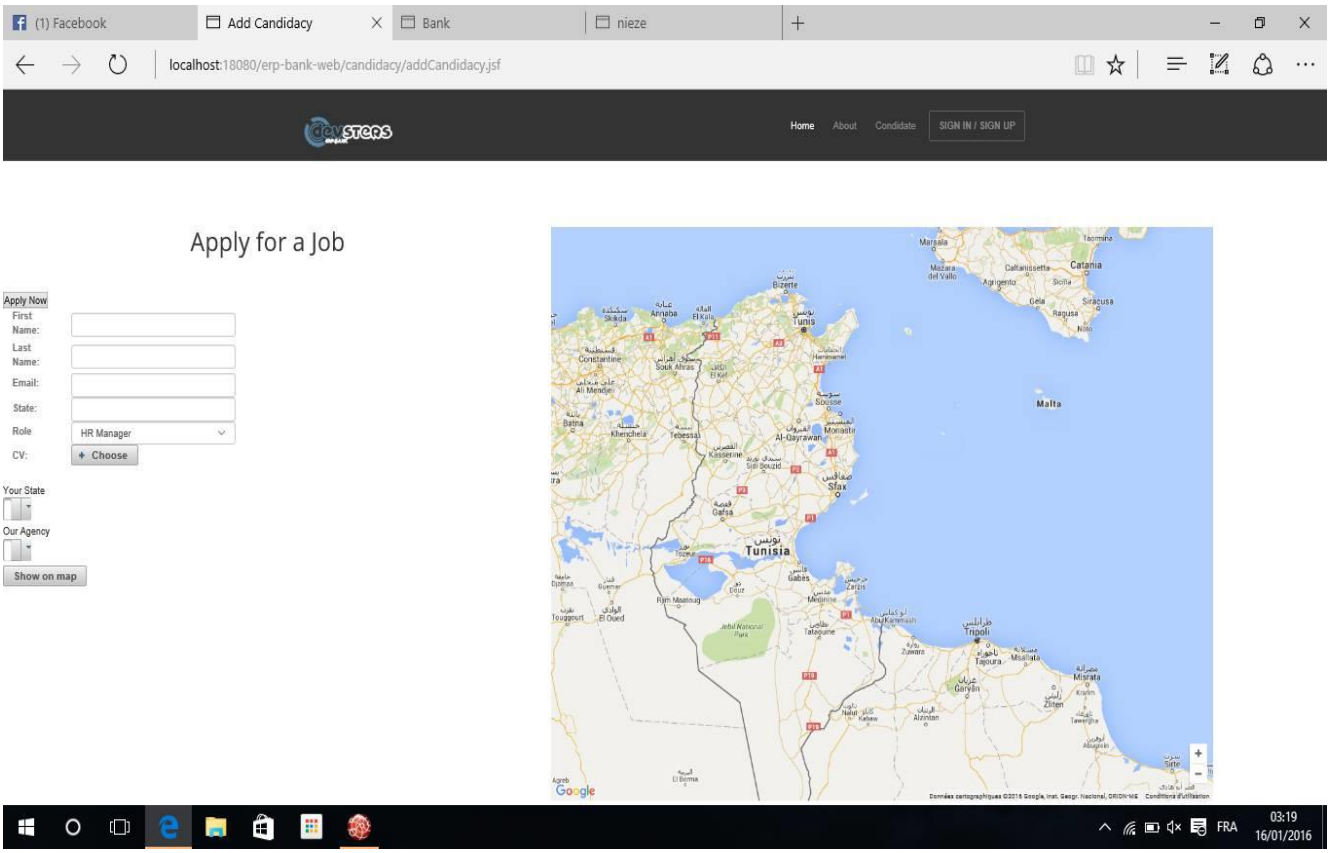


Figure 33 Apply job

This screen represent the interface of management categories where the administrator can add, update, and delete category. He can also search subcategory by category and view all the detail of category.

