GNG1103 [A] Proj 13 Deliverable D

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Abstract

This document will discuss several subconcepts agreed upon by the team, as well as present the final, combined and improved upon selected subconcepts.

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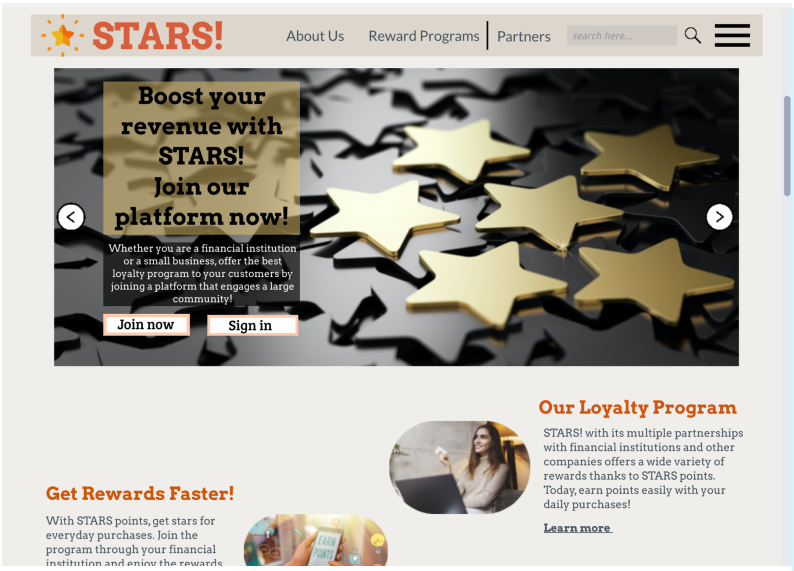
1. Introduction:

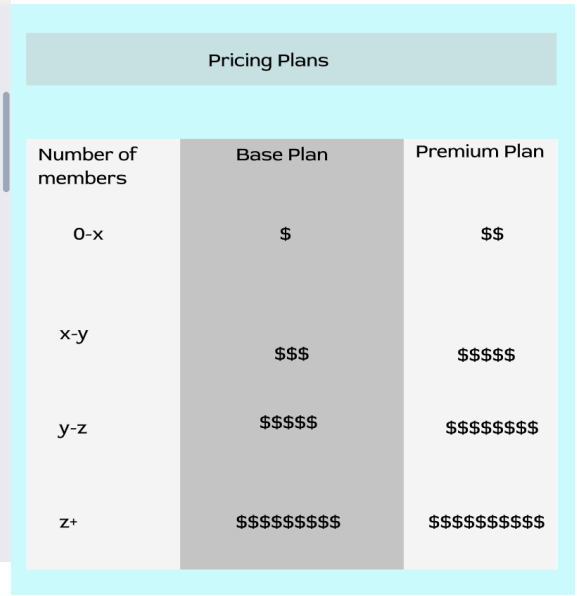
In the previous deliverable, the team identified several design criteria that will be useful in designing the final solution. This deliverable will further explore design ideas, as well as select 3 choices to move forward with. This document will detail the advantages and disadvantages of each chosen subconcept, based on their alignment with the design criteria.

2. Subconcepts:

2.1. Accessibility to smaller businesses.

Zafin has expressed that one of their priorities is to provide a more horizontal approach to existing loyalty rewards systems, by allowing smaller partners to participate. The term 'smaller partners' is an umbrella term, under which there exist levels of size. A local coffee shop would have a different clientele size than a hairdresser, or a restaurant franchise. This is why, in order to allow smaller partners to offer rewards to their customers, there needs to exist levels based on a business' client size. The team has decided that offering different pricing plans based on the client size is the best way to achieve this goal. This provides many advantages, however does not provide an explicit solution for larger partners. The following mock ups for this criteria have been designed:



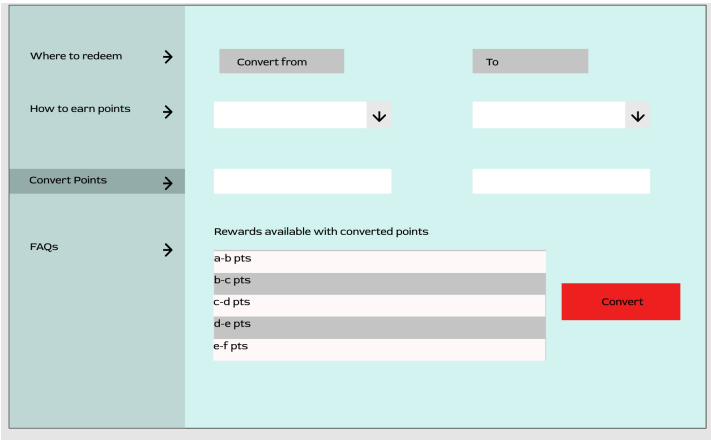


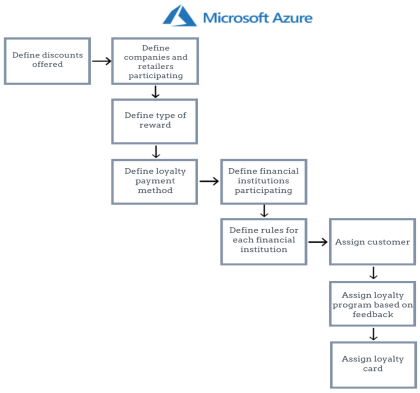
2.2 Accuracy in converting points between rewards systems

Like any platform that develops a loyalty program, it is important, if not essential that the platform can accurately convert users' points with different business partners. For this platform, the idea is to convert the user's points for each company (input) and add them to

display a total of points on the interface (output). Points can then be transferred between businesses so that the points accumulated for one business can be used by another business partner.

The team determined that this solution would be adequate because it is efficient, simple, and could attract a lot more users and thus get the most out of it. However, as a drawback, it can be noted that this type of conversion could be much more advantageous for some businesses to the detriment of others because these businesses could lose money if users buy from them through their points accumulated with another business. Therefore, this could be detrimental to the platform.

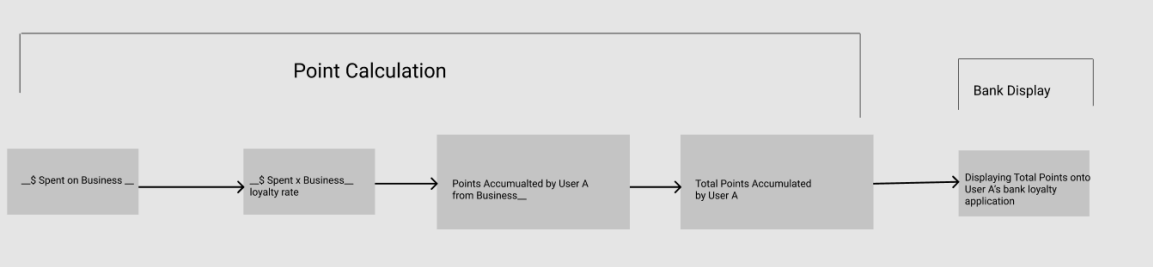




2.3 Speed & Response Time in handling large amounts of data

Zafin expressed the importance of having a platform that uses a horizontal approach. Who says horizontal, says attracting a larger community and therefore, managing a lot of data. Our team is aware that one of the most important aspects for the platform is to have a system capable of storing a wide range of data. It is also important that the system can be fast and respond quickly so as not to affect its performance and satisfy customers. For this, the platform will operate through Microsoft PowerApps and Excel. The data will be saved on the Cloud Storage System to avoid data leaks or loss. The principle of the calculation of points will remain the same as mentioned above, the points will be calculated with a point conversion rate with PowerApps and the platform will display the cumulative points.

Although this solution will be adequate for a prototype, it will be less efficient if it is marketed and has to support a larger database, which is a big drawback. Of course, if the application needs to bring together a larger community, it will migrate to another system like Microsoft Azure.



2.4 combined subsystem against design criteria and benchmarking

The global solution chosen was a combination of the 3 combined concepts discussed above. The table shows whether or not the global solution fulfills the design criteria. An analysis of the solution against the benchmarking is also presented below.

