GNG1103[A] Proj 13 Deliverable G

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Abstract:

This document outlined the team’s second prototype, as well as an updated prototype testing plan, and feedback provided on the current prototype.

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1. Introduction:

This document will discuss the team's second prototype, as well as provide a thorough analysis of what the prototype does, as well as the prototype against the testing plan. This document will explore feedback received from potential users and clients, as well outline a plan for the final prototype.

2. **Prototype**

The second prototype focused on expanding the previous prototype to includes concrete way of including smaller businesses through a pricing plan depending on the amount of customers they want to register with the points rewards system.

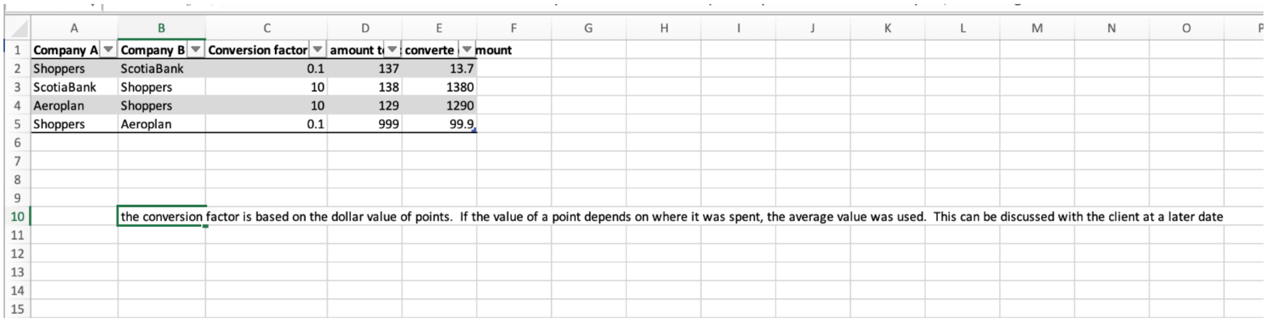
Link to the mock up website:
https://marvelapp.com/prototype/69f0840

In order to allow smaller businesses to participate in the platform, there must be different pricing based on the numbers of members registered to the rewards program.. This monthly fee would be paid to the financial institutions. There is a base plan, as well as a premium plan. The base plan will allow companies to offer their customers rewards, which will serve as a driving factor to join, since their business will increase. Buying the premium plan will allow the company to have more control over the rewards program - their clients would be able to convert the points earned at the business with points earned at other companies, as well as allow the business to promote special weekly offers (ie buying a certain items on a Friday from 4-10 will give double the points). The pricing plan developed here is based on the pricing from Glue Loyalty, another platform which offers similar services. Larger chains will have a monthly fee of 1000$/month.

As seen in the previous prototype, the current mock up will allow users to convert points from business A to business B, using a conversion factor determined by the dollar value of points earned with each business. A demonstration of this can be seen in the Excel spreadsheet below.

Potential risks involving this prototype is that the rates could become outdated due to factors such as inflation, loss of business, etc. This means that this prototype would require some upkeep, even after it has been deployed.

# of members	Base plan price ($/month)	Premium plan price ($/month)
1-10	free	n/a
10-75	25	40
75-200	45	80
200-500	90	160
500+	Case by case basis	



Company A	Company B	Conversion factor	amount t	converte	mount
Shoppers	ScotiaBank	0.1	137	13.7	
ScotiaBank	Shoppers	10	138	1380	
Aeroplan	Shoppers	10	129	1290	
Shoppers	Aeroplan	0.1	999	99.9	

the conversion factor is based on the dollar value of points. If the value of a point depends on where it was spent, the average value was used. This can be discussed with the client at a later date

