

Server Side Applications Assessment 2 Report

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Introduction

This report explains what exactly does web applications mean, also the difference and main advantages and disadvantages of server side applications. At the end of this report there is also a technical guide for my website.

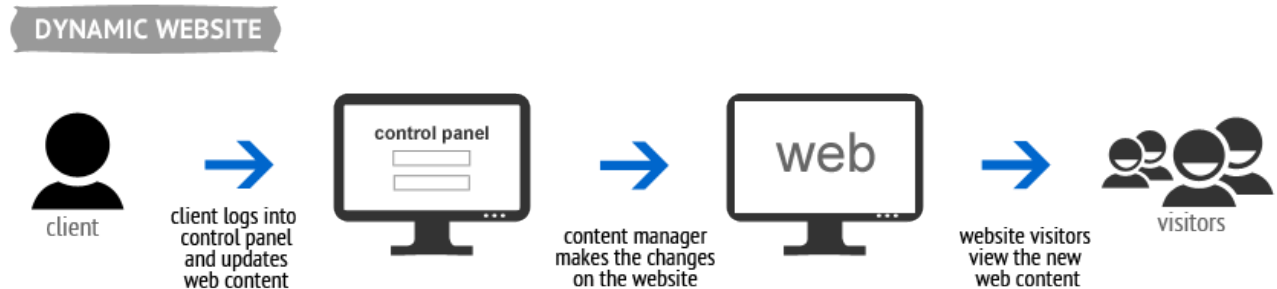
Web Applications

What are Web applications? Most people understand this word differently. I will explain it the way I understand it. For me, web applications are all the websites that connect that big surfing net. And the way those websites work on the client side, and the server side. The first thing is that there are two types of websites we are browsing everyday. There are the dynamic ones, and non-dynamic. When user types website address in the address bar, and press to connect, the browser will make the HTTP request from the server to download the html, css and other files related to that website. These files are needed for the browser to correctly display the website. Once the web page is loaded, the browser won't send anymore http requests to the server to ask for updates, since we have here the non-dynamic website.

On the other hand, the dynamic websites know how to update and build themselves on demand. Dynamic web applications often use JavaScript, and other long polling to make HTTP requests to the server for updates or new content. Let's see an example of that. For example the popular Facebook web page and its news feed. When user first loads Facebook, the browser will make HTTP request to build the news feed, once it's finished, the Facebook web application will continue to communicate to the servers via HTTP requests to check for new

updates, and if the updates are available, the news feed will automatically update. That's how new stores appear in the Facebook news feed.

To sum it up, web applications makes nowadays websites a lot more interesting and useful. Also website developers have a lot more space to create and fulfill their tasks.



Server Side Applications

Server-side scripting is a technique used in web development which involves employing scripts on a web server which produce a response customized for each user's (client's) request to the website.

Server-side programming, is the general name for the kinds of programs which are run on the Server.

Advantages

- Reduced browser load

Server-side scripting reduces the load on the user's computer, since it does not require to use plugins or browser scripting, like javascript.

- Space for Own application creation

Website administrator can create his own applications or use content management systems to maintain their websites without needing to edit code.

- Databases

Website builders can create databases like mysql, oracle, etc. which can be used to store user data and other information related to websites. Databases can open a very space for builders imagination for website creation.

Disadvantages

- For software to work, it must be installed on server

For example, for php to work on server, it must be installed on it, for someone it might be a problem.

- Many scripts require a database

On the server side scripting we can see that the range of scripts and software is very large, but for most of them to work we need a database to store dynamic data.

- Security

Dynamic scripts creates new security concerns, in some cases making it easier for hackers to gain access to servers.

Appendix/Technical Document

KompFix-24/7 Computer Repair Service

Technical Spec/User Guide

Introduction

The purpose of this document is to provide a brief explanation of my website. The website service is a KompFix Company, providing computer repair services. Actually this company was real, It was funded by me back in my country, but gone bankrupt before I arrived to the UK. The website is based on HTML, CSS, JSCRIPT, PHP and MYSQL.

Functionality

The website is responsive and can be used with mobile devices. The only problem that still occurs is the slideshow, its not fully responsive. The website now has the Register and Login functions for users, it's created with the method based on classes and objects (OOP). It uses

PHP, MySQL (with PDO) and Ajax / JavaScript (with jQuery effects) (it can work also in browsers with JavaScript disabled). The HTML code is valid HTML5, also, works in Internet Explorer browsers which don't recognise HTML5 tags.

The script includes button "Remember" that gives the possibility to automatically login the users on the next visit.

