

epay project

Testing program

**Version 1.1**

**VERSION HISTORY**

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# Document describes

## Document purposes

This document is to provide the overall test program for software testing departments to carry on the test and maintenance work for *epay* project before published.

## Document scope

This document is only effective for *epay* project.

## Audience

Responsible person of *epay* project

Software testing departments related testers of *epay* project

## References

*Requirements Analysis*

*Detail Design*

*Summary of Design*

*User Manual*

## Explanations of terms and abbreviation

|  |  |
| --- | --- |
| terms and abbreviation | Explanations |
| **NFC** | Near field communication (NFC) is a set of standards for smartphones and similar devices to establish radio communication with each other by touching them together or bringing them into close proximity, usually no more than a few inches. Present and anticipated applications include contactless transactions, data exchange, and simplified setup of more complex communications such as Wi-Fi. Communication is also possible between an NFC device and a passive NFC chip, called a "tag"  NFC standards cover communications protocols and data exchange formats, and are based on existing radio-frequency identification (RFID) standards including ISO/IEC 14443 and FeliCa. The standards include ISO/IEC 18092 and those defined by the NFC Forum, which was founded in 2004 by Nokia, Philips Semiconductors (has became NXP Semiconductors since 2006) and Sony, and now has more than 160 members. The Forum also promotes NFC and certifies device compliance. It fits the criteria for being considered a personal area network. |
| **IMEI** | The International Mobile Station Equipment Identity or IMEI is a number, usually unique, to identify 3GPP (i.e., GSM, UMTS and LTE) and iDEN mobile phones, as well as some satellite phones. It is usually found printed inside the battery compartment of the phone, but can also be displayed on-screen on most phones by entering \*#06# on the dialpad, or alongside other system information in the settings menu on smartphone operating systems.  The IMEI number is used by a GSM network to identify valid devices and therefore can be used for stopping a stolen phone from accessing that network. For example, if a mobile phone is stolen, the owner can call his or her network provider and instruct them to "blacklist" the phone using its IMEI number. This renders the phone useless on that network and sometimes other networks too, whether or not the phone's SIM is changed.  The IMEI is only used for identifying the device and has no permanent or semi-permanent relation to the subscriber. Instead, the subscriber is identified by transmission of an IMSI number, which is stored on a SIM card that can (in theory) be transferred to any handset. However, many network and security features are enabled by knowing the current device being used by a subscriber. |
| **MAC Address** | A media access control address (MAC address) is a unique identifier assigned to network interfaces for communications on the physical network segment. MAC addresses are used as a network address for most [IEEE 802](http://en.wikipedia.org/wiki/IEEE_802) network technologies, including Ethernet. Logically, MAC addresses are used in the media access control protocol sublayer of the [OSI reference model](http://en.wikipedia.org/wiki/OSI_reference_model).  MAC addresses are most often assigned by the manufacturer of a network interface controller (NIC) and are stored in its hardware, such as the card's read-only memory or some other firmware mechanism. If assigned by the manufacturer, a MAC address usually encodes the manufacturer's registered identification number and may be referred to as the burned-in address (BIA). It may also be known as an Ethernet hardware address (EHA), hardware address or physical address. This can be contrasted to a programmed address, where the host device issues commands to the NIC to use an arbitrary address.  A [network node](http://en.wikipedia.org/wiki/Network_node) may have multiple NICs and each must have one unique MAC address per NIC.  MAC addresses are formed according to the rules of one of three numbering name spaces managed by the Institute of Electrical and Electronics Engineers (IEEE): MAC-48, EUI-48, and EUI-64. The IEEE claims trademarks on the names EUI-48 and EUI-64, in which EUI is an abbreviation for Extended Unique Identifier. |
| **Bluetooth** | Bluetooth is a [wireless](http://en.wikipedia.org/wiki/Wireless) technology standard for exchanging data over short distances (using short-wavelength radio [transmissions](http://en.wikipedia.org/wiki/Transmission_(telecommunications)) in the [ISM](http://en.wikipedia.org/wiki/ISM_band) band from 2400–2480 MHz) from fixed and mobile devices, creating personal area networks (PANs) with high levels of security. Created by telecom vendor [Ericsson](http://en.wikipedia.org/wiki/Ericsson) in 1994, it was originally conceived as a wireless alternative to [RS-232](http://en.wikipedia.org/wiki/RS-232) data cables. It can connect several devices, overcoming problems of synchronization.  Bluetooth is managed by the Bluetooth Special Interest Group, which has more than 18,000 member companies in the areas of telecommunication, computing, networking, and consumer electronics. Bluetooth was standardized as IEEE 802.15.1, but the standard is no longer maintained. The SIG oversees the development of the specification, manages the qualification program, and protects the trademarks. To be marketed as a Bluetooth device, it must be [qualified](http://en.wikipedia.org/wiki/Bluetooth_Special_Interest_Group#Qualification) to standards defined by the SIG.[citation needed] A network of [patents](http://en.wikipedia.org/wiki/Patent) is required to implement the technology, which is licensed only for that qualifying device. |