Conclusion

Following this sprint, we have succeeded in developing a Web application of our Bank project.

This sprint has enabled us to gain expertise with knowledge for coding with jsf and primefaces.

Despite the mass and charge of the work, we were able to work under pressure which will allow us to begin the next sprint with experience.

CHAPTER 5 : SPRINT 4

Introduction

This chapter is dedicated to the fourth sprint of our project in the course of which we are going to conceive and to code the web application of the Bank platform with Sharepoint.

I. Objective

The project focuses on Bank working on the IT-centered fields such as computer programming, web design, graphic design, website development, consulting…etc.

Our first objective has fault this sprint is to manage the front office platform which consists in managing tasks by the HR and Employees.

II. Backlog sprint

1. Distribution of tasks with estimated time

The table below shows the backlog sprint with user story, design tasks and corresponding design, responsible for each task and schedule estimate.

Fourth Sprint Backlog Sharepoint - Falcon Freelance Community					
US-ID	**User Story**	**Tasks**			
		ID	**Task**	**Estimation**	**Member**
120	**As an Administrator, i add users in Active directory**	1	create the script Shell to add users	1 hours	
		2	Test the implementation	15 min	
130	**As an client/admin i want to manage my profile**	1	Create Tthe user profil service application	1 hours	
		2	create user profile synchronization service	30 min	
		3	Configuration the two services	30 min	
		4	Test the implementation	15min	
150	**As an admin i want to manage training sessions(documents)**	2	create the external list for mission entitie	1 hours	
		3	Create the different methods for the external list	1 hours	
		4	Add the external list to the collection site	30 min	
		5	create view the list of missions method	1 hours	
		6	Test the implementation	30 min	

160	**As an administrator, I want to manage different users(external list)**	1	method to view the list of users	30 minutes	
		2	method to view all the owners	30 minutes	
		3	method to view all the freelancer	30 minutes	
		4	method to update the list of user	30 minutes	
		5	method to delete one of the users	30 minutes	
		6	method to search users	30 minutes	
		7	Test the implementation	30 minutes	
190	**as an administartor i want to view the statistics**	1	generate statistic (owner/freelancer)	30 minutes	
		2	generate statistic mission/categories	30 minutes	
		3	Test the implementation	30 minutes	

2. Burndown chart

The Burndown Chart is a graphic representation of work comparing to time. The pending work is represented on the vertical axe while the time is on the horizontal axe.

Dark blue line represents the theoretical advancement of the team, and the right blue line, updated regularly represents the actual progress of the team. Thanks to this chart you can easily know the progress of the team .

