GNG1103[A] Proj 13 Deliverable E

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Abstract:

This document will discuss the project plan, a detailed prototype testing plan, budget, required equipment as well as a bill of materials.

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1 Introduction:

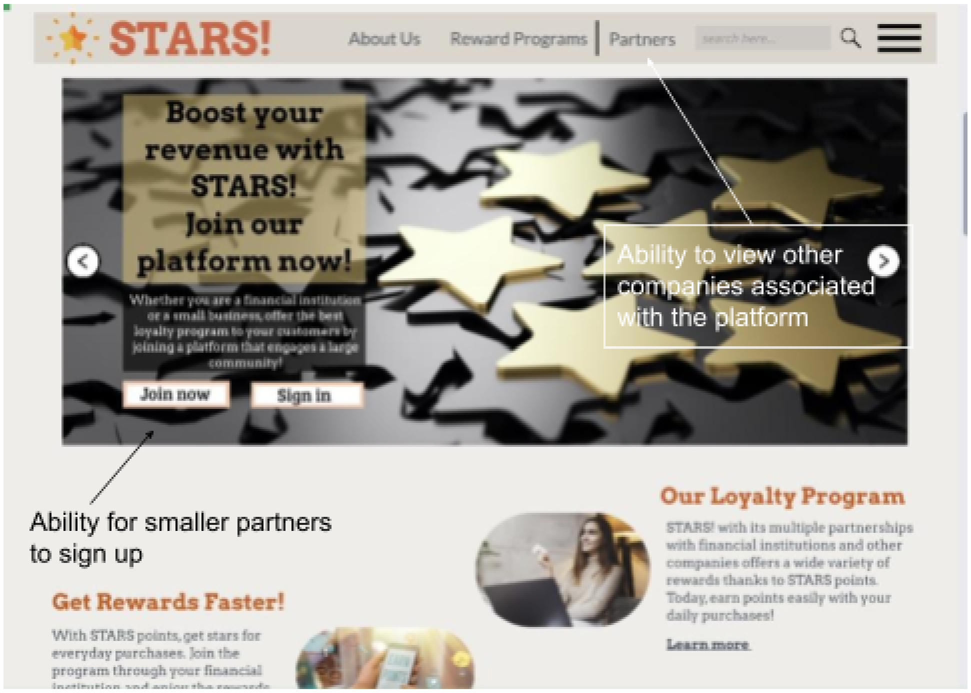
The previous deliverable presented a final, combined subconcept to be used as a starting point for the solution. This document will outline a detailed summary of the chosen solution, as well as outline a bill of materials, list of equipment, as well as a detailed prototyping plan. A Wrike snapshot is provided at the end of this document, which includes a detailed plan outlining the contingencies and dependencies of the prototype creation.

2. Summary of plan:

The concept chosen by the team is an application that will be created with PowerApps, which uses excel as its data source. The PowerApps application will allow users to transfer points between rewards points systems, keep track of their points, as well as allow them to easily see how they cant be spent. Depending on the business' monthly/yearly sales, as well as type of services and products offered, the conversion rate of points between businesses will change, in order to increase their sales.

The platform will provide an algorithm to make the transfer of points possible. Since the platform will be created with PowerApps, cloud storage will automatically be a functionality. In addition to this, there will be a space for smaller partners to sign up and offer points to their customers. There will be a base plan where customers can earn points and rewards at the business, and a premium plan that allows them all the other benefits of the platform - exchanging points, more options on where to spend them, etc.

While no physical parts (screws, bolts, etc) are required to create this platform, the project will make use of the PowerApps software, Excel, and possibly Power Automate. At this moment, the team does not plan to use any libraries or APIs in the creation of the platform, however if this changes, it will be documented. The main goal will be to create an application using PowerApps, but time-permitting, a website similar to the one created in the mock-ups will be made. The detailed drawings of the platform are included below, as well as flow charts explaining how the data will be handled.



