Software Design Document

(current document version 1.03)

Document update history:

version 1.0

Created by Anushka Rajasingha on April 14, 2013
Description: First draft for general idea

version 1.01

Modified by Anushka Rajasingha on April 15, 2013
Description: Change the design according to the first phase.

version 1.02

Modified by Anushka Rajasingha on April 16, 2013
Description: Change the design according to the RFID reader allocation requirement.

version 1.03

Modified by Anushka Rajasingha on April 17, 2013
Description: Change the design according to User registration requirement. Client need to resistor the user with their own RFID tag .

1. Introductions

1.1. Introduction

The web application has been designed by integrating four sub systems , such as

i. User Registration and Login System using social media (Access Control) – with the RFID facility

This system will allow user to register (or sign up) to the application . And it will allow user to use their social media account (such as Facebook , Twitter etc..) to do the registration process . And use will be able to login to the application with that account.

ii. Event Management System

This system will allow administrator to create an event and maintain the user list and provide access for these users to participate various events. When a user arrives at a particular event, the system shall have the ability to identify the user by RFID and provide an indication whether the user has access to the event or not.

iii. Point System

This system will allow user to earn points when they participate to the events. And system will allow administrator to assign points to the events.

iv. Automatic Social Sharing System

This system will allows user to share the activity status at the event update on their Facebook account.

v. Automatic Marketing Data Acquisition System

This system will log the client's activities and purchases into a database for marketing research purposes.

vi. RFID Data processing module

This module will process the received RFID data and data will be directed to the relevant module , according to the received data fields.

1.2. Scope

This application will allow user to register with the web site and provide access to participate various events. And user can earn points when they are participating in event. And system will allow facility to update user's event status on their social media web site.

And system will keep log about the user activities such as purchases.

1.3. Definitions, Acronyms, and Abbreviations

i. PHP - PHP Hypertext Preprocessor

A general purpose scripting language that was originally created for web development. For the purpose of web development PHP is usually runs on a server. The code is embedded in the HTML and usually produces HTML as output.

ii. HTML - Hypertext Markup Language

HTML is the main markup language for creating web pages and other information that can be displayed in a web browser

iii. XHTML - eXtensible Hypertext Markup Language

A type of XML markup language that extends HTML. Used to set up the logical structure of the web page.

iv. Javascript

An object-oriented, client-side scripting language. It allows for the development of enhanced user interfaces and dynamic websites. It allows the HTML elements on a page to be programmatically manipulated.

v. Jquery

A “lightweight” javascript library that makes it easier to manipulate the DOM, make animations, and create AJAX interactions.

vi. CodeIgniter

A simple PHP application framework that uses a Model, View, Controller (MVC) architecture.

vii. MySQL - My Structured Query Language

A relational database management system. It is used by numerous PHP web applications.

viii. Mustache

Mustache is a simple web template system. Mustache is described as a "logic-less" system.

ix. WSDL

Web Services Description Language is an XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information.

x. SOAP

Simple Object Access Protocol, is a protocol specification for exchanging structured information in the implementation of Web Services.

xi. RFID

Radio-frequency identification (RFID) is the wireless non-contact use of radio-frequency electromagnetic fields to transfer data, for the purposes of automatically identifying and tracking tags attached to objects.

2. General Description

2.1.Product Perspective

The application will use PHP and MySQL in a way that will let it be moved to any web server that support to the same php and mysql version.

