

SOCIAL NETWORK FOR PEOPLE WITH FOOD INTOLERANCES

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Abstract— The concepts behind “social networking” are nothing new – humans have always been social beings, looking for ways to connect and interact with each other – but they have taken a new meaning in today’s society. Social network sites are a phenomenon of great importance; many people feel better interacting online. This fact, together with the recent increase of people with food allergies and intolerances, have an interesting connection. In recent years the healthy life style has become fashionable – i.e. health and wellness trends and also trends about emotional wellbeing –. The project was born to focus on developing an IT tool to connect people in a little social network in order to share experiences, knowledge, recipes or photographs about their life style in these circumstances. To work with popular lifestyles, food issues and social networks were the motivation in order to start developing it. Therefore, the main objective of the project is to develop a cross platform website available for different kinds of devices (pc, tablets or mobile phones).

Index Terms—social network, food issues, intolerances, allergies, cross platform, website

Resumen— El concepto detrás de “redes sociales” no es nuevo – los seres humanos siempre han sido animales sociales, buscando maneras de conectar e interactuar entre ellos – pero ha tomado un nuevo significado en nuestra sociedad actual. Los sitios de redes sociales son un fenómeno de gran importancia; muchas personas se sienten mejor conectadas a la red. Este hecho, junto con el reciente aumento de alergias y intolerancias alimentarias, tienen una conexión interesante. En los últimos años se ha convertido en tendencia un estilo de vida saludable – salud y bienestar, tanto físico como emocional. El proyecto nace enfocado a desarrollar una herramienta informática para conectar estas personas en una pequeña red social con el objetivo de compartir experiencias, conocimientos, recetas o fotografías sobre su estilo de vida en estas circunstancias. Trabajar con este estilo de vida, cuestiones alimentarias y redes sociales fue la motivación para su desarrollo. Por consiguiente, el objetivo principal del proyecto es desarrollar una web multiplataforma disponible para diferentes tipos de dispositivos (ordenadores, tabletas o smartphones).

Palabras clave— red social, cuestiones alimentarias, intolerancias, alergias, multiplataforma, web

1 INTRODUCTION

The functioning of our modern knowledge-based societies depends on how individuals exchange information. Currently, much of this information is exchanged over Internet. There is a massive exchange of information through social networkings, which social media users produce, disseminate, and consume. Social networks help people keep connected with their family and friends and are an easy way to find what matters to us related to our interests. Most sites support the maintenance of existing relationships, but others help strangers to connect to each other, on the basis of shared interests, political views, or activities. This project is focused on this last fact.

At these times the diets are so common in our society for different cases, some people can’t choose what can or cannot eat for divers aspects of medical issues associated with the food or is just an attitude in front of different kinds of food. When you are new on any food issue, it can be difficult to know where to turn. This was the

principal motivation of the project, the perfect occasion to bring together two current topics that influence our society, social networks together with food issues.

Based on this idea, the main objective is to roll up a social network through developing a cross platform website for various devices (pc, tablet and mobile) in order to provide a space where people can share the information they desire, providing their experiences and knowledge about any kind of food issues. For example, sharing recipes lactose-free foods, publishing information about how to eat well on a vegan diet or asking for any doubts concerning a healthy life style.

Sites offer people new and varied ways to communicate via the Internet, allow people to create their own online website and to construct and display an online contact network.

In the project we will use CSS3 for styling the interface, we will draw up our own design, own JavaScript functions and jQuery libraries for adding functionality to the website, HTML5 for business logic development and MySQL as a Database Management System for the manipulation of database of user at Back end.

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1.1 Content

The report is organized as follows: in the first section an **introduction** to the current situation of social networks and food issues is made. Within the same section we find the objectives listed. Reference is also made to the state of the art in order to make a commentary on the current state. The second section identifies the functional and non-functional system **requirements** and functionalities the website must include. The third section presents the **project planning** with its methodology employed as well as the time management and the exposition of the development stages – with the proper proofs on the ways of design and implementation –, the fourth section reflects the **project analysis** together with: the definition of the data model, the different controls established to manage the errors, the list of different problems encountered, as well as the explanation of how the developing has been and the results of the final product. And the last section shows the project **conclusions** and describe the future directions it can take.

1.2 Objectives

As it has been said before, the main objective is to develop an across platform website, this means that the website interface depends on the resolution of the screen it is displayed. A custom design taken into account in the mobile environment characteristics, as the screens are smaller, consequently the order and placement of the elements must adapt.

The stakeholders of this website are people with food intolerances (dairy, yeast, histamine, wheat and gluten or alcohol intolerances), food allergy, chronic condition (diabetes), people who want to do some restrictions about a diet (weight loss diet, calorie diet, vegetarian diet, vegan diet) and also all kinds of people who want to join. So, another important objective is to create a product that has a friendly interface and easy to use it in order to reach more users.

The last of the objectives is to develop a project from scratch, planning all the stages, as well as the implementation of the skills and knowledge acquired throughout the university degree.

Based on this, the project aims to take the most attractive features of different social networks and use it to create a new Social Network about food issues with the most comment functionalities that the Social Networks have.

1.3 State of the art

A social networking website is an online platform that allows users to interact with other users in the website. They have different rules for establishing connections. Websites like LinkedIn are used for establishing professional connections, while sites like Facebook are between the like of private and professional information.

Since their introduction, social network sites such as Facebook, Instagram or Google+ have attracted millions of users, many of whom have integrated these sites into their daily practices.

When designing a strategy in social networks, not all are equal, nor pursue the same goals. There are notable differences.

Focusing on two major social media, Facebook and Pinterest, both are different from each other.

Facebook brings you even closer to friends and family. You must be registered to use it, then you must add your contacts sending them a friend request. In Facebook you only can see the public content and your contacts posts. It is based in personal relationships.

