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Ipay System test report

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2011/9/3

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1. INTRODUCTION

1.1 OBJECTIVE

The purpose of this document is to describe the goods-picker financial system test summary report, the main contents include:

- System Environment Profile
- Data measure
- System evaluation results

Readers of this document are expected to:

- Project Manager
- Testers

1.2 BACKGROUND

The document from the mobile client and the websites of the two parts of the system functions were tested, given the test conclusion.

1.2.1 Project name

Ipay

1.2.2 Team

Team name : Popcorn

Team members : Liang Jianjun , Lu Tianming , Qian Chenxiong , Qian Cheng,

Tang Yiming, Liu Minsi, Gao Xiaochun, Liu Chennan, Luo Shi.

Instructor : Ding Eryu

1.3 DEFINITIONS

Functional Testing :In accordance with the definition of system requirements define the functions of the system to implement some of the system-level testing.

Non-functional Testing :According to the system requirements defined in the definition of non-functional parts (such as system performance, security, performance, etc.) imposed on the system, system-level testing.

Test case: Test personnel designed the software used to test a feature of a situation.

White Box Test: The structure according to the procedures within the test program, test to detect movement inside the product design specifications are in accordance with the provisions of the normal, testing procedures of each channel can be schedule if requested to work properly.

Black Box Test: The test to detect whether each feature can be used normally.

1.4 REFERENCES

- “Project Development Plan”
- “Requirements Specification”

- “Detail Design”
- “Project Test Plan”
- “Testing Technology Introduction” : Gu Yue Shi Jiuli Edited/Tsinghua University Press
- “Software Testing: Second Edition” : Paul C.Jorgensen Edited/Machinery Industry Press

1.5 VERSION UPDATE

| Version Number | Date | Maintain | Content Overview |
|----------------|----------|----------------|-----------------------|
| 1 | 2011/9/1 | Qian Chenxiong | Initial Release |
| 2 | 2011/9/3 | Qian Chenxiong | Changes about details |
| 3 | 2011/9/5 | Qian Chenxiong | Final version |

2. TESTING SUMMARY

2.1 TEST CASE DESIGN

The methods used in the test case : equivalence partitioning , boundary value , cause-and-effect diagram

2.2 TEST ENVIRONMENT AND CONFIGURATION

| | |
|--------|--|
| OS | Windows 7/Ubuntu |
| Client | Smartphone carried with the android system above 2.2 |

2.3 TEST TOOLS AND METHODS

2.3.1 Unit Test

Mainly use white box test.

Tools: server uses JUnit 4.0 and client uses the testing frame embedded in android.

2.3.2 Functional Test

Ensure the functions run normally during tests , include network transmission, barcode scanning, pay.

2.3.3 Integration Test

And modules in the statement made to ensure authenticity, we will focus on the various situations that may arise between modules. The system functional testing, we focus on the interface between the coordination modules. To test out the shortcomings of each module of the call, so we have down in the design of the overall framework of the corresponding module is called dependency judge. Possible problems are: data loss, high coupling between modules, so much accumulated error.

Here we use incremental integration approach, candidate modules and test modules have been connected with test. In the process, constantly connected to the module under test module has been measured, until the last module tested.

2.3.4 System Test

After the end of integration test, system test can be carried out. Mainly use black box test. That testers only input data, check whether input is right.

3. TEST RESULT AND DEFECT ANALYSIS

3.1 TEST CONDITION AND RECORD

3.1.1 Division of labor

| | |
|--------------|-------------------------------|
| Test manager | Liang JianJun |
| Main testers | Liang Jianjun, Qian Chenxiong |
| Testers | The whole team |

3.1.2 Tme

| Test activity | Actual start date | End date | Total(days) |
|-----------------|-------------------|----------|-------------|
| Client database | 7/28 | 7/31 | 3 |
| Server database | 7/26 | 8/7 | 12 |

| | | | |
|----------------------|------|------|----|
| Network transmission | 7/27 | 7/31 | 4 |
| Functions of client | 8/17 | 8/31 | 14 |
| Functions of server | 8/17 | 8/31 | 14 |

3.1.2 Version

| 版本号 | Test result | |
|---------------|----------------------|------------|
| Final version | Module | Test times |
| | Client database | 2 |
| | Server database | 2 |
| | Network transmission | 2 |
| | Functions of client | 2 |
| | Functions of server | 2 |