Prototype tests

Test ID	***Test Objective (Why)***	***Results***
1	Have a prototype that allows a business / commerce X to be able to register and join the platform. It is important to involve small businesses in our platform, which is why the platform must necessarily attract potential partners. The prototype will be for the purpose of learning and communicating to receive feedback	The prototype does allow a business to sign up, and provides a price plan based on the size of their business. Small businesses can be involved, as well as larger ones. The prototype passes test 1.
2	Configure a platform that offers the business two subscription plans. It is important to monetize the platform so depending on the business and its clientele, the platform must be able to come up with a plan that suits the business.	The prototype offers 2 different pricing plans, a base one and a premium one. Smaller businesses will pay a smaller fee, larger ones will pay a larger monthly fee. Therefore, the prototype offers plans based on client base size, and passes test 2.
3	The prototype must be able to show the interactive side between the platform and the partner to ensure a good user experience. This prototype is therefore for communication purposes in order to receive feedback and optimize the interface	N/A
4	The prototype allows user A's points to be converted from business X to business Y. In other words, it efficiently uses points earned in one business into another. This is a goal to measure the performance of the precision of the platform. This objective is more than important because it plays on the good functionality and the performance of the final product. Without good precision, the platform cannot be on the market	The prototype allows the user to convert points from 1 business to another, based on a conversion rate, and therefore passes test 4.
5	The prototype configures the prerequisites, i.e., discounts, participating financial institutions, reward types, payment methods and various rules before assigning users and loyalty cards. This is another essential objective in the success of the platform. Any loyalty program platform must be able to identify this information in advance. This test is for learning	n/a
6	The prototype will have to execute in a fast way, and without latency time the tasks which are requested of it. It is essential that	n/a

	for the proper functioning of the platform, that it can handle large amounts of data without interruption or crash. This test is therefore for de-risking.	

3. Prototype testing plan

Test ID	***Test Objective (Why)***	***Description of Prototype used and of Basic Test Method (What)***	***Description of Results to be Recorded and how these results will be used (How)***	***Estimated Test duration and planned start date (When)***
1	Have a prototype that allows a business / commerce X to be able to register and join the platform. It is important to involve small businesses in our platform, which is why the platform must necessarily attract potential partners. The prototype will be for the purpose of learning and communicating to receive feedback	The prototype will be focused. This type of prototype was chosen because our prototype is focused on one of the functionality of our subsystem and not on the entire subsystem. Also, since the platform is online, the prototype will not be physical but rather analytical because we will create an online interface that will be modifiable. The prototype will consist in creating an interface that will invite businesses and companies to come and register and open an account on our platform. This prototype can be done from a free online mock-up website after doing several research on different platforms that have similarities to the one we want to create.	The main result that will come out of this prototype is the ease of accessibility and attraction of the platform to future partners. Ideally the prototype will have all the useful information that will allow a business to register.	This test should take 1 day to complete as it is only a mock-up
2	Configure a platform that offers the business two subscription plans. It is important to monetize the platform so depending on the business and its clientele, the platform must be able to come up with a plan that suits the business.	Like Test 1, this test will also be focused and analytical for the same reasons as mentioned above. It will be, like test 1, made as a mock-up that will show how the business can choose between two subscription plans after opening an account. This prototype will be free.	The major result will be, like test 1, to have a prototype whose result will clearly be a good display of the different plans offered by the platform. We will thus note how the display of offers will be influential.	This test should take 1 day to complete as it is only a mock-up