2.2.User Characteristics

i. Normal User

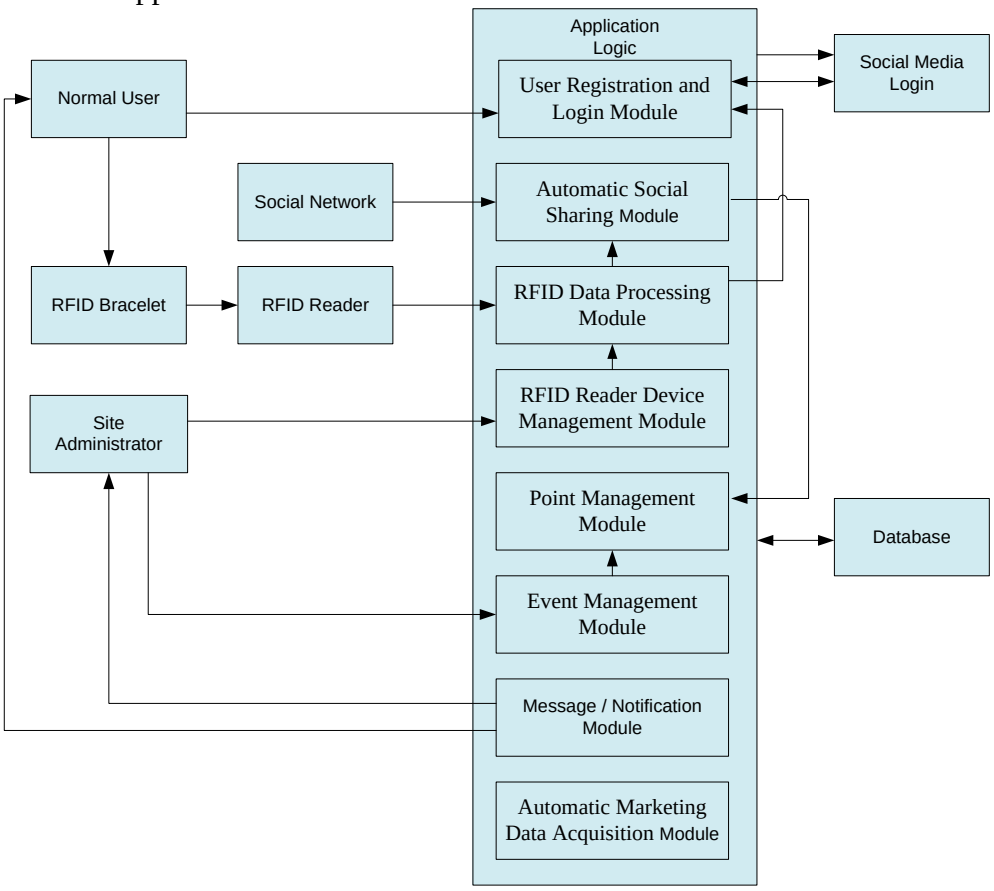
Site users are normal users that participate to the events. They are busy and need a quick and easy way to keep track of events and update status to their social media account. And they will need purchase items without having cash at the event.

ii. Site Administrator

