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FREECHARGE

Software Requirement Specifications

Mobile Application

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1.INTRODUCTION

Freecharge is an Indian e-commerce website headquartered in Gurugram, India. Founders of Freecharge are Kunal Shah and Sandeep Tandon. CEO of Freecharge is Mr. Sangram Singh. It was launched in August 2010.The firm started by offering mobile recharging, adding bill payment, UPI money transfers, Deals, Gift cards, Mutual Funds etc. It further added booking bus travel.

1.1 Purpose

This document describes the software requirement and specification about Freecharge

1.2 Scope

The software supports a computer transaction. The network enables customers to complete simple recharge service via Freecharge mobile app that may be located off premise and that identifies a customer by a cash card and password. It collects information to the customer's account details and dispenses virtual cash transaction to customer. The freecharge software requires appropriate record keeping and security provision. The software must handle concurrent accesses to the same account correctly. Freecharge became best mobile payment service platform with 50 million users.

1.3 Overview

Up to this document, Project Description Document, Software Project Management Plan (SPMP) and Software Requirements Specification (SRS) have been released. In this document, detailed design of the system with user interfaces will be described.

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1.4 Definitions, Acronyms and Abbreviations

- Customer:

Mean a person who has registered with Freecharge for availing the Freecharge Wallet and who has accepted these Terms and Conditions and, owns/operates/has access to an internet compatible device that supports the Freecharge Wallet.

- Freecharge Wallet:

Freecharge Wallet means the pre-paid payment instrument issued by Freecharge including Basic Account and Prime Account.

- Person-to-Person Transfer:

Refers to a facility to transfer funds from a Freecharge Wallet to any other Freecharge Wallet issued by Freecharge or to any savings or current bank account.

- Merchant Establishment:

Shall mean and include physical Merchants, remote Merchants and any other outlet that has been authorized by Freecharge to accept payment using Freecharge Wallet.

- Basic Account:

Means Customer Freecharge Wallet classified as Semi-closed system payment instruments issued by accepting minimum customer details being Customer name, Email address, mobile number, which permit payment and domestic money remittance as per RBI direction on Issuance and Operation of Pre-paid Payment Instruments in India (Reserve Bank) Directions, 2009 as amended and supplemented by the RBI from time to time.

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- Profile:

  A small description about the account holder is known profile.

- Recharge:

  To charge again, especially to refill the amount for many transaction

- KYC:

Stands for Know your Customer and refers to the various norms, rules, laws and statutes issued by RBI from time to time under which Freecharge is required to procure personal identification details from you before any services can be delivered. Know your Customer (KYC) documents may be required by Freecharge from the Customer at the time of Registration and/ or on a later date, for availing and / or continuation of the Freecharge Wallet.

- Password:

Means the secret password used to secure Freecharge Wallet applications, without knowledge of which your Freecharge Wallet will not be operable.

- Transaction:

Means Person-to-person transfer or purchase of goods or services at Merchant establishments or equivalent amount of money-in Freecharge Wallet, if goods or services not available.

- Person-to-bank transfer:

Refers to a facility to transfer funds from a Freecharge Wallet to any Bank Account.

- RBI:

Means the Reserve Bank of India.

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2. GENERAL DESCRIPTION

2.1 Product Perspective

The freecharge does not work independently. It works together with the bank and the software run by the network's banks and freecharge app. It allows its customer enough services to make transaction related to mobile payment, Bills, DTH payment etc. the offline message services are enabling through both the bank and the freecharge account.

- **Communication Interface**

  The freecharge communication with the banking system and the freecharge servers via a communication network i.e. Internet.

- **Software Interface**

  The message sent via the communication network is specified to target banking software system and freecharge account services too. At present, two known banking system will participate in the freecharge network

- **Hardware Interface**

  The software interface will be run on Mobile phones, Tablet or Desktop which has complete software.

2.2 Product Functions

The software should support a mobile payment network. Each Freecharge account has its own data in database to maintain its accounts and process transaction. When we Login Freecharge

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account it communicates with the Freecharge's database. In Freecharge wallet we can add money by Debit card, Credit Card, Net Banking. The Freecharge account requires appropriate details to keep secure our wallet. We can also transfer our wallet money to bank account.

- **Signup**

  It allows new users to create account for the freecharge.

- **Login**

  It allows existing user to login in software the use the feature provided by the software.

- **Mobile recharge**

  This function allows user to recharge post-paid bill and prepaid mobiles.

- **Bill**

  This function allows user to pay electricity and water bills.

2.3 User Characteristics

There are several users of the Freecharge Network

- Customers

Customer interacts with the Freecharge network via app/website. It must be very easy to use the Freecharge. Everyone who uses smartphone can easily use Freecharge.

- Maintainer

Using Freecharge is easy but to maintain it is a bit difficult. There are so many programmers/coders working together to maintain the database and the internal functions that we can't see.

- **Administrators**

The admin group controls and monitors all the activities going on in the site. They have access to the Freecharge database, and rights to manage the same. They have permissions to add, block or notify a specific user regarding any issues to be dealt with**.**

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2.4 Assumption and Dependencies

- Hardware will never fail
- Continuous power supply and internet connectivity while making transaction is essential.
- Limited number of transactions per day.
- Limited amounts per day.

3. SPECIFIC REQUIREMENTS

3.1 Functional Requirements

Functional Requirement 1

- Description:

  Login in Freecharge (Check account exist or not)

- Input:

  Entered the details like, mobile number and password

- Processing:

  Checking whether this account exist or not.

- Output:

  Account doesn't exist. You must sign in to create a Freecharge account.