| **DES、MD5、RSA** | The Data Encryption Standard (DES) is a previously predominant algorithm for the encryption of electronic data.  The MD5 message-digest algorithm is a widely used cryptographic hash function that produces a 128-bit (16-byte) hash value.  RSA is an algorithm for public-key cryptography that is based on the presumed difficulty of factoring large integers, the factoring problem. |
| 3G | 3G, short for third Generation, is the third generation of mobile telecommunications technology.  3G telecommunication networks support services that provide an information transfer rate of at least 200 kbit/s. However, many services advertised as 3G provide higher speed than the minimum technical requirements for a 3G service. Later 3G releases, often denoted 3.5G and 3.75G, also provide mobile broadband access of several Mbit/s to smartphones and mobile modems in laptop computers.  3G finds application in wireless voice telephony, mobile Internet access, fixed wireless Internet access, video calls and mobile TV. |
| SIMcard | A subscriber identity module or subscriber identification module (SIM) is an integrated circuit that securely stores the international mobile subscriber identity (IMSI) and the related key used to identify and authenticate subscribers on mobile telephony devices (such as mobile phones and computers).  A SIM circuit is embedded into a removable plastic card. This plastic card is called a "SIM card" and can be transferred between different mobile devices. A SIM card follows certain smart card standards. SIM cards were first made the same size as a credit card (85.60 mm × 53.98 mm × 0.76 mm). The development of physically smaller mobile devices prompted the development of a smaller SIM card, the mini-SIM card. Mini-SIM cards have the same thickness as full-size cards, but their length and width are reduced to 25 mm × 15 mm.  A SIM card contains its unique serial number (ICCID), international mobile subscriber identity (IMSI), security authentication and ciphering information, temporary information related to the local network, a list of the services the user has access to and two passwords: a personal identification number (PIN) for ordinary use and a personal unblocking code (PUK) for PIN unlocking. |
| XML | Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. It is defined in the XML 1.0 Specification produced by the W3C, and several other related specifications, all free open standards.  The design goals of XML emphasize simplicity, generality, and usability over the Internet. It is a textual data format with strong support via Unicode for the languages of the world. Although the design of XML focuses on documents, it is widely used for the representation of arbitrary data structures, for example in web services.  Many application programming interfaces (APIs) have been developed to aid software developers with processing XML data, and several schema systems exist to aid in the definition of XML-based languages.  As of 2009, hundreds of document formats using XML syntax have been developed, including RSS, Atom, SOAP, and XHTML. XML-based formats have become the default for many office-productivity tools, including Microsoft Office (Office Open XML), OpenOffice.org and LibreOffice (OpenDocument), and Apple's iWork. XML has also been employed as the base language for communication protocols, such as XMPP. |
| QR code | QR code (abbreviated from Quick Response Code) is the trademark for a type of matrix barcode (or two-dimensional barcode) first designed for the automotive industry in Japan. A barcode is an optically machine-readable label that is attached to an item and that records information related to that item. The information encoded by a QR code may be made up of four standardized types ("modes") of data (numeric, alphanumeric, byte / binary, Kanji) or, through supported extensions, virtually any type of data.  The QR Code system has become popular outside the automotive industry due to its fast readability and greater storage capacity compared to standard UPC barcodes. Applications include product tracking, item identification, time tracking, document management, general marketing, and much more.  A QR code consists of black modules (square dots) arranged in a square grid on a white background, which can be read by an imaging device (such as a camera) and processed using Reed-Solomon error correction until the image can be appropriately interpreted; data is then extracted from patterns present in both horizontal and vertical components of the image. |
| Electronic funds transfer | Electronic funds transfer (EFT) is the electronic exchange, transfer of money from one account to another, either within a single financial institution or across multiple institutions, through computer-based systems. |

# Functional Test Cases

## Introduce of the test object

The system is a bank account management/mobile payment system based on Bluetooth and mobile networks. Through Android client and supermarkets, banks server-side applications to achieve a safe, convenient, manpower-saving mobile payment system without network improving the bank's management capacity and service level by model innovation through technological innovation effectively. Ultimately, banks and businesses get the direct economic and social benefits.

