

GNG1103
Design Project User and Product Manual

STARS! Project 13

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December 8, 2021

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Table of Contents

| | |
|----------------------------------|-----------|
| Introduction | 1 |
| Overview | 2 |
| Conventions | 3 |
| Cautions & Warnings | 3 |
| Getting started | 3 |
| User Access Considerations | 6 |
| Accessing the System | 6 |
| System Organization & Navigation | 7 |
| Exiting the System | 8 |
| Using the System | 9 |
| Profile Page | 9 |
| Name | 9 |
| Date of Birth | 9 |
| Address | 9 |
| Convert Page | 9 |
| Convert From Business X Dropdown | 9 |
| Amount of Points to Convert | 10 |
| Convert to Business Y Dropdown | 10 |
| Converted Amount of Points | 10 |
| Rewards and Offers | 10 |
| Business Profile | 11 |
| Business Name | 11 |
| Analytics | 11 |
| Troubleshooting & Support | 12 |
| Error Messages or Behaviors | 12 |
| Special Considerations | 12 |
| Maintenance | 12 |
| Support | 12 |
| Product Documentation | 14 |
| Stars! materials and equipment | 22 |

| | |
|---|-----------|
| BOM (Bill of Materials) | 22 |
| Equipment list | 22 |
| Instructions | 23 |
| Testing & Validation | 23 |
| Conclusions and Recommendations for Future Work | 30 |
| Bibliography | 31 |
| APPENDIX I: Design Files | 32 |
| APPENDIX II: Other Appendices | 33 |

List of Figures

N/A

List of Tables

| | |
|-------------------|-----|
| Table 1. Acronyms | vii |
| Table 2. Glossary | vii |

List of Acronyms and Glossary

Table 1. Acronyms

| Acronym | Definition |
|---------|-----------------|
| UI | User interface |
| UX | User experience |
| | |
| | |
| | |

Table 2. Glossary

| Term | Acronym | Definition |
|------|---------|------------|
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1 Introduction

The User and Product Manual (UPM) provides information necessary for financial institutions and businesses to effectively use the STARS! platform and for prototype documentation. The STARS! platform will allow financial institutions to offer a loyalty rewards system to their customers, as well as allow businesses to sign up and offer rewards to their customers. The goal of this platform is to democratize loyalty points, provide every business with an even playing field, as well as increase the revenue of businesses and financial institutions through more customer engagement. This document outlines any acronyms and abbreviations useful in understanding the system, as well as warnings when using this product. It will explain to users how to get started, set up the system, access it and exit it. Furthermore, it will provide a detailed explanation of how to properly use the system, as well as solutions to common troubleshooting issues. The use of this manual is reserved exclusively for financial institutions who are clients of Zafin, as well as businesses who wish to participate in the platform and offer its services to their customers.

2 Overview

Today, loyalty programs are becoming more and more widespread in businesses in order to attract potential customers and boost profits by creating a relationship between a business and loyal customers where everyone wins. However, it has been noticed that most loyalty programs do not offer a wide choice of rewards by offering only one type of reward for a specific business which is not inclusive enough. So it became important to be able to create a loyalty program that used a different approach to innovate and include multiple businesses and a larger community.

It is important that the program creates something new, where customers can earn, redeem or exchange points in a wider radius than that established by the vertical approach that the common loyalty programs have applied. Users, customers and businesses alike, have this need for inclusion where the loyalty program is not only reserved for large companies or a well-targeted community.

This is where STARS was born! a brand new loyalty program platform that uses a horizontal approach to greatly engage people and businesses, especially small ones, in a democratized ecosystem that values inclusion and innovation. STARS! stands out for its concept of star points where the user earns stars rather than points. This brand new concept is a way to arouse the curiosity of users by showing them a different aspect of earning points and thus rally them to the ecosystem. In addition, the platform allows the conversion of points from one business to another with a single click! It also allows small businesses to be included in a big community by offering interesting promotions and offers while keeping an easy-to-use and pleasant interface.

