COMP214 AI Group Project

**Library Path Searching System (LPSS)**

Appendix F

Test Document

**Team: AI Group2**

**– CodeCooks**

Jiazhe Wang

Wenyang Cai

Xueli Jia

Yiming Li

ZhaoZhao

2012/5/13

# UI Test Report

## Introduction

User Interface (UI) Testing is necessary from the perspective of testing all functions of links work well and the website interfaces display property. Most tests are about functional testing including basic webpage security, usability testing, interface testing and compatibility testing.

## Testing

### Functionality Testing

#### Links Testing

Links connects all the web pages together. There is a large number of links, so the links are checked by links checker software which is downloaded from internet. The link checker software will check internal Links, external links, broken links, outgoing links and jumping links.

##### Methodology

Using links testing software: Free Links Testing.

##### Results

1. Internal Links, external links and outgoing links works well,
2. There are five anchors but no broken links, jumping links and 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 input cases.2

##### Methodology

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

##### Results

Database connection and Form to change password is valid.

Database connection and Form to search for books is valid.

Database connection and Form to add staff is working correctly.

Database connection and Form to modify staff is working correctly.

Database connection and Form to delete staff is working correctly.

Database connection and Form to add a book is working properly.

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.

##### Results

There is only one 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 9, Chrome (latest) and Firefox (latest). If user disables the cookie from browser setting, the user will NOT be informed. If the cookie is deleted, there will be no influences on the user, the user just need to login again.

#### Validate HTML/CSS

##### Methodology

Validate HTML/CSS is mainly checking how the web site is displayed on Multiple Major used browsers like Internet explorer (Various versions), Mozilla Firefox, Netscape, Opera etc. Try each function on those browsers and check whether the web pages are displayed correctly and check whether the function is usable on those browsers.

##### Results

The web site was displayed well on several browsers, and functions are valid on those browsers except the map edit function. Most functions and web content can be supported by main browser: Mozilla Firefox (latest), Chrome (latest) and Internet Explorer 9. For map edit function, it could only be used in chrome. Partial function of map edit is disabled on IE9 and Firefox.

|  |  |  |
| --- | --- | --- |
| Browser | ScreenShot | Descrption |
| Chrome (latest) |  | Support HTML5  Support map edit funciton |
| Firefox (latest) |  | Not Support HTML5  Not Support map edit funciton |
| Internet Explorer 9 |  | Not Support HTML5  Not Support map edit funciton |

#### Database Testing

Data consistency is very important in a system. Checking for data integrity and errors when edit, delete, modify the forms or perform any similar manipulation on database.

##### Methodology

Using the same personal ID to login at the same time and do different operations related to database.

Check if all the database queries are executing correctly

Check if data is retrieved correctly and updated correctly.

Several participants using different ID, using library path search system at the same time on different computers.

##### Results

The database executes and retrieved correctly if use the same personal ID to login.

Data was kept consistent when multiple users operating at the same time.

### Usability Testing

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

#### Navigation Testing

Buttons boxes and links can used to surf the web pages. Navigation testing is mainly test that how these parts are designed for user to surf the webpages.

##### Methodology

Act as a user and find some other potential users to test the web site. Find some potential users to use the system.

##### Results

Users are able to see all levels of navigation leading to any page. Navigation is easy for learning. The links names are easy to understand. User can return back to the page where it starts. No supplemental navigation.

#### Content Checking

Content checking is to make sure that there are no spelling errors and the 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 expected in designed.

##### Results

No spelling error.

Links work fine.

A few parts are NOT nice:

|  |
| --- |
| Search page 🡪  🡪 |
| Search page (Staff) 🡪 |

#### 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.

##### Results

Help webpage and some useful instructions are provided while user did some improper operation. User can download a user manual from the help page.

### Interface Testing

Interface testing is the process of testing a product's graphical user interface to ensure it meets its specifications.

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

Try different input cases in all forms: wrong input type, no input, special characters.

