Deliverable F: Prototype 1 and Customer Feedback

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1.Summary of prototype 1

1.1 Our objectives

- To link existing point systems together
- Allow users the flexibility of exchanging their points with affiliate point systems

Our implementation is able to link banks and businesses that are a part of an existing rewards program. These businesses are then able to interact with customers from different markets and expand participation beyond their existing rewards program.

Companies that are not part of an existing rewards programs, specifically smaller businesses, will be at a disadvantage if they participate in this rewards system. They will lose profit from their customers purchasing goods or services from their competitors, and then using their points at the small business. In addition, this larger rewards program allows all businesses to offer similar rewards to their customers. For smaller businesses that have higher prices, they will be at a disadvantage to their larger counterparts that are able to offer more deals and lower prices.

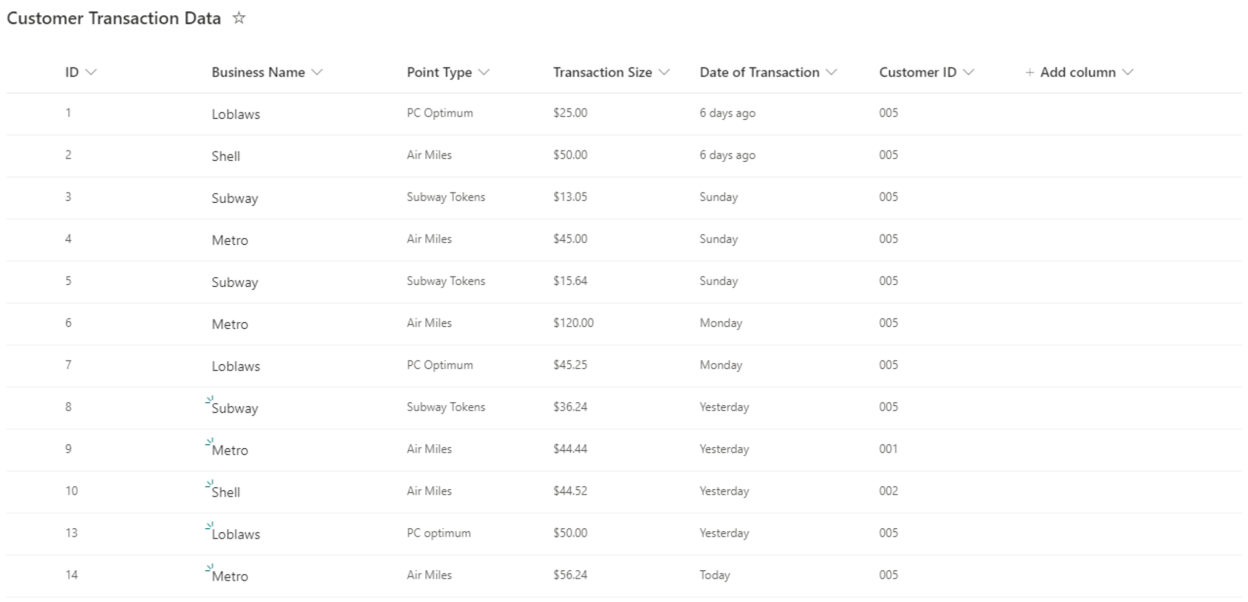
A possible solution to this that may allow small businesses to engage with this program, is if the banks are able to buy the points redeemed at these businesses, and resell them back to customers.

1.2 Point conversion

We start with a login page , when we enter the correct username and password it takes you to the point balance page which would further take you to point conversion page by clicking a button . It shows incorrect username or password if wrong details are entered . We also created a Share point list which contains a person's id, username , password and value of the different points . This list in used in the app where we take the input of type of point like airmiles and the amount and also takes a input to which it is to be converted . When the transaction is completed it shows a page showing conversion was successful . If you do not have sufficient fund it also shows insufficient fund. We also created a share point list containing a equivalent dollar amount of each points .

1.3 User trends

We started with a SharePoint list including the transaction data that will be collected by the bank.

