

Software Requirements Specification for Online Recharge System

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
UML	24/2/18	Add UML diagrams and use case diagrams	Version 1
Features	15/3/18	Delete Features which did not meet during implementation.	Version 2

1.Introduction

1.1 Purpose

The main purpose of this product is to provide online services for the daily uses like mobile currency, DTH service and many other household things. Its primary focus will be making the user friendly networking.

1.2 Document Conventions

The document uses for Times New Roman font style and for the text it uses 12 font size, for sub headings 14 font size with bold and for main heading 18 font size. The document is written following IEEE format.

1.3 Intended Audience and Reading Suggestions

The different types of reader that the document is intended for, such as developers, project managers, marketing staff, testers, and project lead and end users. The first two pages contain introduction about the product and table of contents followed by Overall Description of product about how everything is made in the product and next what are the external software that are required for the product. So the suggestion is to read particular page for particular person. For example for a User it's better to read Owner's manual instead of reading some technical thing.

1.4 Product Scope

The aim of this product is to provide a good and timely service via online for every aspect of life such as mobile recharge, TV recharge, gas refilling and many more things. When these things come to picture we get headache by feeling we need to go to mobile shop to recharge, we need to go and get gas from gas station. All these conditions make this product a best for all those situations mentioned above. So benefit of this is saving time, and the cost through this cheaper compared to the traditional way.

1.5 References

This SRS is referring to this product only, but there are few Websites from which this has been made by looking into those sites.

1 www.freecharge.in

2. www.justrechargeit.com 3. www.mobikwik.com

2. Overall Description

2.1 Product Perspective

The product is new according to the expectation of the client. This product is not a continuation of any product; it's new and self-contained. There are many things which make it different from the other products of similar type. This system has the following components in its working.

