# Testing report 06/05/2012

## Introduction

As the web site is used to display all the function that implemented for the project.

The main purpose of testing is to make sure all the functions are working properly. Some basic web security, usability testing, interface testing, compatibility testing are applied.

## Testing

### Functionality Testing

#### Links Testing

As the number of links on a web site is very large, the links are checked by links checker software which is downloaded from website.

All the links including:

1. Internal Links
2. External Links
3. Broken Links
4. Outgoing links
5. Jumping links

##### Methodology

Using links testing software: Free Links Testing.

##### Result

1. Internal Links and external links works well, there are five anchors but no broken links
2. Outgoing links works well, no jumping links, orphan pages.

#### Database Connection and Forms Testing

Forms are used to get information from users and to keep interaction with them. To test database connection and forms, all the function part will be tested with several different cases.

##### Methodology

1. Check all the validations on each field.
2. Check for the default values of fields.
3. Try wrong inputs to the fields in the forms.

##### Result

Database connection and Form to change password is valid.

Database connection and Form to search for books is valid.

Database connection and Form to modify staff is not working correctly.

|  |  |  |
| --- | --- | --- |
| Position | Situation | Suggestion |
| People page🡪Authority🡪add staff | Not working correctly | Exam code |
| People page🡪Authority🡪modify staff | Not working correctly | Exam code |
| People page🡪Authority🡪delete staff | Not working correctly | Exam code |
| Personal page🡪TO-DO List | Not working | Decide whether implement |

Database connection and Form to add a book is not working properly.

|  |
| --- |
| Books 🡪  🡪 |

Database connection and Form to search for people is not implemented.

Database connection and Form to add a map is not implemented.

#### Cookie testing

Cookies are the user’s identity and used to track where the user navigated throughout the web site pages.

##### Methodology

**Testing cases:**

1. Check whether cookie contains personal sensitive data, according to cookie privacy policy,
2. Check whether cookie is stored in encrypted format.
3. Check whether there are too many cookies for this site.
4. Disable the cookie from browser setting check whether the user are informed
5. Try accepts and rejects some cookie see if the pages are getting crashed or data is getting corrupted.
6. Delete cookie: Allow site to write the cookies and then close all browsers and manually delete all cookies for web site under test. Access the web pages and check the behavior of the pages.
7. Cookie Testing on Multiple Major used browsers like Internet explorer (Various versions), Mozilla Firefox, Netscape, Opera etc.

##### Result

There is only once cookie in the web application, the cookie is used to send the password in encrypted format, so there will be no security problem of the cookie.

Cookie is usable in Internet Explorer 8, Chrome (latest) and Firefox (latest).

|  |
| --- |
| If user disables the cookie from browser setting, the user will NOT be informed. |

#### Validate your HTML/CSS

##### Methodology

As library web site is not used for search engines, so just check how the web site is displayed on Multiple Major used browsers like Internet explorer (Various versions), Mozilla Firefox, Netscape, Opera etc.

##### Result

The web site display well on several browsers, and functions are valid on those browsers.

Most functions and web content can be supported by main browser: Mozilla Firefox (latest), Chrome (latest) and Internet Explorer 8. Although there are some different ways to display the web.

|  |  |
| --- | --- |
| Browser | Display book page |
| Chrome (latest) |  |
| Firefox (latest) |  |
| Internet Explorer 8 |  |

|  |  |  |
| --- | --- | --- |
| Browser | ScreenShot | Descrption |
| Chrome (latest) |  | Support HTML5  Support map edit funciton |
| Firefox (latest) |  | Not Support HTML5  Not Support map edit funciton |
| Internet Explorer 8 |  | Not Support HTML5  Not Support map edit funciton |

#### Database Testing

Data consistency is very important in web application. Check for data integrity and errors while you edit, delete, modify the forms or do any database related functionality.

##### Methodology

Using same person’s ID login at the same time and do different operation related to database.

Check if all the database queries are executing correctly

Check if data is retrieved correctly, updated correctly.

##### Result

The database executes and retrieved correctly if use the same person’s ID login.

### Usability Testing

Web site should be easy to use. Instructions should be provided correctly and clearly. Main menu should provide on each page should be consistent.

#### Navigation Testing

Buttons boxes and links can used to surf the web pages, navigation testing is mainly test how these part are designed for user to surf the web pages.

##### Methodology

Act as a user and find some other friends to test the web site.

##### Result

There are some buttons that cannot be used by user, but when a user click it there will be not instructions to inform a user.

#### Content checking

Content checking is to make sure there are no spelling errors and content on the web pages is easily understood by user.

Content Check List: Images, Fonts, File Size, Writing Style, Structure, Links, Lists

##### Methodology

Check the spelling with Microsoft Office Word.

Try every links.

Check whether the content is displayed as designed.

##### Result

No spelling error.

Links works fine.