Pinterest reflect how important visual content has become on the web, it is beautiful and intuitive, a pin-board-style platform. Its mission is to connect everyone through things they find interesting. Pinterest have a clear intention to buy, need a product or simply look for ideas, but there is always a close relationship with the search for some type of product, instead of the search of personal relationships as in Facebook.

Social networking sites like Facebook, Twitter or Instagram are a popular phenomenon in our generation, they are not limited in messaging and communicating, they allow users to post photos, videos and often music on their profile and share them with others, as well as to create a network of connections that users can display as a list of friends.

On the other hand, more people become celiac or develop some kind of food allergies or intolerances each year. In the last 10 years the number of people with food allergies has doubled and people with food intolerances are constantly increasing. Adding data from different studies, it is estimated that there are about 140 million people with food allergies or intolerances.

In view of the amount of people interested in different kind of food issues, the social network project focused on this target group found interesting.

2 REQUIREMENTS

The project functional and non-functional requirements are available in this section.

2.1 Functional requirements

R1: The system must allow the register of users.

R2: The system must display the updates of the users in the module entitled "Wall".

R3: The system must provide the user profile part with his recipes and photographs updates.

R4: The system must upgrade the personal information of the user, if the user so requires.

R5: The system must provide a module with the forum discussions.

ADDITIONAL

R10: The system must contain a searcher, based on the hashtags, photographs or recipes added in the forum.

2.2 Non-functional requirements

R6: Failure management, the system should control different kinds of errors.

R7: Fault tolerance, the system should continue to function when one of its components fails.

R8: Security, the system must authenticate the users in order to login with its controls.

R9: Usability, the system may have an easy to use and intuitive interface.

3 PROJECT PLANNING

3.1 Methodology

The project is developed with the waterfall design process, a sequential process in which progress is seen as flowing steadily downwards through the phases of planning, analysis, design, implementation and testing.

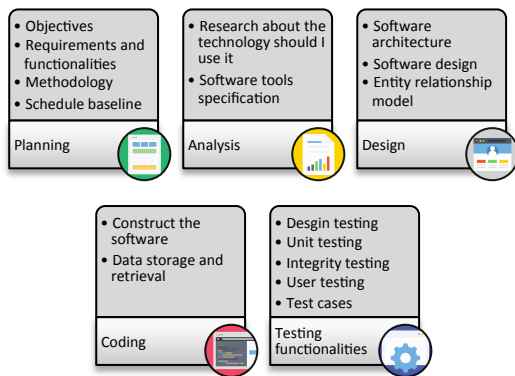


Fig. 1: Methodology structure

As shown in Figure 1, development will be in parts. The first points will analyse the system, its necessary requirements, already listed in 2 REQUIREMENTS section, for the correct operation of the application – the requirements are defined following the requirements of most of the social networks sites – and the project planning– the methodology, schedule baseline, the research about the technologies that should be used just as the software tools specifications.

Once the application requirements are defined, we will move on to the design phase. Here the software architecture and design, as well as the structure of the database, are designed. In the software architecture design it is defined the technological part of the project. Explained in detail in section 3.2 Applied technology. In the software design it is defined the different modules of the system with their use cases actions, the interactions between the actor and the system. Explained in detail in section 3.3 Development

stages.

The development phase of the project is explained with details in section 4 PROJECT ANALYSIS.

Once the design and implementation is completed, the article will present testing phase with the details of user tests done. Explained in detail in section 5 TESTING section.

3.2 Applied technology

Front end and back end, Figure 2, distinguish between the separation of concerns between the presentation layer, which is the interface between users, and the data access layer. The separation of software systems into front and back ends simplifies development and separates maintenance.

The front-end side is any component manipulated by the user. It is the practice of producing HTML, CSS and JavaScript for a website or Web Application so that a user can see and interact with these manipulated components directly.

The back-end resides on the server. It is the responsible to interact with the data model, check the users sessions and it is in charge of the data handling.

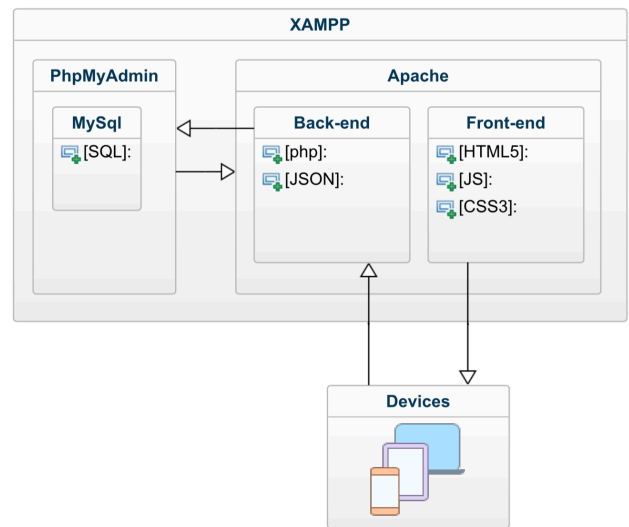


Fig. 2: Technology diagram

Details of the servers and libraries technical description can be found below.

3.2.1 XAMPP local development environment

It is a free and open-source software with Apache distribution, containing MariaDB, PHP, and Perl [1]. The version installed is XAMPP for OS X 5.6.24.

3.2.2 jQuery

It is an open-source library that provides JavaScript functionalities for a fast way to be implemented, in other words, with these functionalities it can be achieved more desirable results in a shorter span of

time.

We did not want to download and host jQuery ourselves, so we used Google host jQuery [2].

3.2.3 HTML5, CSS3, PHP, MySQL and JavaScript

The project is developed with these five open-source technologies and web standards. They work together to produce dynamic web content. PHP handles all the main work on the web server, MySQL manages all the data, and the combination of CSS and JavaScript looks after the web page presentation. JavaScript can also interact with your PHP code on the web server whenever it needs to update something (either on the server or on the web page). And with the powerful new features in HTML5, such as the canvas, audio and video, and geolocation, you can make your web pages highly dynamic, interactive, and multimedia packed [3].