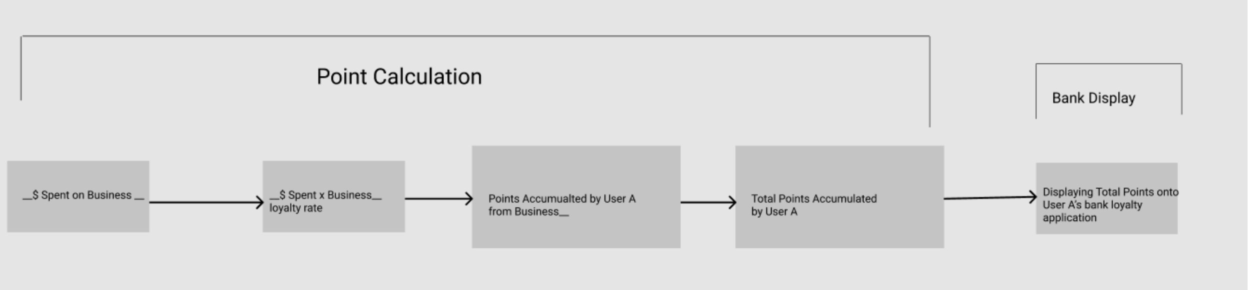
Whether you are a financial institution or a small business, offer the best loyalty program to your customers by joining a platform that engages a large community!

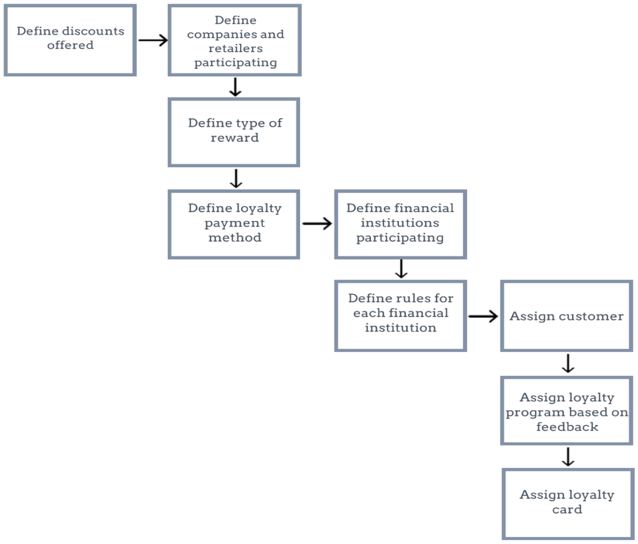
STARS! with its multiple partnerships with financial institutions and other companies offers a wide variety of rewards thanks to STARS points. Today, earn points easily with your daily purchases!

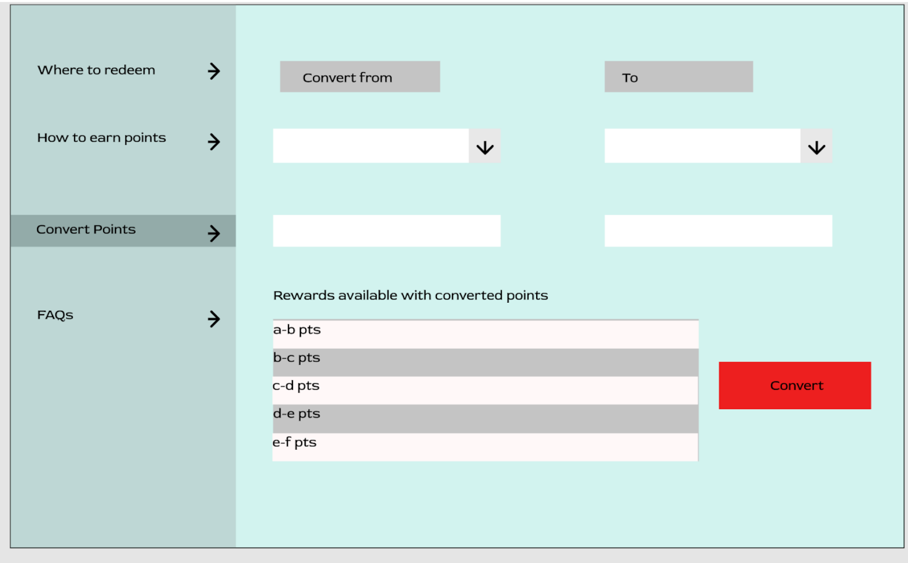
With STARS points, get stars for everyday purchases. Join the program through your financial

Ability to view other companies associated with the platform

Ability for smaller partners to sign up


Point Calculation
Bank Display
__$ Spent on Business __
__$ Spent x Business__ loyalty rate
Points Accumualted by User A from Business__
Total Points Accumulated by User A
Displaying Total Points onto User A's bank loyalty application


Define discounts offered
Define companies and retailers participating
Define type of reward
Define loyalty payment method
Define financial institutions participating
Define rules for each financial institution
Assign customer
Assign loyalty program based on feedback
Assign loyalty card


