|  |
| --- |
| **iPay Requirement Specification** |
| **2011 Citi Financial IT Application Competition** |
|  |
| This document makes requirements description for the iPay system and lay the foundation for the later development. |
|  |
| **author：Tianming Lu, Cheng Qian** |
| **2011/7/16** |
|  |

目录

[1 introduction 3](#_Toc303017121)

[1.1 writing purpose 3](#_Toc303017122)

[1.2 background 3](#_Toc303017123)

[1.3 definition 3](#_Toc303017124)

[1.4 reference material 3](#_Toc303017125)

[2 task overview 4](#_Toc303017126)

[2.1 target 4](#_Toc303017127)

[2.2 user features 4](#_Toc303017128)

[2.3 constraints 4](#_Toc303017129)

[3 requirements 4](#_Toc303017130)

[3.1 functional requirements 4](#_Toc303017131)

[3.2 performance requirements 6](#_Toc303017132)

[3.2.1 accuracy 6](#_Toc303017133)

[3.2.2 time 6](#_Toc303017134)

[3.2.3 flexibility 7](#_Toc303017135)

[4 operating environment 7](#_Toc303017136)

[4.1 device 7](#_Toc303017137)

[4.2 support software 8](#_Toc303017138)

[4.3 interface 8](#_Toc303017139)

[4.4 control 8](#_Toc303017140)

# introduction

## writing purpose

This document is intended to give an overview of the project and the project's initial overall requirements specification. It gives an overview of the system, the software functional requirements, performance requirements and non-functional requirements given description.

The document gives a detailed needs analysis of the detailed description of the system, describes the software specifications and requirements. These requirements are the basis for the latter part of the design, but also the post-test basis. It also helps users to learn more about the software requirements.

## background

1. Software name：

nju-ipay ---- Barcode-based mobile payment platform

1. Project proponent：Citibank

Project developers：Popcorn team

user：end user ---- consumer

intermediate user ---- markets

1. Data source： web

## definition

Bar Code: A barcode is an optical machine-readable representation of data, which shows data about the object to which it attaches.

## reference material

1. Software requirements specification（GB856T——88）
2. Project Interim Report

# task overview

## target

The software project as a business application system is designed to provide bar code-based mobile platform payment solutions. By the link among banks, shopping malls and end-consumers, allowing consumers to complete product payment in the mobile platform.

As an independent mobile payment system, the software completes the payment from a series of processes, and ultimately enables consumers to make a easy and fast shopping. It saves consumers time and is also conducive to the popularity of electronic payment industry.

## user features

Initially determined, the software end-users are mainly concentrated in the younger group, as the software needs the support of intelligent mobile platform. In addition, people who value the importance of time, such as staff busy at work, may need the software to save shopping time.  
  The software maintenance personnel should be familiar with the background related business operations, and do the timely response to a variety of unusual events.

## constraints

Due to time constraints, The software need to complete the development and delivery before September 7, 2011.

# requirements

## functional requirements

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | description | Importance level | target user |
| 1 | GPS positioning to get the latest shopping search information | Important | end user |
| 2 | Display the current store and user information | Importance | end user |
| 3 | View User Comments | Importance | end user |
| 4 | View personalized recommendations, hot commodity recommendation, offer information | normal | end user |
| 5 | Search products, go to the location of goods | normal | end user |
| 6 | View this product reviews | normal | end user |
| 7 | Scan goods | Importance | end user |
| 8 | View the current shopping cart | Importance | end user |
| 9 | Modify shopping cart Information | Importance | end user |
| 10 | Pay | Importance | end user |
| 11 | electronic invoicing | Importance | end user |
| 12 | bank transfer, credit card repayment | Importance | end user |
| 13 | Show account balance and the amount of consumption | Importance | end user |
| 14 | Record the user purchase history | Importance | market server |
| 15 | Record User Reviews | Importance | market server |
| 16 | View User Comments | Importance | market server |
| 17 | Product additions, deletions and modify | Importance | market server |
| 18 | Record product sales records | Importance | market server |
| 19 | Record the number of remaining goods | Importance | market server |
| 20 | Record product information | Importance | market server |
| 21 | Show Hot Products, common goods | normal | market server |
| 22 | Record the user billing records | Importance | bank server |
| 23 | Analysis of shopping malls operating conditions | Importance | bank server |
| 24 | Provide client payment, settlement | Importance | bank server |
| 25 | shopping centers loans, cooperative projects | Importance | bank server |

## performance requirements

### accuracy

Since this software uses camera to get the bar code information, so the proposed cell phone camera should be up to 500 million pixels. (Mainstream smart phones can now meet this requirement)

### time

Response: In the case of the network in good condition, the average response time should be under 1.5s

### flexibility

High flexibility of this software, you can adapt to certain changes in the environment. For the client, the implementation of backward compatibility for different versions of the Android OS has a greater adaptability.  
For the server, because of the use of J2EE, the system can run on different environments, ensuring adaptability to environmental change.

# operating environment

## device

Mobile client：

1. OS: Android 2.2。
2. camera：500 million pixels or more
3. network access

Server:

1. OS: Windows/Linux/Mac OS
2. JDK version：1.6
3. Tomcat: 6.x
4. CPU：2.1GHz
5. Memory：2GB
6. Good network access

## support software

Development tools：

1. Eclipse SDK3.6 with Android Plug-in
2. MyEclipse8.6

Test: JUnit

## interface

The software uses MD5 encryption to ensure payment security.

## control

The software runs directly through the phone, and end user can easily control the software.

Meanwhile, the server has a dedicated maintenance staff to maintain and control.