Chapter 1

Capture of Functional Needs

Introduction

In every project, the planning phase is the most important especially in the information technologies, where little mistakes may be harm to the entire of the project.

For this reason, we dedicated lots of time to conceive our solution, and to specify the tasks (functional requirements) that our application must provide to the users (actors) within certain constraints (nonfunctional requirements).

Client Specification document

Institutes management as well their localisation

Videos and document management

The collect of various informations about events using RSS feed

Providing a mobile extension for the services provides it the web and the desktop application

The platform provided by the IRMC allows visitors to just access a Cartography containing institutes and provide information about them

Problematic

After studying the current application we came to the conclusion that the platform lacks details about the institutes and do not allow users to look for specific details about them ,also it does not provide other services like access to scientific journals ,video conferences , the possibility to propose events like job proposals or scholarships, and researchers do not have the ability to access specific files from the platform .

Proposed solution

Add video management

Add document management

Add research account management

Add center with maps

Add events with tags

Search with tags

InternSpecification document

1.1 The application main functions

The application we are developing contains several main functionalities such as:

- ✓ Videos management
- ✓ Detailed search
- ✓ Scientific Journals management
- ✓ Collect of centers geo-Localization (Library, University … etc.)
- ✓ Events managements

1.2 Users

- Guest: the net surfer who uses the website without any authentication.
- Researcher:A user who is logged in with the role “Researcher” to get the benefits of this role in the website.
- The system administrator: A user who is has the privilege of managing the whole data in the website.

1.3 Functional requirements

The functional requirements specification documents, the operations and activities that a system must be able to perform in JEE module are:

- ✓ Videos management
- ✓ Detailed search
- ✓ Scientific Journals management
- ✓ Research centers geo-Localization (Library, University … etc.)
- ✓ Events management

- The system administrator:

  --approval of job proposals and offers,scholarshipsand tenders

  -- Authenticate

  --Libraries and research centersmanagement

  -- Video conferences and tags management

  -- Documents and Tags management

  -- Accepting and denying of researchers

  -- Scientific journals management

- The guest:

  -- Consulting libraries and research centers

  --Proposing for jobs, scholarships,and tenders

  --Consulting proposals

  -- Access toscientific journals

  -- Access to videos

- The researcher:

  --Accessing and downloading specific files

  --Profile management

  -- Consulting libraries and research centers

  -- Proposing for jobs, scholarships, and tenders

  -- Consulting proposals

  -- Access to scientific journals

  -- Access to videos

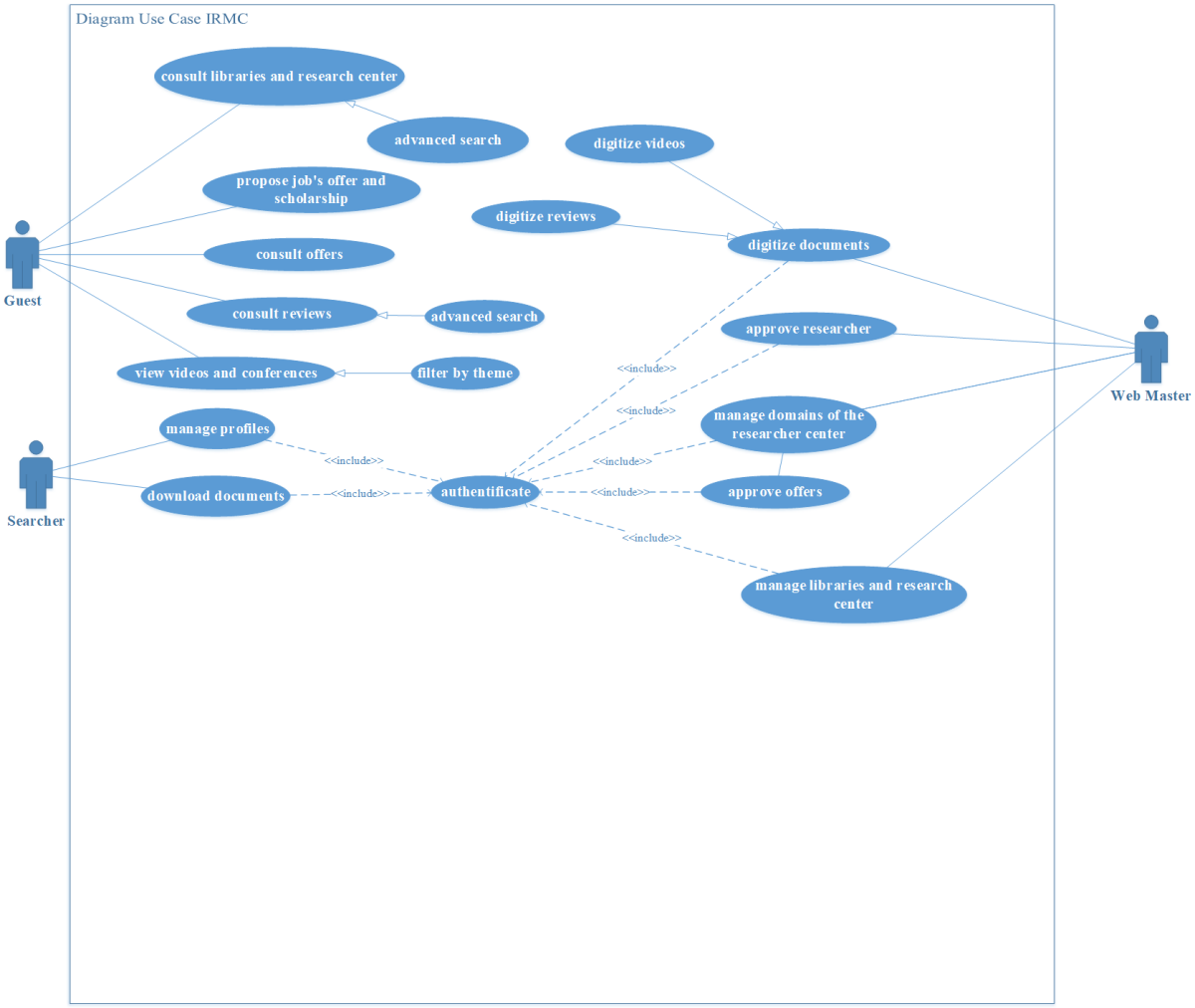
1.4 Non Functional requirements

To ensure the satisfaction of our users, our application must consider a set of non-functional requirements including.

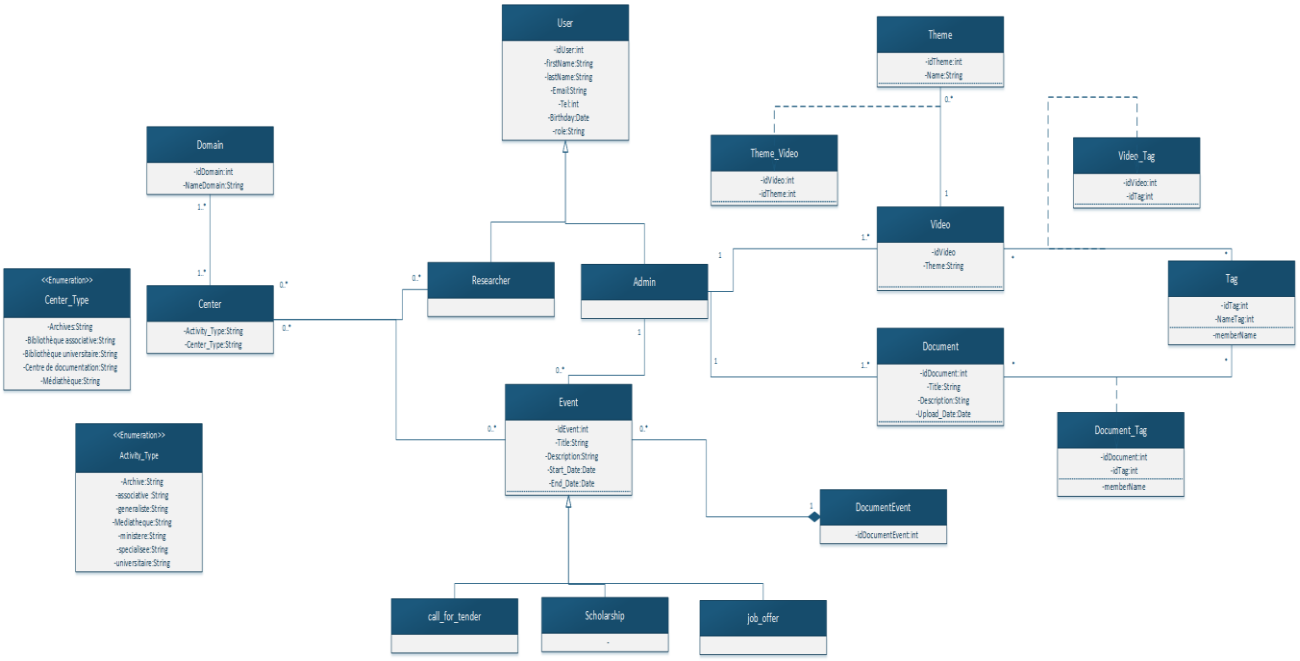
- The system must ensure data integrity.
- The system must guaranty the security
- The system must be consistent with the standard encodings.
- The system shall be compatible with different window sizes
- The system should be able to run a task of user in a given time.
- The system should provide a good user experience.