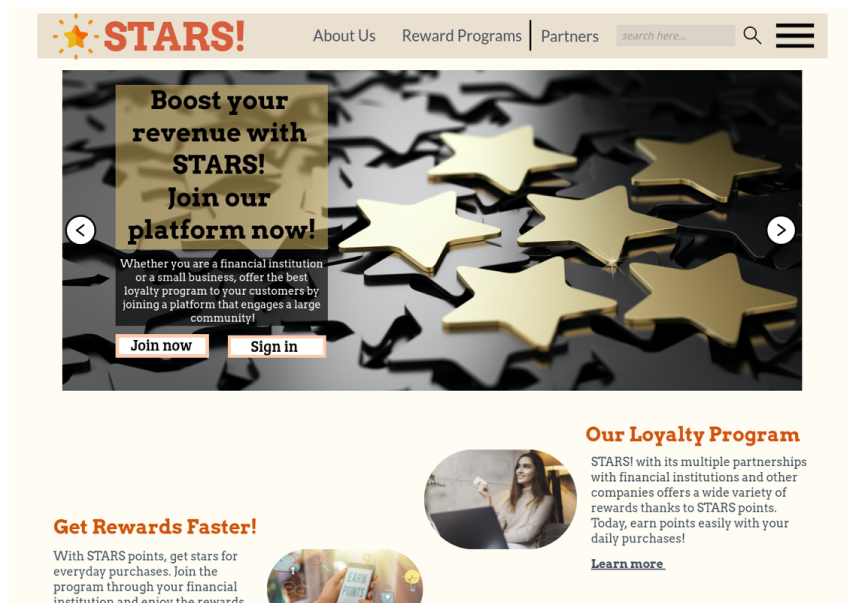


Figure 1: User's Interface (Home page)

It is possible to join the platform for two types of users: business or user. A business can view its profile, establish new offers or promotions for its customers, or view its profits from the loyalty program. A user can also consult his profile, the number of stars accumulated, see all the offers available for the number of points he has, and convert his points from one business to another.

The platform works on the web as well as on a mobile application to accommodate the different age groups of users and to facilitate accessibility for all. The architecture of the system is a two-tiered architecture for the user and for the commerce including two servers, that of the "client" and that of the database. User access mode is a graphical user interface (GUI) for simplicity.

2.1 Conventions

In this manual, any information about the « business » user is identified by the letter "B" in bold and underlined at the beginning of the line.

Any information about the « customer » user is identified by the letter "C" in bold and underlined at the beginning of the line.

Any access button (of the platform) will be written in italics.

2.2 Cautions & Warnings

For permission to copy information related to the use of the platform, please contact the company.

Copying information for fraudulent purposes is prohibited.

3 Getting started

3.1

Access the platform from the website link or by downloading the mobile application. Once on the platform, the user is in front of a *Sign Up* tab where he can open an account as a business or as a simple client (user who does not have any business).

The image shows a mobile application sign-up screen for 'STARS!'. At the top left is the 'STARS!' logo with a star icon. At the top right are two buttons: '← Back' and 'Sign in'. The main heading is 'Sign up to get started!' followed by the instruction 'Enter your details below'. The form consists of several input fields: an 'Email' field with the text 'prototype@design.com' and an envelope icon; a 'Company Name' field with 'CVG1103' and a person icon; a 'Sector' field with 'Engineering' and a factory icon; two 'Password' fields, each with a lock icon and a strength indicator (dots); and a checkbox labeled 'I agree with terms & conditions'. At the bottom is a large orange 'Continue' button.

Figure 2: Sign up to create an account

B: An application form is presented where the business can apply to join the platform by entering their data and uploading documents to provide evidence as to the validity of their business and income. After approval of the request, the account is opened and the business has access to their account. On the home page, the business is in front of 3 tabs: the *Profile* tab to view its information and update it if necessary, the *Profits* tab to view its profits, see its estimates or even customers trends, and finally, the *Partners* tab to see other businesses that have adhered to the platform with which it could partner in the rewards program. The business can log out of their account from the tab displayed at the top right.

C: After opening an account, the customer is redirected to his home page where he is in front of 3 tabs: the *Profile* tab to view his information and update it if necessary; the *Convert* tab where he can convert points from one business to another by selecting the business from which he

wants to transfer to the business for which he wants to transfer STARS points! And by also entering the number of points to convert then the *Convert* button. Finally, there is the *Rewards & Offers* tab where the customer can see the accumulation of his points and see the offers for which he can redeem his points. The customer can log out of his account from the tab displayed at the top right.

The screenshot shows a sign-in interface for the STAR application. At the top left is the STAR logo. In the top right corner, there are two buttons: '←Back' and 'Sign up'. The main heading is 'Sign In!' followed by the instruction 'Enter your details below'. There are two input fields: 'Email or Company' with the value 'prototype@design.com' and a mail icon, and 'Password' with masked characters and a lock icon. Below the password field are links for 'Forgot Password?' and 'Forgot Email?'. A large orange 'Continue' button is at the bottom.