Since I started to work on the registration scripts, I used a validation function to validate the email that user uses to register, It was a simple solution for that, using the phpmailer source, and when the user registers, the email goes through the smtp server. The main problem that I got was that our UWL SOC server somehow blocks the possibility to connect to the smtp server, and users can't receive emails from the server. I tried using bunch of different smtp servers, but it still can't connect. When I was building the website on my localhost server, everything worked fine. So now this function is disabled, as well as the password recovery.

Security Features

- Not allow two accounts with the same name or e-mail.
- Can allow only one account with the same IP, or registered from the same browser.
- Not allow two visitors to log in with the same e-mail (on different browsers) in the same time. If there are two logged users with the same e-mail, the first will be logged out and will alert a message that he/she can re-log in.
- Each user has a "rank" stored in database (a number). Then, the value of this rank is stored in Session and can be used to display content in the website according to the user's rank.

- The e-mail address, and the minimum and maximum number of characters added in form fields are validated both on the client side (with JavaScript) and server-side (with PHP).
- It allows up to 4 failed login attempts (incorrect password or username), then the visitor can try a new authentication after 10 minutes. This is a protection against bots.
- The first Admin can't be deleted, neither his rank changed.

Members Area/Website Functionality

Each user has a personal page that contains: an image uploaded by the user, the registration date, the last visit date, the number of visits /logins, and other personal data (name, pronoun, birthday, personal website, occupation, hobby).

In his personal page, the user can receive messages added by other users (will be notified by email), and can add 12 favorite links.

[HOMEPAGE](#)
[SERVICE LIST](#)
[CONTACT US](#)

Members Area: Orestas



Registered date: 22-Jan-2018, 14:32
Last logged date: 27-Jan-2018, 10:33
Visits number: 9

Name: Orestas
Pronoun: Ore
Birthday: April 1st, 1994

Location:
Country: United Kingdom
City: Crawley
Address: Flat 14, 5 The Boulevard,

- Contact -
Yahoo Messenger: None
MSN Messenger: None
Web Site:

Upload / Change image

Additional Data optional data
Messages (1)
Favorites
Change E-mail /Password
Edit

Occupation:
360 Driver

Interests / Hobbies:
Sports

Things I want to say:
This is an **assessment**. So I don't know what else to say.

Total registered users: 2
Newest User: **Orestas**
[All Users](#)
Online users:
Orestas

Members area: Messages and the other functions

The logged user can delete the messages in his page, can modify the password and the e-mail address used to registration, then he/she will receive an email with the new data.

Additional Data optional data

Messages (1)

Favorites

Change E-mail /Password

Edit

Total registered users: 2
Newest User: **Orestas**
[All Users](#)
Online users:
Orestas

Messages posted by visitors

Messages (1)

Delete selected

[1]

admin


default@default.com

"- IP: ::1"

26-Jan-2018, 17:20

Delete

Hello world! 🤖👋


UNIVERSITY OF
WEST LONDON

Delete selected

[1]

[Add Message](#)

The messages posted in the user's page are paginated, and can be included smiles, an image (displayed in full page when click on it), the text can be formatted with Bold, Italic, Underline (with BBCODE). The user which writes the message can select the option to receive email notification when new message is added. A captcha verification is required as well.

B *I* U 😊 😞 😏 🤔 😬 😮 🙄 😏 😊 😍 😘

Optional, you can include a picture

Maximum: 800/600 px, 200 KB, GIF, JPG, JPE, PNG

Browse... No file selected.

Add this verification code: **7426e**

Code:

Add Message

The script displays the total number of users, the last registered user and the Online users (updated with Ajax every 2 minutes) with link to their page.

Total registered users: 2

Newest User: **Orestas**

[All Users](#)

Online users:

Orestas

All Users Page

The script contains a page that shows a table with all registered users, that are paginated and can be ordered by Name, Last Visit, Registration date, Visits number, and Rank. A account with a highest rank (eg admin) can delete users and change their rank from this page. As well he can edit their details from their member page.

All Users (2)

Registered Users

Select by : // Or, Find Users with: in: ☐ Name

1

Nr	Name	Registered Date	Last logged date	Visits	Rank
1	admin	22-Jan-2018, 14:30	26-Jan-2018, 17:27	3	9
2	Orestas	22-Jan-2018, 14:32	27-Jan-2018, 10:33	9	1

1

Admin Functions

The Admin can delete users, modify their data, adds /delete messages and favorite links, and change their Rank, from -1 to 9 . The Rank -1 means banned, 0 is unconfirmed account, and a Rank 9 gives to the user Administration privileges.