Globale Analyse

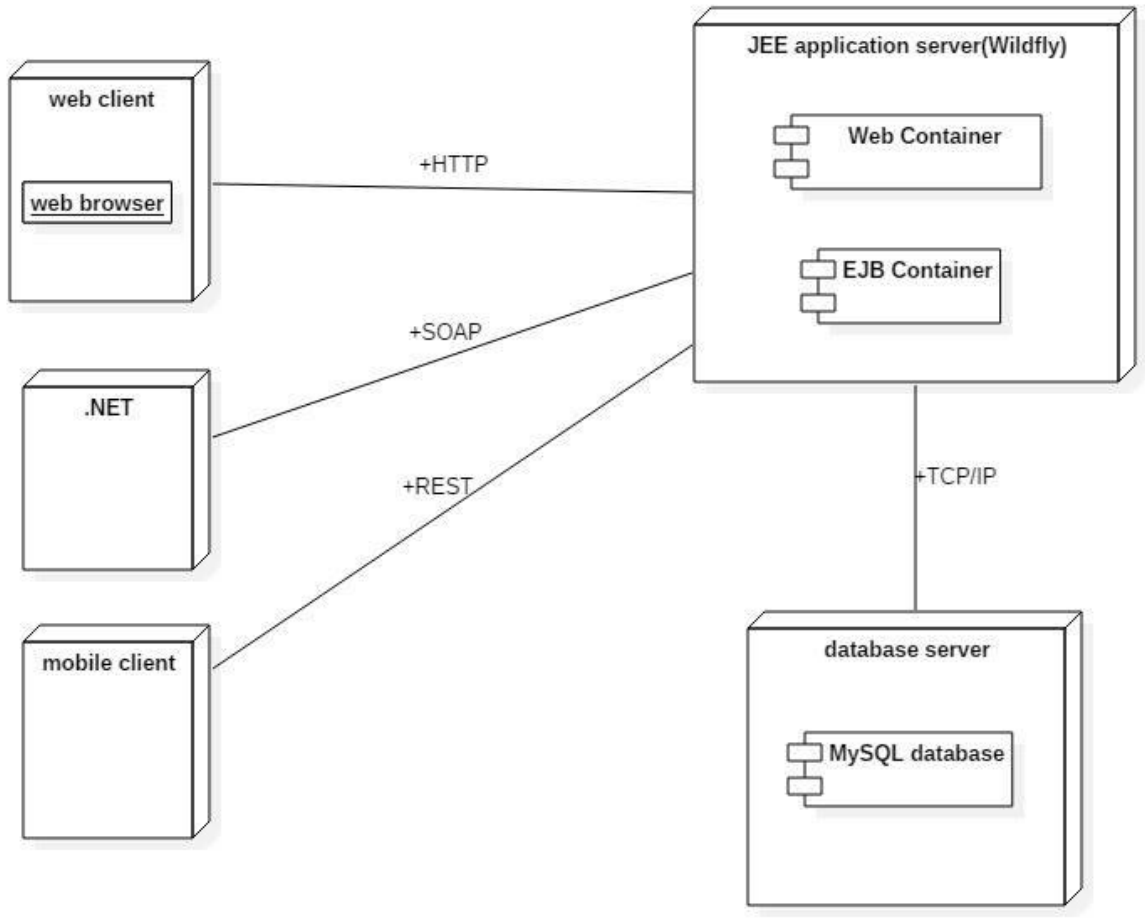
1. Use Case



2. Class Diagram



3. Functional Architecture



Module	under module	Code functionality	functionality	Responsible

JEE	Tags Management	Jee01	Add tags	
		Jee02	Update tags	
		Jee03	Delete tags	
	Videos management	Jee11	Add video	
		Jee12	Update video	
		Jee13	Delete video	
		Jee 14	Search video with tags	
	Scientific Journals management	Jee21	Add a scientific journal	
		Jee22	Update a scientific journal	
		Jee23	Delete a scientific journal	
		Jee24	Search a scientific journal	
		Jee32		
	Events managements	Jee41	Add event	
		Jee42	Delete event	
		Jee43	Update event	
		Jee44	Search event	
WEB/Mobile	Document Managment	M01	Add document	
		M02	Update document	
		M03	Delete document	
			Search document with tags	
		M04	User can consult documents	