Table 1: Design Criteria against subsystem:

#	Need	Design criteria	Fulfilled by subsystem (Yes/No)
1	Platform provides a way to calculate and transfer points between rewards systems	Accuracy	Yes
2	Platform allows bank customers to easily see how their points can be spent with the UI	Ease of use Clarity of purpose	Yes
3	Platform can easily be used by bank customers of all age demographic	Ease of use	Yes
4	Platform allows for smaller retailers and companies to provide loyalty/benefit points, as well as a way for them to access this information	Accessibility	Yes
5	Platform can safely ingest and transfer data from other points rewards systems while keeping users' information private	Security	Yes
6	Platform can handle high volumes of incoming and outgoing data	Response time Speed	Yes

7	Platform is cost effective for both Zafin ands its customers (bank)	Cost	n/a
8	Platform can be used in several different languages to accommodate international partners	Accessibility	n/a
9	Platform has a way of providing rewards to users based on the behavior of the bank's customers	Functionality	No
10	Platform stores information on the cloud (centralized information)	Storage Accessibility	Yes
11	Platform introduces novel ideas surrounding loyalty points systems	Functionality	Yes
12	Platform democratizes loyalty within the financial institutions	Functionality	Yes
13	Platform ensures the users are actively participating in the loyalty program by using their points	Ease of use	No

The combined subsystems fulfill most functions outlined in the benchmarking. The user benchmarking of other loyalty rewards programs revealed that the thing users look for the most is a good value for their points, more ways to spend their points and a clear way to see how their points can be spent. This combined solution fulfills all of these criteria; it allows for users to have more ways to spend their points, as well as shows them clearly how they can be spent. It expands on current loyalty rewards programs and takes a more horizontal approach.

From the technical benchmarking, most of the pre-existing platforms also offer different pricing plans, similarly to the chosen subsystem. It also allows customers to earn points with the respective business, and it furthers this idea by allowing the business' customers to earn and transfer points with other establishments.

Based on the comparison to the design criteria and benchmarking, this solution fulfills enough of the criteria to be considered a good solution to the problem statement, and these combined concepts will be the final solution.

3. Conclusion:

In conclusion, the team has decided that the final solution will be a platform which allows the transfer of points between rewards systems in a safe and accurate way, as well as allows smaller partners to participate. The platform will be built using PowerApps and Excel. The following deliverable will include a detailed plan and description of the platform.