3.2 WHITE BOX TEST

3.2.1 Unit Test

| Module | Method | Whether passed |
|-----------------|---------------|----------------|
| Client database | Save user | Y |
| | Get user list | Y |

| | | |
|----------------------|-----------------------------------|---|
| | Delete user | Y |
| | Upgrade use table | Y |
| | Save single product | Y |
| | Save product list | Y |
| | Delete single product | Y |
| | Delete product list | Y |
| | Upgrade product table | Y |
| Network transmission | Login in | Y |
| | Login out | Y |
| | Get more product information | Y |
| | Pay | Y |
| Functions of client | Look up product information | Y |
| | Add product into shopping cart | Y |
| | Remove product from shopping cart | Y |
| | Scan barcode | Y |
| | Calculate price | Y |

| | | |
|---------------------|-------------------|---|
| Functions of server | Administer login | Y |
| | Customer register | Y |
| | Market register | Y |
| | Add products | Y |
| | Change products | Y |
| | Delete products | Y |
| | Sort products | Y |

3.3 BLACK BOX TEST

3.3.1 Requirements Coverage

Here is the coverage required by the needs of tested/functional and requirements specifications and all requirements/features ratio target is 100%.

| User type | Function | Test type | Whether through | Notes |
|-----------|-----------------------|----------------|-----------------|-------|
| Bank | Calculate price | Black box test | Y | |
| | Look up remaining sum | Black box test | Y | |
| Market | Customer login | Black box test | Y | |
| | Market login | Black box test | Y | |
| | Administer | Black box test | Y | |

| | | | | |
|--|--|----------------|---|--|
| | login | | | |
| | Customer register | Black box test | Y | |
| | Market register | Black box test | Y | |
| | Operations about product information | Black box test | Y | |
| | Look up sale records | Black box test | Y | |
| | Look up detail information about product | Black box test | Y | |
| | Change market information | Black box test | Y | |
| | Change off-price merchandise | Black box test | Y | |
| | Customers look up information | Black box test | Y | |
| | Customers look up sale records | Black box test | Y | |

| | | | | |
|-----------|------------------------------|----------------|---|--|
| Customers | Login | Black box test | Y | |
| | Search product | Black box test | Y | |
| | Look up product information | Black box test | Y | |
| | Scan barcode | Black box test | Y | |
| | Add product to shopping cart | Black box test | Y | |
| | Look up shopping cart | Black box test | Y | |
| | Operations on shopping cart | Black box test | Y | |
| | Calculate the price | Black box test | Y | |

The results can be seen from the above, the requirements have been achieved, the ratio is 100%.

3.3.2 Test Coverage

| User Type | Requirement | The number of test case | Running total | Not Running | Omissions and reasons |
|-----------|-------------|-------------------------|---------------|-------------|-----------------------|
|-----------|-------------|-------------------------|---------------|-------------|-----------------------|

| | | | | | |
|--------|---|----|----|---|--|
| Bank | Pay | 10 | 10 | 0 | |
| | Look up remaining price | 10 | 10 | 0 | |
| Market | Customer Login | 5 | 5 | 0 | |
| | Market Login | 5 | 5 | 0 | |
| | Administer Login | 5 | 5 | 0 | |
| | Customer Register | 5 | 5 | 0 | |
| | Market Register | 5 | 5 | 0 | |
| | Operations on product information | 15 | 15 | 0 | |
| | Look up sale records | 10 | 10 | 0 | |
| | Look up detail information | 10 | 10 | 0 | |

| | | | | | |
|----------|--------------------------------------|----|----|---|--|
| | about product | | | | |
| | Change market information | 10 | 9 | 1 | |
| | Change off-price merchandise | 10 | 8 | 2 | |
| | Customers look up information | 10 | 10 | 0 | |
| | Customers look up sale records | 10 | 8 | 2 | |
| Customer | Login | 5 | 4 | 1 | https certificate problem |
| | Search product | 10 | 10 | 0 | |
| | Look up product information | 10 | 9 | 1 | Network transmission rate is low |

| | | | | | |
|--|------------------------------------|----|----|---|---------------------------------------|
| | Scan barcode | 20 | 18 | 2 | Light is dark, barcode is vague |
| | Add product to shopping cart | 5 | 5 | 0 | |
| | Look up shopping cart | 5 | 5 | 0 | |
| | Operations on shopping cart | 15 | 13 | 2 | |
| | Calculate the price | 10 | 10 | 0 | |

The coverage = $194 / 205 = 94.6\%$

This is the final version of the results from the test to see, in general, test coverage is relatively high.