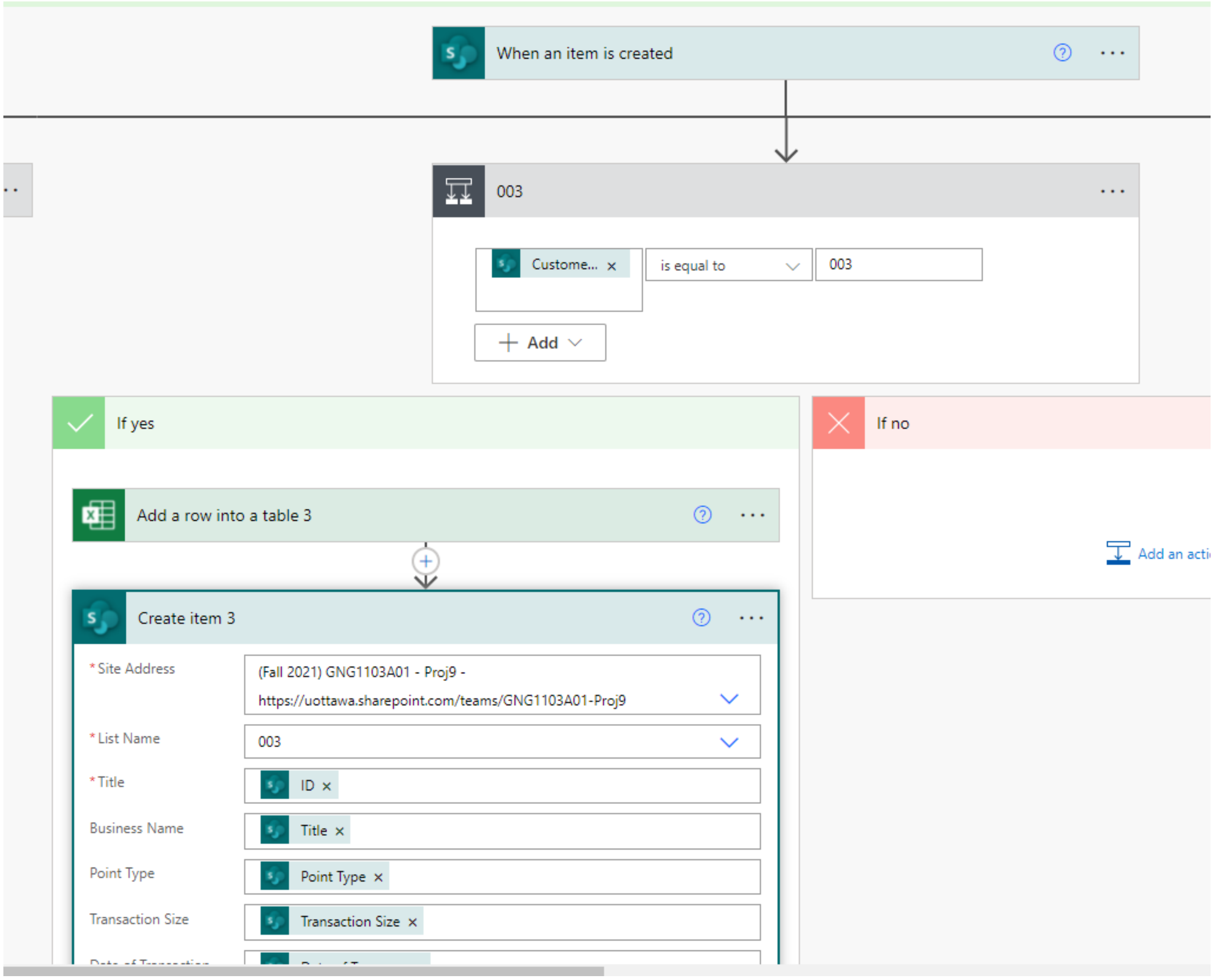


Customer Transaction Data ☆

ID	Business Name	Point Type	Transaction Size	Date of Transaction	Customer ID	+ Add column
1	Loblaws	PC Optimum	$25.00	6 days ago	005	
2	Shell	Air Miles	$50.00	6 days ago	005	
3	Subway	Subway Tokens	$13.05	Sunday	005	
4	Metro	Air Miles	$45.00	Sunday	005	
5	Subway	Subway Tokens	$15.64	Sunday	005	
6	Metro	Air Miles	$120.00	Monday	005	
7	Loblaws	PC Optimum	$45.25	Monday	005	
8	Subway	Subway Tokens	$36.24	Yesterday	005	
9	Metro	Air Miles	$44.44	Yesterday	001	
10	Shell	Air Miles	$44.52	Yesterday	002	
13	Loblaws	PC optimum	$50.00	Yesterday	005	
14	Metro	Air Miles	$56.24	Today	005	

This information is connected to an excel table via Power Automate.