The system mainly contains personal transfers, Individual store payments, supermarkets payments, account management (registration, query, log in, loss report, cancel) and mobile financing these five parts.

Systems can be safely and efficiently operated in every 7 \* 24 hour. Operating staff can easily complete equipment and services monitoring, management, reporting range, to meet the needs of business people to deal with various accounts.

## Test scope and purposes

Test the system on function (black box testing - functional testing) to ensure system uptime.

## Test environment and test aids description

**Bank server：**

Machine name: hp-12

Operating System: Windows 7 Ultimate 32-bit (6.1, Build 7601) Service Pack 1 (7601.win7sp1\_gdr.130708-1532)

Language: Chinese (Simplified) (Regional Setting: Chinese (Simplified))

System Manufacturer: Hewlett-Packard

System Model: HP Pro 3348 MT

BIOS: BIOS Date: 04/20/2012 MAG\_705.rom Ver: 7.05

Processor: Intel(R) Core(TM) i5-2400 CPU @ 3.10GHz (4 CPUs), ~3.1GHz

Memory: 4096MB RAM

NIC

**Supermarket server：**

Operating System: Windows 7 Ultimate 32-bit (6.1, Build 7601) Service Pack 1 (7601.win7sp1\_gdr.120830-0333)

Language: Chinese (Simplified) (Regional Setting: Chinese (Simplified))

System Manufacturer: Apple Inc.

System Model: MacBookPro9,2

BIOS: Default System BIOS

Processor: Intel(R) Core(TM) i5-3210M CPU @ 2.50GHz (4 CPUs), ~2.5GHz

Memory: 4096MB RAM

Bluetooth

NIC

**Personal mobile device：**

CPU：1GHz

Memory：800MB RAM

Operating System: Android 2.2

## Function/UI test point

### Transfer

#### Function test

|  |  |  |
| --- | --- | --- |
| Function Description | User Transfer | |
| Function entry | Click on *transfer* button on main interface | |
| Input/Action | Desired output/response | Actual |
| 1. Click on transfer within the agreed time after the device was not found | Pop-up boxes”找不到设备” | black |
| 2．Click on transfer without turning on Bluetooth | Pop-up boxes “请打开蓝牙” | Pop-up boxes”是否永久打开蓝牙” |
| 3. Find too many devices within agreed time. | Show long table | Show all searched item |
| 4. Find devices within agreed time. | Show Bluetooth list | Show Bluetooth list |
| 5．Click on device which has turned off its Bluetooth | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 6．Click on an unselected "I want collection" device | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 7．Click on an selected "I want collection" device | Entry transfer interface | Entry transfer interface |
| 8.Turned off Bluetooth and click on a device | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 9. Amounts entered is too long/ Insufficient balance. | Pop-up boxes”超限” | Pop-up boxes”超限” |
| 10.Entry more than one point | Pop-up boxes”输入有误” | Can not entry |
| 11.Turned off Bluetooth and click on *transfer* | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 12.Transfer to device which turned off its Bluetooth | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 13．Turn off Bluetooth when transferring. | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 14. Transfer successfully but turn off Bluetooth before receiving. | Null | Null |
| 15.Transfer and receive successfully | Pop-up boxes”转账成功” | Pop-up boxes”转账成功” |
| 16.Click on Pop-up boxes”转账成功” | Back to main interface | Back to main interface |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Interface input support the soft keyboard box or not | Yes |
| Input interface supports Chinese / Input method switch | Yes |
| Default focus is correct in text box | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |
| Bluetooth response is rapid | Yes |

