***4. Marginal Value Test***

**4.1 Control**

The input control method of this module is manually inputting the required data.

Here is the control implementation:

1. Fill in the marginal values that need to be test in the input field of the web app. Hit confirm.

2. Wait for the system to respond.

**4.2 Input and Expected Output**

**4.2.1 Login module**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | User inputs a correct username and do not input anything for password. Click login. | Display error message. |
| 2 | User inputs a correct password and do not input anything for username. Click login. | Display error message. |
| 3 | User inputs an incorrect username and/or password and click login. | Display error message. |
| 4 | User does not input anything for both username and password. Click login. | Display error message. |

**4.2.2 Personal resource management module (view, download, edit file)**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | When edit the user’s own file, he deletes all the information in data field and clicks save. | Display error message. |
| 2 | User attempts to change the url in order to view or download files out of his privilege. | Website unable to load and display error message. |
| 3 | User entered text that includes illegal characters or SQL command. | Display warning message. |
| 4 | User comes to this url but has not logged in. | Jump to welcome page. |

**4.2.3 Personal resource management 2 module (upload file)**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | User uploads the file but do not input the details of the file. | Display error message. |
| 2 | User uploads an unsupported file (e.g. file size too big). | Display error message. |
| 3 | User entered text that includes illegal characters or SQL command. | Display warning message. |
| 4 | User uploads the file but does not input details in the input fields. | Display error message. |
| 5 | User inputs something in the input fields but does not upload the file. | Display error message. |

**4.2.4 Search module**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | User inputs special characters or SQL command in search field. | Display warning message. |
| 2 | In advanced search, user enters something for optional field but does not input anything for the compulsory field. Click OK. | Display error message. |
| 3 | User inputs nothing and clicks OK. | Display error message. |
| 4 | User comes to this url but has not logged in. | Jump to welcome page. |

**4.2.5 Homework assign module**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | User enters correct title and requirement, but wrong date format. | Display error message. |
| 2 | User inputs illogical assign date or deadline. (e.g. deadline is earlier then assign date) | Display error message. |
| 3 | User inputs text that includes illegal characters or SQL command. | Display warning message. |
| 4 | User comes to this url but has not logged in. | Jump to welcome page. |

**4.2.6 Homework upload module**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | User does not upload the file and clicks OK. | Display error message. |
| 2 | User inputs text that includes illegal characters or SQL command. | Display warning message. |
| 3 | User comes to this url but has not logged in. | Jump to welcome page. |

**4.2.7 Homework check module**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | User comes to this url but has not logged in. | Jump to welcome page. |
| 2 | User clicks on download link while login timeout. | Display error message. |

**4.2.8 connectDB module**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | \ | \ |

**4.2.9 Data security detection module**

|  |  |  |
| --- | --- | --- |
| \ | Input | Expected Output |
| 1 | When the data is NULL | Return a warning. |
| 2 | When the data includes illegal characters | Return a warning. |

**4.3 Test Result**

**4.3.1 Login module**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | User inputs a correct username and do not input anything for password. Click login. | Display error message. |  |
| 2 | User inputs a correct password and do not input anything for username. Click login. | Display error message. |  |
| 3 | User inputs an incorrect username and/or password and click login. | Display error message. |  |
| 4 | User does not input anything for both username and password. Click login. | Display error message. |  |

**4.3.2 Personal resource management module (view, download or edit file)**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | When edit the user’s own file, he deletes all the information in data field and clicks save. | Display error message. |  |
| 2 | User attempts to change the url in order to view or download files out of his privilege. | Website unable to load and display error message. |  |
| 3 | User entered text that includes illegal characters or SQL command. | Display warning message. |  |
| 4 | User comes to this url but has not logged in. | Jump to welcome page. |  |

**4.3.3 Personal resource management 2 module (upload file)**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | User uploads the file but do not input the details of the file. | Display error message. |  |
| 2 | User uploads an unsupported file (e.g. file size too big). | Display error message. |  |
| 3 | User entered text that includes illegal characters or SQL command. | Display warning message. |  |
| 4 | User uploads the file but does not input details in the input fields. | Display error message. |  |
| 5 | User inputs something in the input fields but does not upload the file. | Display error message. |  |

**4.3.4 Search module**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | User inputs special characters or SQL command in search field. | Display warning message. |  |
| 2 | In advanced search, user enters something for optional field but does not input anything for the compulsory field. Click OK. | Display error message. |  |
| 3 | User inputs nothing and clicks OK. | Display error message. |  |
| 4 | User comes to this url but has not logged in. | Jump to welcome page. |  |

**4.3.5 Homework assign module**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | User enters correct title and requirement, but wrong date format. | Display error message. |  |
| 2 | User inputs illogical assign date or deadline. (e.g. deadline is earlier then assign date) | Display error message. |  |
| 3 | User inputs text that includes illegal characters or SQL command. | Display warning message. |  |
| 4 | User comes to this url but has not logged in. | Jump to welcome page. |  |

**4.3.6 Homework upload module**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | User does not upload the file and clicks OK. | Display error message. |  |
| 2 | User inputs text that includes illegal characters or SQL command. | Display warning message. |  |
| 3 | User comes to this url but has not logged in. | Jump to welcome page. |  |

**4.3.7 Homework check module**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | User comes to this url but has not logged in. | Jump to welcome page. |  |
| 2 | User clicks on download link while login timeout. | Display error message. |  |

**4.3.8 connectDB module**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | \ | \ |  |

**4.3.9 Data security detection module**

|  |  |  |  |
| --- | --- | --- | --- |
| \ | Input | Actual Output | Pass or Fail? |
| 1 | When the data is NULL | Return a warning. |  |
| 2 | When the data includes illegal characters | Return a warning. |  |

**4.4 Result Analysis**

The marginal tests of this subsystem satisfied the expected output. Therefore a conclusion can be drawn. We expect that the subsystem can react correctly to other marginal inputs; the functions of the modules would not be affected by marginal values.