All Users (2)

Registered Users


Select by : // Or, Find Users with: in: ☐ Name / ☐ E-Mail

Nr	Name	Registered Date	Last logged date	Visits	Rank	E-mail	User ID	Set Rank	Delete User
1	admin	22-Jan-2018, 14:30	27-Jan-2018, 10:49	4	9	default@default.com	1	Set Rank: 9	<input type="checkbox"/> Delete
2	Orestas	22-Jan-2018, 14:32	27-Jan-2018, 10:33	9	1	xorrrex@gmail.com	2	Set Rank: 1	<input type="checkbox"/> Delete

Members Area: Orestas

Set Rank: - Change Rank, from -1 to 9 (-1 = banned, 0 = unconfirmed, 9 = Administrator)

☐ Delete



Registered date: 22-Jan-2018, 14:32
Last logged date: 27-Jan-2018, 10:33
Visits number: 9

Name: Orestas
Pronoun: Ore
Birthday: April 1st, 1994

Location:
Country: United Kingdom
City: Crawley
Address: Flat 14, 5 The Boulevard,

- Contact -
Yahoo Messenger: None
MSN Messenger: None
Web Site:

Occupation:

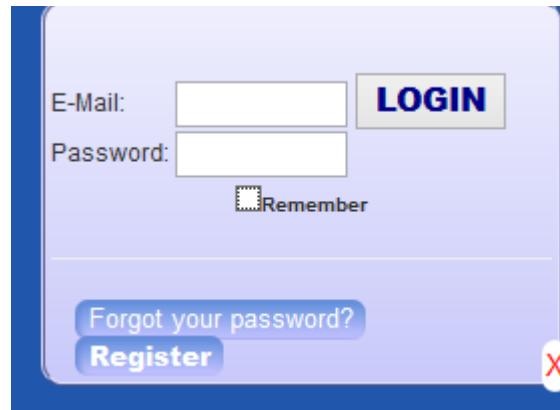
Interests / Hobbies:

Things I want to say:

Total registered users: 2
Newest User: Orestas
[All Users](#)
Online users:
admin

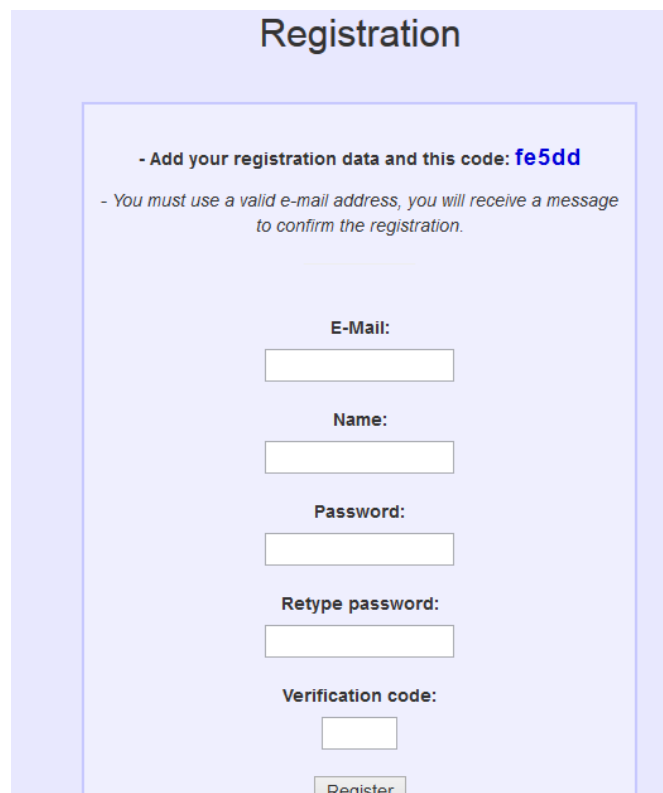
Login and registration forms

When entering the website you can see on the left corner a MyAccount form. When pressing that form a Login and registration form appears.



A login and registration form with a light blue background and a dark blue border. It features two input fields for 'E-Mail:' and 'Password:', a 'Remember' checkbox, and a 'LOGIN' button. Below these, there are links for 'Forgot your password?' and 'Register'. A red 'X' icon is visible in the bottom right corner.

