



Software Engineering Report

Department of Computer Engineering

An-Najah National University

scientific centers ANUU project

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Nomenclature :

SCP : scientific centers project .

Chapter 1

Introduction :

1.0.1 vision

The main objective of this project is to develop a web application for the scientific centers in An- najah national university - which is an institution for conducting biological experiments at An-Najah National University , and so the web application is connected with a database to hold different informations .

1.0.2 what is our project ?

The main objective of this project To be comfortable and easy for users, user-friendly , and simple user interface web site . The purpose of this project is to store the results of vital experiments in the database and convert them as (pdf), and for members to be able to sign-in with their own credentials, The login system does not contain an sign up system so the user account is created by the administrator, as he is the only one able to create and delete accounts for users and quallity Assurance. Only the Administrator and quallity Assurance have the ability to add, edit, and upload files for vital experiences to users. The User can only view and benefit from the information.

1.0.3 why we chose this project ?

The main objective of my choice of this project is to facilitate the process of storing the results of the vital experiments that are performed in scientific centers in An- najah national university in a database through a website to facilitate the process of accessing, modifying , and displaying them to users instead of storing them in the form of paper files .

1.0.4 About the scientific centers project ?

The Scientific Centers project, which is a project that aims to store the results of vital experiments that are conducted in the laboratories of the scientific centers at An-Najah National University within a database. To facilitate access to the informations and modifying them in any time, and easy access and display through users.

1.0.5 Characteristic features

The main focus of this website is to be simple and easy for the user, user-friendly, because the users will not be those with experience in the field of technology. In addition to that the website will be connected to database athere will be personal information for the users, so it needs to be reliable and secure. And we need to make sure that it's scalable to ensure future works and improvements.

Chapter 2

Overview :

In this report, we will analyze our project, starting with functional and non-functional requirements, where we will present the characteristics of the science centers project website. Next, our system models will be described using the help of different charts: Use Case Diagram, Class Diagram, Sequence Diagram, and Case Machine Diagram. In the next report, we will further explain how each job has been implemented and provide photos of our website project, to provide an idea of how our user interface continues to be for the whole project. Finally, our report will end with a quick summary, conclusion, and experience that we obtained from analyzing the report.

Chapter 3

Requirements :

3.0.1 Functional Requirements

In our project, a user can be either a quality Assurance, a member, or an administrator.

1. A user will be able to use the following features and services that are provided in our web site:
 - The user can only view, view and benefit from information about vital experiences

2. quality Assurance will be able to:
 - He can Add ,edit and delete files and forms .
 - He can use the site as a regular user.

3. Administrators will be able to:
 - Add ,edit and delete user and quality Assurance information
 - View all members,and their information and registered activities
 - He can Add ,edit and delete files and forms .
 - View all uploads made by the quality Assurance .

3.0.2 Nonfunctional Requirements

The most important non-functional requirements of our scientific centers in An- najah national university website are:

1. Availability :

It is one of the most fundamental things that must be available on any website, which is access to any website at any time without the need to contact the responsible organization.

2. Acceptability (user-friendly and usability):

One of the most important things that should be available on any site is the ease of use by users, so that it is comfortable to use in terms of colors and places of buttons and does not cause confusion to users, because it is possible that many of our users may be beginners, for example not many of Technology background

3. Portability :

We must ensure that the website works well on all browsers and devices without any glitches

4. Security:

When we created the data base we use multipart for upload and hash_password encryption for password and when the password reset is required, we connected it with the email. And the website ensures authentication through using session control so the users can't reach other's home-page all this is to secure the personal information for users

5. Accessibility :

When signing-up, a required check-box will show that all information (personal and activities) can be seen by the administrator and the organization.