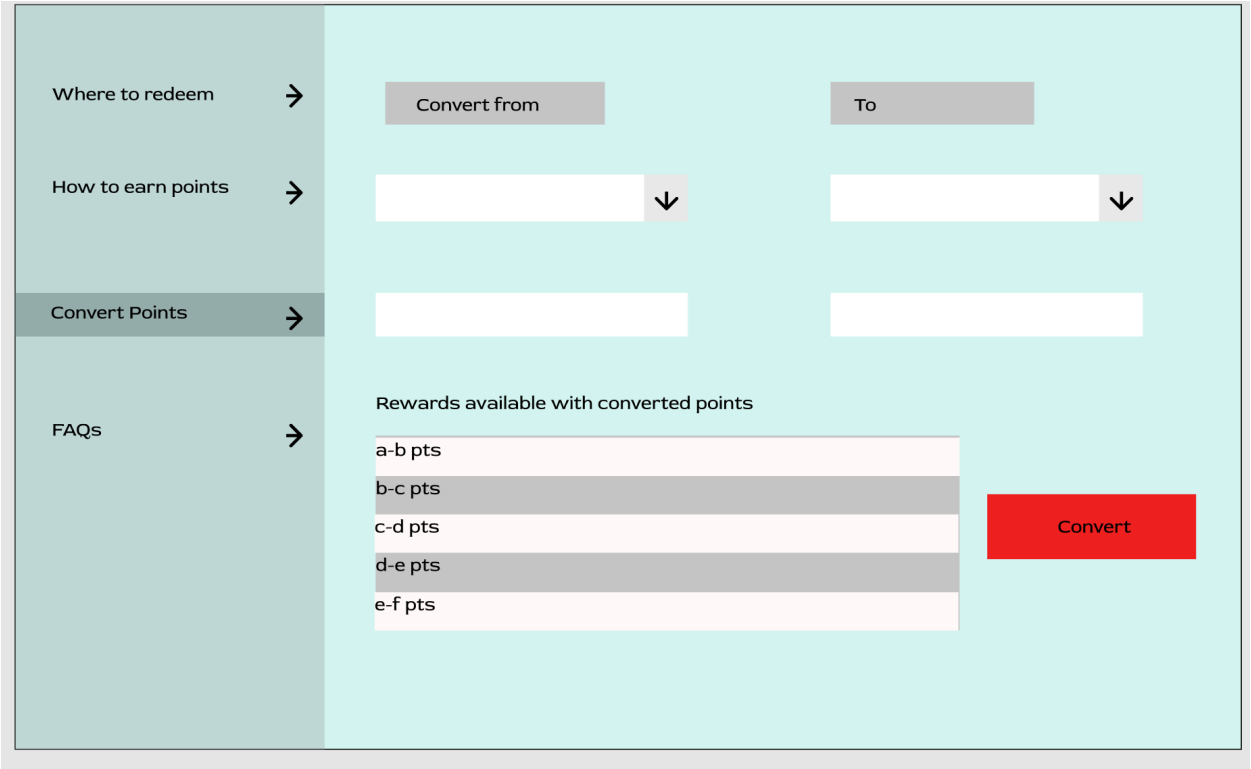
4. Appendix

Each group member made their ideas based off of criterias #1, #4, and #6

Annabelle's ideas:

The 3 prioritized design criteria were accessibility (for smaller partners), accuracy (for transferring points between rewards systems) and response time/speed (for handling large amounts of data.

Design criteria: Accuracy (1)



In order to allow for customers to transfer their points between rewards systems, the platform must have a way of doing so accurately, in order to ensure that neither the client nor the user is losing money/points. In order to do this, the algorithm developed will make use of data types that allows for precision, and the decision on how much accuracy is required will be made (½ points, ¼ points, etc). The conversion factor for conversion between each system will be stored as a constant, then employed during the use of the algorithm. The constants can be stored in something like an excel file, then used through powerApps. The code would resemble something like this:

String pointsSystem1 = Textbox1.getText();

String pointsSystem2 = Textbox2.getText();

Long double pointsToConvert = parseInt(Textbox3.getText());

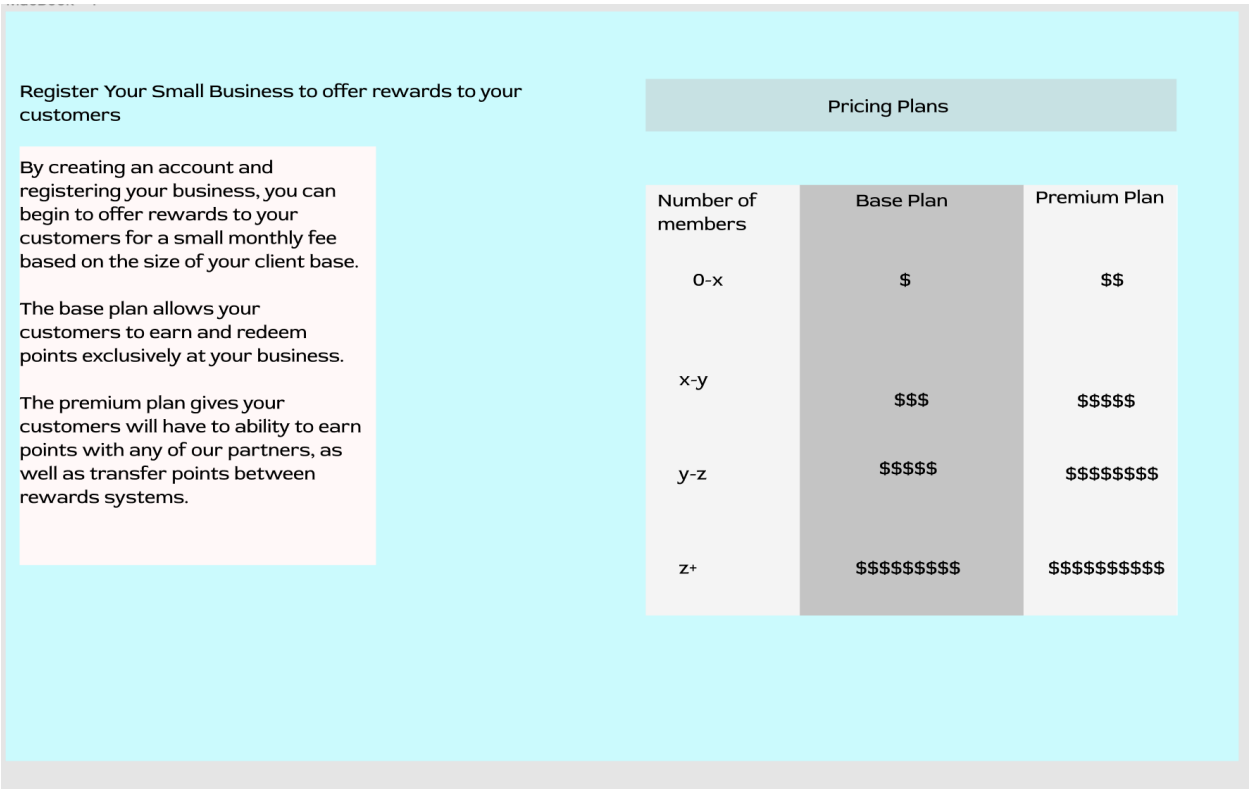
Long double convertedPoints;