Each business and customer has their own SharePoint list that will include their individual transactions. Once a transaction is made in the Customer Transaction Data list, it is automatically updated in the corresponding business and customer list via the following Power Automate flows:



Custome... is equal to 003

* Site Address: (Fall 2021) GNG1103A01 - Proj9 - https://uottawa.sharepoint.com/teams/GNG1103A01-Proj9

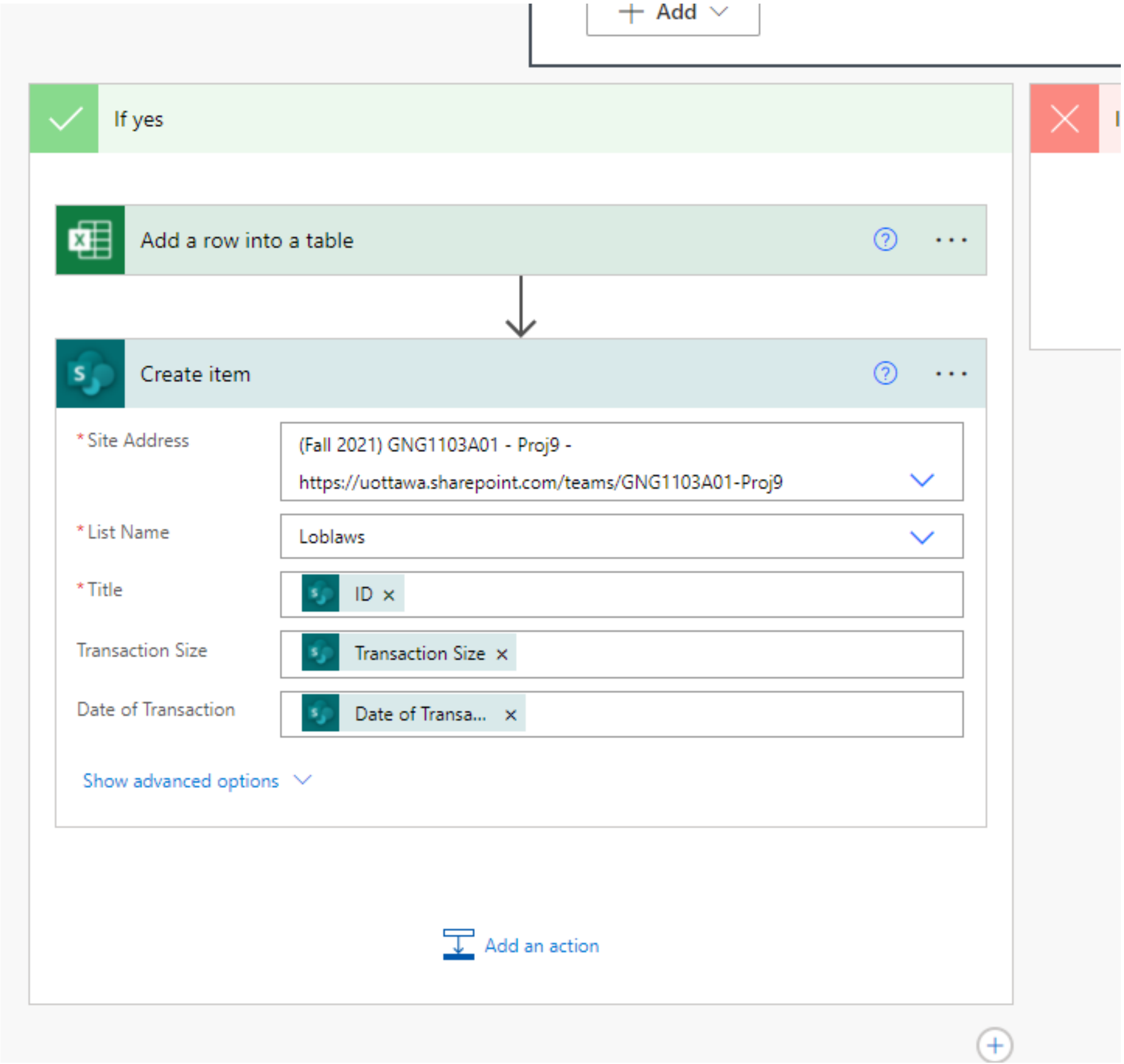
* List Name: 003

* Title: ID

Business Name: Title

Point Type: Point Type

Transaction Size: Transaction Size



* Site Address: (Fall 2021) GNG1103A01 - Proj9 - https://uottawa.sharepoint.com/teams/GNG1103A01-Proj9

* List Name: Loblaws

* Title: ID

Transaction Size: Transaction Size

Date of Transaction: Date of Transa...

Business data is only collected for our four sample businesses: Subway, Shell, Metro, Loblaws. Customer data is only collected for our five sample customers (members of the group) with customer ID’s 001, 002, 003, 004, and 005.

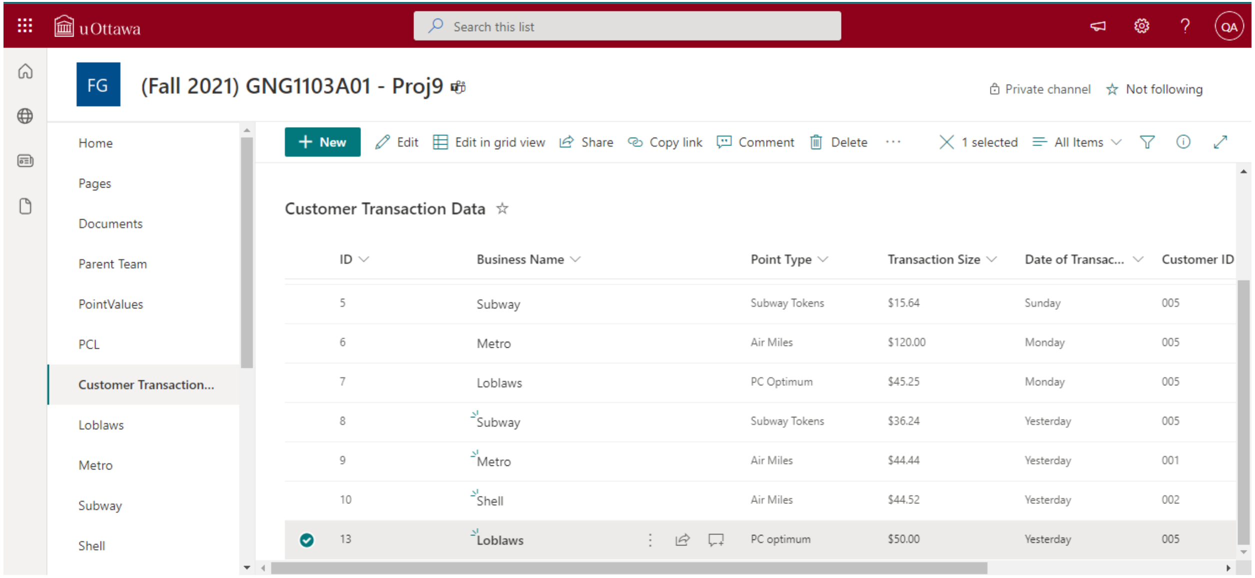
2. Test Plan

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	Test how the points systems are updated after a transaction	Manually create a transaction in the Customer Transaction Data SharePoint list and observe the changes to the individual client and business excel tables and lists	Time it takes to update (seconds) Does it update everywhere (yes/no)	1-2 hours Wednesday, November 3
2	Test login page	Enter the correct user name and the password and it will take you to your point balance .	Takes you to point balance page .	20 seconds
3	Test point conversion interface	Takes the input of both the points to convert from and convert to and the amount as well . It will notify you .if you have insufficient fund	Shows a page where it shows conversion was successful .	30 seconds
4	Test how transactions are updated in PowerBI	Prototype 1; Record the proportion of each business occupied on transaction size, and update to the tables on Power BI once a change happened in SharePoint list.	The data are unable to update to Power BI, because there are some errors in the flow.	1-2 hours Wednesday