Chapter 4

System Models

4.0.1 Domain Analysis

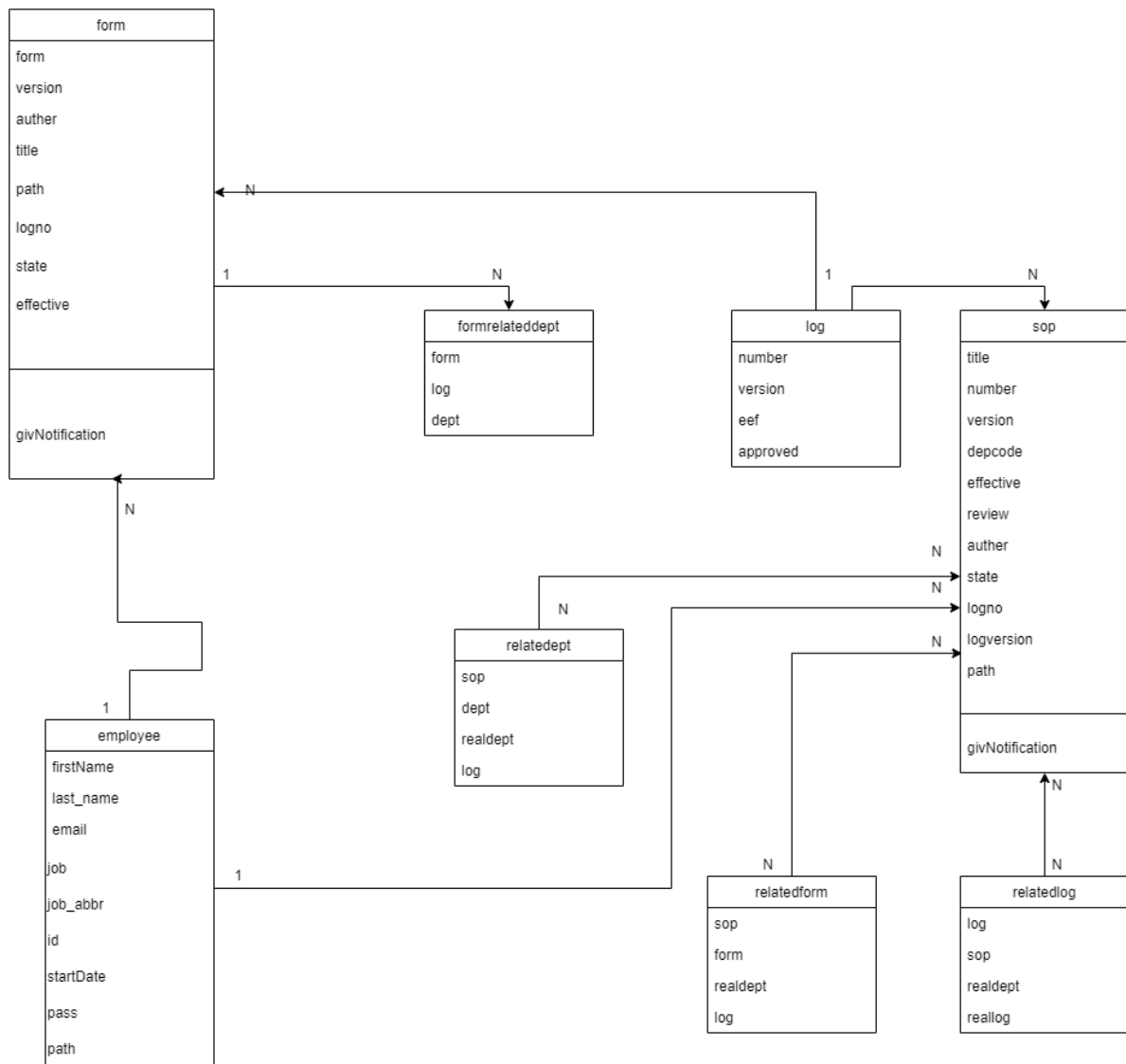


Figure 4.1: Domain Analysis

Employee :

This class represents any employee who uses the website, it contains all the informations that needs to be saved in the database about the employees, such as their first name ,last name , starting date and job abbr , which are represented as attributes in this class, this class has a (1,M) relation with the forms that the one employee can make many forms and same with sups , and control the accessibility of user depending on their job abbr

Form :

This class represents the information about the forms such as version ,author , title , log number , that are represents as class attributes , and there's the relation with this class and other classes in the diagram , and the final information that is given in this class is the functionality that is represented by giving notifications to the users to review the forms and the presentations date

Formrelateddept:

This class is related with the form class with relation (M,1) so it gives the information about the form in which departments it belongs to. That's to complete the information that needs to be saved in the database about the forms.

Sop :

This class represents all information about SOPs that is the files that sort the PDF in sections, and each section has some attributes like the title, number, deocode, and others. And this class represents all the communication with all the rest of the classes, to complete all information that is needed to be stored in the database and the functionality of this class that sends notification when a form gets uploaded to this SOP and the presentation dates.