Long double conversionFactor = getConversionFactor(pointsSystem1, pointsSystem2);

convertedPoints = pointsToConvert * conversionFactor;

Design criteria: Accessibility (4)

For Zafin, giving smaller partners the ability to participate in the loyalty program was a priority. Smaller partners, unlike popular chains and big names (Scene, Shoppers Drug Mart, etc) have a much smaller client base. Even within the smaller client base, there exists levels. Not all small partners will have the same size of client base, therefore a different revenue. This means that smaller, independent partners (a local bakery) would have a much smaller client base than a Subway franchise. So, if Zafin is to offer their services to smaller partners, the platform must be able to cater to the needs of differently sized client bases. This could easily be done by setting up different price plans based on size. To further this, the platform could also offer a base plan, as well as a premium plan that allows businesses to offer more rewards to their customers.

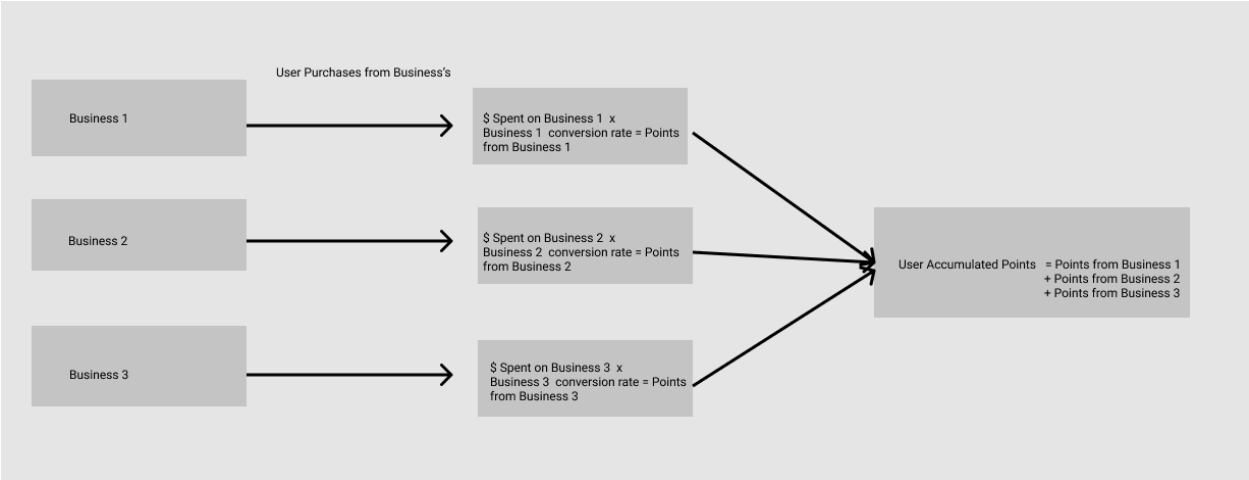


Design criteria: response time/speed (6)

Zafin's brand is based on providing software that allows companies to do more, at a faster pace. The platform developed will be dealing with lots of data flow in and out, and must be able to keep up. The platform's data will be stored on the cloud, which will help to alleviate this. The platform will be built through Microsoft PowerApps, using Excel as a data source. The excel spreadsheet will be stored on cloud storage, and

Hazim's ideas:

1. *Platform provides a way to calculate and transfer points between rewards systems*



- The platform would theoretically create a point conversion rate for each business then would add up those points to create a sum of user accumulated points that can be used at any business that is part of the loyalty system