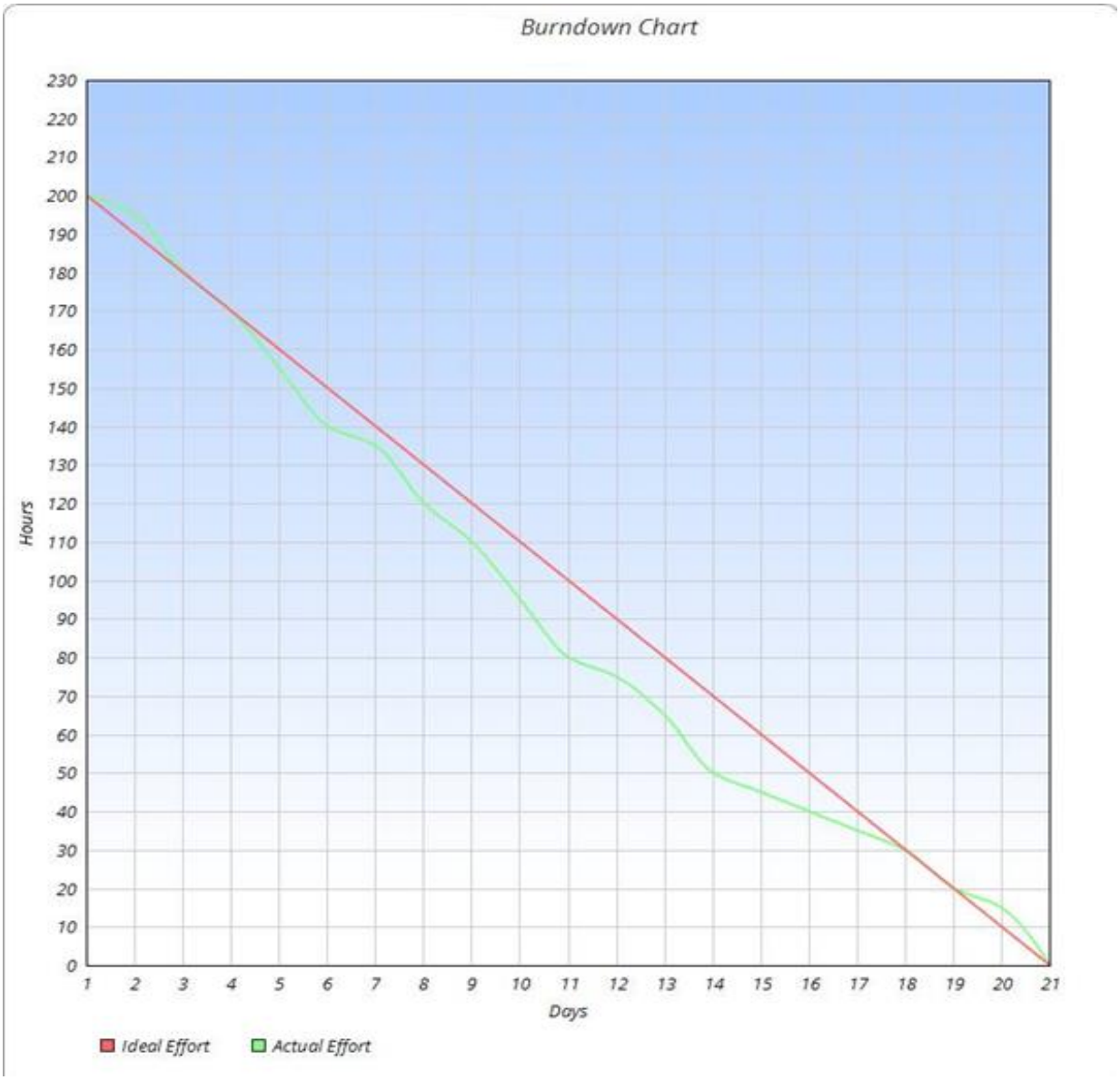


Figure 34 Burndown chart

III. Analysis

1. Modeling of the diagram of detailed use case

The following figure represent the diagram of global case uses which allows to identify the various features realized by the HR of our platform.