### Case/Check transfer

#### Function test

|  |  |  |
| --- | --- | --- |
| Function Description | User Transfer | |
| Function entry | Click on *transfer* button on main interface | |
| Input/Action | Desired output/response | Actual |
| 1. Click on “兑现” but without check | Black page | Black page |
| 2．Click on “兑现” and there is too many checks | Show check list | Show check list |
| 3. Click on”兑现” | Show check list，every item consist of “编号”,”金额”,”付款人”,”交易时间”,”是否兑现” | Show check list |
| 4. Click on “兑现” but did not connect Internet | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 5．Click on “兑现” but exit before success | Operation is interrupted | Operation is interrupted |
| 6． Click on “兑现” and exit/turn off/stop connect after sending xml document | null | null |
| 7．Case but server does not open | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 8.Check has been cased | Pop-up boxes”兑现失败” | Pop-up boxes”兑现失败” |
| 9.Check unpresented check | Pop-up boxes”兑现成功” | Pop-up boxes”兑现成功” |
| 10. Click on “transfer” but find no device within agreed time | Pop-up boxes”找不到设备” | Black list |
| 11．Click on “transfer” without turn on Bluetooth | Pop-up boxes”请打开蓝牙” | Pop-up boxes”是否永久打开蓝牙” |
| 12. Find too many devices | Show devices list | Show devices list |
| 13. Find some devices | Show devices list | Show devices list |
| 14．Click a Bluetooth device which has been disconnected | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 15．Click a Bluetooth device which has not selected “我要收款” | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 16．Click a Bluetooth device which selected “我要收款” | Entry check interface | Entry check interface |
| 17.Turn off Bluetooth and choose a device | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 18. Turn off Bluetooth and click “支票转发” | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 19.Send check to a device which turn off its Bluetooth | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 20．Turn off Bluetooth when sending check | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 21.Turn off Bluetooth after sending check successfully but receiving xml | null | Null |
| 22.Send check which has been cased | Pop-up boxes”输入有误” | Transfer failed |
| 23.Turn off Bluetooth and click”支票转发” | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 24.Send check to a device which turn off its Bluetooth | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 25．Turn off Bluetooth when sending check | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 26. Turn off Bluetooth after sending check successfully but receiving xml | null | Null |
| 27.Send check successfully | Pop-up boxes”支票转发成功” | Pop-up boxes”支票转发成功” |
| 28.Click on “确定” | Back to check case | Back to check case |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Interface input support the soft keyboard box or not | Yes |
| Input interface supports Chinese / Input method switch | Yes |
| Default focus is correct in text box | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |
| Bluetooth response is rapid | Yes |

### Loss report

#### Function test

|  |  |  |
| --- | --- | --- |
| Function Description | User loss report | |
| Function entry | Click on *挂失* on website after login | |
| Input/Action | Desired output/response | Actual |
| 1.Bank card number is not 19 digits | Report “格式不正确” in the right | Report “格式不正确” in the right |
| 2．Real name is not 2 ~ 5 Chinese characters | Report “格式不正确” in the right | Report “格式不正确” in the right |
| 3. ID number length is 17 digits + "x" or digital | Report “格式不正确” in the right | Report “格式不正确” in the right |
| 4. 手机号码不为11位数字 | Report “格式不正确” in the right | Report “格式不正确” in the right |
| 5．Phone number is not 11 digits | Pop-up boxes”请重新输入” | Pop-up boxes”请确认信息是否正确” |
| 6．Enter any information and click on "返回" | Return to the previous screen | Return to the previous screen |
| 7．All information is correct format and click "挂失" but there is no networking | Pop-up boxes”连接失败” | Pop-up boxes”连接失败” |
| 8. All information is correct format and click "report the loss," but the information is sent after a network outage | No reaction | No reaction |
| 9. All information is correct format, the network is properly connected and click "挂失" but the information is incorrect | Pop-up boxes”挂失失败” | Pop-up boxes”挂失失败” |
| 10. All information format, content correctly, the network is properly connected and click "挂失" | Pop-up boxes”挂失成功” | Pop-up boxes”挂失成功” |
| 11．Report the account which has been report | Pop-up boxes”挂失失败” | Pop-up boxes”挂失失败” |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Interface input support the soft keyboard box or not | Yes |
| Input interface supports Chinese / Input method switch | Yes |
| Default focus is correct in text box | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |
| Browser support is normal | yes |