A few parts are NOT proper:

|  |
| --- |
| Home page 🡪 |
| Search page 🡪 |
| Search page 🡪  🡪 |
| People page🡪 |
| Maps page🡪 |

#### Help information

As the web site is very simple, there is only one help page to help user. Check whether there is helpful information while user uses the web functionality.

##### Methodology

Just check whether the help page gives the helpful and complete information.

##### Result

Not finished.

Lack of instructions:

|  |
| --- |
| Personal page🡪Change Password🡪 |
| Book page🡪 |

Not good for user to use:

|  |
| --- |
| About us page 🡪 |

### Interface Testing

The main interfaces are:

1. Web server and application server interface
2. Application server and Database server interface.

Check if all the interactions between these servers are executed properly. Errors are handled properly. Check whether application server should catch and display these error messages appropriately to users when database or web server returns any error message for any query by application server.

#### Methodology

Enter wrong input to the web and check whether the web gives the proper error message.

Try click button and links that the user is not authorized.

#### Result

User can only get information tell them that they input something wrong. No useful error message.

NO proper error information when user click button and links that they are not authorized.

### Compatibility Testing

#### Browser compatibility

##### Methodology

Try to use the web in different browsers. The web site is tested in 3 web browser:

Internet Explorer 8, Chrome (latest), Firefox (latest).

##### Result

The web can display and interact well.

#### Operating system compatibility

Some functionality in your web application is may not be compatible with all operating systems. All new technologies used in web development like graphics designs, interface calls like different API’s may not be available in all Operating Systems.

##### Methodology

Not tested.

##### Result

Not tested.

#### Mobile browsing

Not tested

##### Methodology

Test on windows, Unix, Mac, Linux, Solaris

##### Result

Not tested.

#### Printing options

Check page graphics getting printed properly. Pages should be fit to paper size or as per the size mentioned in printing option.

##### Methodology

Try print

##### Result

Not tested.

### Security Testing

#### Methodology

1. Try changing URL options directly
2. Try some invalid inputs in input fields like login username, password and input text boxes. Check the system reaction on all invalid inputs.
3. All transactions, error messages, security breach attempts should get logged in log files somewhere on web server.

#### Result

The invalid inputs were checked and the system gives error message.

No log file。

## Conclusion

1. Some big functional mistakes:
2. Some content not proper.
3. The whole web is lack of instructions.
4. No checking for empty inputs.

## Appendix

### Free Links Checker Report:

Start link:

http://localhost:8080/library/

Report:

HEAD http://www.goodreads.com/list/show/16.Best\_Books\_of\_the\_19th\_Century fetched in 4.1s

Checking link http://localhost:8080/library/index.jsp

HEAD http://localhost:8080/library/index.jsp fetched in 0.0s

Checking link http://localhost:8080/library/search.jsp

HEAD http://localhost:8080/library/search.jsp

HEAD http://localhost:8080/library

HEAD http://localhost:8080/library/ fetched in 3.2s

Checking link http://localhost:8080/library/maps.jsp

HEAD http://localhost:8080/library/maps.jsp

HEAD http://localhost:8080/library

HEAD http://localhost:8080/library/ fetched in 3.0s

Checking link http://localhost:8080/library/images/homeBanner.jpg

HEAD http://localhost:8080/library/images/homeBanner.jpg fetched in 1.0s

Checking link http://www.bl.uk/

HEAD http://www.bl.uk/ fetched in 1.1s

Processed in 64.4s.

Anchors

Found 5 anchors.

List of broken links and redirects:

http://localhost:8080/library/search.jsp

-> http://localhost:8080/library/ Line: 40

Code: 302 -> 200 OK

To do: Usually nothing.

http://localhost:8080/library/book.jsp

-> http://localhost:8080/library/ Line: 42

Code: 302 -> 200 OK

To do: Usually nothing.

http://localhost:8080/library/maps.jsp

-> http://localhost:8080/library/ Line: 43

Code: 302 -> 200 OK

To do: Usually nothing.

http://localhost:8080/library/personal.jsp

-> http://localhost:8080/library/ Line: 39

Code: 302 -> 200 OK

To do: Usually nothing.

http://localhost:8080/library/logout

-> http://localhost:8080/library/index.jsp Line: 30

Code: 302 -> 200 OK

To do: Usually nothing.

http://localhost:8080/library/people.jsp

-> http://localhost:8080/library/ Line: 41

Code: 302 -> 200 OK

To do: Usually nothing.

Checked 1 document in 64.4 seconds.

## Reference

1. <http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&sqi=2&ved=0CIkBEBYwAQ&url=http%3A%2F%2Fwww.doe.mass.edu%2Fnmg%2Fchecklist.doc&ei=qF6mT7j-Oamf0QW53LCKBA&usg=AFQjCNEXiBlwEifpnq6RUbCU7ODwJRgQNw&sig2=ks40oV_e1yJ7Qql6M6aquw>
2. <http://www.softwaretestinghelp.com/web-application-testing/>
3. <http://www.doe.mass.edu/nmg/titles.html>