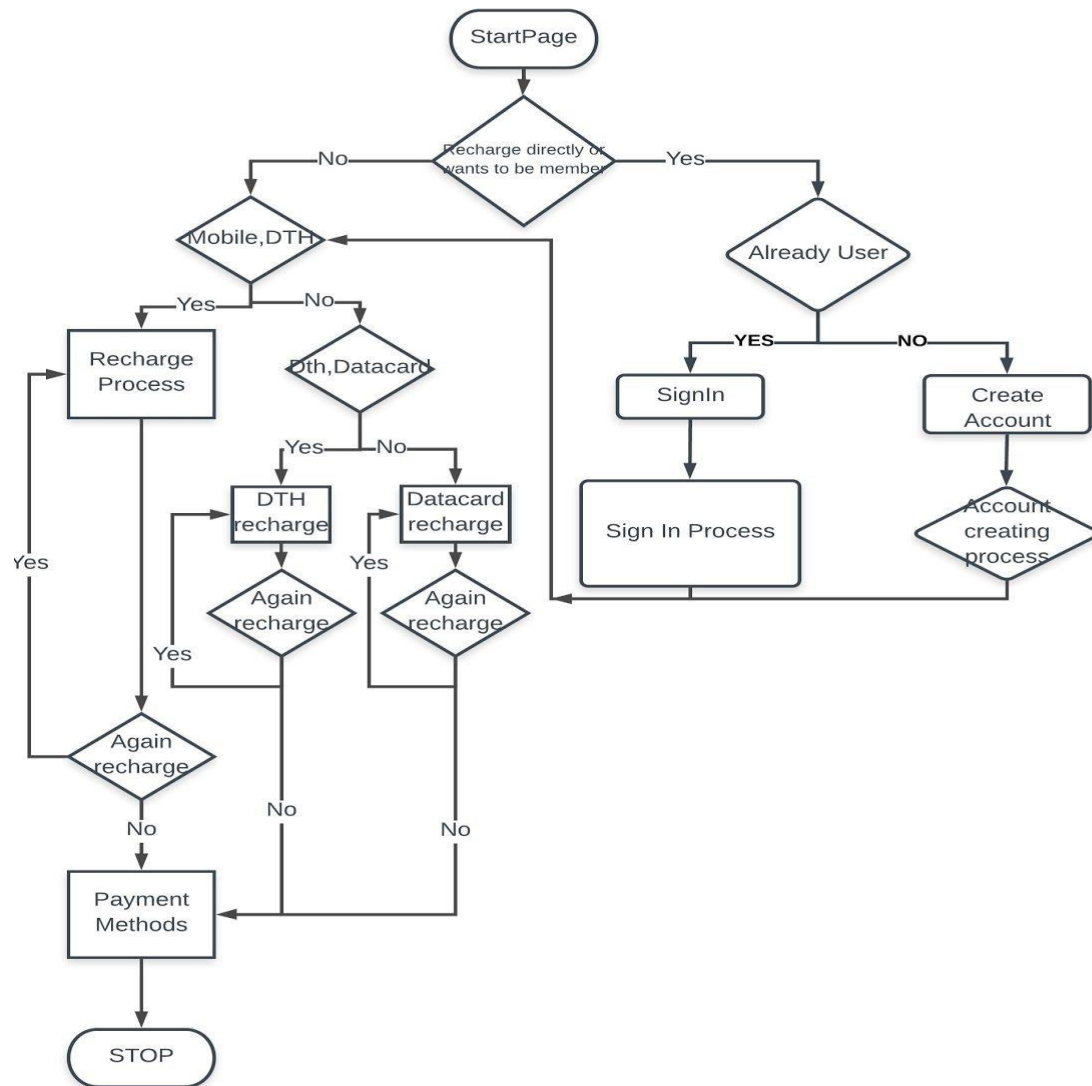


Fig 1 Systems basic Overview

2.2 Product Functions

Following are the various functions that user can perform in this product.

1. Mobile recharging by providing his phone number and amount he debits for getting his required recharge amount.
2. DTH recharge for his TV by providing his Subscriber ID.
3. Datacard Recharge for his hotspot by providing datacard number.
4. Signing In for getting offers .
5. Creating Account in the product.
6. He has right to comment on services provided by the product.

These are functions which are given till now to the user. In case of any feedbacks we will change as required by user.

2.3 User Classes and Characteristics

The various user classes that may use are as follows.

1. People of age 30 to 45.
2. People of age 18 to 25.
3. Tester and Developers.
4. Project Manager.
5. Old aged people also.

Here each people has their own levels of usage as it depends on how much they are in connections with the New technology. Based on this we have put percentage wise usage by each group.

1. 65% of age 18 to 25.
2. 30% of age 30 to 45.
3. 2% of old aged people.
4. 2% of tester and developers.
5. 1% of project manager.

Here the more preference is given to age group 18 to 25 because of it has adopted to new technology and they are in full usage of all the new technology. So they are our first customer and based on the feedback of these age group people we make possible changes to our product as they need this product because they need to be connected to people all the time as a result they need to have their mobile's account to be recharged always. So they are the main Users of this products. Next is the People of age group 30 to 45 they need not always visit this but because of their children force they might turn up to this product. So the percentage is given less to them. Rest of the people like tester, project manager and old aged people uses less in comparison with the other two group.

2.4 Operating Environment

This product is compatible with Microsoft edge, Mozilla Firefox, Google Chrome and Safari in desktop platform in all Operating systems like Windows, Ubuntu and Mac. For Mobile it is available android and ios also. It seems ok with all the newer version of android.

2.5 Design and Implementation Constraints

Since the product is yet in Requirement and Design phase the implementation issues cannot be specified. The products Implementation constraints can be described once the product is being implemented according to the requirement. Hence there is no implementation issues as of now. If there is issue it would be updated in later versions of SRS.

2.6 User Documentation

Since this product is online services only so there is no specific documentation for this product . Eventually as the user keeps on using it he will have grip on product. For beginners the product has brief description of the functionalities there itself so there is no need to worry for the new users. So there is no requirement for user manual also as in the case of this product.

2.7 Assumptions and Dependencies

There is no Assumptions in the case of this product but there is dependency in the case of payment as there is need of verification of the credit card in case of payment through card so there is dependency from bank database servers for this product. This the only dependency as of now if there is any and assumptions or dependency in this product then the update will be given in the later versions of SRS.

3 External Interface Requirements

3.1 User Interfaces

The logical characteristics of each interface between the software product and the users. The screen images of the product is not yet been included as it is only there once when the product is implemented and is in testing phase, and also in the case of GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions that will appear on every screen, keyboard shortcuts, error message display standards, and soon will not be available since the product has not the stage of implementation. Once the phase is reached and completed with the implementation part then only one can specify the GUI standards .So we have

do not know what is the GUI standard is this product will follow as of now . Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.

3.2 Hardware Interfaces

The interface required by the product for the normal smooth functioning of product is as follows.

1. Processor - Intel or compatible Pentium class 4 processor or higher.
2. Memory (RAM) - At least 4GB, preferably higher.
3. Hard disk space - At least 10 GB

These are the minimum required specifications for a user to open the product online on any browser.

In the case if the user is using mobile then the following are the interfaces.

1. Processor - ARM processor
2. Memory(RAM) - At least 1GB,preferably higher.

These are hardware interfaces required for the product.

3.3 Software Interfaces

The product requires not too much high level softwares for its smooth functioning but there is certain or minimum software required by this product and it is as follows.

1. Operating System - Windows 7 or higher in case of windows,ubuntu 12.10 or higher,Mac OS X Panther or higher.
2. Browsers - Microsoft edge,Google Chrome and Safari

In the case of mobile the following are the required software.

1. Operating System - Windows for windows phone ,Android kitkat 4.4 or higher,IOS 6.1 or higher.
2. Browsers - Google chrome app,Safari and Opera in some case.