3. Results of tests

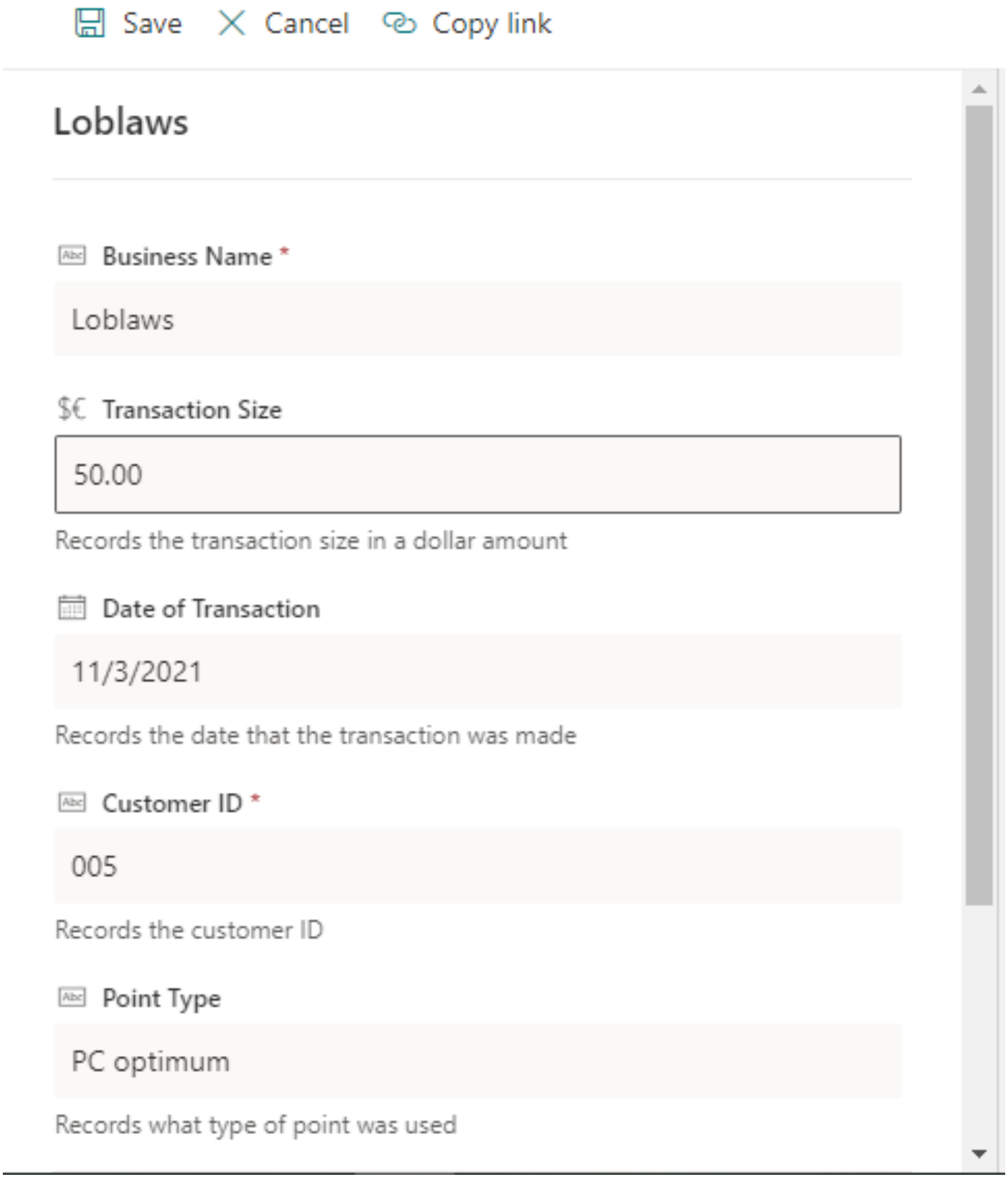
3.1 Test 1

1. Manually add a transaction to the Customer Transaction Data (bank interface)



Customer Transaction Data

ID	Business Name	Point Type	Transaction Size	Date of Transac...	Customer ID
5	Subway	Subway Tokens	$15.64	Sunday	005
6	Metro	Air Miles	$120.00	Monday	005
7	Loblaws	PC Optimum	$45.25	Monday	005
8	Subway	Subway Tokens	$36.24	Yesterday	005
9	Metro	Air Miles	$44.44	Yesterday	001
10	Shell	Air Miles	$44.52	Yesterday	002
13	Loblaws	PC optimum	$50.00	Yesterday	005