### Shopping guide

#### Function test

|  |  |  |  |
| --- | --- | --- | --- |
| Function Description | Shopping guide pitcure | | |
| Function entry | Click on *导购* on supermarket interface | | |
| Input/Action | Desired output/response | | Actual |
| 1. Sliding around | | Display a picture or next image | Left, and display a picture, as in the first picture you can not slide.  Slide to the right to display the next picture, as in the last picture you can not slide |
| 2．Slide up and down | | No reaction | No reaction |
| 3. Oblique sliding | | Horizontal sliding distance prevail | Horizontal sliding distance prevail |
| 4. Slide the last picture click the "Back" | | Back to supermarket Interface | Back to supermarket Interface |
| 5．Click on the phone back key anytime | | Back to supermarket Interface | Back to supermarket Interface |
| 6．Not connected Bluetooth | | Pop-up boxes”请连接蓝牙” | Pop-up boxes”是否永久连接蓝牙” |
| 7．Connect Bluetooth firstly and then disconnect | | Did not receive the full picture | Did not receive the full picture |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Interface input support the soft keyboard box or not | Yes |
| Input interface supports Chinese / Input method switch | Yes |
| Default focus is correct in text box | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |
| Whether fast page download | yes |
| Image Format Support / color support is correct | yes |

### Statements

#### Income statements

##### Function test

|  |  |  |
| --- | --- | --- |
| Function Description | Income statements display | |
| Function entry | Click on *首页*on website after login | |
| Input/Action | Desired output/response | Actual |
| 1.Click”主页” | Refresh | Refresh |
| 2．Click ”挂失” | Entry the loss report page | Entry the loss report page |
| 3. Click “理财” | Enter the financial pages | Enter the financial pages |
| 4. Click “菜单” | Drop-down menu appears | Drop-down menu appears |
| 5．Click “购物” | Latest 50 shopping list appears | Latest 50 shopping list appears |
| 6．Click “转账” | Transfer list appeared recently 50 | Transfer list appeared recently 50 |
| 7．Click ”收入” | Income list appeared recently 50 | Income list appeared recently 50 |
| 8. Placed the mouse on a line graph vertices | Bubbles”年-月 月支出/收入：金额” | Bubbles”年-月 月支出/收入：金额” |
| 9.Disconnect when viewing the page and refresh | Page can not be displayed | Page can not be displayed |
| 10. Disconnect when viewing the page and refresh after connected | Can browse | Can browse |

##### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Interface input support the soft keyboard box or not | Yes |
| Input interface supports Chinese / Input method switch | Yes |
| Default focus is correct in text box | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |
| Whether fast page download | yes |
| Image Format Support / color support is correct | yes |
| Browser support is normal | yes |

#### Financial Statements

##### Function test

|  |  |  |
| --- | --- | --- |
| Function Description | Financial statements display | |
| Function entry | Click on *理财*on website after login | |
| Input/Action | Desired output/response | Input/Action |
| 1.Click”主页” | Go to the Home | Go to the Home |
| 2．Click ”挂失” | Entry the loss report page | Entry the loss report page |
| 3. Click “理财” | Refresh | Refresh |
| 4. Click “菜单” | Drop-down menu appears | Drop-down menu appears |
| 5．Click “购物” | Latest 50 shopping list appears | Latest 50 shopping list appears |
| 6．Click “转账” | Transfer list appeared recently 50 | Transfer list appeared recently 50 |
| 7．Click ”收入” | Income list appeared recently 50 | Income list appeared recently 50 |
| 8. Put the cursor over the histogram | Bubbles” 数目：金额” | Bubbles” 数目：金额” |
| 9.Disconnect when viewing the page and refresh | Page cannot be displayed | Page can not be displayed |
| 10. Disconnect when viewing the page and refresh after connected | Can browse | Can browse |

##### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Interface input support the soft keyboard box or not | Yes |
| Input interface supports Chinese / Input method switch | Yes |
| Default focus is correct in text box | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |
| Whether fast page download | yes |
| Image Format Support / color support is correct | yes |
| Browser support is normal | yes |

### Login

#### Function test

|  |  |  |
| --- | --- | --- |
| Function description | Login | |
| Function entry | Run the program, start login Activity | |
| Input/action | Desired output/response | actual |
| 1. Input valid characters into username/password | Cannot input | Cannot input |
| 2．Input invalid characters into username/password | Input normally | Input normally |
| 3. Local file doesn’t exist, click “登录” button | Jump to down load password file Activity | Jump to down load password file Activity |
| 4．Local file exists, username or password is empty click “登录” button | Point out username or password is wrong | Point out username or password is wrong |
| 5. Local file exists, username or password is wrong, click “登录” button | Point out username or password is wrong | Point out username or password is wrong |
| 6. Local file exists, username and password are both correct, click “登录” button | Jump into main Activity | Jump into main Activity |
| 7．Local file exists, click “注册” button | Point out the mobile-phone has registered before | Point out the mobile-phone has registered before |
| 8. Local file doesn’t exist, click “注册” button | Jump into register Activity | Jump into register Activity |
| 9. Click “挂失” button | Open web site of loss report | Open web site of loss report |