Log :

This class represents the information about the file that contains the form or the SOP.

Relateddept:

This class represents the information of the related departments for each SOP, which helps to specify the forms for each department that is interested in the SOP of these forms.

Relatedforms:

This class represents the forms that are related to each sop

Related log:

This class represents the files of forms that are related to each sop

4.0.2 Use Case Analysis

In the following graph, it shows both the log-in system and the creation of a new account on the website

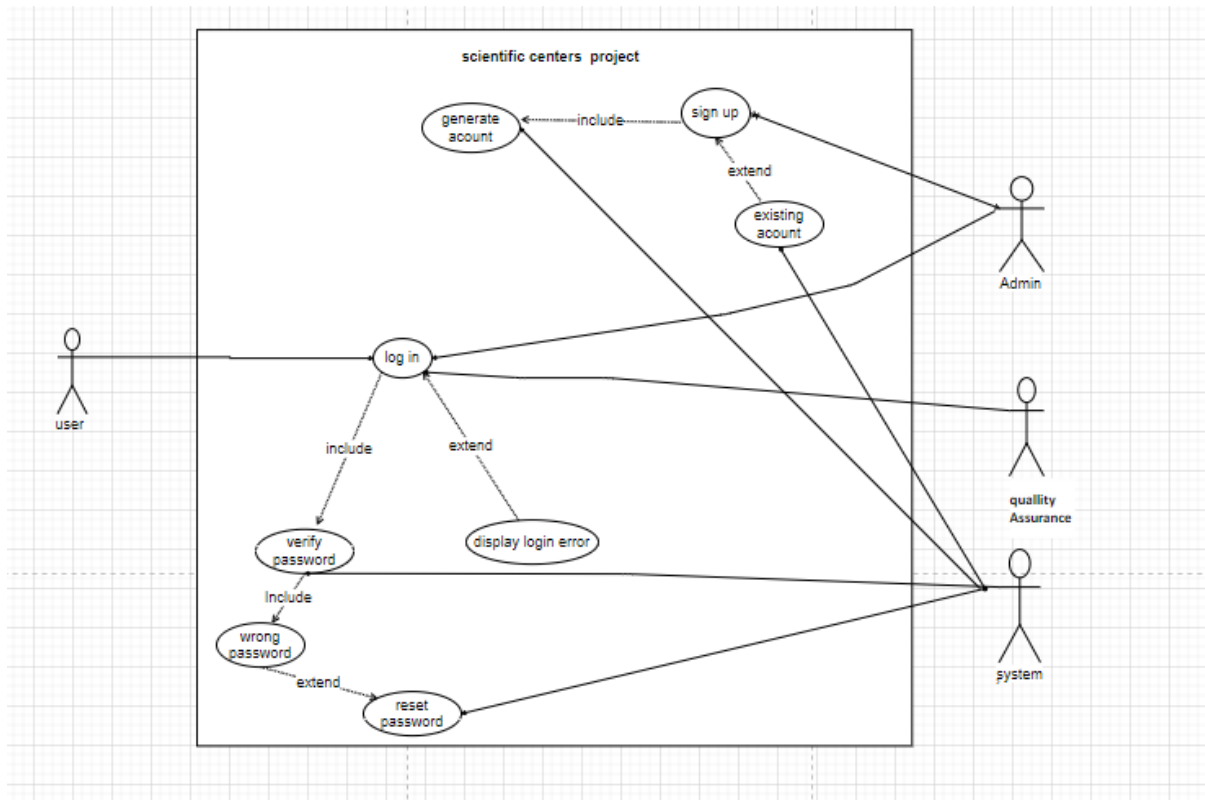


Figure 4.2.1: Use Case Diagram

The following diagram shows the calendar and user profile and the files system on the website .