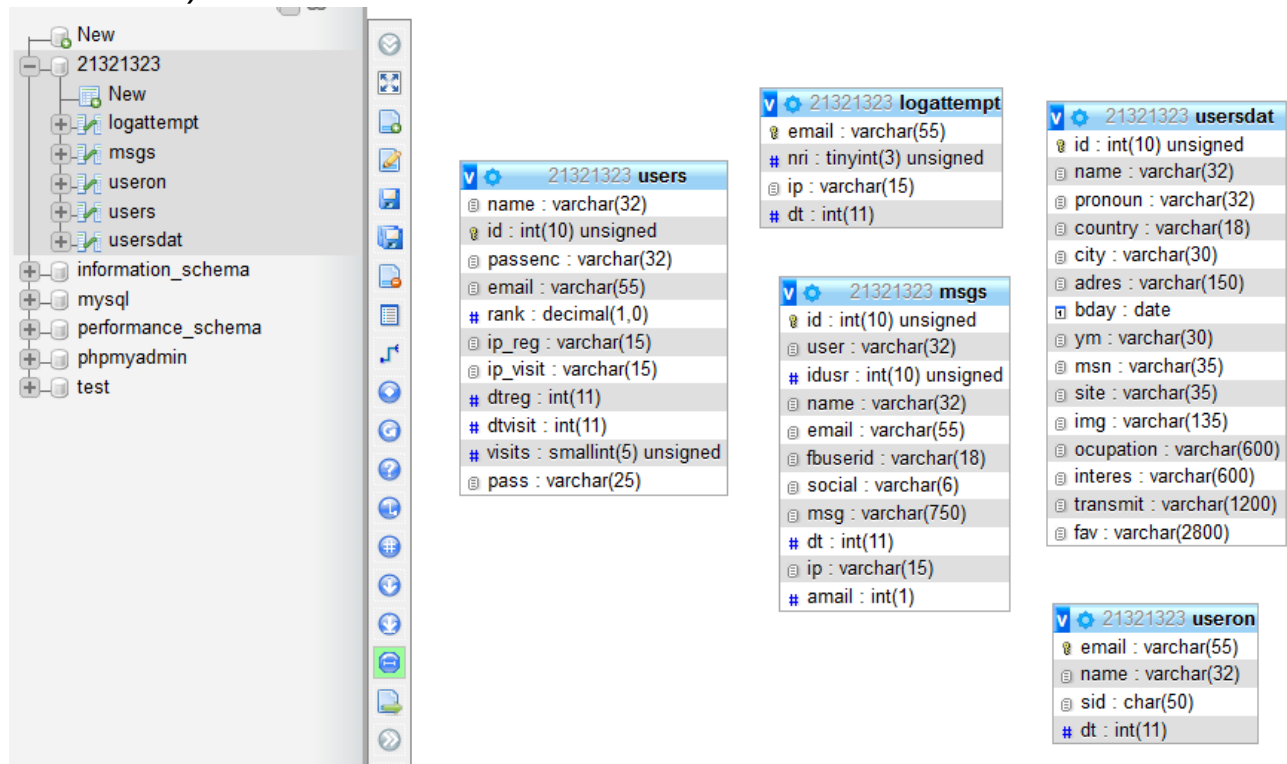
This is the registration form that has the email, name, password and retype password validation forms. As well I added the captcha verification code, just for the extra security.



A registration form titled 'Registration' with a light blue background. It contains instructions: '- Add your registration data and this code: fe5dd' and '- You must use a valid e-mail address, you will receive a message to confirm the registration.' The form includes input fields for 'E-Mail:', 'Name:', 'Password:', 'Retype password:', and 'Verification code:'. A 'Register' button is located at the bottom.

Database Mysql Tables

This script uses 5 tables in a MySQL database (the connection is made with PDO)



1.users - has the following columns:

- name - store the user names for login
- id - adds an unique ID to each user, in the registration order (after login, this ID is stored in the \$_SESSION['idusr'])
- passenc - the password for authentication, encrypted with MD5.
- email - the e-mail address used at registration.
- rank - a number that sets a Rank that can be used to create options or to display content in the website according to the rank of each user. This number /rank is stored in \$_SESSION['rank']. If its value is -1, the user is banned, if it is 0, the user must confirm the registration by accessing a link which is sent to its e-mail address, then the rank is set to 1.
- ip_reg - stores the IP that the visitor has when he registers.

- ip_visit - the IP that the user has when he logs in (this IP is stored in Cookie, if the user has a variable IP, the script gets it from Cookie).
- "ip_reg" and "ip_visit" are checked every time a user registers, to prevent two different accounts from the same IP or browser.
- dtreg - the registration date.
- dtvisit - last login date.
- visits - the number of visits /logins.
- pass - the password, unencrypted.

2.logattempt table

Used to limit the number of failed login attempts (stores the name, the number of login attempts, the user IP, and date). The attempts older than 10 minutes are deleted.

3.Usersdat table

stores the optional user's data (name, pronoun, address, birthday, occupation, hobby, ...), in the following columns: name, pronoun, country, city, bday, ym, msn, site, img (image's path and name), occupation, interes, transmit, fav (favorite links, into a string with JSON format).