3.2.4 RESPONSIVE WEBSITE

The intention was to develop a website adaptable to all kind of apparatus. A custom design has taken into account the mobile environment characteristics. Some of these specifications are:

- Screen size: the screens are smaller, consequently the order and placement of the elements must adapt.
- Loading speed: the waiting time is reduced.
- Economic dynamism: the mobile websites requires more simplicity.

The pros to develop a responsive website are:

- Does not need to be downloaded.
- People can access anywhere.

To develop the responsive design, the CSS3 structure is developed with relative units that scales better between different rendering mediums. Also, it has been used the @media rules [4] to define different styles for different media devices.

3.3 Development stages

There are many different parts to be designed and developed. These are analysed individually in the relevant sections justified below— separated into three big categories, the first based in the design, the second based in the implementation way and the last one based on the website navigation –, to the extent possible.

3.3.1 FRAMEWORK DEVELOPMENT

It was the first stage planned to be developed. It was considered to review the feasibility of using a framework already developed. But at the end it was decided to develop a Framework, in CSS3 and JavaScript, with a new design. Essentially, because we want full control on the site and we only need a little bit of functionality.

Some functionalities already created have been used. We used w3.css framework [5] to add easier different classes in our website, we used:

Container	It provides equality as; common margins and paddings, color, round corners, box shadow
Animate-opacity	Animates an element's opacity from 0 to 1 in 1.5 seconds
Animate-left /right	Slides in an element from the left/right (-300px to 0)
Sidenav	Displays the menu in the left side, displays and hides the menu if the screen is smaller

Table 1: Classes used

3.3.2 USER STORIES

Like a social network, the site must have a wall, an area where all the user updates are displayed in a simply way. The design of this part is based in a sequence of events where the basic information is shown – the username, the date, the title and the photo – in an iterative way.

In the photo module, the intention was to create a dynamic and a friendly organization view. The different photo grids compare the one of Facebook [6] to the one of Pinterest [7].

At the beginning, a basic grid like the Facebook one was designed, with a structure of columns and rows. But it wasn't the structure aimed. Therefore, a dynamic and more graphic view was used. A view where the photos are displayed in columns regardless of their height, as shown in Figure 3.

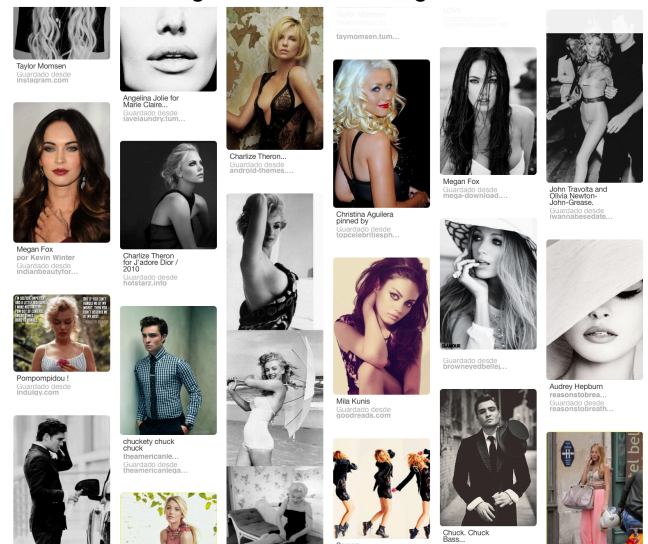


Fig. 3: Pinterest photo grid

In the recipe module, the recipes are displayed in a grid based in rows and columns, showing the photo and the title of each recipe.

In the detailed view of the objects you can see the photo in a bigger way, the description of the recipe and also the respectively comments added from the other users in the object.

In the forum module, two forums were compared in order to identify the strengths and weaknesses of their corresponding designs. The two forums compared were from the websites of “Vogue” [8] and the “League of Legends” [9].

From the first one, Vogue, we studied its main page. We can easily find different information like the date of creation, the name of its author, the title of the topic and the number of comments it has.

On the other hand, from League of Legends, we studied its feedback page. Its simple structure is its strength; at first sight one can identify three parts – the topic, a space to add your comment and the comments added from other users – therefore, that makes things easier to interact in it.

For adding this different items – a photo, a recipe or a new topic in the forum module – it will launch a pop-up application form where there are placed the required fields for a successfully objects uploading. It has been decided to do the website this way, due to the quick access to these forms.

3.3.3 PROFILE MANAGEMENT MODULE

In this part are described the different functionalities the system must have for the correct validation and implementation of security, as well as, the functionalities to display the different features.

USERS REGISTER

The system for registry is developed with some security specifications and validations for registry. The user must choose a username never used before, write the password and rewrite it and finally add an email. The system will check if the fields are correct; fields not empty, username unique, the two fields of password match and the email address is written in a valid format. After this validation, the system must add the previous information to the – the password will be added to the database as a MD5 hash string [10] – and redirect the user to the main page.

After that, the system uploads the data to the database and upload the file to the directory ‘users/’ renaming the photo to the usernames name.

USERS LOGIN

The user login acts in a similar way as the register, the system checks if the fields are not empty and checks in the database if the data is correct.

SIGN OUT

The system will clear the \$_SESSION variable, destroy the actual session data and redirect you to the login and register module.

PERSONAL DATA EDITING

Once after the user authentication, in the profile part, the user can edit the personal data – add the name and surnames, change the password (this last functionality includes the confirmation of the old one and the validation of the two fields of password) and change your profile photo as well.

COMMENT

In the photographs or recipes module, once you are in the detailed view – clicking in the photograph – you can add any comment you want.

In the forum module, clicking in the title of each topic the system redirect you to the specific topic with a more detailed view of it where you can see the text of the topic, the comments added for the other users and also comment if you want.