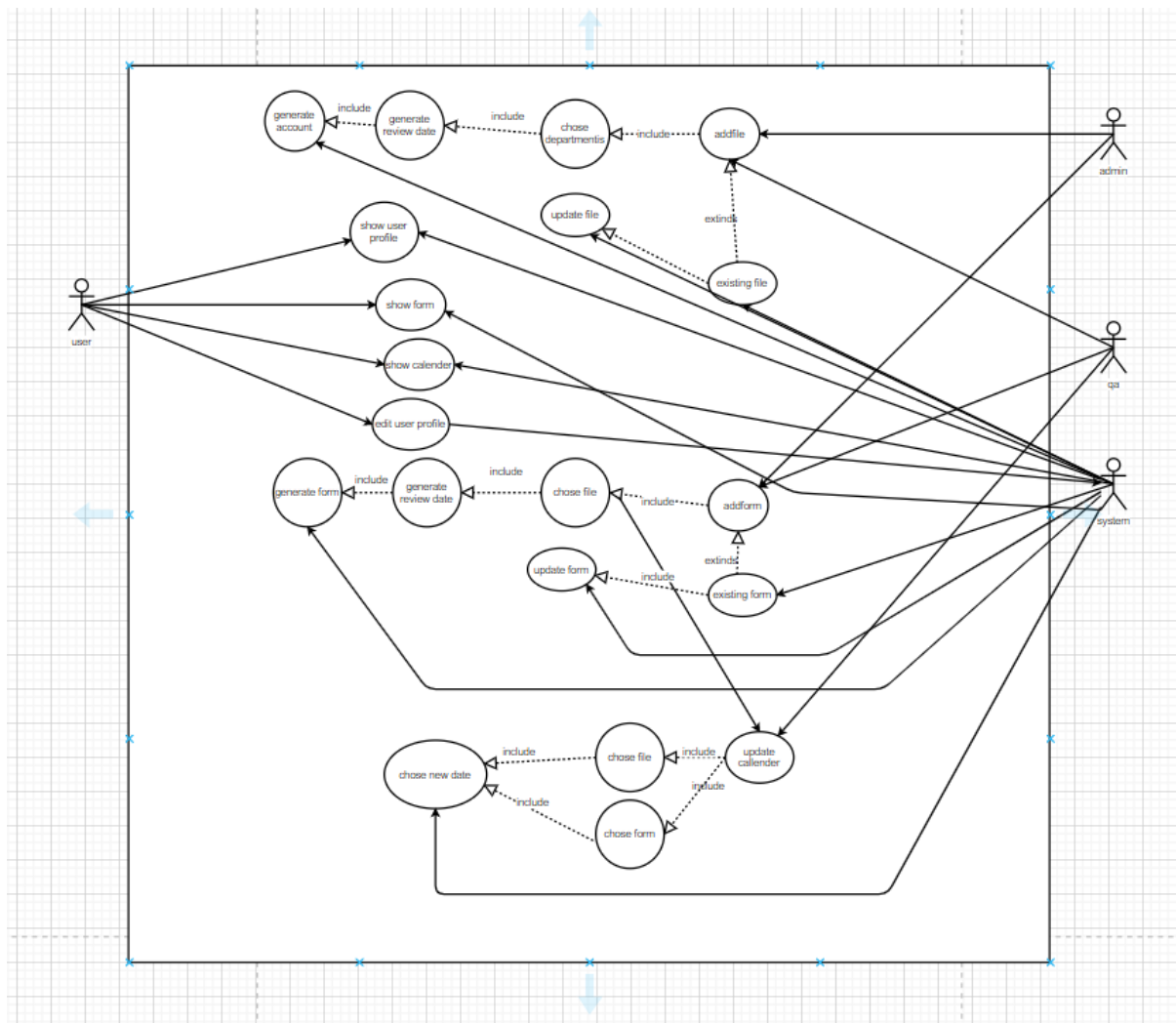


Figure 4.2.2: Use Case Diagram

Login in use case :

Use Case ID	1
Use Case Name	Log In
Actor	user or qa or Admin
Use Case Description	Only user and administrator and qa with valid credentials can login.
Precondition	Already has an account with valid credentials And Not logged in
Normal Flow	Log in request, if valid username and password, log in complete.
Alternative Flow	The login request is only available if you are not signed in, and after the request if the username is invalid, it appears that the password or username is incorrect
Post Condition	

Table 4.1: Log in Use Case

Files case:

Use Case ID	2
Use Case Name	files
Actor	user or qa or Admin
Use Case Description	Only the administrator and qa have the ability to edit ,add and delete files, while only users have the ability to view them
Precondition	Being a user, administrator or qa allows you to benefit from this page
Normal Flow	Here the qa and the administrator add files, modify them, and make copies of them in the form of (pdf), while the average user can access them, view them, and take advantage of the data in them
Alternative Flow	If the user does not log in, he will not be able to access this page,He must have an account created by the manager
Post Condition	If the qa or administrator adds any new file or modifies it, the user can view it and benefit from it