3	The prototype must be able to show the interactive side between the platform and the partner to ensure a good user experience. This prototype is therefore for communication purposes in order to receive feedback and optimize the interface	This prototype will be analytical because it will be done using software and will be comprehensive because it will bring together several attributes of our subsystem which is the accessibility of our platform to small businesses. This prototype will combine tests 1 and 2 by implementing the platform's interaction with partners. The prototype will therefore be made from PowerApps and Excel to find an algorithm capable of forming an interaction with the user.	The best result in this test is the good interaction between the software and the user. We will note how the interaction takes place, that is to say, when the user opens his account and chooses an offer to when he can access his files, his profile and can manage his program. It will also allow us to see how the software will operate. This prototype is the most important of all because it encompasses all the parameters important to the success of the accessibility criterion.	This test should take 4 days. It depends on the first two tests mentioned above. This duration is due to the fact that an algorithm has to be determined in order to have an interaction between the program and the user which might take some time.
4	The prototype allows user A's points to be converted from business X to business Y. In other words, it efficiently uses points earned in one business into another. This is a goal to measure the performance of the precision of the platform. This objective is more than important because it plays on the good functionality and the performance of the final product. Without good precision, the platform cannot be on the market	This test is essentially comprehensive because it brings together several aspects of our precision point conversion subsystem. We want to see how the subsystem will work as a whole. For this prototype, we will be using PowerApps and probably Power Automate to generate an algorithm for converting points. A mock-up will also be made to clearly present what the interface should show. A lot of research will have to be done on the programming for the conversions and the interactive side.	The information to be gleaned from this prototype is its precision in converting points from one business to another. As mentioned in the objectives, it is imperative that the results are positive. To ensure that a user can take advantage of his points in each store (if he has previously subscribed to this offer), the points must be conveniently converted and therefore our results must be conclusive.	This test should take 5 days for completion as it requires a lot of research to come up with a good algorithm that gives accurate results. This task is independent of others.
5	The prototype configures the prerequisites, i.e., discounts, participating financial institutions, reward types, payment methods and various rules before assigning users and loyalty cards. This is another essential objective in the success of the platform. Any loyalty program	This test is focused because it is focused on one of the attributes of data accuracy in the platform. We want to be able to configure a prototype where we will be able to insert certain information beforehand. This information can then be stored in the platform for financial institutions. The prototype, thanks to algorithms, will allow financial institutions to	The result of this prototype is its ability to store certain data entered by administrators and the ability of the prototype to give access to financial institutions to perfectly insert their data and manage their customers. The prototype will clearly have the key parameters, the relevant information for the banks and will adopt the	This test should take 3 days to complete. It will depend on no other task

	platform must be able to identify this information in advance. This test is for learning	define their rules and limits of the loyalty program, assign users (their customers) and assign loyalty cards. We will still use PowerApps to perform this task.	prerequisites that have been set for it.	
6	The prototype will have to execute in a fast way, and without latency time the tasks which are requested of it. It is essential that for the proper functioning of the platform, that it can handle large amounts of data without interruption or crash. This test is therefore for de-risking.	This model will be focused because we will focus on reducing the risk of crash or slowness of the system. We also want to focus on the performance of the platform. The test will always be done with PowerApps because it can collect a lot of data for a simple prototype. It will be a question of implementing several data and testing the responsiveness of the platform when the number of data increases	The most important thing is to be able to measure the speed of the platform and its response time in order to better assess its performance. We will collect the test results to compare them to norms and thus assess whether the test is effective or not. These records will be really important in the success of the project	This test should take a day to complete as it only asks to evaluate the performance of the platform. It is dependent on tests 3 and 4.

4. Prototype feedback:

Hazim's prototype:
- Very easy to use
- Visually simple, good UI
- Requires lots of info from businesses (customers/day)
- The prototype is easy to understand
- The prototype is detailed and straight to the point

CaiYuan's prototype:
- I like that it splits up the businesses by the amount of customers
- The divisions seem a bit small, most businesses would have > 20 customers registered
- The prototype is a bit hard to understand
- It shows interesting ways to attract potential businesses

Oumou's prototype:
- Visually very nice, love the aesthetic
- The algorithm looks great, very functional