COMMENT REMOVAL

If you do a comment in any photograph, recipe or topic in the forum, the system must confirm if the author of the comment is the current owner of the account, and if it isn’t so, the system displays a button for deleting the related comment.

PHOTO OR RECIPE UPLOADING

Both objects act similar. The user have a button for adding them and once clicked, it will appear a pop-up form with the following fields: title, an input of type file for adding the desired photo and an optional field for adding the tags, the user thinks that are necessary. And if the object added is a recipe, it will appear an extra field for the description of it.

The system detects if it is a photo or a recipe, then for the uploading to the database and to the files directory – depending on the type (recipe or photo) the directory will be ‘recipes/’ or ‘photos/’ and the name of the object will be the id assigned.

PHOTO OR RECIPE REMOVAL

In the detailed view of photo or recipe, you can see the photo and its comments bigger; also, the user will be able to delete them if he wants.

NEW TOPIC CREATION

For creating a new topic, the user must click on the required button and add the following fields; title, description and optionally a range of hashtags. The system checks if the title is already used and creates the requested topic if it is new

SEARCH FUNCTIONALITY

There is an input field displayed with the specific intention of searching the different desired tags through photographs, recipes or forums. The functionality access to the items that contain the strings added in the field. Then, they are displayed in three sections, depending if they are photographs, recipes or topics.

3.3.4 HOW TO BROWS IN THE WEB

Its interface is simple. At first sight when you are logged in, you can see the wall with all the user updates displayed.

Clicking a photo, you are redirected to the detailed view of it where, with a top menu, you can navigate throw the different user's objects from the same category (recipes or photographs).

When you are in the detailed view or in the feedback area of the forum, you can click on the photo of the author. There, you are redirected to his profile and you will see all the updates he did and clicking on the photograph, you can see its details in the detailed view.

4 PROJECT ANALYSIS

In this section the project itself will be described. This chapter defines data model, developed controls to manage different kinds of error, encountere problems and the result of the different system modules.

4.1 Data model

The data model implemented is based in a database, is described in this chapter. The model of the result-ing data is reflected in the Figure 4.

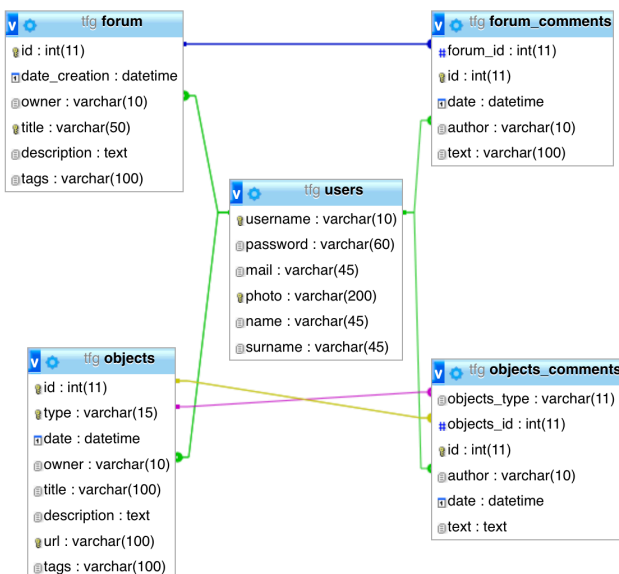


Fig. 4: Database structure from phpMyAdmin

As shown above, there are five tables – users, forum, forum_comments, objects and objects_comments – with their respectively attributes explained in the following section of this chapter.

4.1.1 DATABASE CONTENT

This section summarizes outlines the most important features of table contents in the database.

FEATURES

Unique constrains [12] have been applied in the fields of photo (users table), title (forum table) and url (objects table) it has been developed this way, due to the requirement that allows just one profile picture per user in the database.

The fields of date in the different tables are set within the default value 'current_timestamp' [11].

OBJECTS TABLE

When we talk about 'objects' we refer to the grouping of user recipes and photos. We have lumped this together because the photos and recipes attributes are equal, except for the attribute recipes 'description'. This decision makes the control of the data and its access easier.

4.2 Security management

Security on the page has been one of the points to deal with. Below, the controls that the system contains are detailed.

4.2.1 SESSION

Users accessing the site must have a user profile. One of the key points to deal with security requirements was the way in which user sessions are generated. Thus, two ways to store user data have been taken into consideration. The use of cookies [14] was discarded to prevent from being manipulated, since the profile is stored directly in the client. In order to prevent this, it was decided to use sessions [15], so when generated on the server side, sessions cannot be accessible by third parties.

4.2.2 FORM VALIDATIONS

In the website there are different forms: the login, register, new topic, add comments... they developed some validation functions.

JAVASCRIPT

The validation function controls if fields are empty. If this is the case, then it checks the correct e-mail address format and also, if the two password fields match. If the functions returns true, the form sends the inputs to the model of PHP and do the following validations

PHP

There are different types of validations depending on the form.

- Login: checks if user and password match.
- Register: checks if the user already exists, check the SQL Injection with the command `mysqli_real_escape_string` [16] and it encrypts the password the user writes to a md5 encryption [10]. After that, there is the PHP query for adding the fields of username, password and mail to the database.
- Personal data editing: checks if the old password is correct, checks if the two fields of new password match, after that, the PHP query updates de data.
- Forum: checks if the title already exists.

4.2.3 DELETE CONFIRMATION

There is a function that displays a dialog box with a specified message, to confirm if you want the user to verify or accept something. The `confirm()` [17] method returns true if the user clicked 'OK', and false otherwise.

4.3 Encountered problems

As usual in developing projects, we came across some problems that affected the initial schedule. That is why the baseline schedule was deviated.

Information on the different challenges can be found in the following sections, in chronological order.