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| --- | --- | --- |
| Function description | Download password file | |
| Function entry | Local file doesn’t exist, Click “登录” button, jump to download password file Activity | |
| Input/action | Desired output/response | actual |
| 1. Input invalid characters into bankcard number/identification card number | Cannot input | Cannot input |
| 2. Input valid characters into bankcard number/identification card number | Input normally | Input normally |
| 3．If internet is inaccessible, Click “验证” button | Point out internet is inaccessible | Point out internet is inaccessible |
| 4. If internet is accessible, bankcard number or identification card number is empty, Click “验证” button | Point out bankcard number or identification card number cannot be empty | Downloading failure |
| 5. If internet is accessible, the format of bankcard number or identification card number is wrong, Click “验证” button | Point out the format of bankcard number or identification card number is wrong | Downloading failure |
| 6. If internet is accessible, the format of bankcard number and identification card number are both correct, Click “验证” button | Download password file, jump to set gesture-password Activity | Download successfully, jump to set gesture-password Activity |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |

### Supermarket client

#### Function test

|  |  |  |
| --- | --- | --- |
| Function description | Login(Supermarket client) | |
| Function entry | Run the program, and start login window | |
| Input/action | Desired output/response | actual |
| 1. Click “退出” button | Exit | Exit |
| 2．Input valid characters into username/password | Input normally | Input normally |
| 3．Input invalid characters into username/password | Point out username or password is wrong | Point out username or password is wrong |
| 4．If internet is inaccessible, click “登陆” button | Point out internet is inaccessible | Point out internet is inaccessible |
| 5. If internet is inaccessible, and username and password are both correct, click “登陆” button | Jump into main window | Jump into main window |
| 6. If internet is inaccessible, and username or password is wrong, click “登陆” button | Point out username or password is wrong | Point out username or password is wrong |

|  |  |  |
| --- | --- | --- |
| Function description | Main window(Supermarket client) | |
| Function entry | After login, jump to the main window | |
| Input/action | Desired output/response | actual |
| 1. Click “上传图片” button | Jump to upload picture window | Jump to upload picture window |
| 2．Click “运行” button | Run the Supermarket Service | Run the Supermarket Service |

|  |  |  |
| --- | --- | --- |
| Function description | Upload picture(Supermarket client) | |
| Function entry | Click “上传图片” button, jump to upload picture interface | |
| Input/action | Desired output/response | actual |
| 1. Click one record, and the corresponding file is a picture | Show the thumbnail of selected record | Show the thumbnail of selected record |
| 2. Click one record, and the corresponding file is not a picture | Show nothing | Show nothing |
| 3. Click “浏览” button | Show the file choosing window, and add the selected file into the list | Show the file choosing window |
| 4．Click “删除” button, when selecting nothing | Do nothing | Do nothing |
| 5．Select one record, and Click “删除” button | Delete the selected record from list | Delete the selected record from list |
| 5.Click “确认” button | Close the upload picture window | Close the upload picture window |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |

### Registration

#### Function test

|  |  |  |
| --- | --- | --- |
| Function description | Register | |
| Function entry | Run the program, click “注册” button in the Login Activity | |
| Input/action | Desired output/response | actual |
| 1. Input valid character into username edittext | Cannot input | Cannot input |
| 2. Input invalid character into username edittext | Point out username must be specific characters | Point out username must be specific characters |
| 3．The username inputted is less than 5 digits | Point out username must be longer than 5 digits | Point out username must be longer than 5 digits |
| 4. Input more than 5 digits valid character into username edittext, and the username has not been registerd | Point out the username can be used | Point out the username can be used |
| 5. Input more than 5 digits valid character into username edittext, but the username has already been registerd | Point out the username cannot be used | Point out the username cannot be used |
| 6. Input valid character into password edittext | Cannot input | Cannot input |
| 7. Input invalid character into password edittext | Point out password must be specific characters | Point out password must be specific characters |
| 8．The password inputted is less than 6 digits | Point out password cannot be less than 6 digits | Point out password cannot be less than 6 digits |
| 9. Input valid characters into password confirm edittext | Input normally | Input normally |
| 10. Input invalid characters into password confirm edittext | Point out password cannot be less than 6 digits | Point out password cannot be less than 6 digits |
| 11．The password inputted secondly is less than 6 digits | Point out password cannot be less than 6 digits | Point out password cannot be less than 6 digits |
| 12．The password inputted secondly is not same as inputted firstly | Point out the password inputted secondly is not same as inputted firstly | Point out the password inputted secondly is not same as inputted firstly |
| 13. The password inputted secondly is same as inputted firstly | pass | pass |
| 14． Input valid characters into real name edittext | Input normally | Input normally |
| 15．Input invalid characters into real name edittext | Point out real name must be specific characters | Point out real name must be specific characters |
| 16．All information is valid, click “注册” button | Jump to First Set Gesture-password Activity | Jump to First Set Gesture-password Activity |
| 17．There is some invalid information, click “注册” button | Point out there are invalid information | Point out there are invalid information |