4.Useron table

Stores the online users. Updated with Ajax every 2 minutes.


















5.Msgs - to store the messages added in user page.

Having these columns:

- id - index numeric of the messages.
- user - the name of the user to which the message is added.
- idusr - the ID of the user to which the message is added.
- name - the name of the user which writes the message.
- email - store the email of the user which writes the message
- msg - to store the message
- ip - to store the IP of the user which writes the message
- dt - the time when the message is added

- email - stores a value 1, 2, or 3 set after the user adds an e-mail address when he adds a message (1 = displays the email, 2 = send notification when new message is added, 3 = displays the e-mail and also send notification).

Directories and files

	fonts		File folder	1/13/2018 9:47:...	drwxr-xr-x	ftp ftp
	icos		File folder	1/26/2018 9:08:...	drwxr-xr-x	ftp ftp
	images		File folder	1/26/2018 9:07:...	drwxrwxrwx	ftp ftp
	old_stuff		File folder	1/12/2018 11:5:...	drwxr-xr-x	ftp ftp
	style		File folder	1/26/2018 9:06:...	drwxr-xr-x	ftp ftp
	users		File folder	1/14/2018 2:53:...	drwxr-xr-x	ftp ftp
	usrimgup		File folder	1/26/2018 9:06:...	drwxrwxrwx	ftp ftp
	usrincls		File folder	1/26/2018 9:06:...	drwxr-xr-x	ftp ftp
	usrjs		File folder	1/26/2018 8:59:...	drwxr-xr-x	ftp ftp
	usrtempl		File folder	1/26/2018 8:58:...	drwxr-xr-x	ftp ftp
	contact.php	1,313	PHP Script	1/26/2018 9:05:...	-rw-r--r--	ftp ftp
	default.css	12,897	Cascading ...	1/26/2018 8:58:...	-rw-r--r--	ftp ftp
	fonts.css	2,538	Cascading ...	1/26/2018 9:05:...	-rw-r--r--	ftp ftp
	index.php	2,004	PHP Script	1/26/2018 9:05:...	-rw-r--r--	ftp ftp
	reportpdf.p...	377,205	Adobe Acr...	1/15/2018 1:07:...	-rw-r--r--	ftp ftp
	services.php	1,911	PHP Script	1/26/2018 8:51:...	-rw-r--r--	ftp ftp
	users.php	3,524	PHP Script	1/26/2018 8:51:...	-rw-r--r--	ftp ftp

1.public_html

users.php - the instances of the classes are created in this file.

Index.php – the main index of the page.

contact.php – the websites contact details.

services.php – the service list that the company offers.

default.css – the default css settings for the styling of the header and footer.

fonts.css – fonts for header and footer.

reportpdf.pdf – the report about the website and it's functionality.

2.icos - stores the images for smiles, and logo in the user page.

3.usrincfs - contains the PHP classes and the files of this script.

- **phpmailer** - this directory contains the PHPMailer class, used to send emails via SMTP GMail.
- config.php - contains the main config data of the website functions.
- .htaccess - blocks the external access to "config.php".
- class.Base.php - the main class with methods used in the other classes: perform SQL instructions, send email, upload file, and for pagination.
- class.Msgs.php - adds, selects, and delete messages.
- class.Users.php - the class with the form and PHP code for Login and Online users, and All users.
- class.UsersReg.php - contains the functions and the form for registration.
- class.UsersRecov.php - contains functions and the form for recovery username / password and re-sending confirmation link.
- class.UserPage.php - processes user's data displayed in the user page, and to add /select favorite links (taken in "usrbody.php", in "usrtempl/").
- functions.php - some functions used in the script, to clean data from POST and GET, add smiles, sets the <select> to change user`s rank, format BBCODE.
- latestmsgs.php - to see the newest messages posted in all the user pages.
- msgs.php - creates instances of the Msgs class, to add, select, delete messages.
- texts.php - contains the texts used in the script. Just translate the texts in this file if you want to use the script in other language.
- usrimgup - the images uploaded by the user are saved in this folder, the directory is set to CHMOD 766.

- Itmsgs_reset.txt - stores the last reset date of the checking messages.

4.usrjs - this directory contains the files with JavaScript code.

5.usrtempl - this directory contains the files with the HTML code for the user's page template, and the CSS styles.

- style.css - contains the CSS properties for top of the page, login /register forms, and "All users page".
- usrpg.css - contains the CSS properties for the body of the users page.

6.style

- main.css – contains the CSS properties of the header and footer.

7.images – this directory contains the slideshow images.

8.fonts – this directory contains the main fonts of the website.