#### Results

Proper error messages are provided. Users are informed with useful information which helps them in using the system.

##### Web Use Testing Cases

**Log in the web with wrong username or password.**

|  |
| --- |
|  |

**Try to entry web page without authority**

|  |
| --- |
|  |

**‘Personal’ page:**

|  |  |
| --- | --- |
| The user (staff or general user) changes password without input all the information. |  |
| The user (staff or general user) changes password and input wrong old password. |  |
| The user (staff or general user) changes password and new password do not match. |  |
| The user (staff or general user) changes password successfully and changes the database. |  |

**‘People’ page:**

For curator, there are some functions, such as Add Staff, Modify Staff and Delete Staff.

Add Staff:

|  |  |
| --- | --- |
| The curator adds staff without inputting all the information. |  |
| The curator adds a duplicated ID or user name. |  |
| The curator adds staff successfully and the information is loaded into MySQL. |  |

**Modify Staff**:

|  |  |
| --- | --- |
| The curator modifies position without inputting all the information. |  |
| The curator modifies position and input the wrong username or ID. |  |
| The curator modifies successfully and changes the database. |  |

**Delete Staff**:

|  |  |
| --- | --- |
| The curator deletes the staff without inputting all the information. |  |
| The curator deletes the staff and input the wrong name and ID. |  |
| The curator deletes the staff successfully and changes the database. |  |

**‘Book’ page:**

|  |  |
| --- | --- |
| The staff add book without inputting all the information. |  |
| The staff add book and input all the information, however, the input of copy is character not number. |  |
| The staff add book and successfully connect to the database. Then the book is added into MySQL. |  |

### Compatibility Testing

#### Browser Compatibility

##### Methodology

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

Internet Explorer 9, Chrome (latest), Firefox (latest). Check whether the web pages display correctly and the functions work properly.

##### Results

The web can display correctly and properly in the three browsers, but the web is not displayed correctly on IE8. In conclusion, the web cannot be displayed on IE 8 or lower version. The entire system function could be used correctly on the three browsers except the map editing function. Map edit function is not fully implemented. The function could only be used on those browsers which support HTML5.

#### Others

Operating system compatibility is not tested.

Print function in not implemented and print option is 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.

#### Results

Help page and about us page could be accessed directly which will not affect the security of the website.

The invalid input cannot get through the security system.

There is no log file to record transactions and error messages and security breach attempts.

## Conclusion

The entire web site is simple and easy to use. The function of the web site is quite powerful. The entire website is pretty, but the website’s compatibility is not so good. As some functions were implemented in HTML5, those functions could only be used on the browsers which support HTML5. Some old version browsers could not display web pages correctly such as IE8. The web cannot be displayed correctly on some old version browser. When a user was using the search function, each after a user add a book to operation list, the web page would refresh the whole page, the user would have to find those books which was not added to the operation list. It is a little bit inconvenient for those users who need to find numbers of books at one time.