|  |  |  |
| --- | --- | --- |
| Function description | Set gesture-password | |
| Function entry | After registering, jump to First Set Gesture-password Activity | |
| Input/action | Desired output/response | actual |
| 1. Set any gesture-password | Jump to Second Set Activity | Jump to Second Set Activity |
| 2. The gesture-password set secondly is not same as set firstly | Point out that two gesture-password is different, return to First Set Activity | Point out that two gesture-password is different, return to First Set Activity |
| 3．The gesture-password set secondly is same as set firstly | Setting successfully, and return to Main Activity | Setting successfully, and return to Main Activity |
| 4．Exit when setting gesture-password | Jump to setting Gesture-password Activity, next time you register | Jump to setting Gesture-password Activity |

|  |  |  |  |
| --- | --- | --- | --- |
| Function description | | Bind bankcard | |
| Function entry | | After setting gesture-password, jump to Binding Bankcard Activity | |
| Input/action | | Desired output/response | actual |
| 1.Input invalid character into bankcard number edittext | | Cannot input | Cannot input |
| 2. The bankcard number inputted is not 19-digit valid characters | | Point out the format is wrong | Point out the format is wrong |
| 3．Input 19-digit valid characters into bankcard number edittext | | Point out the format is correct | Point out the format is correct |
| 4. Input invalid character into bankcard password edittext | | Cannot input | Cannot input |
| 5. The bankcard password inputted is not 6-digit valid characters | Point out the format is wrong | Point out the format is wrong |
| 6．Input 6-digit valid characters into bankcard password edittext | Point out the format is correct | Point out the format is correct |
| 7. Input invalid characters into mobile-phone number edittext | Cannot input | Cannot input |
| 8. The mobile-phone number inputted is not 11-digit valid characters | Point out the format is wrong | Point out the format is wrong |
| 9．Input 11-digit valid characters into mobile-phone number edittext | Point out the format is correct | Point out the format is correct |
| 10. Input invalid characters into identification card number edittext | Cannot input | Cannot input |
| 11. The identification card number inputted is not 18-digit valid characters | Point out the format is wrong | Point out the format is wrong |
| 12．Input 18-digit valid characters into identification card number edittext | Point out the format is correct | Point out the format is correct |
| 13．There are wrong information format, click “确认” button | Point out the format is wrong | Point out the format is wrong |
| 14．All information format is correct, click “确认” button | Return success or failure | Return success |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |

### Financing

#### Function test

|  |  |  |
| --- | --- | --- |
| Function description | Deposit financing | |
| Function entry | In Financing Activity, click “存款理财” button, jump to Deposit Financing Activity | |
| Input/action | Desired output/response | actual |
| 1. Choose the way of deposit financing | Pop-up the list of different ways of deposit financing | Pop-up the list of different ways of deposit financing |
| 2. Choose the way of interest | Pop-up the list of different ways of interest | Pop-up the list of different ways of interest |
| 3. Input invalid character into the sum of deposit edittext | Cannot input | Cannot input |
| 4．Input invalid character into the sum of deposit edittext | Input normally | Input normally |
| 5. Sum of deposit edittext is empty, and click “确认” button | Point out that the sum of deposit edittext is empty | Deal with 0 |
| 6. Sum of deposit inputted is invalid, and click “确认” button | Cannot input | Cannot input |
| 7．Sum of deposit inputted is valid, and click “确认” button | Return success or failure | Return success |

|  |  |  |
| --- | --- | --- |
| Function description | Interest financing | |
| Function entry | In Financing Activity, click “利息理财” button, jump to Interest Financing Activity | |
| Input/action | Desired output/response | actual |
| 1. Choose the way of interest financing | Pop-up the list of different ways of interest financing | Pop-up the list of different ways of interest financing |
| 2.Click “确定” button | Return success of failure | Return success |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |

### Setting

#### Function test

|  |  |  |
| --- | --- | --- |
| Function description | Modify password | |
| Function entry | In Setting Activity, click “修改密码” button, start Modify Password Activity | |
| Input/action | Desired output/response | actual |
| 1. If internet is accessible, the current password inputted is wrong, and click “验证” button | Point out the current password inputted is wrong | Point out the current password inputted is wrong |
| 2. If internet is accessible, the current password inputted is correct, and click “验证” button | Point out the current password inputted is correct | Point out the current password inputted is correct |
| 3. If internet is accessible, the password inputted firstly is valid, and click “确认” button | Input normally | Input normally |
| 4. If internet is accessible, the password inputted firstly is invalid, and click “确认” button | Point out that password must be specific character | Cannot input |
| 5．If internet is accessible, the password inputted firstly is less than 6digits, and click “确认” button | Point out that the password inputted firstly is not same as inputted firstly | Point out that the password inputted firstly is not same as inputted firstly |
| 6. If internet is accessible, the password inputted secondly is valid, and click “确认” button | Input normally | Input normally |
| 7. If internet is accessible, the password inputted secondly is invalid, and click “确认” button | Point out that password must be specific character | Cannot input |
| 8．If internet is accessible, the password inputted secondly is less than 6 digits, and click “确认” button | Point out that password cannot be less than 6 digits | Point out that password cannot be less than 6 digits |
| 9．If internet is accessible, the password inputted secondly is not same as inputted firstly, and click “确认” button | Point out that the password inputted secondly is not same as inputted firstly | Point out that the password inputted secondly is not same as inputted firstly |
| 10．If internet is accessible, the password inputted secondly is same as inputted firstly, and click “确认” button | Point out that password is modified successfully | Point out that password is modified successfully |
| 11．If internet is accessible, click “确认” button | Point out that internet is inaccessible | Point out that internet is inaccessible |

|  |  |  |
| --- | --- | --- |
| Function description | Set gesture-password | |
| Function entry | In Setting Activity, click “设置收拾密码” button, jump to First Set Gesture-password Activity | |
| Input/action | Desired output/response | actual |
| 1. Set any gesture-password | Jump to Second Set Activity | Jump to Second Set Activity |
| 2. The gesture-password set secondly is not same as set firstly | Point out that two gesture-password is different, return to First Set Activity | Point out that two gesture-password is different, return to First Set Activity |
| 3．The gesture-password set secondly is same as set firstly | Setting successfully, and return to Main Activity | Setting successfully, and return to Main Activity |

|  |  |  |
| --- | --- | --- |
| Function description | Modify mobile-phone number | |
| Function entry | In Setting Activity, click “修改手机号码” button, start Modify Mobile-phone Number Activity | |
| Input/action | Desired output/response | actual |
| 1. Input the wrong password into the current password edittext, and click “验证” button | Point out that the password inputted is wrong | Point out that the password inputted is wrong |
| 2. Input the correct password into the current password edittext, and click “验证” button | Point out that the password inputted is correct | Point out that the password inputted is true |
| 3．If internet is inaccessible, click “确认” button | Point out that internet is inaccessible | Point out that internet is inaccessible |
| 4. If internet is accessible, input valid characters into the new mobile-phone number edittext, and click “确认” button | Input normally | Input normally |
| 5. If internet is accessible, input invalid characters into the new mobile-phone number edittext, and click “确认” button | Cannot input | Cannot input |
| 6．If internet is accessible, input more or less than 11-digit valid characters into the new mobile-phone number edittext, and click “确认” button | Point out the mobile-phone number must be 11-digit | Point out the mobile-phone number must be 11-digit |
| 7．If internet is accessible, input 11-digit valid characters into the new mobile-phone number edittext, and click “确认” button | Point out modifying successfully | Point out modifying successfully |

#### UI test

|  |  |
| --- | --- |
| Check point | Available |
| Window switch / exit is normal | Yes |
| Interface element is normal | Yes |
| Error is displayed correctly | Yes |
| Page picture shows correctly | Yes |
| Layout is unified | Yes |
| Fonts are unified | Yes |
| Operations conform to customary | Yes |
| Scroll bar is sensitive | Yes |
| Key response is rapid | Yes |