Figure 3: Sign in to your account

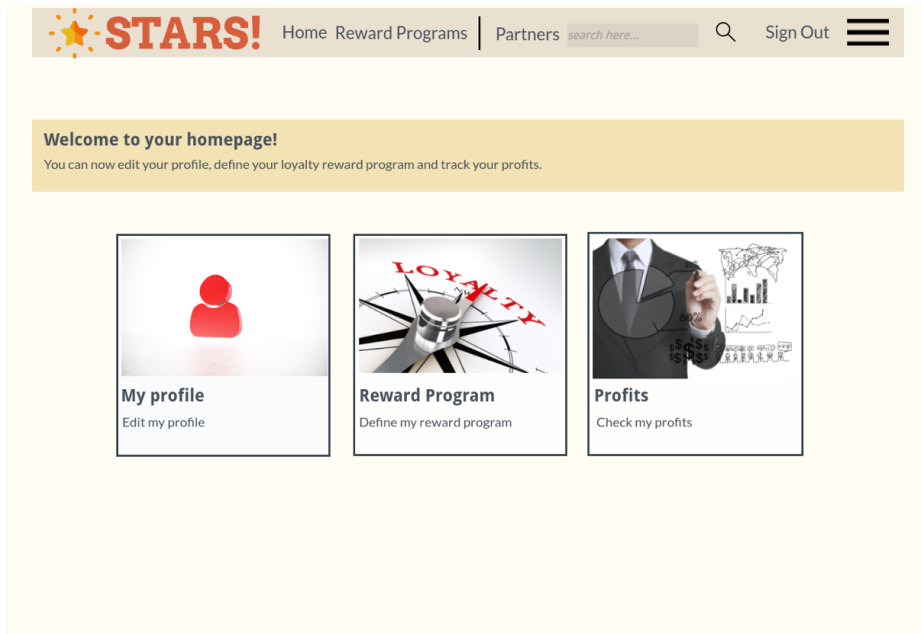


Figure 4: Home page of your account

Set-up Considerations

In order to start using the platform, make sure you have an electronic device such as a computer, tablet or mobile phone at your disposal. For the mobile application, you must first install the "STARS!" to start.

No other equipment is required for use.

3.2 User Access Considerations

STARS! has been configured for 2 different types of users: businesses and customers. The platform was designed to allow a wider range of possibilities for the business on a technical level in order to offer the best offers to its customers. Businesses therefore have access to certain customer information for service improvement purposes. Customers only have access to their loyalty programs and personal information. Any other information deemed confidential will not be accessible to both types of users.

3.3 Accessing the System

To access the platform, you must go to the platform's web page or install the application on your smartphone. Once on the platform, you can create a customer or business account by clicking on the button *Sign Up* or *Join Now*.

B: You are redirected to a page to proceed with a membership request. You must enter all the information related to your business: name of the business, date of creation, type of business.

The platform also asks you to upload documents of proof such as a certification that you are a business, your annual income and the number of customers on average that you have.

Your request could take up to 72 hours to be reviewed and approved. Once your business is approved, you receive an acceptance email that invites you to create an account with a username (the name of your business) and a password. You can now log in by clicking on the *Sign In* button and you will be redirected to your home page.

C: You are redirected to a page where you can enter your personal information such as last name, first name and date of birth. You can create a username and password. Once these steps have been taken, you will receive, within 5 minutes, a confirmation email to log into your account.

You can log in by clicking on the *Sign In* button to be redirected to the home page of your account.

To change a password, please go to the *Profile* tab from your account and click on *Edit Password* in the "Personal Information" section.

If you forgot your password, please click on *Forgot password?* on the login page and follow the instructions to reset your password.

3.4 System Organization & Navigation

Platform home page: This is the platform home page. It is on this page that you can register or log into your account and learn about the platform.

Sign In: One of the components of the platform. By clicking on Sign In, you can log into your account. You will be redirected to your personal account page to view any information on your profile or perform tasks, all from the home tabs.

Profile: View your profile or make changes by clicking on the corresponding tab on the home page of your account.

Convert: If you are a customer, convert your points from one business to another under this tab.

Rewards & Offers: If you are a customer, click on this tab and see the number of points you have accumulated and find out what offers are available.

Profits: If you are a Business, see your accumulated profits since joining the program. You can also see customer trends.

Back: Go back to the previous page.

Sign Out: You can click on this button to log out and exit the platform.

Sign Up / Join Now: One of the components of the platform. By clicking on Sign Up or Join Now, you can open an account or apply for membership depending on the type of user you are.

Partners: Consult all the businesses, members of the platform.

3.5 Exiting the System

To quit the platform, please click on *Sign Out* in the menu at the top right of your personal account home page.

4 Using the System

The following sub-sections provide detailed, step-by-step instructions on how to use the various functions or features of the Stars Powerapps

4.1 Profile Page

This is where the bank customer can enter their personal details and see their conversion history

4.1.1 Name

In this section, the bank customer can enter their full name in the provided text box

4.1.2 Date of Birth

In this section, the bank customer can enter their date of birth using the provided date picker

4.1.3 Address

In this section, the bank customer can enter their address in the provided text box

4.2 Convert Page

This is where the bank customer can convert points between 2 businesses of their choice

4.2.1 Convert From Business X Dropdown

This is where the bank customer can select from a list of businesses that they have accumulated points to convert points from

4.2.2 Amount of Points to Convert

This is where the bank customer can enter the amount of points from Business X that they want to convert to Business Y points given that they have those points

4.2.3 Convert to Business Y Dropdown

This is where the bank customer can select from a list of businesses that they have accumulated points to convert points from, with the exception of the business they selected in the Convert From section