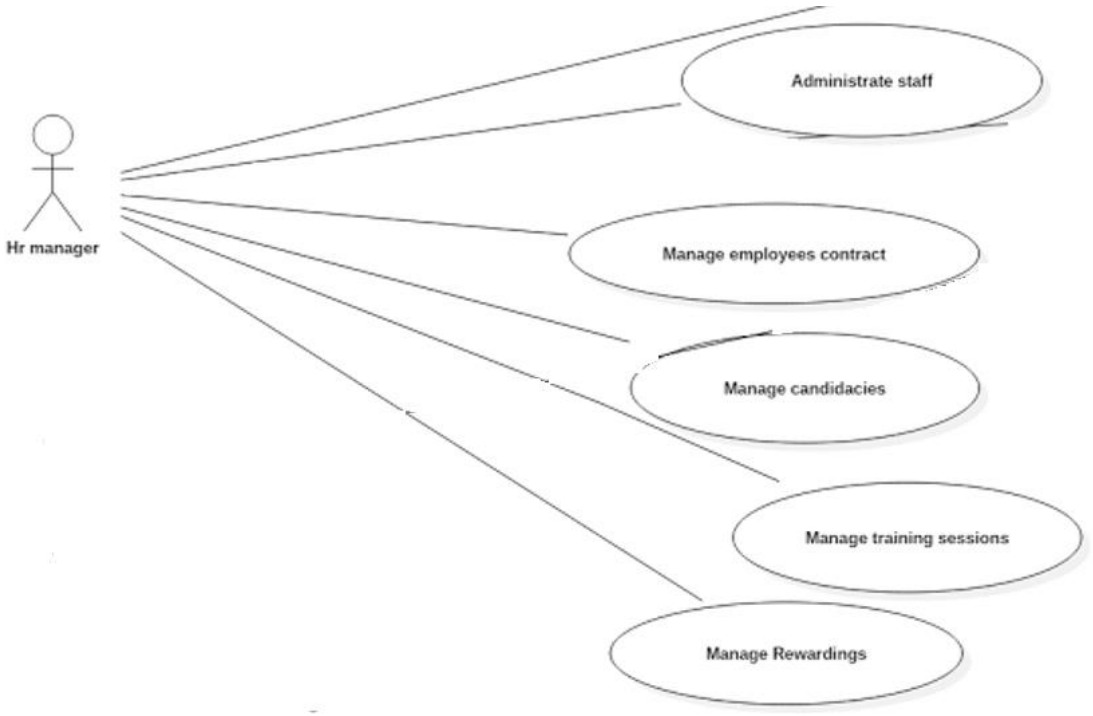


Figure 35 HR use case diagram

IV. Design class diagram

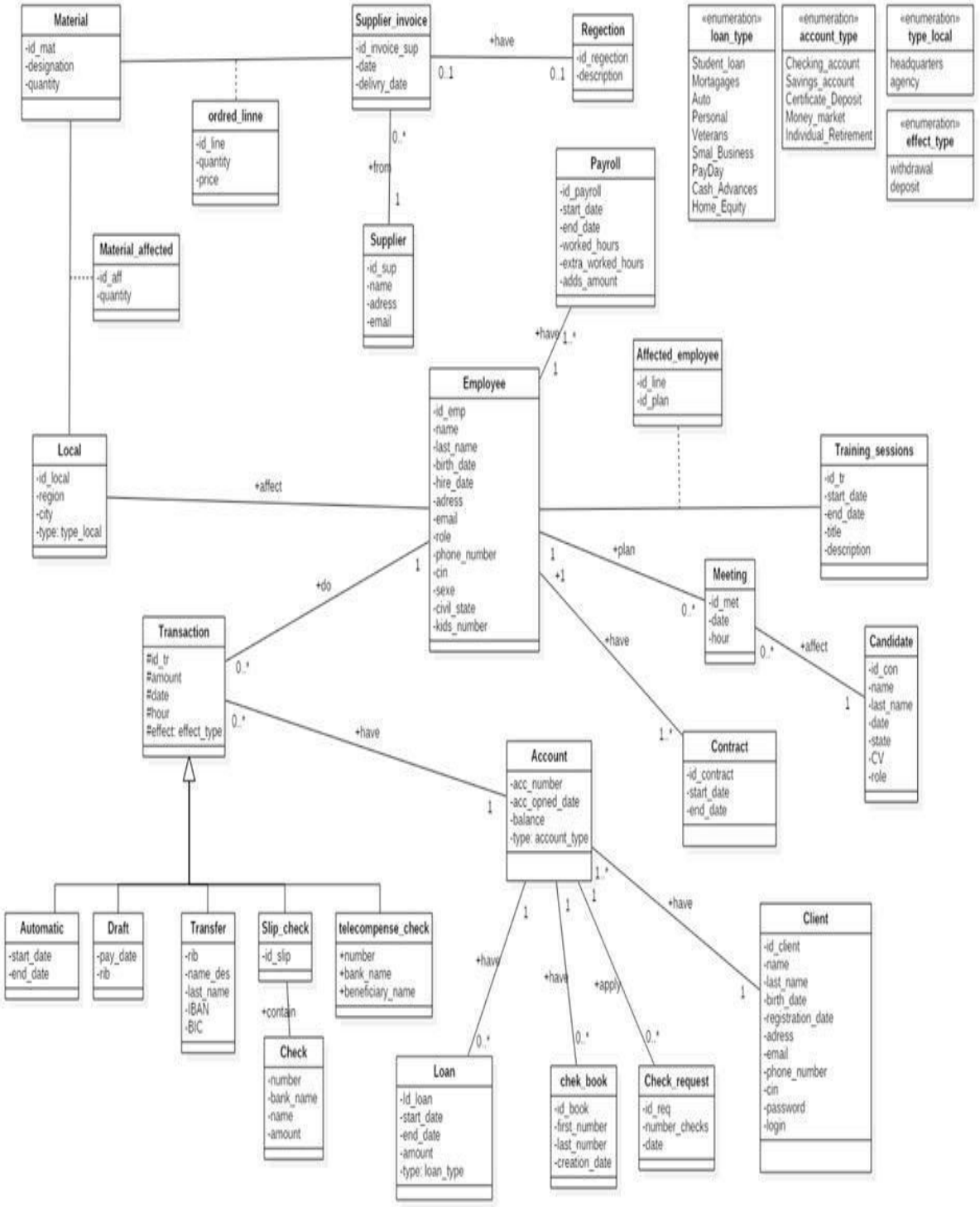


Figure 36 Class diagramme

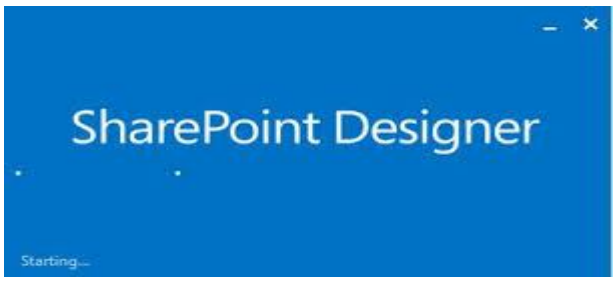
V. Achievement

1. Tools

Power AMC :

PowerAMC is design software created by the company, which models the information processing and their associated databases.

SharePoint Designer 2013:



SharePoint Designer is our development environment to creating or modifying Microsoft SharePoint sites, workflows and web pages.