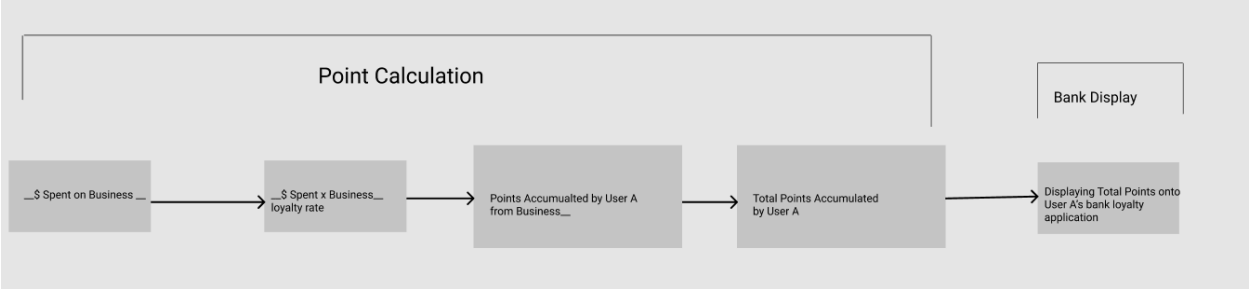
4. Platform allows for smaller retailers and companies to provide loyalty/benefit points, as well as a way for them to access this information

- By using the system mentioned above, any business can join the program as a conversion rate for loyalty points will be made using data such as:
    - Average Sales / year (or month depending if we want a conversion rate that changes every month for some business in order to drive more sales as customers will shop at the business more in order to accumulate more points
    - Number of Business locations
    - The type of business (grocery, retail, food, etc)

6. Platform can handle high volumes of incoming and outgoing data

- If this platform is partnered with multiple banks and multiple businesses then there will be a lot of data inflow and outflow that will need to be processed.
- Zafin prides themselves on improving the efficiency of bank systems in order to provide better bank customer satisfaction, therefore the loyalty platform has to be designed in a way that it can handle high volumes of data
- Data flow will look like:

Bank customer spends __$ at Business__ → Loyalty system takes the __$ and multiplies it by Business__ loyalty conversion rate → Loyalty system stores that value as "Points accumulated by User A from Business__" → Loyalty system adds that value to "Total points accumulated by User A" → The loyalty system then displays the "Total points accumulated" value onto User A's bank loyalty application



Caiyuan Mao ideas:

1. *Platform provides a way to calculate and transfer points between rewards systems*
   - The platform should accurately calculate the points earned by the project. If the service object has multiple consumption items, the platform will calculate the rewards of each item in turn and aggregate them. Finally, these rewards will automatically enter the service object's private account So that they can easily view them.

4. *Platform allows for smaller retailers and companies to provide loyalty as well as a way for them to access this information.*
   - The platform should allow small-value services. For example, retailers or companies with little property transfer should also have the right to use points and information.
     1. The platform separately includes this type of transaction in a subroutine for transaction and conversion, unless the retailer and the company decide to take the risk to participate in the huge transaction.
     2. Retailers and companies can enter as investors. For example, they can put points or part of their property into the transaction. Finally, they can get a percentage income.
     3. It is necessary to indicate the types of different transactions so that retailers and companies can participate conveniently.

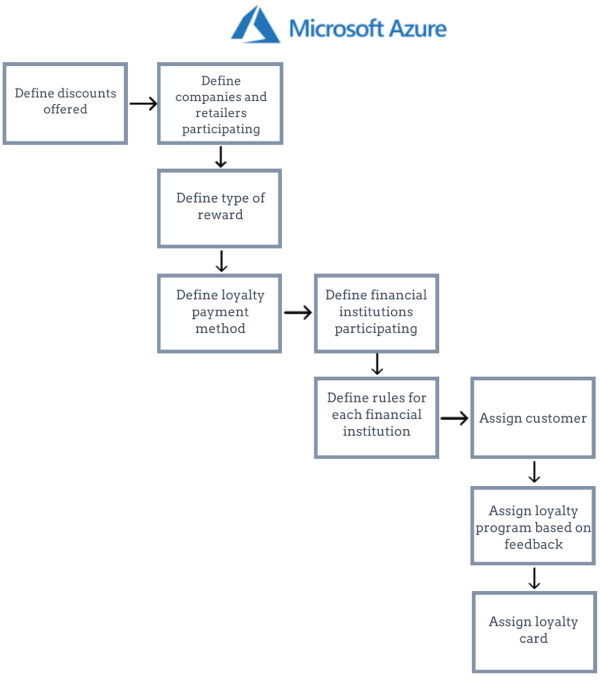
6. *Platform can handle high volumes of incoming and outgoing data.*
   - The platform allows the storage and processing of a large amount of data. This can use lists or dictionaries to make different projects, different customers, and even different banks clearer classification. Let viewers browse all data just by clicking a button.
   - The platform allows the storage and processing of a large amount of data. This can use lists or dictionaries to make different projects, different customers, and even different banks clearer classification. Let viewers browse all data just by clicking a button.
   - The platform can also find relevant bossiness by searching for keywords.
   - Effectively handle the stability of data in and out.