4.2.4 Converted Amount of Points

This is where the app calculates the converted amount of points based on the 2 rates of the businesses

4.3 Rewards and Offers

This is where a business can show what special offers they currently have going on, this is added by the app's moderator/developer

4.4 Business Profile

This is where the business owner can update their business information and see their estimated point rate

4.4.1 Business Name

In this section, the business owner can enter their business name in the provided text box

4.4.2 Business Address

In this section, the business owner can enter their business address in the provided text box

4.4.3 Yearly Income

In this section, the business owner can enter their yearly income from the previous fiscal period to then see an estimated point rate per canadian dollar

4.5 Analytics

This is where the business owner can see their profit or loss margins in a graphical and numerical format

5 Troubleshooting & Support

There were many recovery and error correction procedures, however there were some that we emphasized more than others. For example, there were multiple issues with the prototypes within powerapps, and the website not working. Through various testing methods, the team was able to resolve all of these issues, to produce the best prototype possible.

5.1 Error Messages or Behaviors

There are multiple error messages that a prospective user could receive, for example if they tried to convert points while missing necessary information. The error message received would loosely read: “You have not entered anything in this field.” The very simple corrective action would be to enter a value, and attempt once again to convert points. Since we have tested the application and the website extensively, there are not any parts that are really prone to breaking. However, due to the nature of our work, we are unsure if the Microsoft servers will be able to handle a mass influx of users. Other than those two things, there are not many possibilities for a user to encounter a different error, other than the entire application crashing, etc.

5.2 Special Considerations

For troubleshooting, there are not any special circumstances, actions, caveats, exceptions, etc. that need to be considered, due to the nature of the program, and the application. Every part of the process for converting and managing points is as seamless as possible, therefore leading to only general troubleshooting. In addition, since there is no way to input real currency into the application, this closes the door for any financial crimes to be committed.

5.3 Maintenance

For the STARS application, we have a section on the application/website that allows all users to ask any questions, or voice any concerns or issues they may have. As well, there is a forum section for users to voice their concerns that way. Although we have not decided the schedule at which we will be performing maintenance, and fixing any bugs that may occur, we are going to attempt to fix as many problems as possible, at the earliest convenience.

5.4 Support

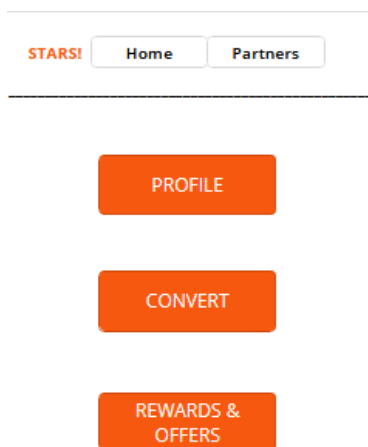
Users of the STARS platform can voice their concerns, and get almost quick support by using the *Contact Us* tab within the application. There is also a frequently asked questions (FAQs) tab in the application, where users can voice their concerns. The questions will be forwarded to the email addresses halai075@uottawa.ca and amany062@uottawa.ca, where Hazim and Annabelle have access, and will answer the questions and concerns in a timely manner. Finally, the process in which the problems are to be reported is simple! All the users have to do is simply use the contact us feature, and that's it. There is no extra hassle, as we wanted to ensure a simple and pleasant experience.

6 Product Documentation

The final prototype was built through microsoft powerapps. Powerapps was chosen as it is the most beginner friendly app making software.

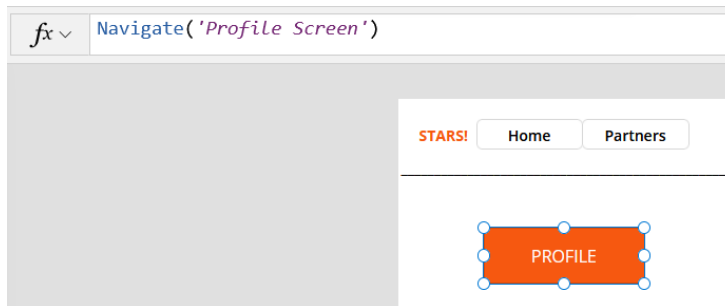
Here are step by step instructions on how to make the exact same powerapp

1. Create a new blank app in powerapps.
2. Name the first page as “Home Screen”, then add 3 buttons; naming the first as profile, the second as convert, and the third as rewards & offers
3. Add 2 buttons on the top of the homepage, one of them being Home, and the other being Partners.
4. Add a label beside the top buttons with the text being the name of the app.



