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**Grape**

**Test Plan**

**Version 2.0**

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**Document Language**:

English

**Revision History**

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| 2015.5.24 | 1.0 | Initialization of the report | Hunter Lin |
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**Key Word**

**Abstract**

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Note:

黑色字部分为大家都需要写的。（大部分为功能测试的内容）

根据大家之前画use case时的分工，来写相应的system functional test.

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**1. Introduction**

## 1.1. Purpose

## 1.2. Background

## 1.3. Definition

## 1.4. Reference

**2. Test Plan**

## 2.1. Project Review

|  |  |  |
| --- | --- | --- |
| Function | Input | Output |
| Create group | groupName,topic,confirmMessage | a corresponding group in the database |
| delete group | group\_id | a group deleted in the database |
| search group | group\_id | the information of the group |
| join group | group\_id | an association between the group and the current user is created in the database; |
| quit group | group\_id | an association between the group and the current user is deleted in the database; |
| create vote | vote\_content,vote\_options,vote\_timelimit | A corresponding vote in the database |
| delete vote | vote\_id | Delete all the corresponding information in the database. |
| operate vote | Option,vote\_id | Update the votes of the corresponding option by add 1 in the database and insert the record what the option the user votes. |
| View vote voted | vote\_id | Show the vote and the option voted |
| display vote result | vote\_id | One bar graph displaying the distribution of the votes over different options in the database. |
| end vote | Vote\_timelimit | The database automatically set the vote status to 0 which means the end by using the event of MySQL. |

## 2.2. Test Cases

## 2.3. Unit Test

### 2.3.1. Test Schedule

### 2.3.2. Conditions

### 2.3.3. Test References

### 2.3.4. Test Training

## 2.4. Integration Test

All members in our team will participate in this test. Several units will be integrated as a part and be tested respectively.

### 2.4.1. Test Schedule

This test will be executed from 5.29 to 6.3.The work is to write stub module, driven module, test script, design test cases, and do the tests.

### 2.4.2. Conditions

1. 5 computers,5 days to be used.
2. All members of the our team will participate in this test. We must know how to do black box test.

### 2.4.3. Test References

1. Grape requirement document.
2. The whole code including (XXXX要填充).
3. Integration test environment and the causation graph are the same with the unit test.

### 2.4.4. Test Training

Null

## 2.5. System Functional Test

### 2.5.1. Test Schedule

### 2.5.2. Conditions

### 2.5.3. Test References

### 2.5.4. Test Training

## 2.6. Runtime Test

### 2.6.1. Test Schedule

### 2.6.2. Conditions

### 2.6.3. Test References

### 2.6.4. Test Training

## 2.7. Stress Test

All members of the grape team would participate in the test. The test aims to the load capacity of the server.

### 2.7.1. Test Schedule

This test dates from 20th June to 20th June. The work is to use LOCUST to simulate lots of simultaneous users to achieve the goal of stress test.

### 2.7.2. Conditions

a) All members would participate in and install the LOCUST loading testing tool and PYZMQ to run LOCUST distributed.

b) 2 computers (CPU: P4, Memory: 512M),5 days to be used.

### 2.7.3. Test References

Grape requirement document.

### 2.7.4. Test Training

Null

**3. Test Design Specification**

## 3.1. Unit Test

### 3.1.1. Control Method

### 3.1.2. Test Case

// note: this part is the combination of 3.1.1(input) & 3.1.2(output) in the demo doc. I think it’s better to integrate them and create a table to illustrate. Like this:

|  |  |  |
| --- | --- | --- |
| Test case number | Input | Output |
| 1 |  |  |
| 2 |  |  |

### 3.1.3. Process

## 3.2. Integration Test

According to system business tier , present tier ,and subsystem , integrate related units to test the integration version. Use black box testing to check the function and action of integration version. The whole process employs bottom – top integration. Testers must write proper stub module , driven module, and test script.

### 3.2.1. Control Method

Every integration component is tested manually by testers. Since in our developing process the developers are just the testers, they can fix bugs right now once they find a bug.