Where to redeem
How to earn points
Convert Points
FAQs
Convert from
To
Rewards available with converted points
a-b pts
b-c pts
c-d pts
d-e pts
e-f pts
Convert

3. Plan and Schedule Outline

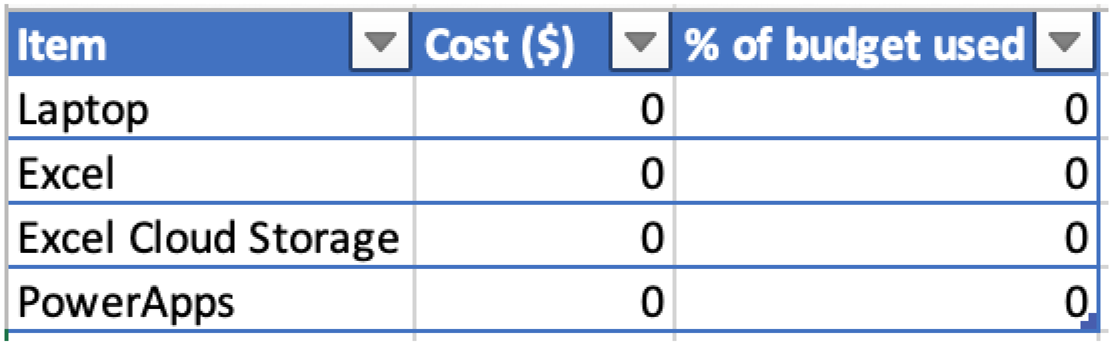
*IMPORTANT: The whole group is responsible for each task

1. Each group member creates their first Physical and Comprehensive prototype(6 days time limit; Due Nov 3)
2. Each group member reviews the other's prototype and gives feedback to help each other improve their prototypes (1 day time limit; Due Nov 4)
3. Each Group member presents their improved second prototype (6 days time limit; Due Nov 10)
4. Group members vote on the best two prototypes, and are assigned a prototype to work on (1 day time limit; Due Nov 11)
5. The improved two prototypes are presented to the group and project design manager, then a final vote is done to choose the final prototype (13 days time limit; Due Nov 24)
6. The final prototype is then given to random members of the lab group to see how they are able to use it and how user friendly the UI is. (1 day time limit; Due Nov 25)
7. Using the comments and feedback from the random members of the lab group, the final prototype is then improved and is now ready to be presented to Zafin. (5 day's time limit; Due November 30)

Significant Project Risks

- Error in conversion formula
    - Contingency Plan: Have group members look over the code for the conversion formula to make sure that everything is right
- Error in data storage: There is a chance that the data could be stored in the wrong file or not stored at all
    - Contingency Plan: The group member does a trial run of the application, inputting example values for the calculations, and then checking where the data comes from, and where it is stored
- Platform crashing due to data overload: If too much data is uploaded in a small amount of time, the platform has a chance of not being able to handle all of the data
    - Contingency Plan: Make a backup system that temporarily stores the data until the original system is back up and running.

4. Bill of Materials



Item	Cost ($)	% of budget used
Laptop	0	0
Excel	0	0
Excel Cloud Storage	0	0
PowerApps	0	0

Maximum amount available: 50$

- **Laptops - 0$**
    - Laptops will be required to run Excel and PowerApps, however since each team member owns a laptop, this adds no cost to the project
- **Microsoft Excel, Excel Cloud Storage - 0$**
    - Due to everyone in the group being a student at the University of Ottawa, Microsoft Excel is free for download and use
    - Cloud storage capabilities are also free (0$)
- **Microsoft Power Apps - 0$ or 10$**
    - Power Apps software will be used to create the platform, among other things such as prototypes
        - In accordance with the University of Ottawa website (see below), if one qualifies for the A3 licence, then the cost of the program will be covered. However, if one is not eligible, then the running of the app will be 10$ per month.
- **TOTAL AMOUNT OF BUDGET USED: 0% (0$)**

5. Prototype 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	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	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	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

	prototype is therefore for communication purposes in order to receive feedback and optimize the interface	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.	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.	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 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.	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.

6. Equipment Needed

Equipment	**Description/Justification**
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

7. Conclusion and Recommendations:

In this document, a concrete and detailed solution drawing was presented. A bill of materials and list of equipment was written up, as well as a detailed prototyping plan and any dependencies. The following deliverable will include the initial prototype based on the information outlined in this document.

8. Wrike Snapshot

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=vdQxb0MAmmW2Hj7KvD8Pld8Az9eYeiTv%7CIE2DSNZQGUZDMLSTGIYA