Michael's prototype:
- Good layout
- Very straightforward and easy to understand

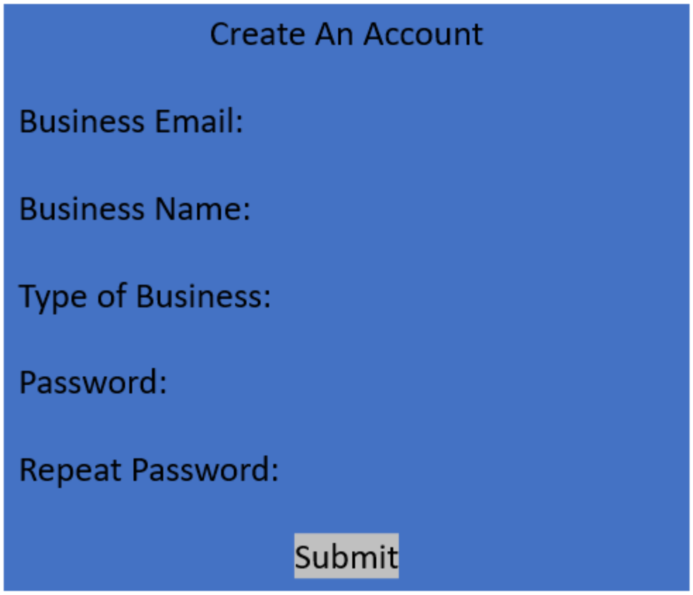
Annabelle's prototype:
- Has a clear and easy to understand set up
- I like the idea of a base and premium plan
- I like that she used another company as an example to work off of

5. Conclusions and Recommendations:

In this document, the second prototype was explored and created. This prototype found a way for smaller businesses to be included in the platform. The next deliverable will be the final deliverable.

6. Appendix

Hazim:



Create An Account

Business Email:

Business Name:

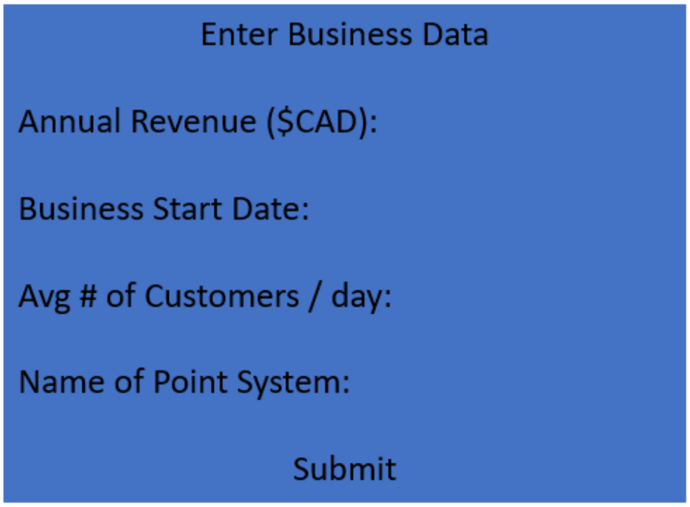
Type of Business:

Password:

Repeat Password:

Submit

The small business will create an account through the website, giving information such as type of business



Enter Business Data

Annual Revenue ($CAD):

Business Start Date:

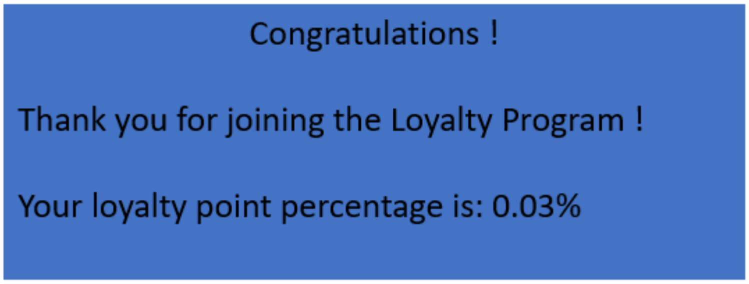
Avg # of Customers / day:

Name of Point System:

Submit

The data that the Business owner inputs will be used to calculate their loyalty point percentage

Business owners are encouraged to create a name for their point system to let them stand out



Congratulations !

Thank you for joining the Loyalty Program !

Your loyalty point percentage is: 0.03%

This is a prototype of how business owners would sign up for the program. The data entered when they are signing up will be used to determine their loyalty rate based on an algorithm.