3.4 STATISTICS AND ANALYSIS OF DEFECT

3.3.3 Defect Summary

| User | Function | The number of problem | Severity (serious , general , light) |
|------|----------|--------------------------|---|
|------|----------|--------------------------|---|

| | | | |
|----------|--|---|---------|
| Bank | Pay, look up remaining sum | 0 | |
| Market | Login and register | 0 | |
| | Operations on product | 0 | |
| | Look up sale records and consume records | 1 | general |
| | Look up product information | 0 | |
| | Look up personal information | 0 | |
| | Change market information | 1 | general |
| | Change off-price merchandise | 2 | light |
| Customer | login | 1 | serious |
| | Search product | 1 | light |
| | Scan barcode | 2 | general |
| | Operations on shopping cart | 1 | light |

| | | | |
|--|-----------------|---|--|
| | Calculate price | 0 | |
|--|-----------------|---|--|

The table above presents the statistics and analysis of defects, we can see that the light defects take up the most occupation, so the quality of the system is all right, the system can be submitted.

3.3.4 Analysis on defects

We can get the following results from the above table.

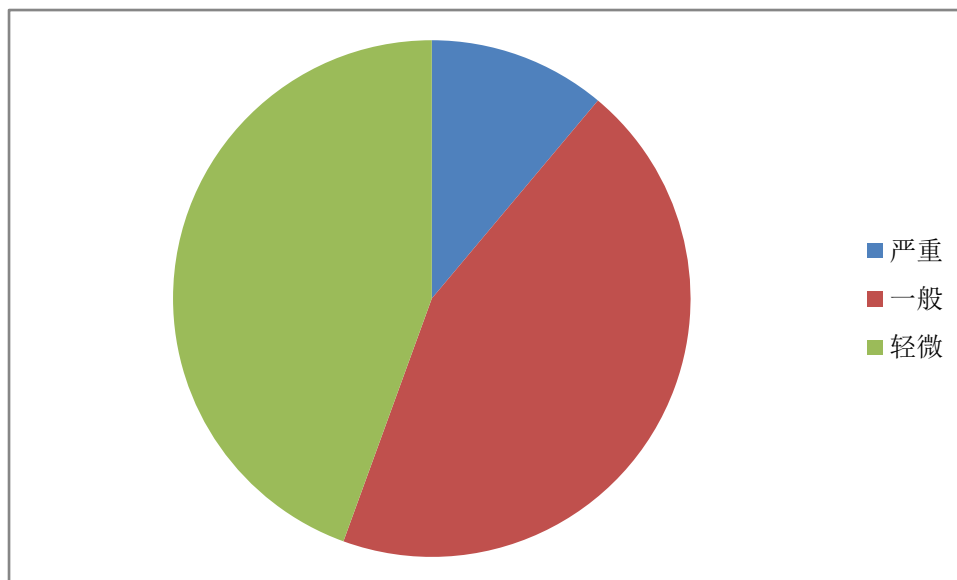
a. The quality of the test case

= the number of the defects / the number of the test case * 100

= 11 / 205 * 100

= 5.37

b. The pie of the defects severity



3.3.5 Remaining defects and problem unsolved

In the current version submitted, some features not implemented thought, at the later time, we can implement all the features.

4. TEST CONCLUSIONS AND RECOMMENDATIONS

4.1 TEST CONCLUSION

- a. Test execution is sufficient. Before the realization of the project on the preparation of the test program, and then later in the implementation process is strictly implemented according to the test plan: First, test the “Requirement Specification” and the “Project Test Plan”; in the project’s implementation also conducted unit testing, to ensure the high quality of each module; in the module is completed, conducted integration testing; finally carried out by the black box functional testing and system testing. From the test results, high quality completion of projects can be successfully delivered.
- b. To test the effectiveness of risk control measures and is in place. We first developed a test plan, changes in demand later after the test accompanied by a readjustment.
- c. Complete the test successfully.

- d. Successfully completed the first phase of the project, we can enter the next phase of the project.

4.2 RECOMMENDATIONS

- a. From the statistics and the analysis, we can see that the network transmission and barcode scanning can cause lots of problems.
- b. The system need developing, we can implement more features in the future.