The site administrator would be someone with a technical background that can manage the site. They are tasked with keeping up the system and being able to quickly add new events to the site and manage user list of the event.

2.3.Concept Model

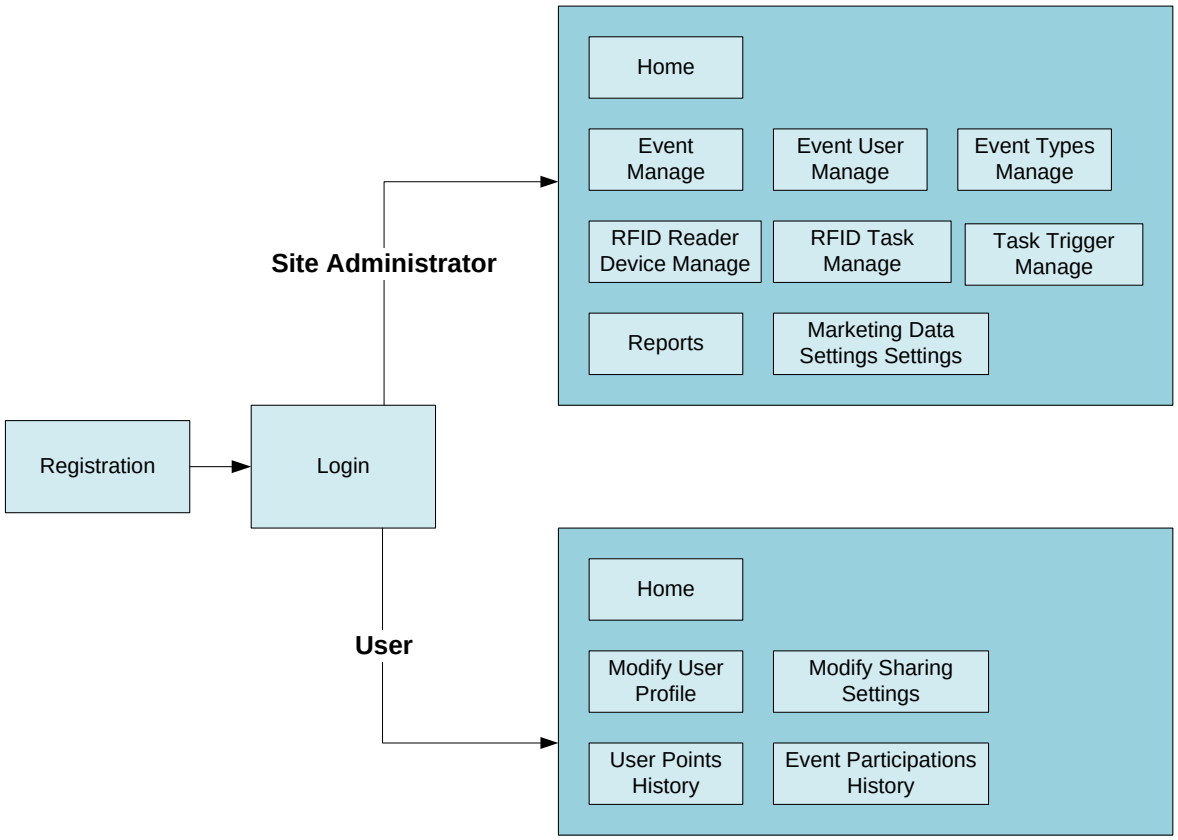
The diagram below represents the high-level abstract relationships of components within the application.