4.3.1 APACHE BUGS

Apache was the chosen server to work. It was scheduled to begin with the database design, but we had difficulties with the connection of MySQL, as we found permission errors. After that, we wanted to do it through phpMyAdmin, but we had also problems with the connection.

Ultimately, it was decided to remove the Apache server and reinstall the server again changing it to XAMPP.

The outcome of this difficulty was the delay in the database implementation and PHP part. In this case, it was decided to develop all the views of the website, as it requires HTML5, CSS3, JavaScript, instead of developing module by module with all their functionalities.

4.3.2 PRIVILEGE ISSUES

Another complication was the file uploading. It is intended to update and add photographs in the directory `'/Applications/XAMPP/xamppfiles/htdocs/web'` in which we did not have access permission at the beginning. Therefore, access permissions had to be given.

4.3.3 RESPONSIVE

The developing began with the desktop view, so it was required to rethink about the transition from desktop to mobile.

More development time was required as different devices require different ways of thinking. This issue took us some unforeseen extra time.

4.4 Results of the different modules

The following information is a description of the project most relevant section: implementation. The final implemented modules will be defined in detail. It is a description from the users point of view, in other words, a performance description, about what the user can find in the system.

To start with, we will describe the directory structure. In the main folder we find the `'index.php'`, that is the default page shown in the website, if no other page is specified when a visitor requests the site, also all the PHP files, both CSS files and JavaScript ones. Then we find the folders: images – where we find all the pictures used to develop the website –, photos, recipes and users – where we store the images uploaded from the users.

4.4.1 LOGIN AND REGISTER

On entering the page, we can see the login form. In the left side we can find two options (explained below) the login part and the register part.

REGISTER

At the first point the user must be registered to access the private website content. So the user must complete all the fields the form asks (username, password, e-mail address and a profile photo). After that, the system checks for the validation of the fields, uploads the data to the database and upload the file and then the user is redirected to the main wall of the website.

LOGIN

If the user is already registered, he only have to fill out the login form with the username and password, after that, the system checks if the data is correct and it redirects him or she to the main wall of the site.

4.4.2 WALL

In the wall module, we can find all users updates – photographs and recipes – arranged by date in descending order.

Clicking on the user photo, the system redirects us to his/her profile, explained in section 4.4.3 MY PROFILE, where we find his updates.

Clicking on the recipe photo or the photograph, the system redirects us to the detailed view of it.

SEARCHER

In the right top of the website we can find a field. Its role is to search through the different modules. If the searcher it finds matches, it will display in three distinct sections, depending on the modules where it found. Unless, it will display a message informing you that there are no matches.

UPLOAD OBJECTS

For uploading the different objects the user must click the left button on the left side menu '+'. Then, it will appear a pop-up form with the object type, title, recipe description, tags and photo file fields.

4.4.3 MY PROFILE

In this module, the user can find his updates arranged by date in descending order.

MY PHOTOS/ MY RECIPES

In these two modules, you find a dynamic grid with all the uploaded objects. Clicking in the object you will be redirected to the detailed view. The grids are different but act the same way.

DETAILED VIEW OF PHOTOS AND RECIPES

The detailed view of photos or recipes looks similar. You see photo, author, date, title, description if it is a recipe, a field for adding comments and the comments already made.

4.4.4 EDIT MY INFO

In this module we can find the personal data stored. The user can change his profile picture, edit his name and surnames, and if he/she wants to change the password. Once fields are validate, the system will update the database register and will redirect the user to the wall.

4.4.5 FORUM

In the forum module, we find at first sight a list of the different topics already created with its information – creation date, author, title and number of comments – also, we find there the button 'Create new topic'.

CREATE A NEW TOPIC

If you click this button, a pop-up menu with the form to create a new topic in the forum is displayed. There, you can see the fields of title, text and tags. The user should fill in title and text compulsorily for the successful creation of the new topic, tags are optional. Afterwards, the user will be redirected to the forum module.

TOPIC CHOICE

In the forum module, if you click to any title, you will be redirected to the detailed view of it. There you can find the topic description with its comments – with the

author's profile picture, his name, the date and the comment – and a field for adding a new one if wanted. If the user made a comment at some time and he/she wants to delete it, he/she can just click the right button of his/her comment and the comment will be deleted.

4.4.6 SIGN OUT

Clicking the 'sign out' link, the system will redirect you to the beginning of the site.

5 TESTING

The main purpose of this testing is to interact with the final user and get system information to find the errors and correct them, checking if whether the developed system is working accordingly to the objective and requirement.

5.1 Usability testing

A usability test is done, is user-centered interaction design to evaluate the system by testing it on some users. It gives us some direct input on how real users interact with the site.

Testing will be carried out with five users. Those users were informed about the main functionalities of the website. However, they are not informed in detail in order to provide us a better reporting about the interaction in the website.

Once the testing has been completed, it has been observed that the users have interacted with the system successfully. Nevertheless, there are still functionalities to improve or to add. See results detailed below in Table 2.

Case	Future improvement
1. After registration [register]	Login automatically
2. Click on objects title [wall/profile]	Redirect to the object
3. Click on user name [wall/profile]	Redirect to the profile
4. Click on recipe or photo [detailed view]	Resize the object bigger, in case of recipe, show the text
5. Adding data in fields [detailed view, topic forum, login]	With the key enter, send the data
6. Searcher	Search also with clicking the image
7. Click on 'USER: ester'	Redirect to 'MY PROFILE'
8. Adding comment [topic forum]	Redirect to the topic

Table 2: Users test results

6 CONCLUSIONS

I would like to end by emphasising the essential points of this report. While developing the system a conscious effort has been made to create and develop a software system that would generate a proper system for online social networking.

There are some of the module improvements, which could not be implemented due to time constraints, but are explained in section 6.1. Way forward.

To develop this project has involved much research on the technology used, since at the beginning, a responsive web was totally unknown. Otherwise, use the languages for creating websites, has not led investigation because it had experience on it.