### 3.2.2. Test Case

|  |  |  |
| --- | --- | --- |
| Test case number | Input | Output |
| 1 | Operations about group in the webpage | Corresponding respond in the front-end and the database |
| 2 | Operations about discussion in the webpage | Corresponding respond in the front-end and the database |
| 3 | Operations about vote in the webpage | Corresponding respond in the front-end and the database |
| 4 | Operations about user himself in the webpage | Corresponding respond in the front-end and the database |

### 3.2.3. Process

1. Design test cases.
2. Write stub module, driven module and test script. Create a database for test.
3. Run server, Execute code, and compare result with expected.
4. Fix bugs found, and continue testing till there are no bugs.
5. When no bug is found, the test is over.

## 3.3. System Functional Test(Group Function)

This part is tested by morning. The goal is to test the functions concerning group including join,quit,create,delete and so on.

### 3.3.1. Control Method

Manual operations on the web page. The testing result will be recorded in Excel.

### 3.3.2. Test Case

|  |  |  |
| --- | --- | --- |
| Function | Input | Output |
| Create group | groupName,topic,confirmMessage | a corresponding group in the database |
| Create group | groupName,topic,confirmMessage same as previous one | report that the group already exists |
| delete group | correct group\_id | a group deleted in the database |
| delete group | wrong group\_id | report fail to delete group due to authority or other errors |
| search group | correct group\_id | the information of the group |
| search group | wrong group\_id | return no information found |
| join group | correct group\_id | an association between the group and the current user is created in the database; |
| join group | wrong group\_id | report fail to join group |
| quit group | group\_id | an association between the group and the current user is deleted in the database; |
| create vote | vote\_content,vote\_options,vote\_timelimit | A corresponding vote in the database |
| create vote | timelimit not set or empty vote\_options and vote\_content | Ban user to submit |
| delete vote | vote\_id | Delete all the corresponding information in the database. |
| delete vote | wrong vote\_id | report fail to delete group due to authority or other errors |
| operate vote | Option,vote\_id | Update the votes of the corresponding option by add 1 in the database and insert the record what the option the user votes. |
| operate vote | Option,wrong vote\_id | report fail to vote due to authority or other errors |
| View vote voted | Vote\_id | Show the vote and the option voted |
| view vote voted | wrong vote\_id | Report fail to view the option voted due to authority or other errors |
| display vote result | vote\_id | One bar graph displaying the distribution of the votes over different options in the database. |
| end vote | Vote\_timelimit | The database automatically set the vote status to 0 which means the end by using the event of MySQL. |

### 3.3.3. Process

1. Generate some pre-defined information about users and groups in the database.
2. Design test cases.
3. Run web server and database server.
4. Manually execute the operations about group at the front-end, and record bugs found.
5. After all the test cases reach system testing ceasing criteria, this test is over.

**3.4. Runtime Test**

### 3.4.1. Control Method

### 3.4.2. Test Case

### 3.4.3. Process

## 3.5. Stress Test

Use LOCUST which is deemed to be awesome by the author of Flask, Jinja2 to test.

### 3.5.1. Control Method

Use LOCUST to run stress test automatically and generate test result by LOCUST.

### 3.5.2. Test Case

|  |  |  |
| --- | --- | --- |
| Test case number | Input | Output |
| 1 | Simulate this case that at a time 1000 users visit the server, and distribute the flux in different page groups. | LOCUST provide us with the ReponseContextManager class to see the request result and whether it was successful. |
| 2 | Throttle bandwidth to test the capability when user takes dial-up or other connection to surf on Internet. |

### 3.5.3. Process

1) Set up a complete database

2) Design test cases

3) Run server

d) Have tests by LOCUST, and record defects

e) After the test reaches stress criteria, test is over.

**4. Criteria**

## 4.1. Scope

### 4.1.1. Deflect verified rate criteria

### 4.1.2. Coverage Rate Criteria

## 4.2. Data Catalog

## 4.3. Scale

### 4.3.1. Test Ceasing Criteria

### 4.3.2. Unit Test Ceasing Criteria

### 4.3.3. Integration Test Ceasing Criteria

1. Integration test cases have accessed.
2. According to integration test cases, testers have finished all the tests of integration.
3. Reach the coverage rate criteria of integration testing.
4. Make sure that more than 2 errors should be found every KLOC of integration versions.
5. Integration version function and capability must be consistent with definition.
6. All the defects have been verified, and the verified rate has reached the criteria.

### 4.3.4. System Test Ceasing Criteria

**5. Conclusion**