3. Presentation Design

3.1. Site Map

The diagram below represents the structure and relationships between interfaces in the Application.



3.2.Content Inventory

This table will describe all pages and services of the web application.

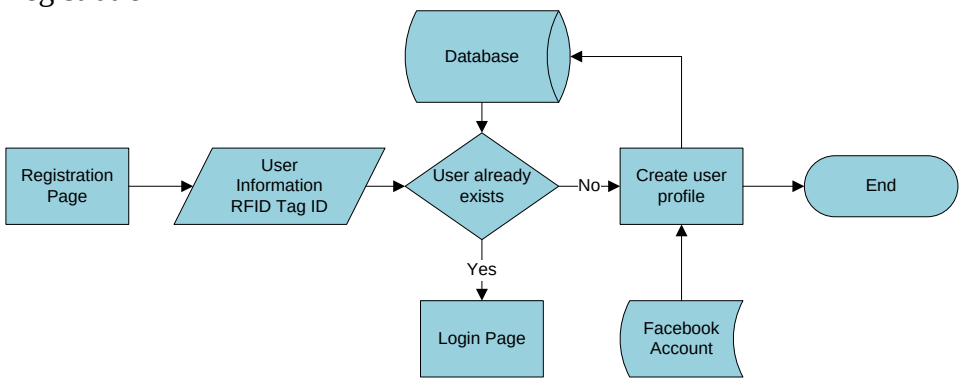
Id	Page / Service Name	Type Of Service	Access
1.0	Registration	Web Page	All
2.0	Login	Web Page	All
3.0	User Home	Web Page	User
3.1.	User Profile	Web Page	User
3.2.	Sharing Settings	Web Page	User
3.3.	Event Participation History	Web Page	User
3.4.	Point History	Web Page	User
4.0	Admin Home	Web Page	Administrator
4.1.	Event Manage	Web Page	Administrator
4.2.	Event User Manage	Web Page	Administrator
4.3.	Event Points Manage	Web Page	Administrator
4.4.	RFID Reader Device Manage	Web Page	Administrator
4.5.	User Sharing Options	Web Page	Administrator
4.6.	Marketing Data Options	Web Page	Administrator
4.7.	User Point History	Web Page	Administrator
4.8.	User Participations History	Web Page	Administrator
5.0	Web Service Settings	Web Page	Administrator
5.1.	User Authorization	RFID Data Process Module	RFID Reader
5.2.	API for Marketing Data	Marketing Data Acquisition Module	External Application

4. Logical Design

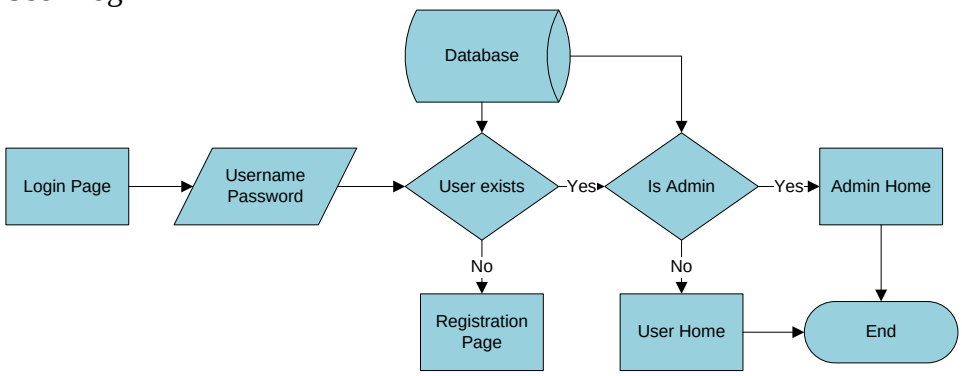
4.1.Flow Chart

The diagrams bellow will illustrate the application logics related to the user actions.