2. Screenshot

Manages Employees

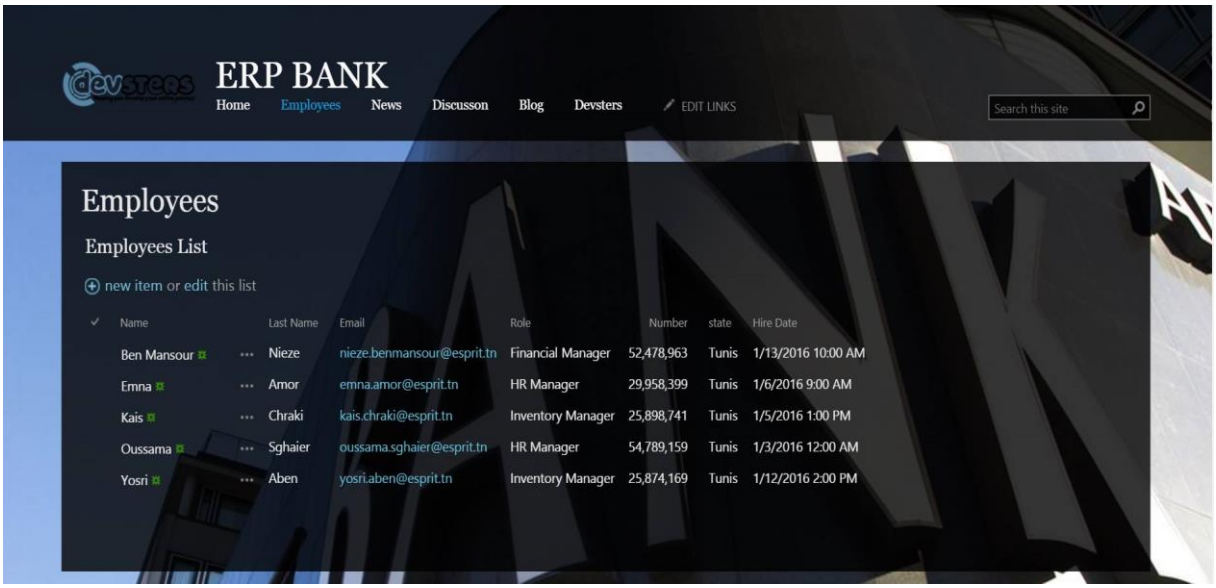


Figure 37 Class diagramme

This screen allows HR to manage employees.