The conclusions we can reach from the work done so far are on the one hand, that the used technology, responsive website, to develop the website, has given good results and in the other hand, that the database design and the website architecture has been successfully done.

The fact that the website is for all kind of devices has been one of the critical points, in that we have attempted to design a simple interface, in order to reach the users easily and to implement the code without so many changes. It has been implemented through relative units instead of absolute ones. This has allowed us to resize the website to the different screens without losing its functionality.

Media queries were also used to change some of the website when they are displayed in little screens. Rules have been developed to achieve the objective.

Based on the results of users testing, improvements have been made in cases 1, 2, 3, 5, 7 and 8, as the Future improvement column in Table 2 shows that to interact with the website is easy and fun. The 4th case in the future additional feature could be required but, by the moment, has been decided not to apply the changes on this functionality. And in the 6th case it has been decided not to revise it because we consider that it is easier to search by the enter key instead of by the button.

By referring the different functionalities of the website, we can find the searcher. It has been successfully implemented and it finds the different tags, added by the users, to find easier what they want to find. The idea was to find one of the most interesting ones, to show users that if someone wants to find information about his food issue, for example dairy free, it is as easy as searching for it in the browser and it returns to you the different data stored in the website; photographs, recipes, as well as related forums to this topic.

In terms of the website final view of the, we can say that the pc and mobile views work well. There are few improvements to be done, but as a general result, we consider that they are successfully done.

At first sight, one can see the difference in the left side menu of the website. In the mobile site it is hidden and only by clicking the menu button will be displayed (see Annex A). Another significant change is in the manner of how the profile module is shown (see Annex section B). We can see that the left content side, photos and recipes, are displayed in a different way depending on the screen size. Also in the module of recipes the view had entirely changed in order not to lose details of the photo (see Annex section C). This way in the website view we have a more global view of all the recipes the user has. And in the mobile view we have a more detailed view, showing the images bigger. Another interesting module to comment is the objects detailed view. In the website view we find the comments on the right side and the description of the recipe by clicking in the method text, while in the other view we find that the comments and the description are initially hidden and by clicking the different buttons will display the different information, see Annex section D.

6.1 Way forward

This section details the way forward that the project could take, described by order of priority and split into three different classifications: security level 6.1.1 IMPROVE SECURITY, improving the current functionalities 6.1.2 IMPROVE EXISTING FUNCTIONALITIES and adding new ones 6.1.3 IMPLEMENT MORE FUNCTIONALITIES.

The refinement of the model view controller will be one of the most significant improvements.

6.1.1 IMPROVE SECURITY

The first thing to improve should be the security breach, the following sections describe different types of security by improving the developed website.

TRANSACTIONS

Right now we only have the database structure based, in queries – a single statement in SQL's data manipulation language – but if we make transactions [18] instead of separate queries either the single queries will be executed or not.

DATABASE PROTECTION

In order to prevent an attack by SQL Injection, all the fields that are sent, should escape the special characters. It is only implemented in the login and register forms by the moment.

6.1.2 IMPROVE EXISTING FUNCTIONALITIES

After improving the security it would continue to improve the existing functionalities in the system. See them detailed below.

IMPROVE THE SEARCHER

Currently, the searcher is only available for looking for recipes, photos and topics. Search for categories and also for users needs therefore to be implemented.

AUTOMATICALLY ADD OF HASHTAGS

Based in the objects title, the recipes description or topics added, if the user does not specify any hashtag, the system must provide some tags, added previously in a dictionary.

6.1.3 IMPLEMENT MORE FUNCTIONALITIES

It has been thought to develop more functionalities for the website, but only the most interesting one is detailed below, which could makes the system more rewarding.

GEOLOCALIZATION

Once the system is implemented, the possibility of implementing the geolocation API has been raised, which allows us to know the user geographic location. This would make the site easier for sharing places, like restaurants. In this way execution, desirable inconsistency will be improved.

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BIBLIOGRAPHY

- [1] APACHE [website] Apache http server project [browsed 23 November 2016]. Available from: <https://httpd.apache.org>
- [2] W3SCHOOLS [website] jQuery get started [browsed 13 November 2016]. Available from:

http://www.w3schools.com/jquery/jquery_get_started.asp

- [3] NIXON, ROBIN, 2014, *Learning PHP MySQL JavaScript CSS & HTML5* [online]. United States of America: O'Reilly Media, Inc. 3rd. [browsed 27 January 2017]. Available from: http://www.ebooksbucket.com/uploads/itprogramming/javascript/Learning_PHP_MySQL_Javascript_CSS_HTML5__Robin_Nixon_3e.pdf

- [4] W3SCHOOLS [website] CSS @media rule [browsed 7 November 2016]. Available from: http://www.w3schools.com/cssref/css3_pr_mediaquery.asp

- [5] W3SCHOOLS [website] W3.CSS [browsed 7 November 2016]. Available from: <http://www.w3schools.com/w3css/default.asp>

- [6] FACEBOOK [website] Facebook España [browsed 10 November 2016]. Available from: https://www.facebook.com/pg/FacebookEspana/photos/?tab=album&album_id=384426182294

- [7] PINTEREST [website] [browsed 10 November 2016]. Available from: <https://www.pinterest.com/categories/photography/>

- [8] VOGUE [website] Foros Vogue [browsed 13 November 2016]. Available from: <http://foros.vogue.es>

- [9] LEAGUE OF LEGENDS [website] Boards home client discussion [browsed 13 November 2016]. Available from: <http://boards.euw.leagueoflegends.com/en/c/alpha-client-discussion-en/0toYANmE-increase-champion-ban-timer>

- [10] PHP [website] MySQL md5() function [browsed 21 December 2016]. Available from: <http://www.php.net/manual/en/function.md5.php>

- [11] MYSQL [website] Automatic Initialization and Updating for TIMESTAMP [browsed 23 December 2016]. Available from: <https://dev.mysql.com/doc/refman/5.5/en/timestamp-initialization.html>