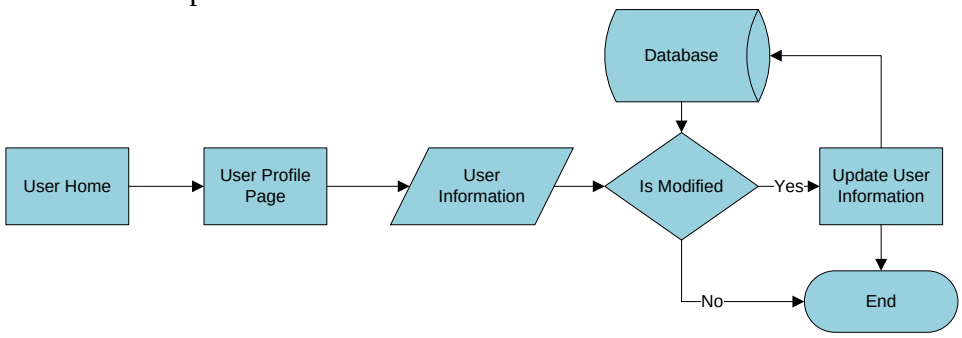
i. Registration



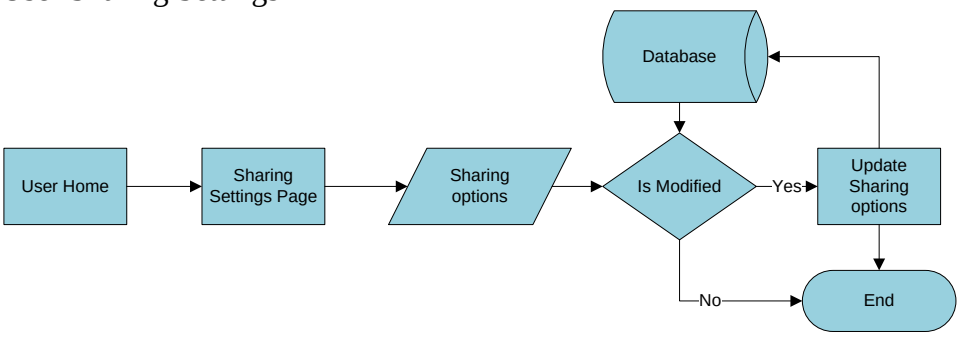
ii. User Login



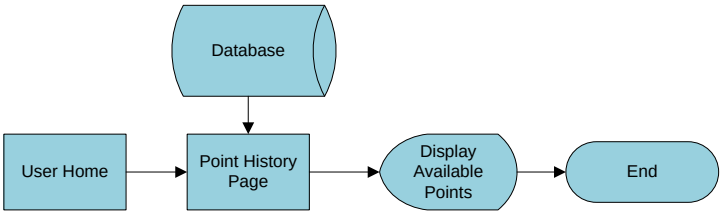
iii. User Profile Update



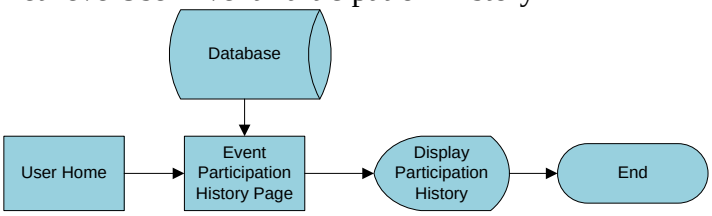
iv. User Sharing Settings



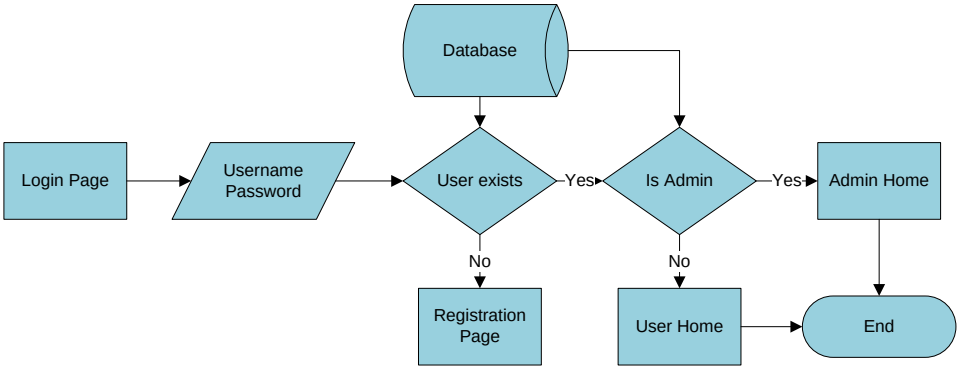
v. Retrieve User Point History



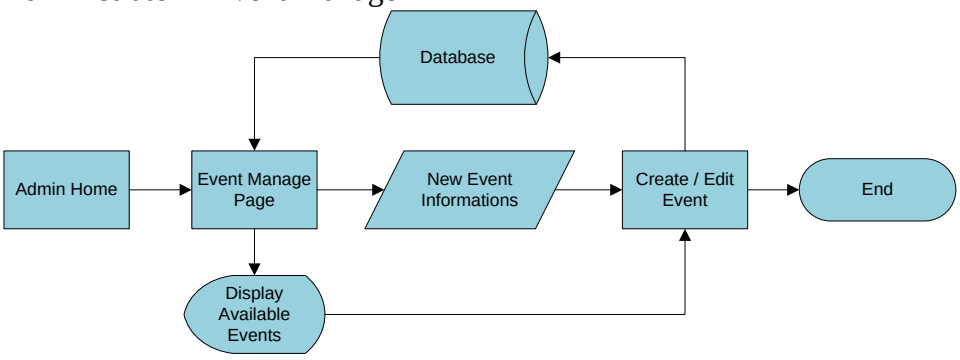
vi. Retrieve User Event Participation History