Table 4.2: files Use Case

Calendar case :

Use Case ID	3
Use Case Name	Calender
Actor	user or qa or Admin
Use Case Description	Only the administrator and the qa have the ability to add appointments and events to review files on the calendar, while only users have the ability to view and know these appointments
Precondition	Being a user, administrator or qa allows you to benefit from this page
Normal Flow	On this page, both the qa and the administrator add appointments to review the files and make meetings to discuss them, and the user receives a notification of a meeting on the agreed day for each discussion.
Alternative Flow	If the user does not log in, he will not be able to access this page,He must have an account created by the manager
Post Condition	When adding any appointment to meet with the qa or administrator, the user can know and go to him

Table 4.3:Calendar Use Case

User profile case :

Use Case ID	4
Use Case Name	User profile
Actor	User or qa or Admin
Use Case Description	Any user can see his information from this page created by the administrator
Precondition	All users can benefit from this page and access it
Normal Flow	Anyone who has an account on the site has the ability to access this page and view his personal information and add a personal photo to it, without the ability to modify the information, only the administrator can modify this information from the employee page
Alternative Flow	If the user does not log in, he will not be able to access this page, He must have an account created by the manager
Post Condition	When any change in user information occurs, he can see it and can change his personal photo at any time

Table 4.4:User profile Use Case

4.0.3 Sequence Diagrams

Files Diagram :

When adding a new file from the Admin or qa, it is stored as a file (pdf), and when any modification occurs to the file, the version number of the file is changed.

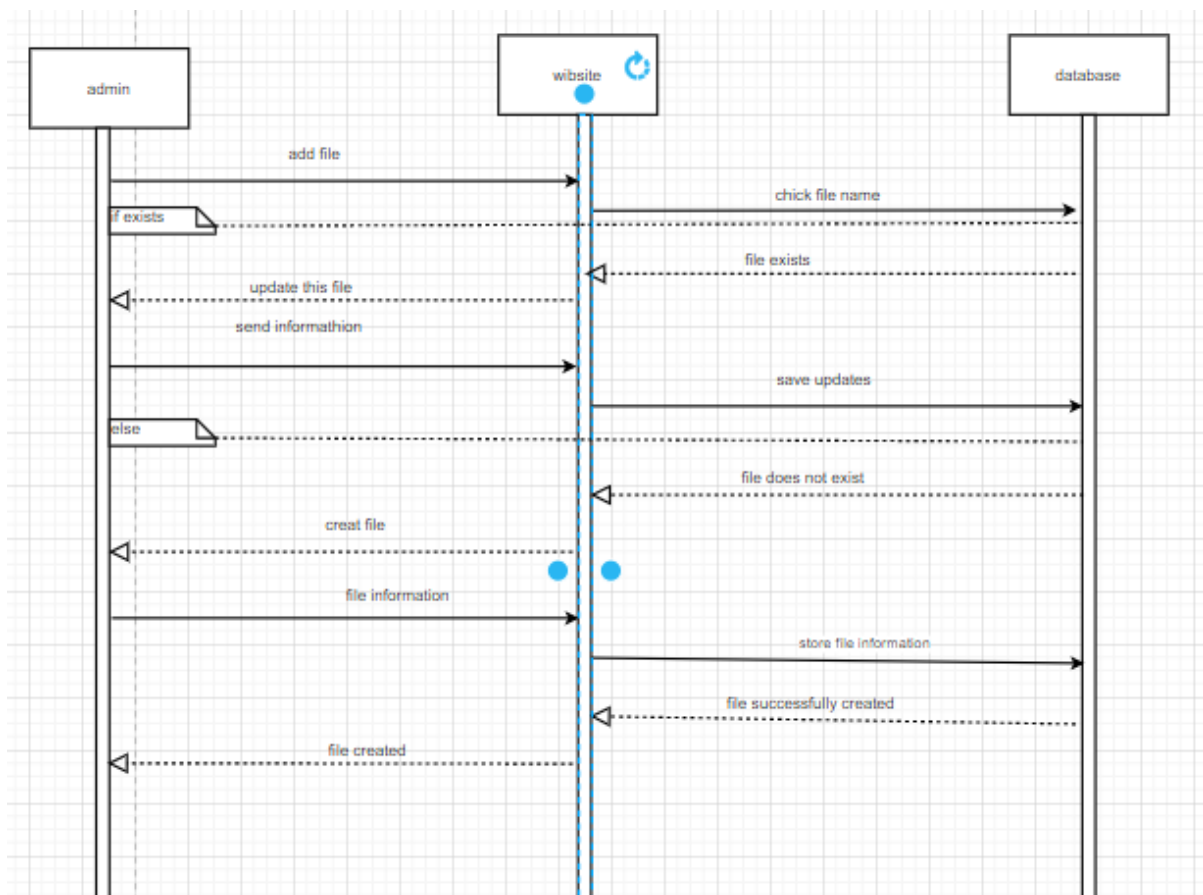


Figure 4.3: files Sequence Diagram

User profile Diagram :

