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| **IPay System test plan** |
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# Introduction

## 1.1 purpose

The objective of writing this document is to supervise the testing of the Ipay

project. It can help us find errors and correct them as more as possible.

Expected readers of this document are members of our team.

## 1.2 background

This project is developed during the short summer holiday. To improve the quality, the testing is necessary and important.

The testing will cover the structure, application program and system of the project, also it will include the quality test about the function and performance.

## 1.3 scope

Phases of the test：

|  |  |  |
| --- | --- | --- |
| phase | Test type | Function and performance |
| Unit test | Function test | 1. Bank server：pay。 2. Market server：administer login，customer register，market register，   Operations on product，operations on market（phone number，hot products）, statistics.   1. Customer client：login，look up products at bargain price and hot products，search products，scan barcodes，look up product information，put product into shopping cart，common operations on shopping cart，settlement，pay，look up remaining sum. |
| Integration test | Function test | 1. Whether the information is exact after being changed. 2. Is the mobile network transmission is normal. |
| System test | Performance test | 1. Security. 2. Time performance requirement. |

## 1.4 assumption and constraints

a. This document is written according to the requirement specification right now. It will also play a role when the requirement changes later.

b. We must test depend on this document.

# 2. reference and submit

## 2.1 reference

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Available | Accepted | Effect |
| Requirement specification | Y | Y | List the functions the system will implement. |
| Analysis about the system | Y | Y | Analysis on the system level. |
| General design about system | N | N | Guide the design and ensure the model functions and the relations between models. |
| Detail desigh about the system | Y | Y | Design the system on the class and interface level. |
| Software test requirement | N | N | Clear the test requirements. |
| Hardware feasibility analysis | N | N | Ensure the hardware requirements. |
| Test report | N | N | Including enough information about test process and result. Analyze the problems and defects. |
| User manual | N | N | Guidebooks for user. |
| Installation guide | N | N | Included in the user manual, explain how to install the system. |

## 2.2 submit

a. “Test report”

# 3. test schedule

|  |  |  |  |
| --- | --- | --- | --- |
| Test activity | Start date in plan | Actual start date | Ending sate |
| Make test plan | 7/21 | 7/23 | 7/23 |
| Unit test | 8/1 | 8/1 | 8/25 |
| Integration test | 8/26 | 8/26 | 8/31 |
| System test | 9/1 | 9/1 | 9/2 |
| Performance test | 9/3 | 9/3 | 9/3 |
| Installation test | 9/3 | 9/3 | 9/3 |
| Acceptance test | 9/3 | 9/3 | 9/3 |
| Evaluate the test | 9/4 | 9/4 | 9/4 |
| Product release | 9/6 | 9/6 | 9/6 |

# 4. test resources

## 4.1 manpower resource

|  |  |  |
| --- | --- | --- |
| Task | Least resource | responsibility |
| Unit test | 2 people | Liang Jianjun：unit test of the server  Qian Chenxiong：unit test of the client |
| Integration test | 5 people | Whole team |
| System test | 5 people | Whole team |
| Performance test | 5 people | Whole team |
| Installation test | 5 people | Whole team |
| Acceptance test | 5 people | Whole team |

## 4.2 testing environment

|  |  |
| --- | --- |
| Software environment | OS：Windows7/Ubuntu10.X |
| RE：MyEclipse |
| Hardware environment | PC |
| Smartphone with the android system above 2.2 |

## 4.3 test tool

|  |  |  |
| --- | --- | --- |
| Application | Tool | Version number |
| Unit test | Server：JUnit | >= 4.0 |
| client：test frame embedded in android | >=android2.2 |

# 5. test risk assement and priority

a. part of the errors has not been examined at the test procedure.

b. take the test errors as program errors.

# 6. test strategy

## 6.1 database integrity test

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| --- | --- |
| Target | Ensure the normal operation of the database and the data will not be destroyed. |
| Test scope | Integration test |
| Technology | 1. Call the access method and process of each database and fill in effective or no effective data in it. 2. Check the returned database to ensure the data has been filled in successfully. |
| Begin standard | The database has the product information filled in advance. |
| Completion criteria | Database access and process are under our plan, the data is integrity. |
| Test emphasis and priority | Data storage is correct(first level)  Data modification is correct(second level)  Query and pivot is correct(third level) |
| Others special | 1. Hostile attack, such as injecting sql 2. Data bulk exceeds the database size |

## 6.2 interface test

|  |  |
| --- | --- |
| target | Ensure the interface calling correct |
| Test range | Hardware and software interface; input and output data |
| Technology | Call the interface alone and check the result |
| Begin standard | Interface has been completed |
| Completion criteria | Interface test are all correct |
| Test emphasis and priority | emphasis：the network transmission between client and server |
| Others special | Limiting condition of the interface |

## 6.3 integration test

|  |  |
| --- | --- |
| Target | Check the business process of requirement and the correct of data stream. |
| Test scope | Demand a clear business process, or a combination of different modules to form a large functional module. |
| Technology | 1. The use of effective data to achieve the expected results 2. The use of invalid data show a corresponding error message or warning message |
| Begin standard | Get the standard of the integration test |
| Completion criteria | 1. All the tests have been carried out 2. All the defects have been solved |
| Test emphasis and priority | The test flow is correct at the point view of users. |

## 6.4 function test

|  |  |
| --- | --- |
| Target | Ensure the functions including navigation, input, dispose and search are normal. |
| Test scope | 1. Can get the except result 2. error or warn messages are displayed useless |
| Begin standard | The integration test is complete and get the standard |
| Completion criteria | Realize the function which has been mentioned in requirement. |
| Test emphasis and priority | The security of the network transmission is the most important. |
|  |  |

## 6.5 user interface test

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| --- | --- |
| Target | Browsing the interface can know the functions and requirements. |
| Test scope | Every interface |
| Technology | Make UI for every interface to fit the application program interface. The status of the object is normal. |
| Begin standard | Function test is complete. |
| Completion criteria | Every interface brings into correspondence with acceptance standard. |

## 6.6 performance evaluation

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| --- | --- |
| Target | The performance is normal when the amount of work is average and heavy. |
| Test scope | Performance requirement in requirement specification. |
| Technology | To increase the amount of affairs by amending the data file or amend the amount of work. |
| Begin standard | Function evaluation is up to the mustard |
| Completion criteria | Finish the test script in except time with no error. |

## 6.7 failover and recovery test

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| --- | --- |
| Target | Ensure the recovery process can recover the database, application program and system to a expect status. |
| Test scope | 1. Outage of client. 2. Outage of server. 3. Network connection interruption. 4. Data in database is useless or be destroyed. |
| Technology | Operations in terminal. |
| Begin standard | System test is complete. |
| Completion criteria | Application program, database and system must recover to a expect status after recovery successfully. |

# 7． description of questions secerity

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| --- | --- | --- |
| Question severity | Description | Time |
| High | System breakdown | 1 day |
| Medium | Mistake with data | 1 day |
| Low | System halted | Among 5 hours |