- [12] TUTORIALSPOINT [website] SQL-Unique constrain [browsed 23 December 2016]. Available from: <https://www.tutorialspoint.com/sql/sql-unique.htm>

- [13] TECHNONTHENET [website] Foreign keys with cascade delete [browsed 23 December 2016]. Available from: https://www.techonthenet.com/oracle/foreign_keys/foreign_delete.php

- [14] W3SCHOOLS [website] PHP 5 Cookies [browsed 15 December 2016]. Available from: http://www.w3schools.com/php/php_cookies.asp

- [15] W3SCHOOLS [website] PHP 5 Sessions [browsed 15 December 2016]. Available from: http://www.w3schools.com/php/php_sessions.asp

- [16] PHP [website] mysql::real_escape_string [browsed 21 December 2016]. Available from: <http://php.net/manual/es/mysqli.real-escape-string.php>

- [17] W3SCHOOLS [website] Windows confirm() method [browsed 28 January 2017]. Available from: http://www.w3schools.com/jsref/met_win_confirm.asp

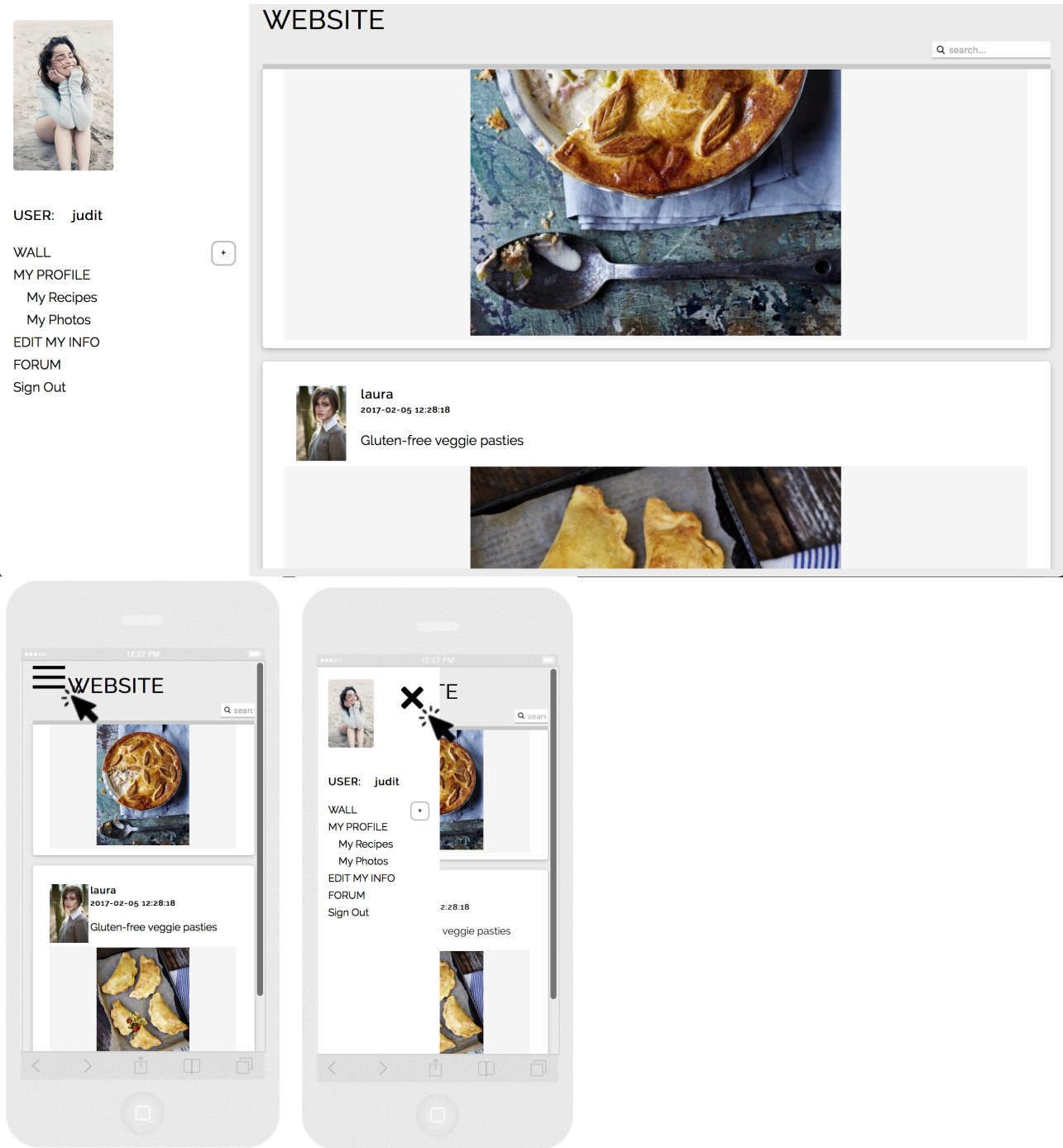
- [18] TUTORIALS POINT [website] SQL-Transactions [browsed 28 January 2017]. Available from: <https://www.tutorialspoint.com/sql/sql-transactions.htm>

ANNEX

The following sections are data related to the results of the website, the screenshots in the different modules and devices for the better view of the website.