5. Add a new blank screen to the app, name the screen “Profile Screen”

6. Enter “Navigate('Profile Screen')” into the function bar of the profile button on the home screen



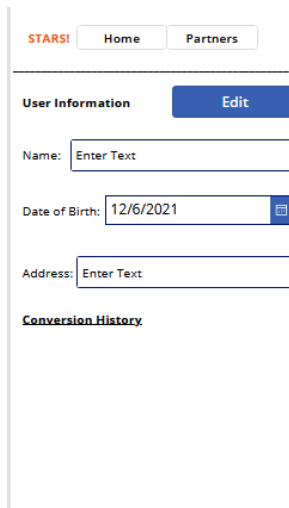
7. On the home screen, copy the title and home and partners buttons and then paste onto the profile screen, keeping them at the same level they were in the home screen.

8. Create 2 labels, one with the text “User Information” and another with the text “Conversion History”

9. Add 2 Text Input boxes, and a Date picker box. Labelling them as Name, Address, and Date of Birth, respectively.

10. Take the conversion history label and put it after all of the buttons.

11. Add a button titled as "Edit", then add the function that does not allow editing the input boxes unless it is pressed.



The screenshot shows a mobile application interface. At the top left, there is a logo "STARS!" in orange. To its right are two buttons: "Home" and "Partners". Below this is a horizontal line. Underneath, the text "User Information" is followed by a blue "Edit" button. Below that are three input fields: "Name:" with "Enter Text", "Date of Birth:" with "12/6/2021" and a calendar icon, and "Address:" with "Enter Text". At the bottom, the text "Conversion History" is visible.

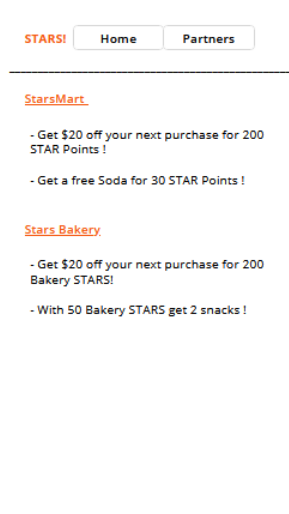
12. Add a new blank screen to the app, name the screen "Rewards & Offers"

13. Enter "Navigate('Rewards & Offers ')" into the function bar of the Rewards & Offers button on the home screen

14. On the home screen, copy the title and home and partners buttons and then paste onto the rewards & offers screen, keeping them at the same level they were in the home screen.

15. Create labels for each business that has rewards and offers and change the color of it to orange

16. Under each business put a text box and fill it with the rewards and offers being given.



17. Add a new blank screen to the app, name the screen “Convert Screen”

18. Enter “Navigate(‘Convert Screen’)” into the function bar of the convert button on the home screen

19. On the home screen, copy the title and home and partners buttons and then paste onto the convert screen, keeping them at the same level they were in the home screen.

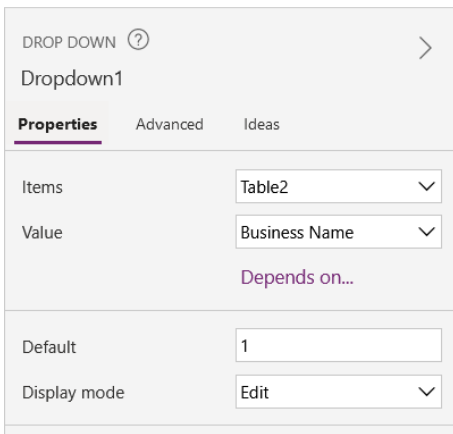
20. Add 2 labels, the first being “CONVERT FROM” and the second being “CONVERT TO”; change the text color to yellow and create the border as a size 3 with the same color yellow

21. Go to excel, and create a table with the headers “Business Name” and “Amount of point”

22. Put each business name under the business name section and the amount of points the user has accumulated to under amount of points according to their respective businesses.

| Business Name | Amount of Points |
|---------------|------------------|
| StarsMart | 300.00 |
| Stars Bakery | 20000.00 |
| Business C | 1222.00 |
| Business D | 24000.00 |
| | |

23. On the Convert screen of your powerapp, add a drop down input, and link it to the table that was made in excel; In the properties of the dropdown, make sure that the Items is the name of the table, and the value is Business Name