		M05	Searcher can download specific documents	
	Proposals management	M11	Add proposal	
		M12	Update proposal	
		M13	Delete proposal	
		M14	Consult proposal	
		M15	Approve proposal	
	Profil management	M31	User can consult his profil	
		M32	User can update his profil	
			User can delete his profil	
.Net	User Management	Jee01	Login	
		Jee02	Registration	
		Jee03	Update password	
		Jee04	Archive an account	
		Jee05	Admin can approve a researcher	
	Videos management	Jee11	Add video	
		Jee12	Update video	
		Jee13	Delete video	
		Jee14	Search video with tags	
		Jee15	Consult video	
	Scientific Journals	Jee21	Add a scientific journal	

	management	Jee22	Update a scientific journal	
		Jee22	Delete a scientific journal	
		Jee23	Search a scientific journal	
		Jee32		
	Events managements	Jee41	Add event	
		Jee42	Delete event	
		Jee43	Update event	
		Jee44	Search event	
			Approve event	

Conclusion

In this chapter,we started by analyzing our project. Then,we set our main objectives and perspectives.Finally we proposed a solution different of the already existing ones working on the same problematics.

Figure 1 : General use case diagram

Analysis Class diagram

Class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

Figure 2 : Analysis Classes Diagram

Physical Architecture (deployment diagram)

A deployment diagram is a static view which is used to represent the use of physical infrastructure by the system and how the system components are distributed and their relationships with each other’s.

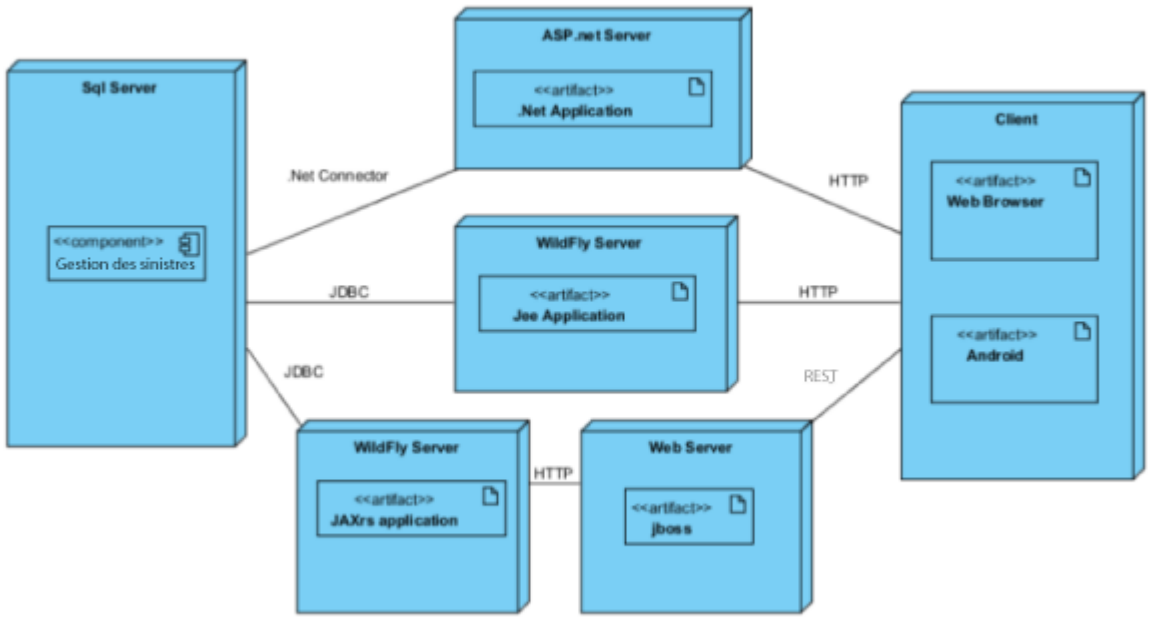


Figure 3 : Physical Architecture (Deployment Diagram)

Conclusion

In this chapter we have defined our use case diagram as well as the class diagram and finally the physical architecture of our application.

Conclusion

After achieving the analysis chapter, we have a much clearer idea about the product that we need to deliver, and the wayrealizingit. We also identified the tasks that must be validated at the end of each sprint as far as the quality of each deliverable.

We also conceived the UML diagrams in orderto implement our application, without reviewing them often is a gain of time.

But most importantly we have a concrete architecture that will serve the realization of this project in addition to a flexible product development tool (2TUP) that will help trackingthe work advancement.