The product also makes use of XAMPP for database purpose.This is vague software interfaces where the product will work normally there might be more tools,softwares required for running this product so there might be changes in software interfaces so we might update software interfaces specified as this is not possible to list as the product has not reached the Implementation stage.This will be updated in the later versions of SRS if there is changes in the product during implementation stage.So these are the minimum software interfaces required as of now for the product.

3.4 Communications Interfaces

Communication Interfaces how the product will communicate with outside world which include the way in which sends its request for bank servers to check entered CVV number in case of payments so as to complete recharge process. So the product requires well defined communication protocol to connect and communicate with other devices. So the product uses HTTP for communication and it also needs to access server of all the banks. Security issues will be updated once when the product is implemented and updated in the later SRS versions.

4 System Features

The features are as follows

1. The feature is **Login** for the product which is given for account holders in product.
2. Feature is For new Users to the product to make a **Create Account** in the product for claiming offers .
3. This feature is for users who just want to get the **Recharges** for their things.
4. Another feature is for people can **Share** their view on our products.
5. Another feature is their is seperate page for users to know which operator is better for them in our **Blog**.

4.1 Login

4.1.1 Description and Priority

This feature is for already registered users in the product. They are given high priority. If the user is genuine then he is able to access the main page as the start page itself but if the user is Login user then he will have offers. Then he will have all recharges at some reasonable cost and the customers will be notified by the product about the new features the priority is 8 out of 9.

4.1.2 Stimulus/Response Sequences

The user will follow this sequence of action in this feature.

1. User enters his Username and Password.
2. User after entering clicks Sign In button.
3. If he is genuine he will enter to the product.
4. Otherwise he will prompted with a security question.

4.1.3 Functional Requirements

The functional requirements of Login feature is three fields which are required for feature to properly function is two input forms and one clickable button form .These three requirement are as follows.

1. Username field - This is required for checking valid username.
2. Password - This is required for checking whether the entered password is same for the given username in the database.
3. Sign In - This is the button required for sending the username and password for checking in the database.

4.2 Create Account

4.2.1 Description and Priority

This feature is for new users of the product.They are given high priority.This feature makes user genuine and their permanent customers than he is able to access the main page as the start page itself but if the user is registered user than he will have offers.Then he will have all recharges at some reasonable cost and the customers will be notified by the product about the new features the priority is 8 out of 9.

4.2.2 Stimulus/Response Sequences

The user will follow this sequence of action in this feature.

1. User enters Username and Password.
2. User Enters the field confirm password.
3. He needs to enter the Mobile Number.
4. The he enters his e-mail for communication in case of lost password or offers.
5. Then he needs to enter the create account button .

4.2.3 Functional Requirements

The functional requirements of Create Account feature is Five fields which are required for feature to properly function is five input forms and one clickable button form .These three requirement are as follows.

1. Username field - It is for getting unique Username for particular user.

2. Mobile - In this field user enters his mobile number for contact purpose.
3. Password - In this field user enters his password for his account for security.
4. Confirm-Password - This for whether the password user entered is correct according to user.
5. E-mail - This for password resetting and account information of user.
6. Create-Account - This for creating Account in the product.

4.3 Recharges

4.3.1 Description and Priority

This feature is for all users of the product. They are given high priority. This feature provides user to recharge his devices. This is having 9 priority out of 9. This feature is the main motive of the product to provide service for the user.

4.3.2 Stimulus/Response Sequence

The user will follow this sequence of action in this feature depending the device type if

If it is mobile.

1. Then user enters the Mobile number.
2. Then he will select operator.
3. Then he selects the Amount to be added to his mobile.

If it is DTH.

1. The user selects Service Provider.
2. The user then enters Subscriber ID.
3. Then at last he enters Amount.

If it is Data Card.

1. The user enters Data Card Number.
2. The user then select Operator.
3. Then enters Amount

4.3.3 Functional Requirements

The functional requirements of Recharges is four Fields which are required for feature to properly function is 3 input forms and one clickable button form .These three requirement are as follows.

1. Mobile/Data Card/Subscriber ID - This Number uniquely identifies the particular sim or particular number.So this is required.
2. Service Provider/Operator - This is to inform product which operator the recharge should be done.
3. Amount - This is most important field which should be taken care by user while entering amount.
4. Recharge - This is button for proceeding to payment.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

There are performance requirements for the product under various circumstances, such as home page should come under six second as it is makes feel the user that the product is slow and might go to other product,And during the payment process also the product should be fast as there is chance of attacker snooping . Here the specification of time is made as it will make product to get good feedback.

5.2 Safety Requirements

Since the product still has to be implemented so as far now the only safety is to keep the database safe .Once the product is built the further update on the Safety will be given in the later versions of SRS.

5.3 Security Requirements

The main Security Requirements of the product is the Entered Cvv number of the users is of utmost importance which is important data used by product for the recharging which should not be leaked to anyone anonymous people.The E-mail and phone-number is also important someone can may operate the User's E-mail or phone Number which is a bad thing for product .So data used in this is of very much important and protection of these data is essential for product.