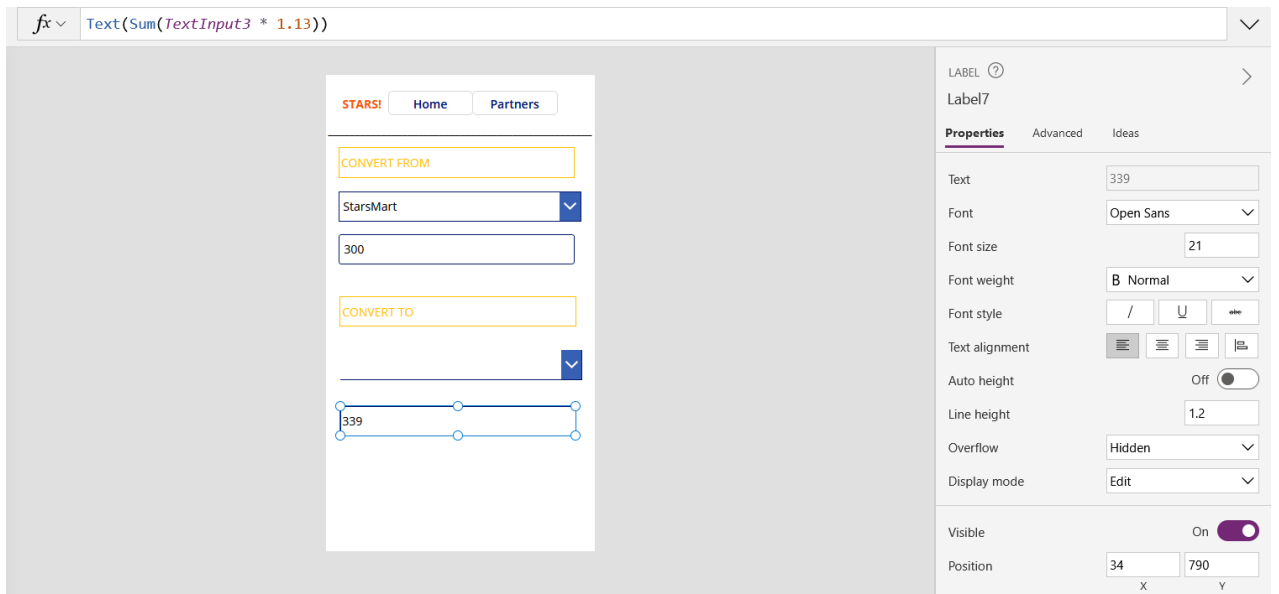


24. Add an input text box labelled as ‘TextInput3’, right under the dropdown box

25. Under the “Convert To” label, add a drop down input, and link it to the table that was made in excel; In the properties of the dropdown, make sure that the Items is the name of the table, the value is Business Name, and set the default as No Value.

26. Create a label and put it under the 2nd dropbox

27. In the functions bar of of the new label, input “Text(Sum(TextInput3 * 1.13))”

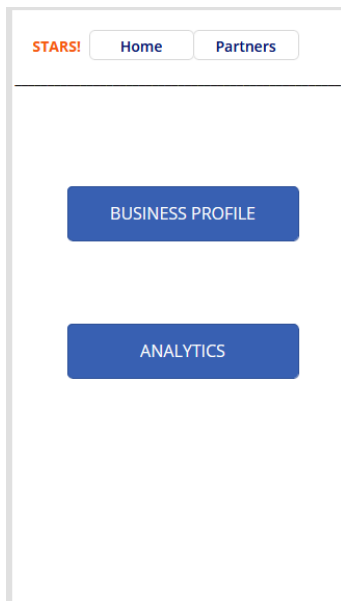


28. Create a new screen labelled as “Partners Screen”

29. On the home screen, enter “Navigate('Partners Screen')” into the function bar of the partners button on the home screen; make sure that all the other partners buttons in the other pages now have the same function

30. On the home screen, copy the title and home and partners buttons and then paste onto the partners screen, keeping them at the same level they were in the home screen.

31. Add 2 buttons, one labelled Business profile, and the other labelled as Analytics



32. Create a new screen labelled as “Business Profile Screen”

33. Enter “Navigate(‘Business Profile Screen’)” into the function bar of the Business Profile button on the partners screen