Loblaws

Business Name *

Loblaws

Transaction Size

50.00

Records the transaction size in a dollar amount

Date of Transaction

11/3/2021

Records the date that the transaction was made

Customer ID *

005

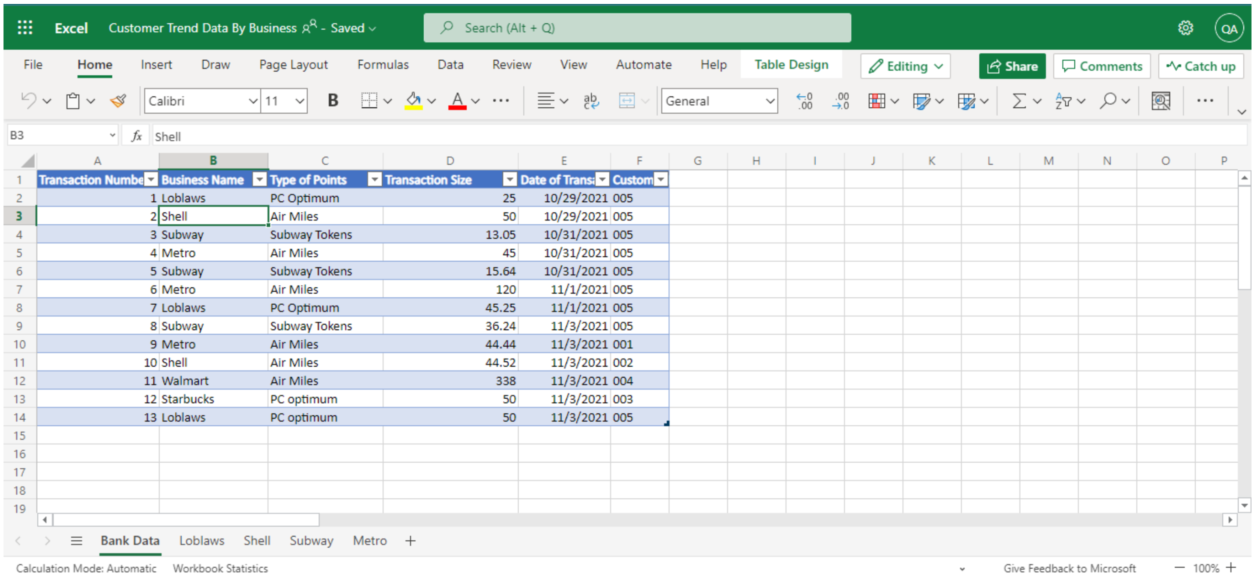