5.4 Software Quality Attributes

There are few quality attributes which the product will have to both customer as well as developer are as follows.

1. Adaptability - Since the product is to be run on many machine so the product can be run on any machines which meets the requirements specified in the interfaces section for both the user and developer.
2. Interoperability - It is Quality of the software to operate on many platforms as much as possible and can work same in every system.
3. Portability - The product is portable since it is online service which might be operated anywhere in the world.
4. Reliability - The product is reliable since it provides instant processing of the features explained as in system features.And it has good response time.
5. Reusability - The product is reusable as this is case of online services provided through online.So once it is done may not stop you from doing it again.
6. Robustness - It is built to work in every condition .Since the product has not reached its Implementation stage so it is needed to be updated based on the result of the that stage.So the updated will be there in the later versions of SRS.

5.5 Business Rules

These are the operating principle that our product will follow.

1. Make our Product to be available in search engines as many will surf internet through search engines.
2. Build links with other companies which are hosting same products.
3. Keep on updating the product according to user feedbacks and latest trends.
4. Using Analytics for analysis of our product.
5. Make things easy for customer is the main principle of the product.
6. And the Product keeps in mind that it should provide only certain options to its customer and all other to its developer or maintenance team.

6. Other Requirements

There are no other specific requirement all the requirement has been stated in the features section. But there might be other requirements once we start with the implementation stage. So as of now there is no such other requirements.

Appendix A: Glossary

1. SRS - Software Requirement Specification.
2. CVV - Card Verification Value.
3. HTTP - Hyper Text Transfer Protocol.
4. GUI - Graphical User Interface.

Appendix B: Analysis Models

Still any of the analysis model has not been developed once since we are requirement stage once all the requirement is understood. The analysis models of the product will be done in next stages.

UML diagrams

Use Case Diagram

Actors vs Use Cases:

Actor 1:User

- Register.
- Recharge.
- Select Payment Gateway.
- Select service Provider.
- Make payment.

Actor 2:Third Party Administrator

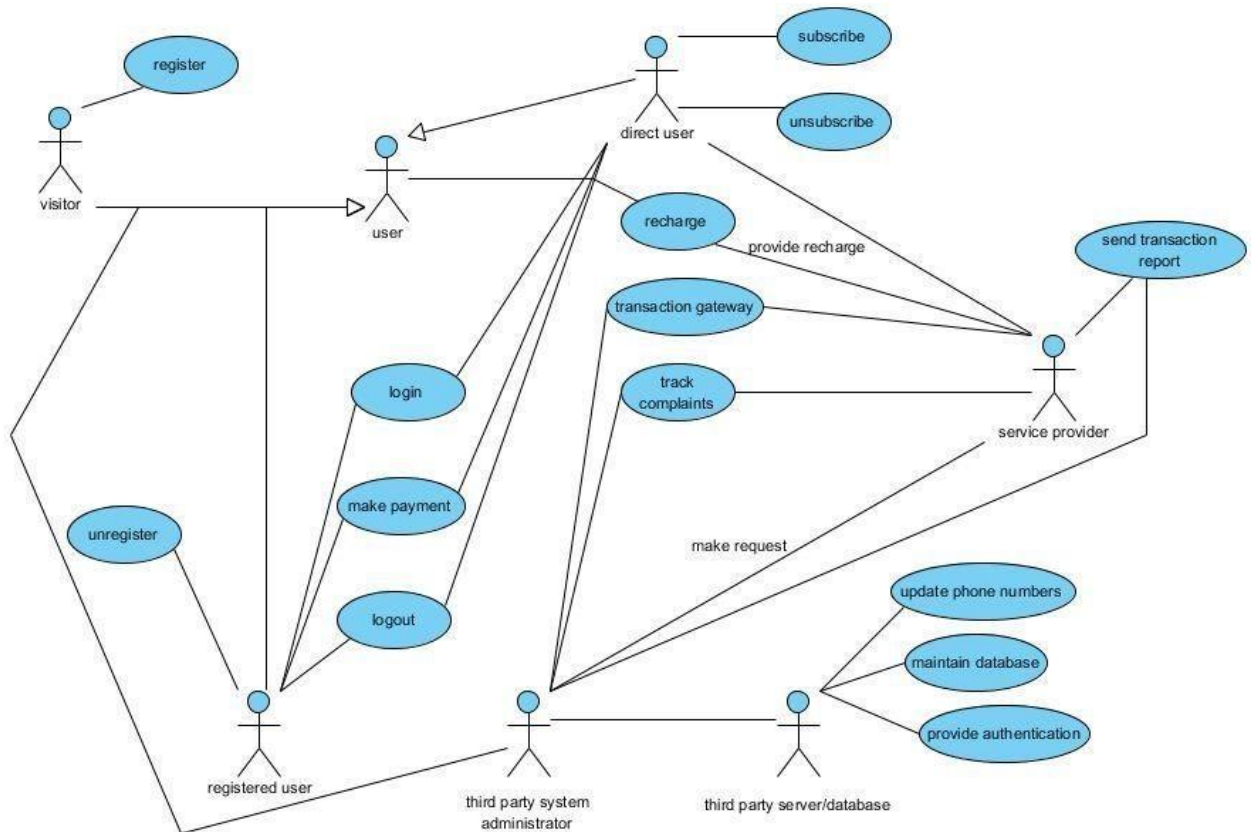
- Forward User request to Service Provider.
- Track Complaints.