34. Create 2 labels, one with the text “Business Information” and another with the text “Estimated Point Rate”

35. Add 3 Text Input boxes. Labelling them as Business Name, Address, and Yearly Income, respectively.

36. Change the name of the Yearly income text input box to “Yearly”

37. Take the Estimated Point Rate label and put it after all of the text boxes.

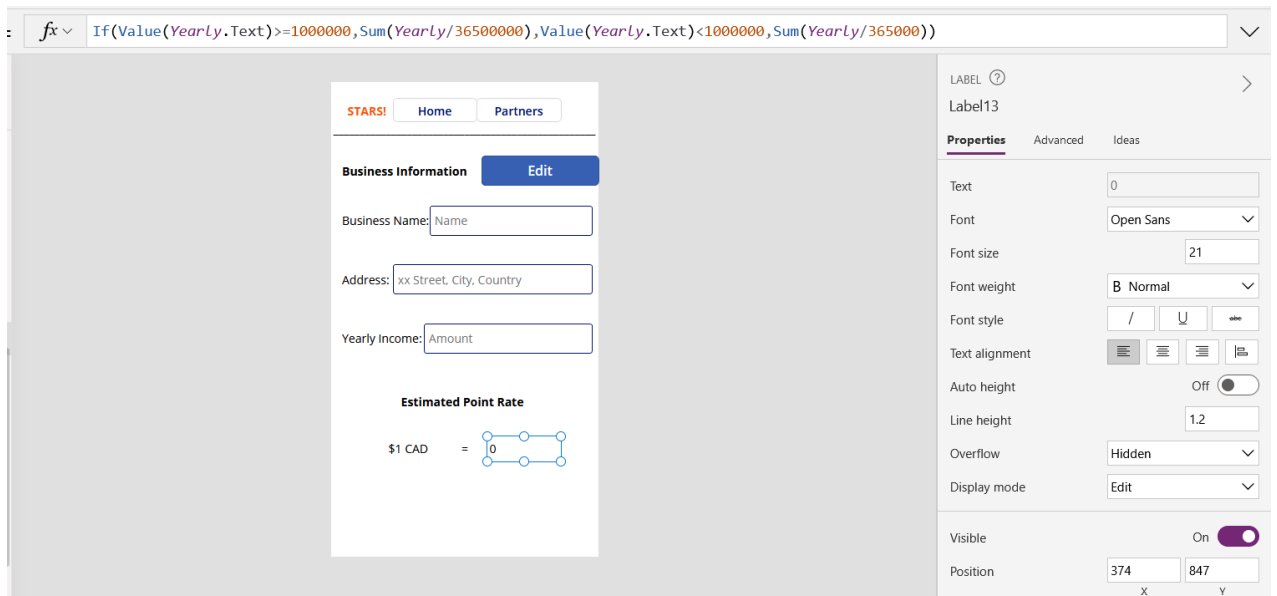
38. On the Yearly Income text input box, go to properties and change format to Number and edit the hint text to be “Amount”

39. Under and on the left side of “Estimated Point Rate”, create a label with the text being “\$1 CAD =”

40. Right beside the = of the previous label, add another label

41. In the functions bar of this label, enter:

“If(Value(Yearly.Text)>=1000000, Sum(Yearly/3650000), Value(Yearly.Text)<1000000, Sum(Yearly/365000))”



6.1 Stars! materials and equipment

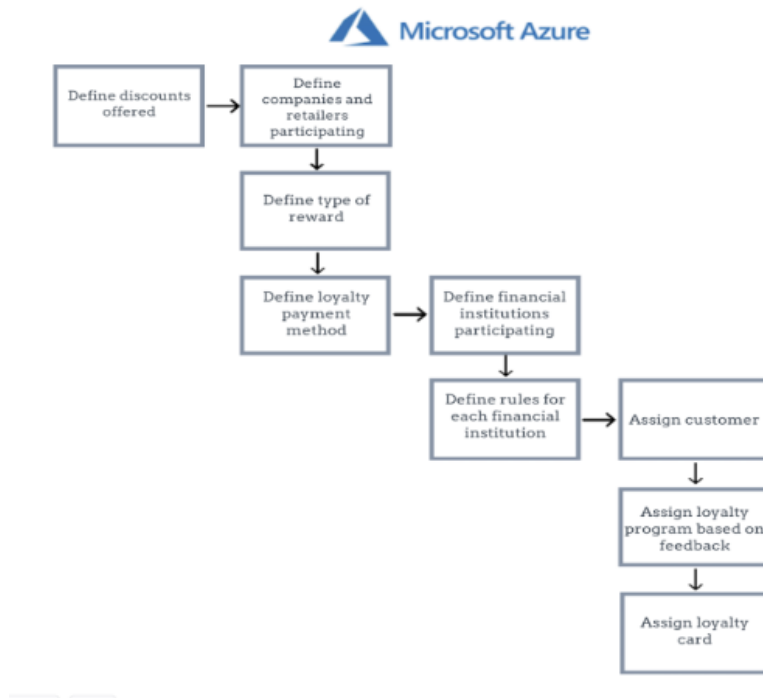
6.1.1 BOM (Bill of Materials)

Laptop; Microsoft Powerapps; Cloud Storage.

6.1.2 Equipment list

| Equipment | Description |
|---------------------|---|
| Laptops or Desktops | Everyone has a computer for easy access to app information. Because we work online, we need computers to use functional software. |
| PowerApps | PowerApps can be used to create user platforms and process user information. It will be the main software used in the creation of the platform. |
| Microsoft Excel | This will be used as a way to link the required data to PowerApps |
| Figma | This tool will only be needed for early prototypes, and will be useful in creating proper mock-ups |

6.1.3 Instructions



1. Define the transaction
2. Define the company or retailer.
3. Define the type of reward
4. Define loyalty payment method
5. Define participating platforms and institutions
6. assign customer
7. Feedback
8. Allocate points

6.2 Testing & Validation

As this project was based on software, physical tests were not applicable in this scenario. For this reason, our tests focused on boolean results, where either the software fulfilled a certain functionality or not. The goal of the tests were to ensure that the platform could handle the large flow of information, could safely handle information, include smaller businesses, allow the

exchange of points from business to business. A thorough description of each test is attached in the table below.