## Appendix

### Free Links Checker Report

|  |
| --- |
| W3C Link Checker version 4.3 (c) 1999-2006 W3C  GET http://localhost:8080/x1yl2/index.jsp fetched in 1.2s  Settings used:  - Accept: application/xhtml+xml, text/html, \*/\*;q=0.5  - Accept-Language: (not sent)  - Sleeping 1 second between requests to each server  Processing http://localhost:8080/x1yl2/index.jsp  Parsing...  done (126 lines in 0.0s).  Checking anchors...  done.  Checking link http://localhost:8080/x1yl2/people.jsp  HEAD http://localhost:8080/x1yl2/people.jsp  HEAD http://localhost:8080/x1yl2/index.jsp fetched in 2.2s  Checking link http://localhost:8080/x1yl2/personal.jsp  HEAD http://localhost:8080/x1yl2/personal.jsp  HEAD http://localhost:8080/x1yl2/index.jsp fetched in 2.0s  Checking link http://localhost:8080/x1yl2/about.jsp  HEAD http://localhost:8080/x1yl2/about.jsp fetched in 1.0s  Checking link http://localhost:8080/x1yl2/css/styles.css  HEAD http://localhost:8080/x1yl2/css/styles.css fetched in 1.0s  Checking link http://localhost:8080/x1yl2/book.jsp  HEAD http://localhost:8080/x1yl2/book.jsp  HEAD http://localhost:8080/x1yl2/index.jsp fetched in 2.0s  Checking link http://localhost:8080/x1yl2/images/homeBanner.jpg  HEAD http://localhost:8080/x1yl2/images/homeBanner.jpg fetched in 1.1s  Checking link http://localhost:8080/x1yl2/index.jsp  Checking link http://localhost:8080/x1yl2/logout  HEAD http://localhost:8080/x1yl2/logout  HEAD http://localhost:8080/x1yl2/index.jsp fetched in 2.2s  Checking link http://localhost:8080/x1yl2/js/tinybox.js  HEAD http://localhost:8080/x1yl2/js/tinybox.js fetched in 1.1s  Checking link http://localhost:8080/x1yl2/images/pic01.jpg  HEAD http://localhost:8080/x1yl2/images/pic01.jpg fetched in 1.1s  Checking link http://localhost:8080/x1yl2/css/tinyBox.css  HEAD http://localhost:8080/x1yl2/css/tinyBox.css fetched in 1.0s  Checking link http://localhost:8080/x1yl2/images/head.gif  HEAD http://localhost:8080/x1yl2/images/head.gif fetched in 1.0s  Checking link http://localhost:8080/x1yl2/search.jsp  HEAD http://localhost:8080/x1yl2/search.jsp  HEAD http://localhost:8080/x1yl2/index.jsp fetched in 2.0s  Checking link http://localhost:8080/x1yl2/images/pic02.jpg  HEAD http://localhost:8080/x1yl2/images/pic02.jpg fetched in 1.1s  Checking link http://localhost:8080/x1yl2/maps.jsp  HEAD http://localhost:8080/x1yl2/maps.jsp  HEAD http://localhost:8080/x1yl2/index.jsp fetched in 2.0s  Checking link http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd  HEAD http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd fetched in 32.6s  Checking link http://www.goodreads.com/list/show/16.Best\_Books\_of\_the\_19th\_Century  HEAD http://www.goodreads.com/list/show/16.Best\_Books\_of\_the\_19th\_Century fetched in 8.6s  Checking link http://localhost:8080/x1yl2/images/foot.gif  HEAD http://localhost:8080/x1yl2/images/foot.gif fetched in 0.1s  Processed in 63.3s.  Anchors  Found 5 anchors.  List of broken links and redirects:  http://localhost:8080/x1yl2/maps.jsp  -> http://localhost:8080/x1yl2/index.jsp Line: 49  Code: 302 -> 200 OK  To do: Usually nothing.  http://localhost:8080/x1yl2/book.jsp  -> http://localhost:8080/x1yl2/index.jsp Line: 48  Code: 302 -> 200 OK  To do: Usually nothing.  http://localhost:8080/x1yl2/people.jsp  -> http://localhost:8080/x1yl2/index.jsp Line: 47  Code: 302 -> 200 OK  To do: Usually nothing.  http://localhost:8080/x1yl2/logout  -> http://localhost:8080/x1yl2/index.jsp Line: 36  Code: 302 -> 200 OK  To do: Usually nothing.  http://localhost:8080/x1yl2/personal.jsp  -> http://localhost:8080/x1yl2/index.jsp Line: 45  Code: 302 -> 200 OK  To do: Usually nothing.  http://localhost:8080/x1yl2/search.jsp  -> http://localhost:8080/x1yl2/index.jsp Line: 46  Code: 302 -> 200 OK  To do: Usually nothing.  Checked 1 document in 63.4 seconds. |