Actor 3:Third Party Server/ Database

- Authenticate the Registered users.
- Maintain the Log.

Actor 4:Service Provider

- Recharge the user requested either directly or through the third party system.
- Provide various plans to the user.



Activity Diagram For Online Recharge System

Activities Delt in the System:

User login and authentication for Registered user.

Forward the request to service provider if logged in as a Administrator.

Enter service provider site for a direct user.

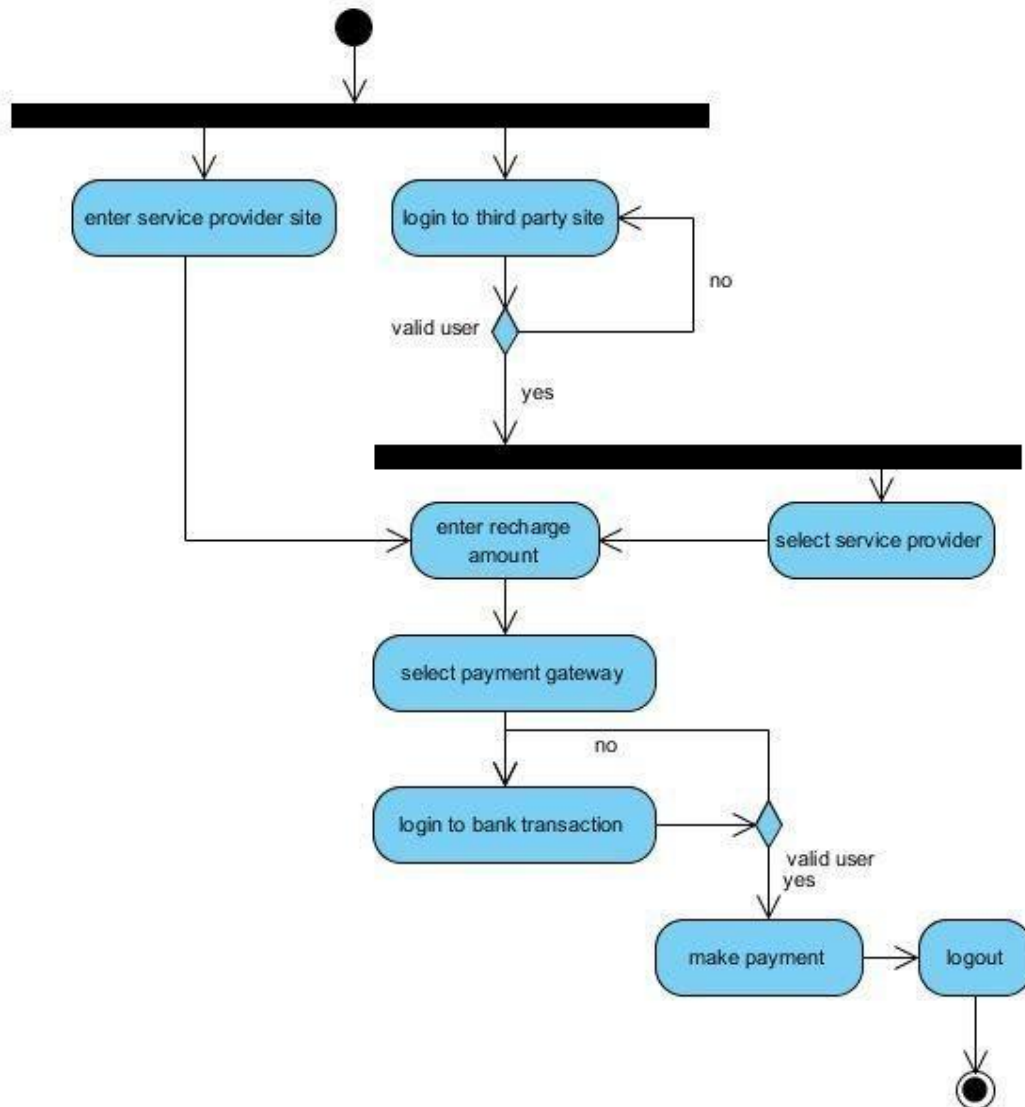
Enter recharge amount.

Select Payment Gateway.

Login and authenticate Bank Account.

Make payment.

Check for the recharge processed successfully or not.