Table 1: Prototype Testing Plan

| <i>Test ID</i> | <i>Test Objective (Why)</i> | <i>Description of Prototype used and of Basic Test Method (What)</i> | <i>Description of Results to be Recorded and how these results will be used (How)</i> | <i>Estimated Test duration and planned start date (When)</i> |
|-----------------------|--|--|---|---|
| 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 | Like Test 1, this test will also be focused and analytical for the same reasons as mentioned above. | The major result will be, like test 1, to have a prototype whose result will clearly be a good display of the | This test should take 1 day to complete as it is only a mock-up |

| | | | | |
|---|--|---|--|---|
| | 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. | 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. | different plans offered by the platform. We will thus note how the display of offers will be influential. | |
| 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 | 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 | 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. |

| | | | | |
|----------|---|--|---|--|
| | good precision, the platform cannot be on the market | programming for the conversions and the interactive side. | | |
| 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 | 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 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. | 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 prerequisites that have been set for it. | This test should take 3 days to complete. It will depend on no other task |
| 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. While this can be tested on a smaller scale, it will be hard to test this on a large scale, with thousands of users at once. This will have to be further examined if | 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. |

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| | the team moves to a more concrete product with Zafin | | | |
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The tests were performed over the course of 3 weeks, and the results for each prototype were recorded in the table below:

Tabel 2: Prototype Testing Results

| Test Number | Prototype 1 Results | Prototype 2 Results | Prototype 3 Results | Prototype 4 Results |
|-------------|---|---|--|--|
| 1 | 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. | 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. | 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. | 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 | The prototype offers 2 different pricing plans, a base one and a premium one. Therefore, the prototype offers plans based on client base size, and passes test 2. | 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. | The prototype offers 2 different pricing plans, a base one and a premium one. The premium plan offers more benefits. Therefore, the prototype offers plans based on client base size, and passes test 2. | The prototype offers 2 different pricing plans, a base one and a premium one. The premium plan offers more benefits. Therefore, the prototype offers plans based on client base size, and passes test 2. |
| 3 | N/A | N/A | The prototype shows users what kind of rewards they can earn with theory points, and | The prototype shows users what kind of rewards they can earn with theory points, and |

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|---|---|--|---|---|
| | | | has a section dedicated to the businesses that allows them to view their profits. Businesses will also receive a personalized plan of how to offer rewards based on the kind of service and products they offer, and the size of the business. Therefore, it passes the test. | has a section dedicated to the businesses that allows them to view their profits. Businesses will also receive a personalized plan of how to offer rewards based on the kind of service and products they offer, and the size of the business. Therefore, it passes the test. |
| 4 | The prototype allows bank customers to convert points from business A to business B, in a precise manner using an algorithm. Therefore, the prototype passes test 4 | The prototype allows the user to convert points from 1 business to another, based on a conversion rate, and therefore passes test 4. | The prototype allows bank customers to convert points from business A to business B, in a precise manner using an algorithm. Therefore, the prototype passes test 4 | The prototype allows bank customers to convert points from business A to business B, in a precise manner using an algorithm. Therefore, the prototype passes test 4 |
| 5 | N/A | N/A | The prototype identifies the types of institutions when they sign up to join, and offers a pricing plan and points value based on business type and size. Therefore, the prototype passes test 5 | The prototype identifies the types of institutions when they sign up to join, and offers a pricing plan and points value based on business type and size. Therefore, the prototype passes test 5 |
| 6 | N/A | N/A | This test will be performed when the code is integrated into PowerApps | The prototype allowed for users to sign up, transfer points and browse the app very quickly, without lag, therefore this prototype passes test 6. Note that this was tested with 5 people, so it cannot be confirmed if the |

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| | | | | results would be the same for > 5 users. |
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7 Conclusions and Recommendations for Future Work

This past semester, group 13 worked to create a platform that could offer a seamless experience to banks, businesses and users alike. Although the team created a very successful platform, there were many lessons learned along the way. Firstly, the team realized that many members did not have coding skills, so team members had to learn how to use PowerApps. We also learned that organization is key, especially when working with five people; we had very different schedules, so finding a meeting time that worked for everyone required lots of planning, so having a strict agenda helped us to stay on track. Lastly, we learned that communication is the foundation of a strong team; open communication allows for conflicts to be solved early on and in a civil manner, as well as ensuring that everyone is staying on track. While PowerApps was a good option preferred by the client, other programming languages or options could be considered in the future. Had our team had more time to work on the project, we would have created a more extensive prototype in PowerApps, with a sign in and sign up page, as well as more analytics for businesses. We would have integrated the page which suggests a points value to businesses based on the kind of services offered, to give clients a better idea of the app's capabilities. Lastly, we would have conducted more testing with real users; this is something we had to give up due to lack of time, but something still very important before the deployment of the platform.

8 Bibliography

N/A

APPENDICES

9 APPENDIX I: Design Files

<https://makerepo.com/Halai075/951.stars-gng1103-proj13>

All documents pertaining to this project are in the makerrepo page

10 APPENDIX II: Other Appendices