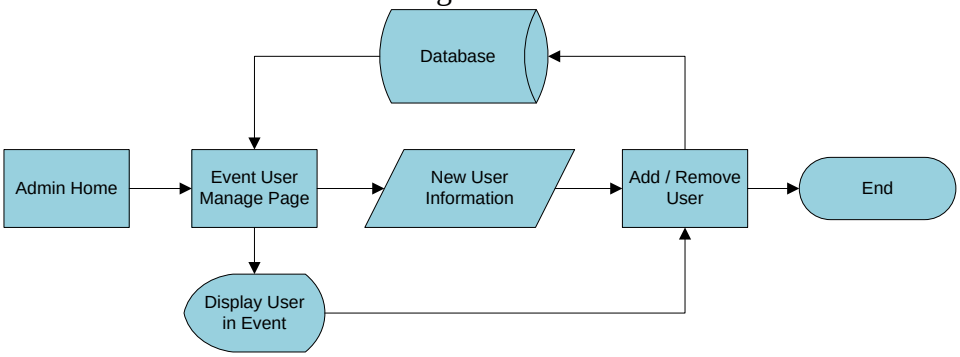
vii. Admin Home



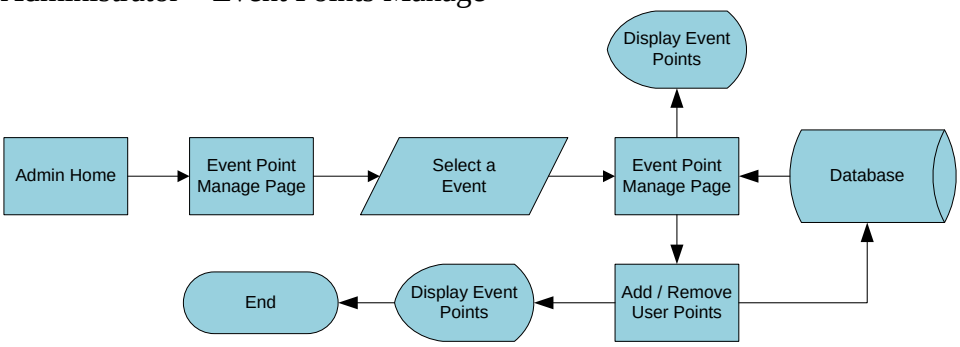
viii. Administrator – Event Manage



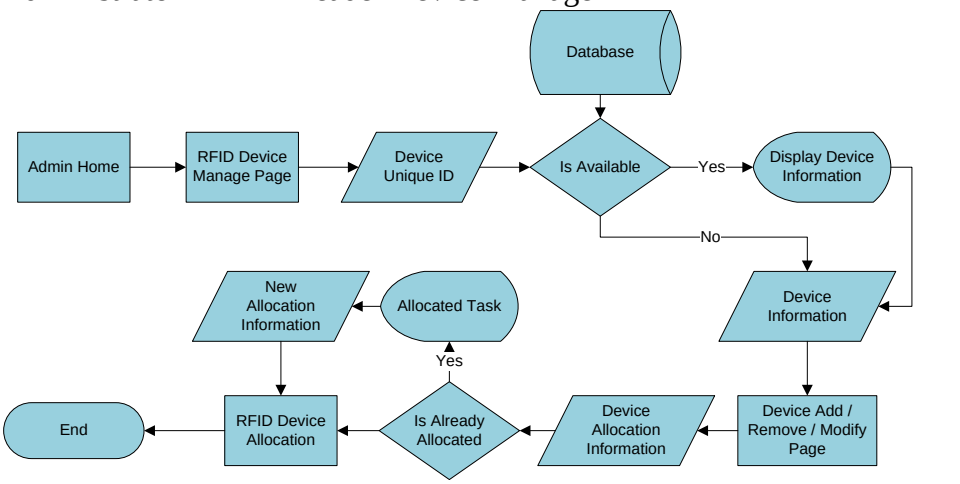
ix. Administrator – Event User Manage



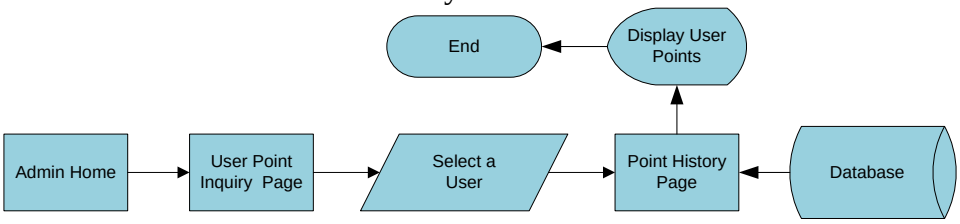
x. Administrator – Event Points Manage



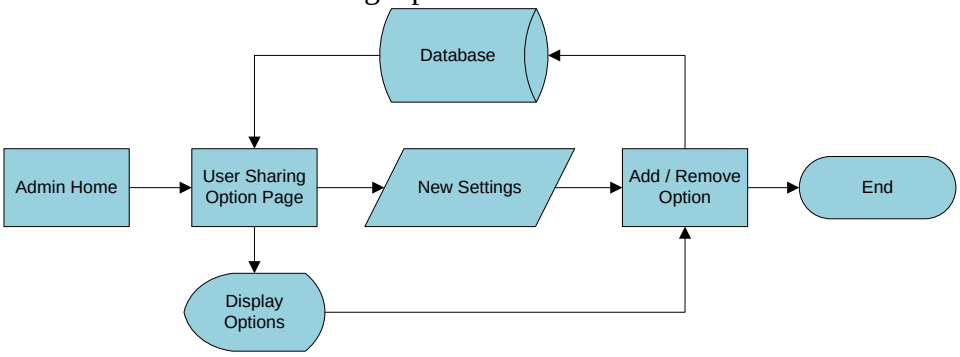
xi. Administrator – RFID Reader Device Manage