State Diagram

States:

Authentication for registered users / Registration for unregistered users

Successfully logged on or re-login

Operator Selection

Show the tariff plans available and applicable

Request recharge

Go through Payment Gateway Transaction process

•Authentication to enter the gateway site

•Successfully logged on or re-login

•Payment made

Logged off.

Transitions:

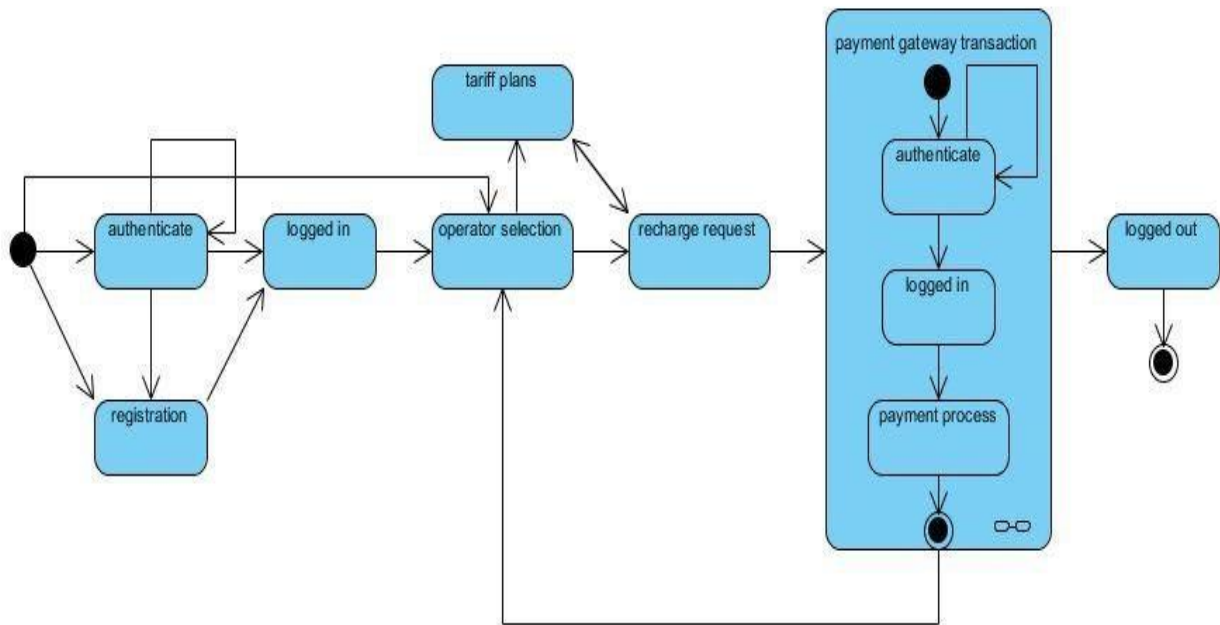
Registration ---> Authenticate ---> Logged in

Logged in ---> Operator Selection ---> Tariff Plans <---> Request Recharge

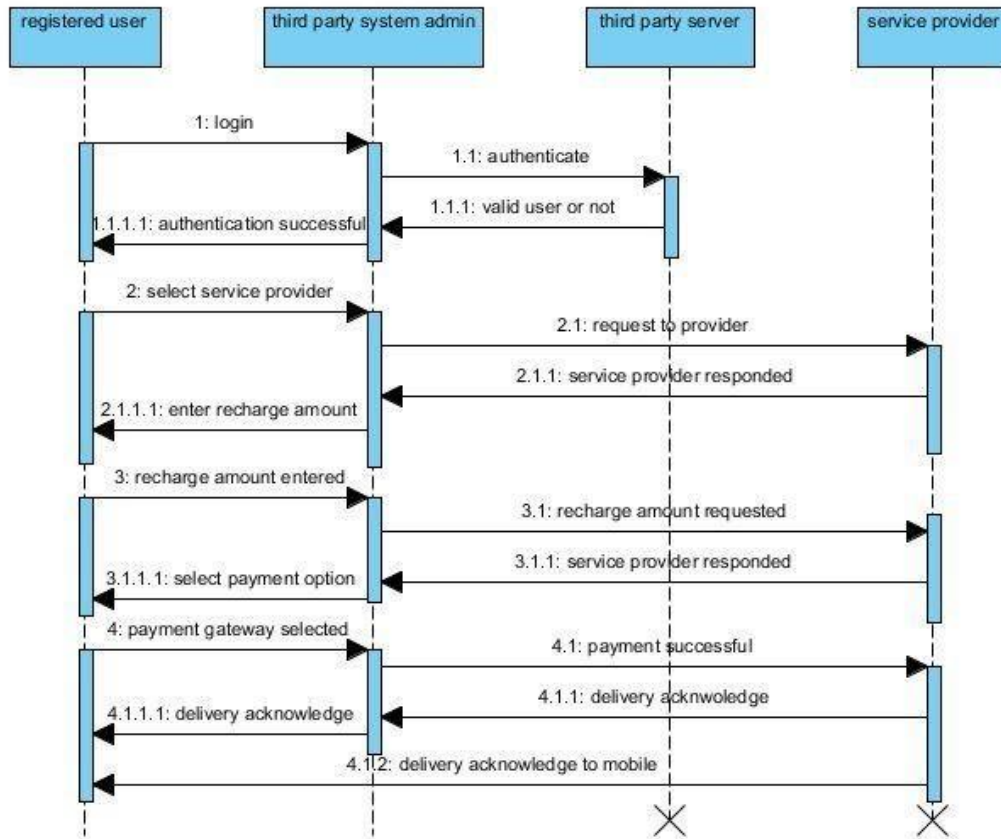
Operator Selection ---> Request Recharge ---> Payment Gateway Transaction