Oumou Salam Kane ideas:

STARS! is a new loyalty program platform that will derive its success from its multiple partnerships with banks and companies from several sectors. It will sell for its variety and specificity. It is a large, safe and secure platform where several companies can find their account and boost their income. It is also adopting a new points system called STARS to set itself apart from loyalty programs and incite users' curiosity and engagement. But what makes its originality is its ability to adapt its loyalty program to each user or client of financial institutions according to their choices. The platform offers users the option to choose the sectors where they spend the most to affiliate them with partners in these sectors so that they earn points faster. We believe that what makes a loyalty program successful is its ability to bring together lots of users and deliver rewards across multiple industries using a horizontal approach. It is therefore important for users to have their specific loyalty program to engage them in earning and redeeming points.

For this project, our team came up with three different subsystems that we believe are immensely important in the success of this project:

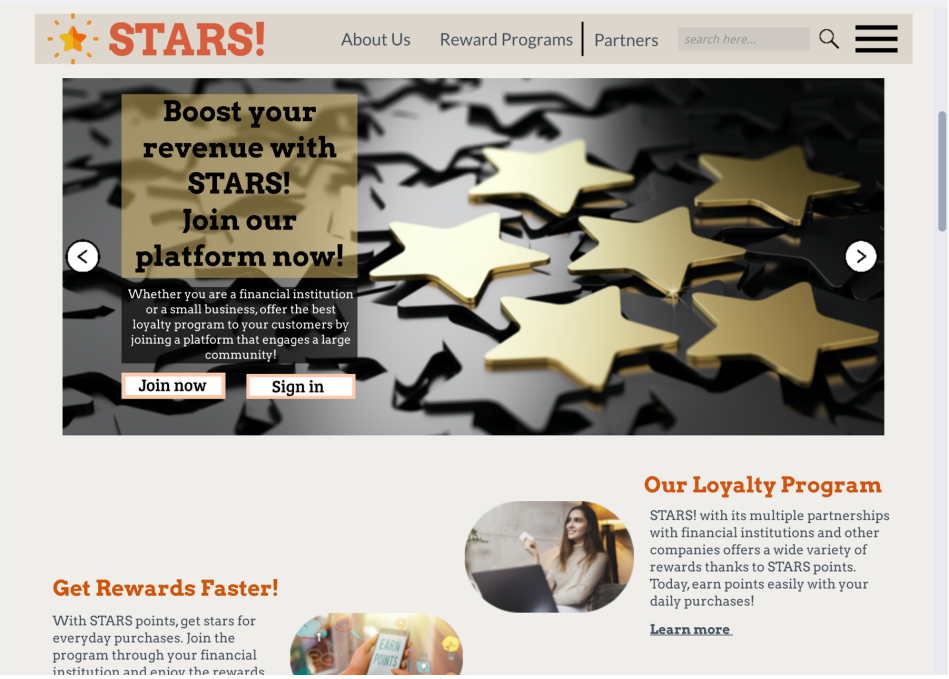
1. *Platform provides a way to calculate and transfer points between rewards systems:*



We will use Microsoft Azure to program a platform that will store several data in order to calculate the points. As shown in the diagram above, the platform will record the data of participating businesses and banks and define the types of discounts offered, types of loyalty programs and payment methods to earn points. All calculations will be done through the

platform. Another parameter will be the possibility for a bank to add its rules in the loyalty program to reward loyal customers who have several services with them. Finally, our platform will analyze user preferences based on their spending and feedback to offer them a loyalty program that will be specific to them and by providing them with a loyalty card.