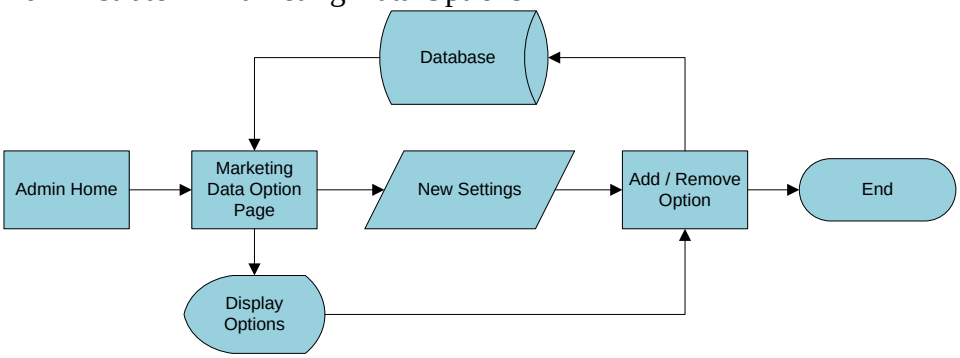
xii. Administrator – User Point History



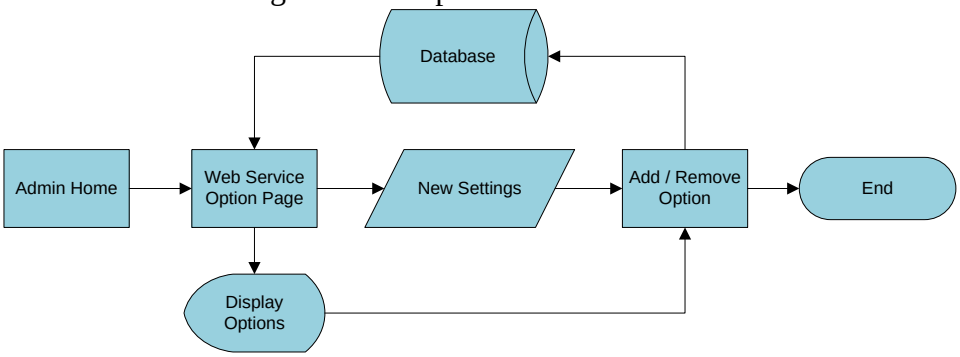
xiii. Administrator – User Sharing Options



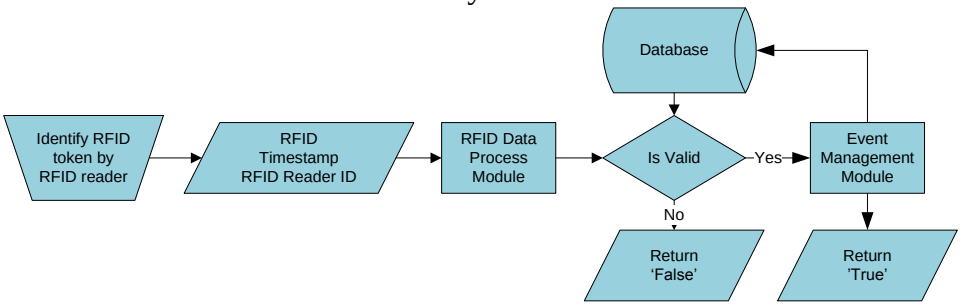
xiv. Administrator – Marketing Data Options



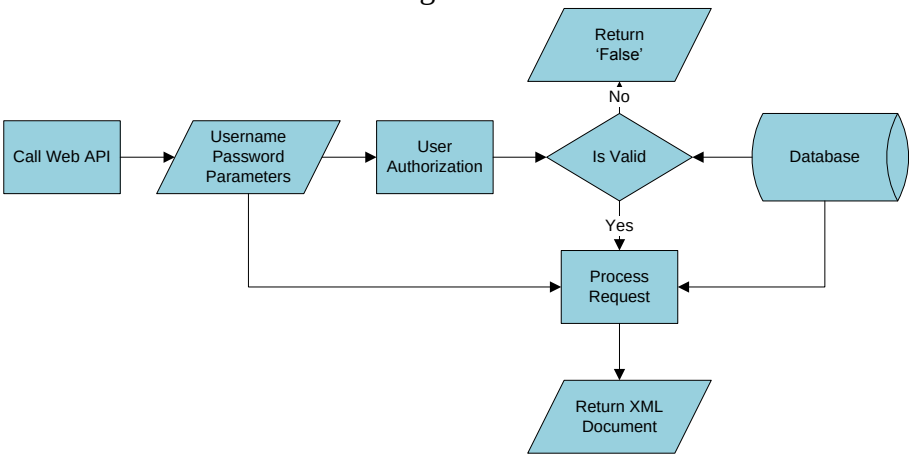
xv. Web Service – Manage Service Options



xvi. Web Service – User Authorization by RFID reader



xvii. Web Service – API for Marketing Data



5. Database Design

5.1.E-R Diagram

The diagram below represents the relationships between the tables within the database for the application.