

Team Proj18
Project Deliverable B: Need Identification and Problem Statement
GNG 1103 – Engineering Design

Team Members:

Shuyuan Bai (300023989)
Grace Buchardt (300236838)
Craig Bush (300251044)
Simon Situ (7761503)
Steven Wu (7883953)

Faculty of Engineering – University of Ottawa
2021/10/03

1. Introduction

Loyalty programs are positive reinforcement mechanisms deployed by retailers and financial institutions to reward customers for repeated business. There are many existing loyalty programs such as Air Miles, Petro Points, PC Optimum, and Scene Points, but there is currently no method that allows interchangeability of points between programs. Zafin, a Canadian banking software company, believes a process that allows for the horizontal transfer of loyalty points between customers and retailers is a financial opportunity that can benefit both parties. The purpose of the design project is to propose software that can open the reward points market in a way that allows for points to not just be owed and disrupted by a few large businesses, but to instead be opened for all business big or small in a way the allows for more diversity for the way users can use their points. Contents of this document will first list the client's needs for the application and summarize the design project with a problem statement. Features and elements from existing loyalty programs are listed in table 1 will be used for technical and user benchmarking.

Table 1. Existing Loyalty programs and their features.

Loyalty Program	Functions
PC Optimum	<ul style="list-style-type: none"> Intuitive conversion rate where 1000 points is equivalent to \$10 in purchases.
Air miles	<ul style="list-style-type: none"> Customers get 1 Air Miles Reward Mile per \$20 of purchase. In some of its partner, customers can get more miles.
Credit Card cash back programs	<ul style="list-style-type: none"> Percent cash back rate depending on purchases.
Costco	<ul style="list-style-type: none"> Annual 2% reward on qualified warehouse, online and Costco Travel purchases.
Petro Points	<ul style="list-style-type: none"> Every dollar earns 10 points. 1000 points = \$1 off. Customers redeem other companies' gift cards like Hudson's Bay, Cineplex, and WINNERS.

2. Client Needs

Table 2. Interpreted client needs from statements

User statement	Interpreted need
Current loyalty programs are institution specific and are limited in where/how points can be spent.	<ul style="list-style-type: none"> A method of allowing points to be freely exchanged between programs.
Transparency between consumers, financial institutions, and ecosystem partners.	<ul style="list-style-type: none"> Shared transaction history of points. Integrated loyalty point system
Smaller partners would be able to participate and create their own point systems within the program. Offer a business profile/user profile.	<ul style="list-style-type: none"> Allow small business to participate.

A platform that can deliver a frictionless experience to the consumer on how they can earn, redeem, exchange, donate and buy loyalty points with the awareness of economic value and associated conditions within the banking system.	<ul style="list-style-type: none"> • Method of spending/redeeming points • Method of trading points • Method of donating points • Method of buying points • A calculation to assign values to points.
Secure platform.	Include a security measure
Enable cooperation between banks	Incentives for financial institutions to participate.

Table 3. Evaluation Matrix for Loyalty Program Solution

Number	Need	Importance ¹
1	A method to freely transfer points between customers from different loyalty programs. (Trading, buying, donating)	5
2	Method to quantify the value of each loyalty point and establish a baseline.	4
3	Security system to protect information.	3
4	Incentives for financial institutions to participate.	2
5	Allow for the use of smaller players. Easy for any business to participate	3
6	Easy to use and intuitive	2
7	Integrated system between loyalty programs	5

¹Importance was rated numerically with the lowest value being 1 and the highest value being 5.

Stakeholders involved in this design project include financial institutions, retail customers, and businesses. Financial institutions will be providing this integrated loyalty program service to retail customers, so the solution needs to contain features that benefit institutions. Retail customers will be the users, so technical elements and functional features must be catered to their needs.

Unknown information to be clarified:

Does Zafin require the program to cover all products/services or are there preferred markets?
 What needs from the financial institutes and from users would Zafin wish to prioritize?

3. Problem Statement

The purpose of the design project is to propose a platform that can integrate multiple loyalty programs and facilitate the horizontal transfer points between them. This program should be intuitive to use and allow smaller players to be involved in the economy of the point.