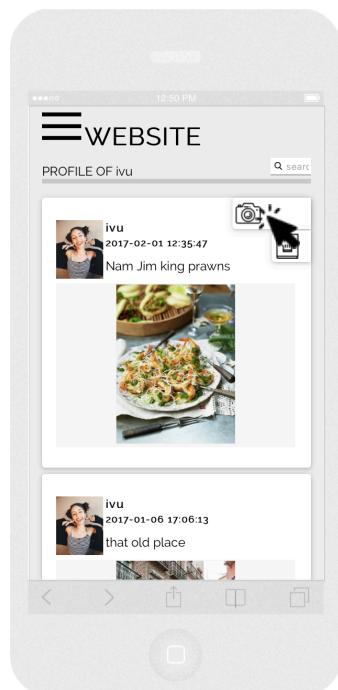
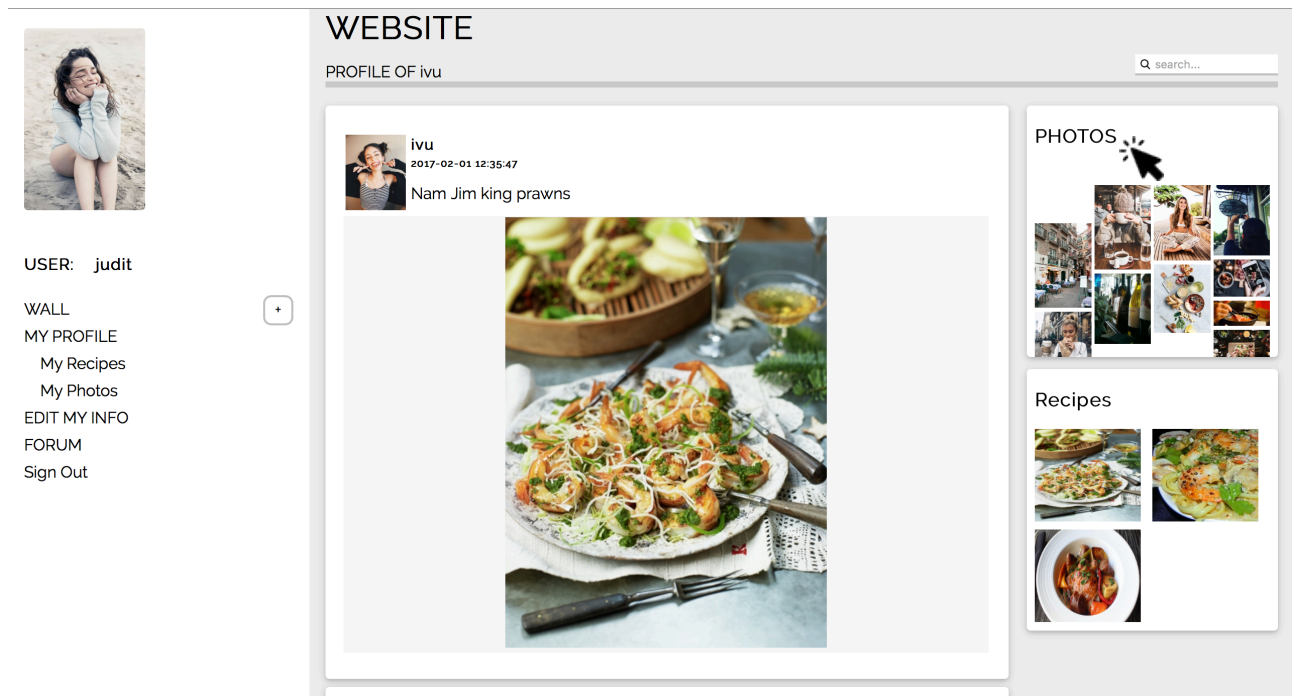
SECTION A

Below we can find screenshots of the wall module in the different screen versions. We can see the difference between the left side menus in both cases.




SECTION B

Below we can find screenshots of the profile module in the different views, the essentially difference is the right side section with the different user data.



SECTION C

Below we can find screenshots of the recipes module, the main difference is the view of the photographs.



USER: judit

WALL

MY PROFILE

- My Recipes
- My Photos


EDIT MY INFO

FORUM


Sign Out

WEBSITE


My Recipes




Gluten-free Spring flatbread pizzas




Squashed Brussels

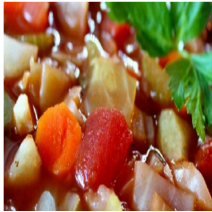



Cauliflower Bisque with Brown Butter Croutons




Bucatini with Winter Pesto and Sweet Potatoes










WEBSITE

My Recipes



Gluten-free Spring flatbread pizzas

SECTION D

Below we can find screenshots of the detailed view module.



USER: judit

WALL

MY PROFILE

My Recipes

My Photos

EDIT MY INFO

FORUM

Sign Out



WEBSITE

My Recipes

search...



judit

2017-02-01 12:35:57

Squashed Brussels

Delete

laura

2017-02-01 12:20:04

Thx for inspiration. I am looking for the best veggie version....without any succes :-)

paula

2017-02-01 12:20:07

I love Sprouts but would love to know what would be a vegetarian alternative to chorizo for this recipe?

ester

2017-02-01 12:30:25

Oven roasted sunchokes, potatoes, celery root or toher roots goes well with roasted sprouts (or skip the pre-cooking). Mix in roasted peanuts, almonds or other nuts as well as fresh persil or other greens and feta cheese or halloumi cheese. It becomes a different thing, but excellent and many options.

eric

2017-02-01 12:30:26

I could not find raw chorizo in Tesco's, Morrisons or even Waitrose.. where can I get it...? only cured chorizo everywhere, so I had to get the Iberico chorizo. Your

Method:

Preheat the oven to 180°C/350°F/gas 4. Wash and trim the Brussels sprouts, clicking off any tatty outer leaves. Cook for 8 minutes in a pan of boiling salted water, then drain well. Squeeze the chorizo out of its skin, crumbling it into a roasting tray with 1 tablespoon of olive oil. On the hob, fry over a medium heat for 6 minutes, until you have ruby oil, then crumble in the vac-packed chestnuts, strip in the rosemary leaves and shake about. Tip in the sprouts and toss in the sherry vinegar. Squash and flatten the sprouts with a potato masher so they suck up more flavour. Roast for 25 minutes, or until starting to colour. Season to perfection, bang out and serve.