Functional requirements 2

- Description

  Easy to registration steps for new users

- Input

  Your unique login ID and Password

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- Processing

  Storing the parameters
- Processing

  Login successful

Functional Requirement 3

- Description:

  Add money in Freecharge Wallet
- Input:

  Enter the amount and choose the method via which you want to add money (like debit card, credit card.net banking)
- Processing:

  Check if

  1. The card number/Net banking id is valid or not

  2. It is not expired
- Output:

  Display error message that the card number/Net banking id is invalid

Functional Requirement 4

- Description:

  Error occurs during the payment
- Input:

  Enter the amount (n) you want to pay.

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- Processing:

  Check whether Freecharge wallet contains an amount or not.

- Output:

  If wallet contains valid money then payment successful, otherwise payment unsuccessful.

Functional requirement 5

- Description:

  Problems or error comes during transferring money from wallet to bank.

- Input:

  Enter amount, account holder's name, account number, IFSC code

- Processing:

  Check if

  1. Account details are right or not

  2. And amount of transferring money is valid or not

- Output:

  Transferring is cancelled, display account details is wrong

Functional Requirements 6

- Description

  Cash back

- Input

  Do the transaction

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- Processing

  Limited bound for limited time
- Output

  Increase the balance

Functional requirement 7

- Description:

  To pay money to shopkeeper
- Input:

  Phone number/QR code of shopkeeper and the amount
- Processing:

  Transferring money to Shopkeeper's Freecharge account
- Output:

  Payment Successful.

Functional Requirement 8

- Description:

  Create a link to accept Freecharge money from others
- Input:

  Sender's phone number and amount
- Processing:

  Send the link to sender to transfer money to your Freecharge account

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- Output:

  Payment received

Functional requirement 9

- Description:

  Mobile recharge/dish recharge

- Input:

  Phone number and amount to recharge

- Processing:

  Contact the service provider and recharges the phone and deducts money from your Freecharge wallet.

- Output:

  Recharge successful

Functional requirement 10

- Description:

  Pill payment of electricity/gas/water bill

- Input:

  Select type of bill, bill number and customer number

- Processing:

  Checks the amount to be paid and transfers the money to the specified company

- Output:

  Payment successful

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Functional requirement 11

- Description:

  Opens the portal of online shopping

- Input:

  Select the item to be bought

- Processing:

  Generates the bill of the item and sends the prompt to the seller and ask the customer to payment

- Output:

  Transaction done and item will be delivered by estimate date

Functional requirement 12

- Description:

  Online booking of movies/bus/trains/flights tickets

- Input:

  Enter your date and place and then select your seat

- Processing:

  Contact the host and generates the ticket a deducts the money from Freecharge wallet

- Output:

  Ticket has been generated.

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3.2 USER INTERFACE DESCRIPTION

Web Technologies used to develop Freecharge

1. Server-Side Programming - JavaScript
2. Client-Side Programming - JavaScript
3. HTML5
4. Character encoding-UTF 8
5. Image Format-JPEG format
6. Site Elements
   - 6.1 Embedded CSS
   - 6.2 Inline CSS
   - 6.3 Cookies expiring in hours
   - 6.4 Non-HTTP Only Cookies
   - 6.5 Non-Secure Cookies
   - 6.6 Zip Compression
   - 6.7 Weak Tag
   - 6.8 HTTP Strict Transport Security
7. SSL Certificate Authority-Geo Trust
8. Web Servers- Nginx, Node.js

3.3 Hardware Interface

The hardware, software and technology used should have following specification:

- Ability to read the freecharge account.
- Ability to maintain virtual money balance.

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- Good and Continuous internet connection is mandatory for successful transaction
- Continuous power supply.
- Ability take input from user

3.4 Software Interface

The software needs to download the application to your system from the different platform i.e.

Android (Google Play store)

IOS (App Store)

Window Store

- Freecharge is the leading mobile, data recharges and bill payments service in India. It has a new user interface, a new feature called Fast Forward and new billers now.

#1 New user interface

The user interface has been revamped completely, is simple and shows everything

necessary in one single page. The Freecharge logo has also been given a revamp.

#2 'Fast Forward' for quick recharges

There is no denying that having your Freecharge cash loaded helps you make

recharges within seconds. Freecharge cash has been useful till date and is still in use. Fast

Forward is a new option in the recharge section that helps you make recharges in one click.

After you enter the recharge details, enable the Fast-Forward option, available below in the

recharges section, to immediately make the recharge. You should make sure that your Freecharge

cash is loaded, or you will face troubles

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3.5 Performance Requirements

Performance Requirement 1

- Description:

Error message should be displayed at least 30 sec

Performance Requirement 2

- Description:

If there is no response from the Freecharge database after a request within 2

minutes the payment is cancelled with error message.

3.6 Safety Requirements

- Must be safe kept password protected
- Must be OTP secured
- Must have an emergency loan recharge system for backup
- There must be no transparency with the third parties with respect to the bank credentials
- There must be logout option in Freecharge mobile app.
- All the mentioned protocol needs to enable and expected to be properly working.
- Failure of hardware and software dependencies could lead to malfunction or downtime of the app.

3.7 Security

Freecharge wallet should provide maximal security. User data like username, password, account

balance should be transferred over safely using high level encryption.

- User accessibility is censured in all the ways
- A dedicated cyber-security team would be there to monitor to attack.
- Users are advised to change their Password on first use
- User are advised not to tell their password to anyone
- The maximum no of attempt to enter Password will be there

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4 ATTRIBUTES

4.1 Availability

The Freecharge servers should be in working condition 24*7 without any server problems.

4.3 Maintainability

Only maintainers can check our Freecharge details. Maintainers are basically the

system administrators, so, no other user should be allowed to do so.

4.4 Data Base

The freecharge must be able to use several data formats accounting to the data formats that are provided by the data bases of different banks and the user. A transaction should have all the properties of a data base transaction.

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