The website user accesses this page, displays his information, and only changes his personal photo

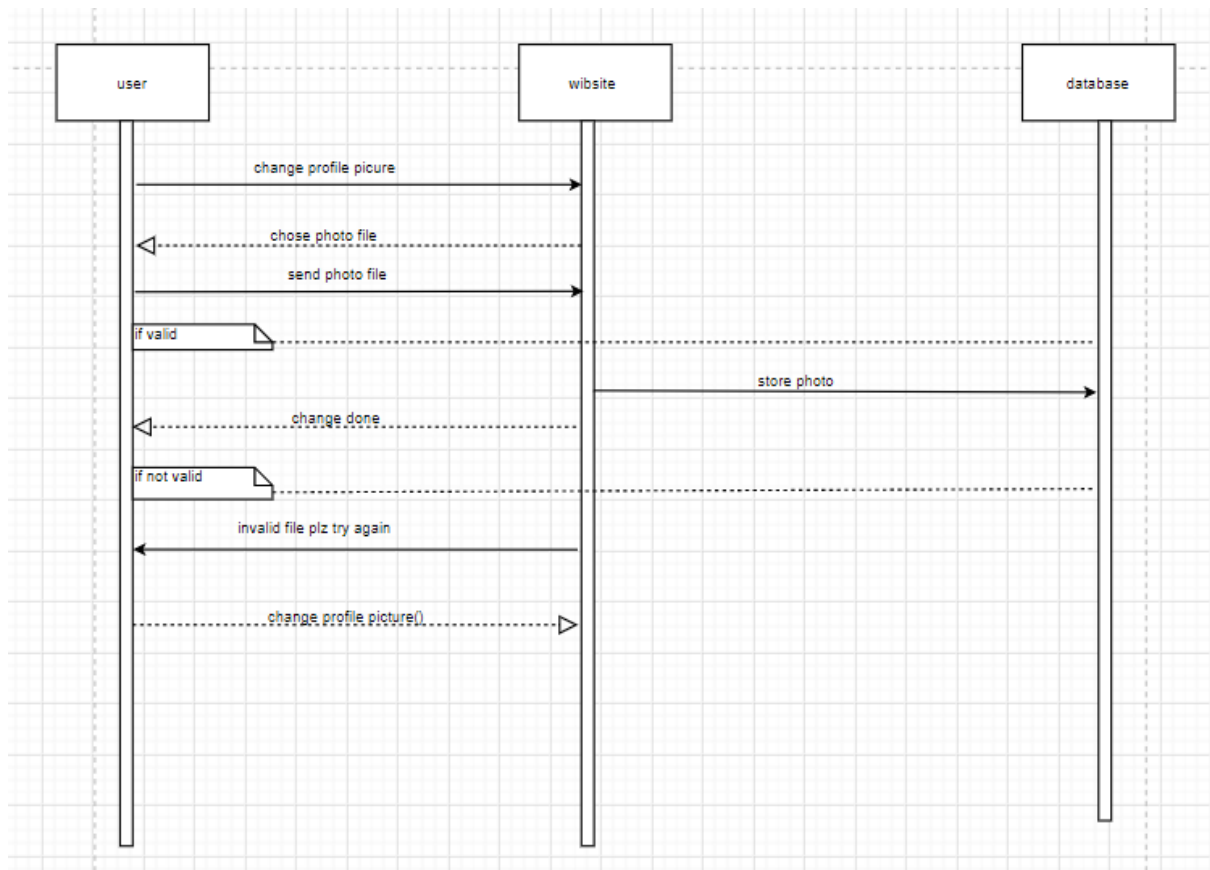


Figure 4.4: user profile Sequence Diagram

Calendar Diagram :

When adding any file or modifying it, an appointment will be added to the calendar to review this file and do a presentation for it