Annabelle:

In order to allow smaller businesses to participate in the platform, there must be different pricing based on the numbers of members registered to the rewards program.. This monthly fee would be paid to the financial institutions. There is a base plan, as well as a premium plan. The base plan will allow companies to offer their customers rewards, which will serve as a driving factor to join, since their business will increase. Buying the premium plan will allow the company to have more control over the rewards program - their clients would be able to convert the points earned at the business with points earned at other companies, as well as allow the business to promote special weekly offers (ie buying a certain items on a Friday from 4-10 will give double the points). The pricing plan developed here is based on the pricing from Glue Loyalty, another platform which offers similar services. Larger chains will have a monthly fee of 1000$/month.

# of members	Base plan price ($/month)	Premium plan price ($/month)
1-10	free	n/a
10-75	25	40
75-200	45	80
200-500	90	160
500+	Case by case basis	

Michael:

Basically, there would be an algorithm that would help businesses join the platform. For me, the website UI is very important when joining something, as it makes or breaks the service/platform. Here is a little snapshot of what this prototype would look like:

Prototype (for businesses)

{Welcome to Stars!}

Official Documentation of business:
Business e-mail:
Main type of export:

Submit a piece of identification, to prove you own the business:

Account creation

Business Name:
password:
confirm password:

Allow google maps
To use your store?

Accept

Additional information:

Annual business revenue: (preferably CAD)
Average number of customers/day:

Average annual income (preferably last 5 years AVG):

Name of point system:

Submit Application → (Must be approved by us)

thank you for joining the program!

Essentially, this is a prototype that will change the way small businesses communicate, and will be REVOLUTIONARY. Obviously, I can't type the algorithm in here, but you know the jist of it.

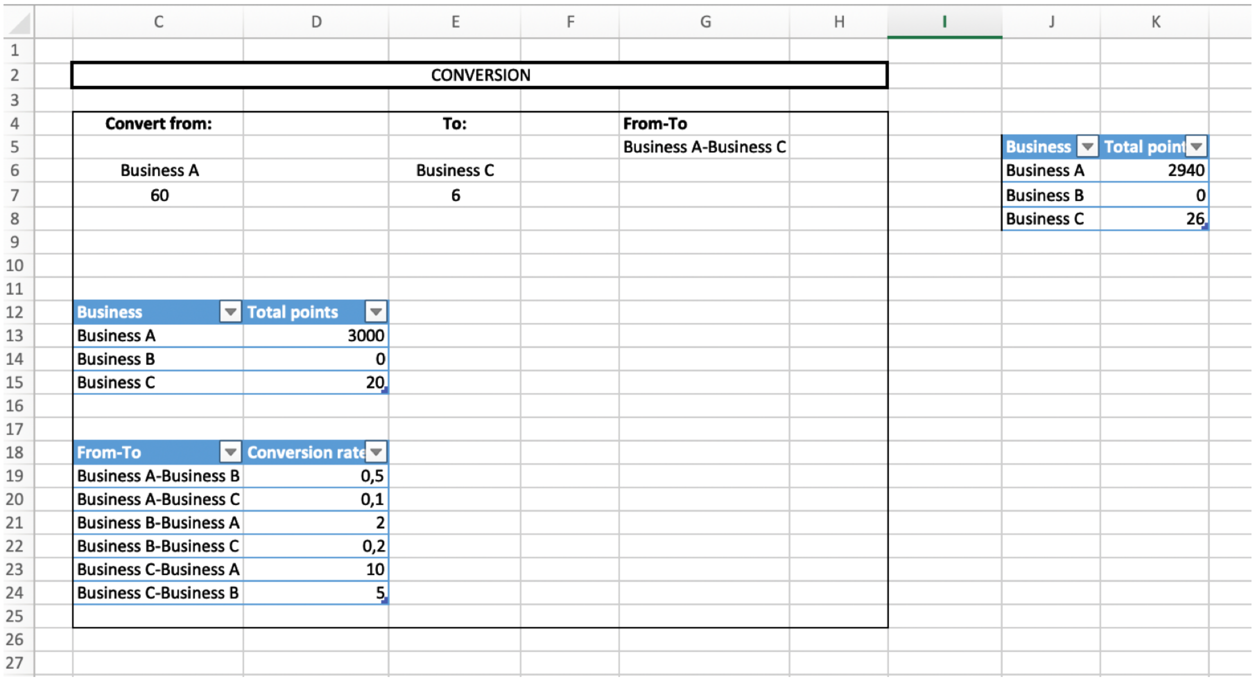
CaiYuan:

In order for smaller businesses to be a part of the platform. There should be certain measures to promote and encourage them. For example, there should be a classification system, which will classify these businesses which meet different stages according to the amount of transactions. And the platform will distribute each stage different benefits to encourage these smaller businesses to enter. They will be rewarded with points every time they make a transaction or change. There will also be a corresponding percentage gain in each of their transactions. For example:

Amount	Numbers of people	Points from each trade	percentage gain (% of $)
x	1-5	20	10%
y	5-10	15	8%
z	10-20	5-10	6%
>r	>20	Not included in small businesses	Not included in small businesses

Oumou:

This prototype focuses on converting points from one business to another. When the user signs into his account, he has the possibility of converting his points from a Business A to a Business B. Excel was used to simulate the algorithm that will be implemented for the platform:



	C	D	E	F	G	H	I	J	K
1									
2	CONVERSION								
3									
4	**Convert from:**		**To:**		**From-To**				
5					Business A-Business C			**Business**	**Total point**
6	Business A		Business C					Business A	2940
7	60		6					Business B	0
8								Business C	26
9									
10									
11									
12	**Business**	**Total points**							
13	Business A	3000							
14	Business B	0							
15	Business C	20							
16									
17									
18	**From-To**	**Conversion rat**							
19	Business A-Business B	0,5							
20	Business A-Business C	0,1							
21	Business B-Business A	2							
22	Business B-Business C	0,2							
23	Business C-Business A	10							
24	Business C-Business B	5							
25									
26									
27									

Table 1 displays the initial points the user has before converting any points. As an example we can see from the figure above that the user has 3000pts in Business A, 0pts in Business B and 20pts in Business C.

Table 2 shows the conversion rate from one business to another.

The way the prototype works:

A. The user chooses from which business he wants to convert his points and chooses the number of points he wants to convert from that business
B. The user chooses the business to which he wants to convert those points

Algorithm behind the prototype:

1. A "From-To 'cell has been created so that the software can find the correct conversion rate to use in Table 2 from the data inserted in cells C6 and E6 (i.e. the businesses included in the conversion). When the user will specify the businesses for which he wants to convert points, Excel will store the information in cell G5 and be able to find the correct conversion rate in Table 2 thanks to the VLOOKUP function. **G5: =CONCATENATE(C6;"-";E6)**

2. In cell E7, the formula tab contains:

=IF(C7<=VLOOKUP(C6;Table1;2;FALSE);C7*VLOOKUP(G5;Table3;2;FALSE);"Not enough points”)

This formula specifies that if the number of points to be exchanged for a Business X is less than or equal to the number of points that the user has in this Business X, this number of points can be multiplied by the conversion rate found in table 2 to find the corresponding number of points for Business Y. However, if the number of points is greater than the number of points the user has, the platform will send him back that he does not have enough points to convert.

3. Table 3 shows the number of points remaining and earned by the user as a result of the conversion. In order to assess the number of points gained or remaining, an algorithm for business X is created so that if the business to convert from is X, the number of points to be converted is subtracted from the initial number of points and if the business to convert to is X, the converted number of points is added to the initial number of points.

For example, for Business A, the cell K6 contains:

=D13+IF(E6="Business A";E7;0)+IF(C6="Business A";-C7;0)

The next step is to use Excel VBA to create a loop “DO WHILE” so that as long as the user has points to convert, the algorithm will still work efficiently.

7. Wrike Snapshot

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=JtdKRNraWQF6pcvqNDOw8LtN2BoPpKMY%7CIE2DSNZQGUZDMLSTGIYA