Contact

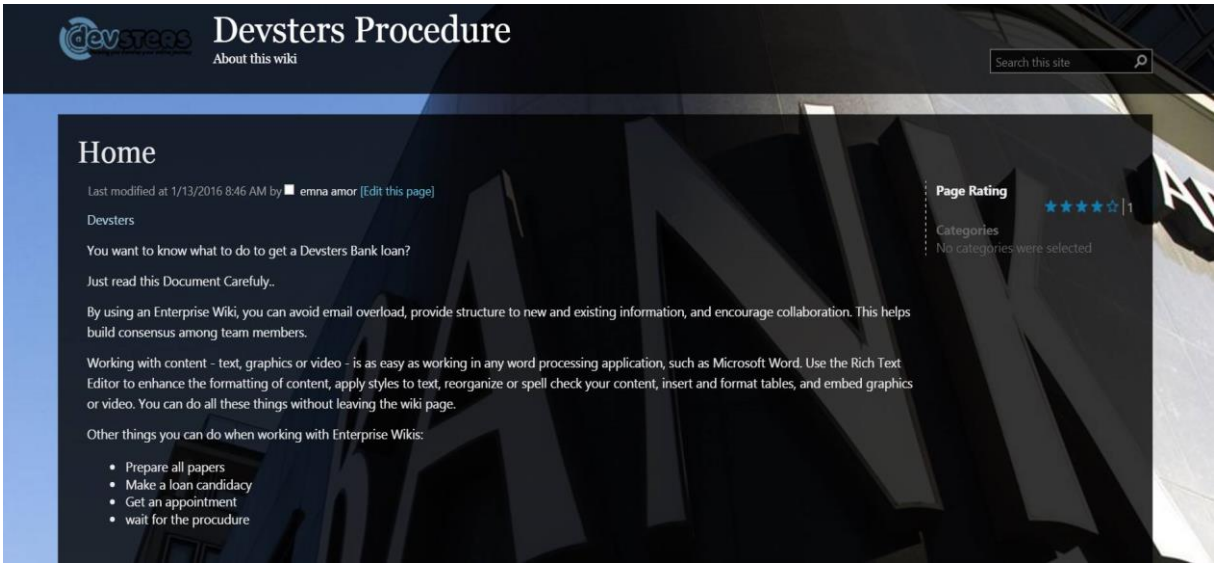


Figure 38 Contact

In this screen the user able to enter his credentials

Blog

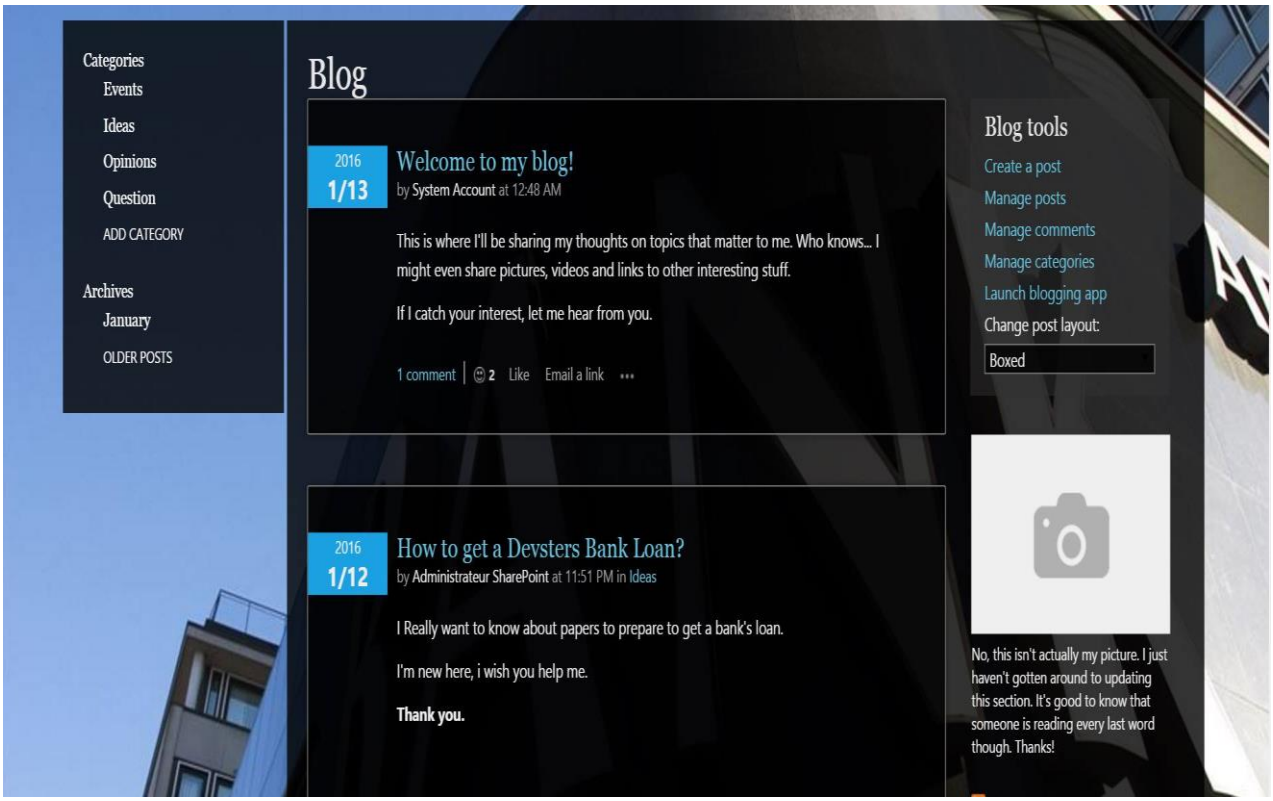


Figure 39 Blog

Conclusion

Following this sprint, we have succeeded in developing a web application of Bank project for the front office part.

This sprint has enabled us to gain expertise with knowledge for working with the ShaePoint 2013.

GENERAL CONCLUSION

During this project we came acrosss a real challenge and made us to explore the IT world and had a great hands on experience. The realization of this work was a great accomplishment within our team.

Indeed, throughout this period , we conducted this work professionally and worked sincerely to make it a success

Secondly, it helped us to enhance our skills in the modeling language UML and the programming language JEE and JSF for the web application,.net and sharepoint for the web application It is also, it is essential to point out the positive aspects and what we learned from this project.

However, we encountered some difficulty in finding a suitable time for the team to meet after long days of study. Hence, the gathering of all information was a challenging task and we had to spend substantial time in compiling all the gathered information and in putting them in the right flow to get the correct logic to this project.

Moreover, the prospects for improving our applications were possible such as the integration of a web service , we also plan to add a new feature to facilitate interview via our platform as well as the improvement of other characteristics like User Interface as mentioned in this project.

This project is great success because of the perfect support throughout the journey of this project and also we are thankful for the knowledge provided and professional experience from our Professors.

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