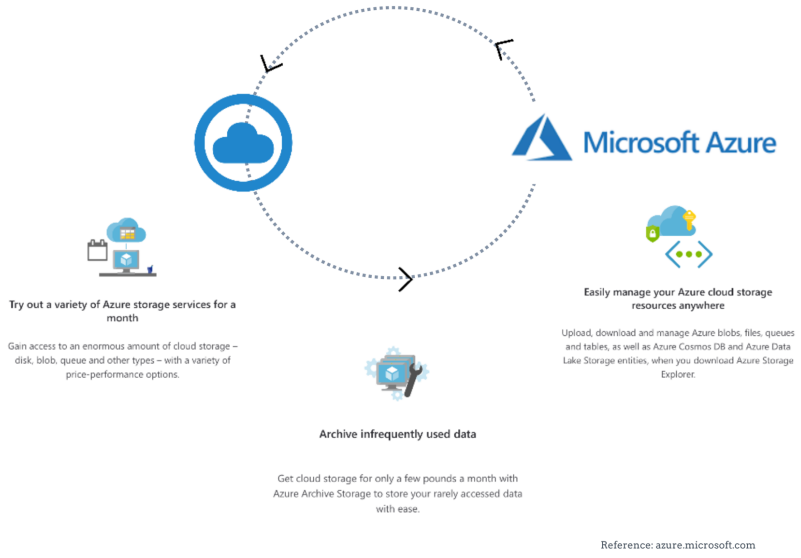
4. Platform allows for smaller retailers and companies to provide loyalty/benefit points, as well as a way for them to access this information:



This is the idealized mockup of our platform that we named STARS!. Through the interface, we can see that it is an open platform for financial institutions (customers) but also other companies that also want to be part of this loyalty program.
We have decided to give particular importance to the accessibility of our platform to all companies or small businesses that want to increase their profits through a loyalty program. The platform therefore offers banks and companies to join in order to provide their users with a loyalty program that will be specific to them according to the partners and the individual choices of users. We believe that what makes a loyalty program successful is its ability to bring together lots of users and deliver rewards across multiple industries using a horizontal approach. It is therefore important for users to have their own loyalty program to engage them in earning and rewarding points. Indeed, STARS! works as a large platform that brings together several companies from different sectors but also Canadian banks which by adhering to the terms of STARS! offer their customers to join this platform where their own loyalty program will be offered to them according to the stores that interest them the most. They will be able to earn stars more quickly to have rewards because their loyalty program will be specific to their needs. In

other words, the greater the number of companies and businesses joining, the more successful the platform will be.

6. Platform can handle high volumes of incoming and outgoing data:



It is important to have a platform that can store a lot of data because it will always be necessary to analyze the behaviors and preferences of users. As mentioned above, we will be using Microsoft Azure to create our platform because it is a cloud-based platform that meets several criteria. The platform makes large data storage available at unbeatable prices. But it also allows you to manage your data in a secure manner for the best development of the platform!

Michael's Ideas:

1. *Platform provides a way to calculate and transfer points between rewards systems*

   The platform should be able to easily track and calculate your points, and facilitate transfers of said points between different reward systems. The system should be able to accumulate all of your points from various stores, in a sort of wallet format. A great example of this, would be a generic banking app. Once you have the points, you should be able to spend them on a budget, save them, or dump them all at once. Its your choice! A little more complicated addition would be a virtual assistant, or bot to recommend the user proper actions, in case they severely lack financial literacy. Finally, the transfer of points should be very simple and seamless, like an e-transfer on a banking app.

4. Platform allows for smaller retailers and companies to provide loyalty as well as a way for them to access this information.

For this, what we would offer is a way for as many businesses as possible to participate in the points program. We would have a secure yet easy way for stores to join the program, and separate the types of rewards earned, into sections of stores. For small businesses, the rewards could be customizable, to offer more for certain special products that the small business offers, as well as the normal reward rates for this type of store. For large retail and grocery stores, there would be a more uniform, less customizable rewards system, to assure accuracy, and security. In addition, this would promote more small businesses, enriching the community.

6. Platform can handle high volumes of incoming and outgoing data

This is arguably the most important, as the servers MUST not crash, as that is not up to the Zafin standard. In order to limit this, some things we could implement are: a help tab, where a bot could answer simple questions, in order to avoid panic traffic on the app. Also, limit the amount of unnecessary clutter on the app, and streamline the experience. This will lead to smoother running, as well as user happiness levels increasing.

5. Wrike Snapshot

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=qXj2teMvLjoSkBqs4WKzlk8WnMbFgO7p%7CIE2DSNZQGUZDMLSTGIYA