Payment Gateway Transaction ---> Operator Selection

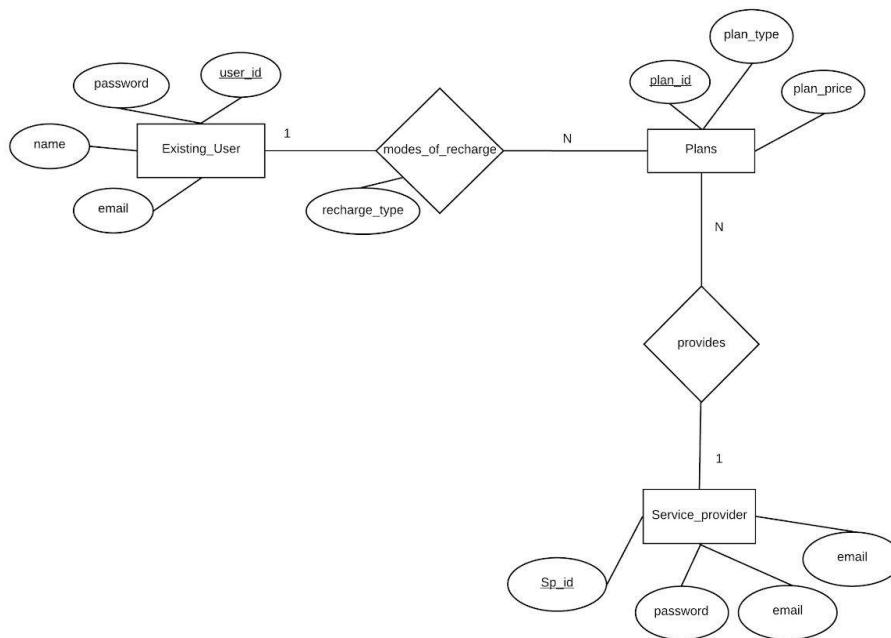
Payment Gateway Transaction ---> Logged off