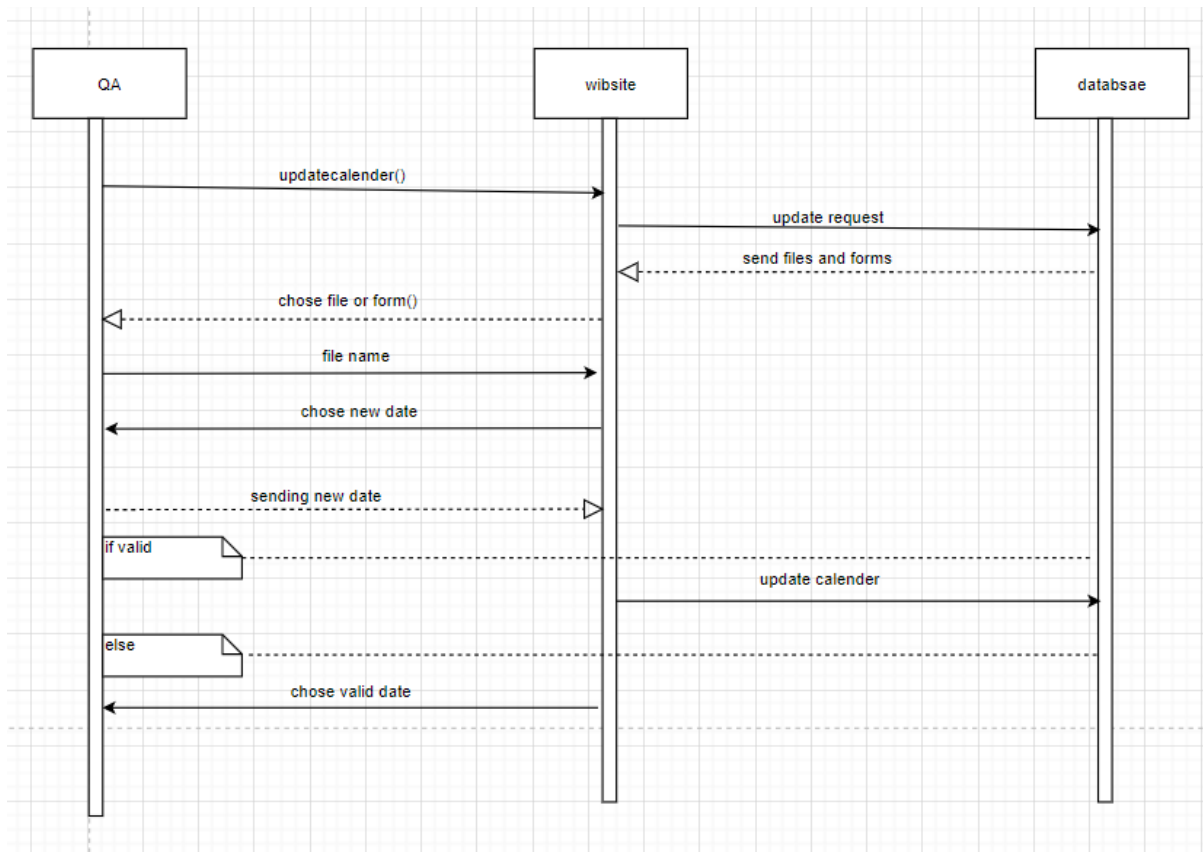


Figure 4.5: Calendar Sequence Diagram

Chapter 5

Future Work

There are many additions that can be made to the website, such as developing the system so that it creates a recommended number of files by machine learning.

It is also possible to develop the system by enlarging the database and increasing its effectiveness and speed

And the establishment for a messages system between employees in addition to a system for notifications in the event that any file has been added or the date for its presentation is approaching

Chapter 6

Conclusion

This was our initial report for the project, during our analysis we used Untitled Diagram.drawio tool and we found that it is a good and easy to use tool for making an obvious representation for the requirements, also the UML diagrams helped a lot with making others understand the idea of our project. In our analysis, we focused on the requirements and worked hard to come up with good UML design, but implementation wasn't mentioned in it, for this initial report; since we were only concerned about the UML diagrams: use case, sequence and activity diagrams which presented a clear and an understandable view of the requirements and showed detailed steps for some basic functionalities of our project, so anyone who didn't have any idea about the project will be able to understand these features properly and easily.