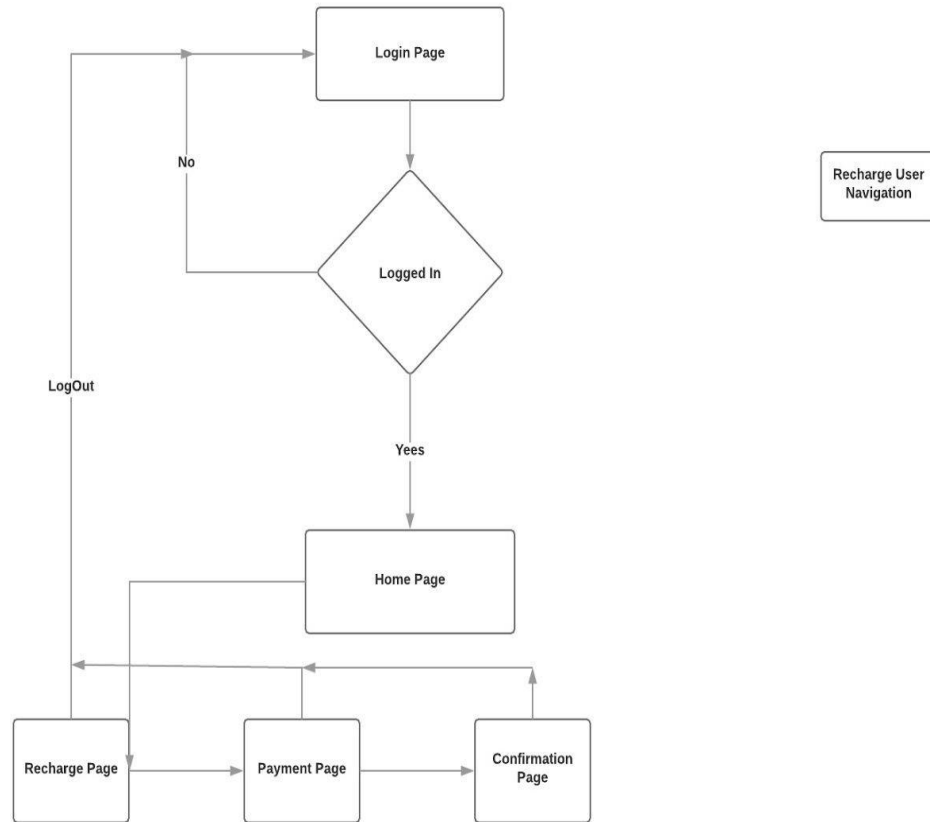
Interaction Diagram

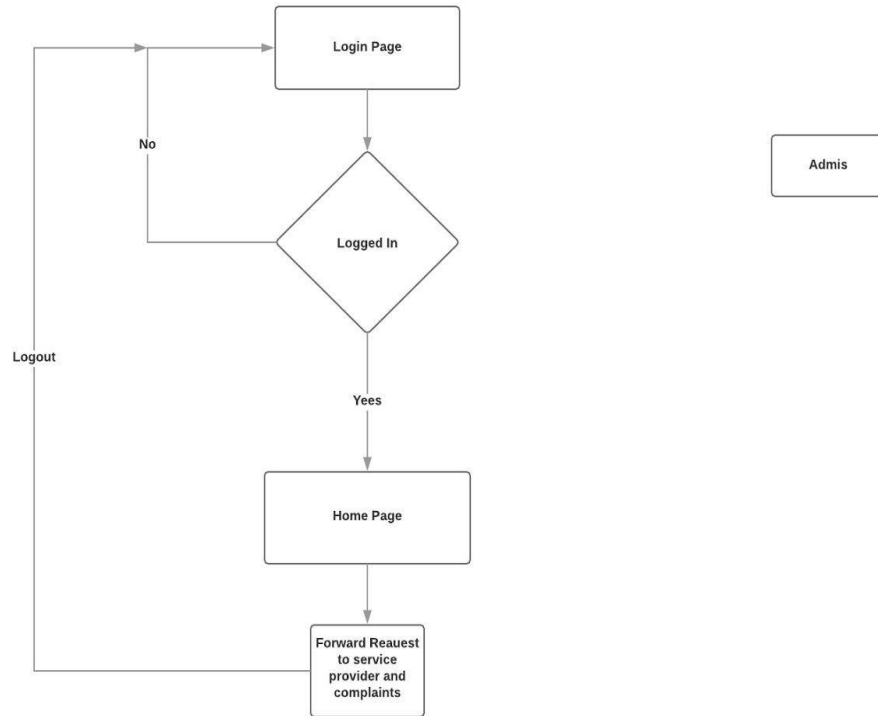


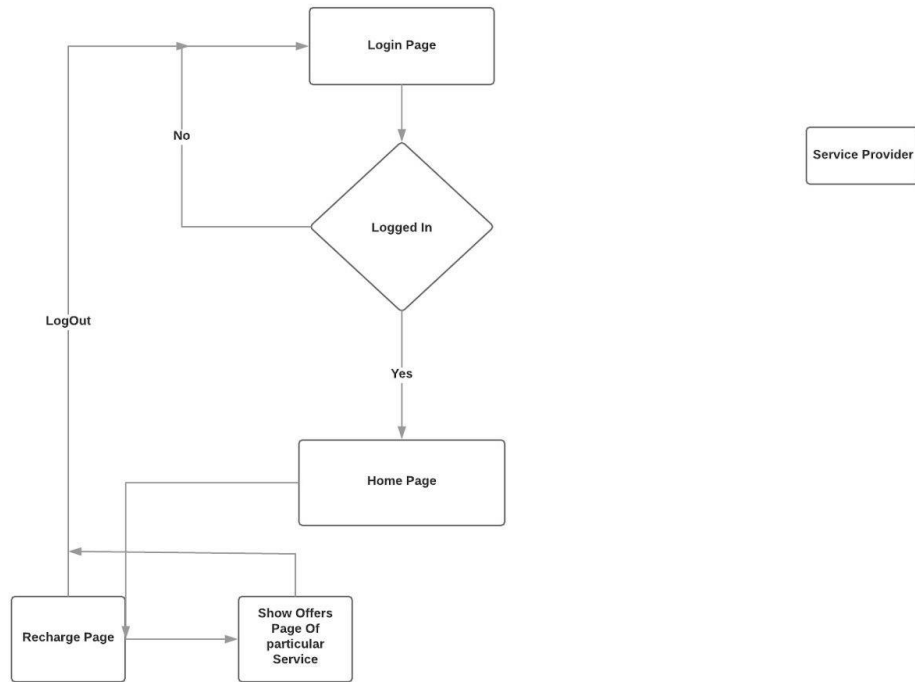
Entity Relationship Diagram



Navigation







Appendix C: To Be Determined List

This To Be Determined (TBD) list serves to collect all currently outstanding decisions, choices, and unresolved requirements, including questions the development team may need to ask of the Project Liaison.

Presently there are no remaining TBDs. All TBDs have been tracked to their closure. If there is any then the updated version will be there in the later versions of SRS.