Records the customer ID

Point Type

PC optimum

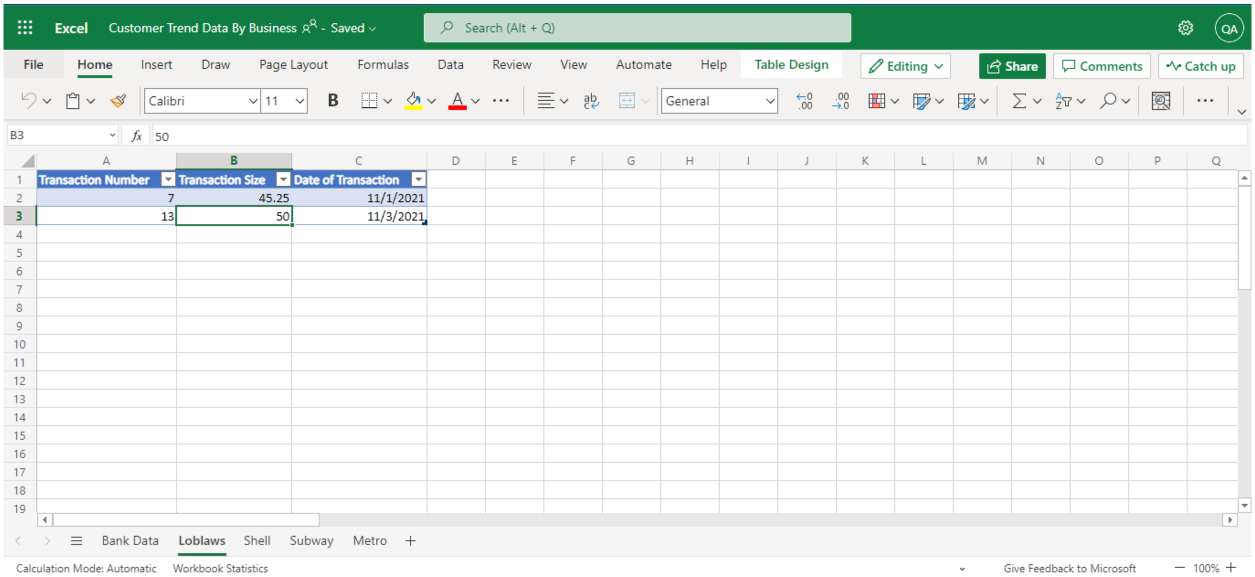
Records what type of point was used

2. Record how the transaction is updated in the bank interface excel table

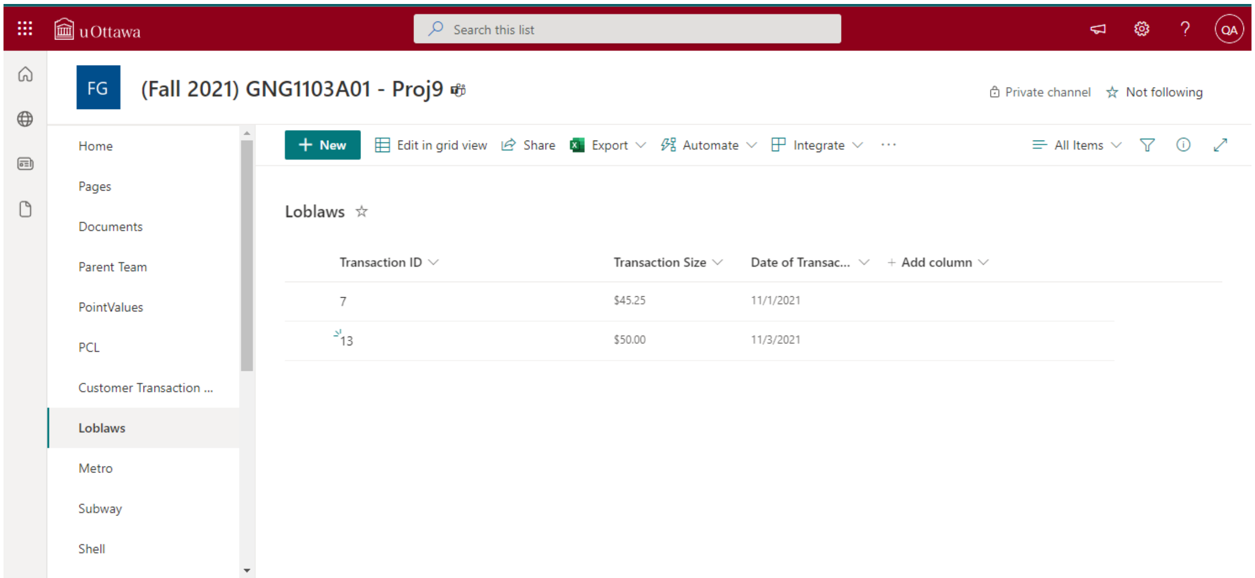


Transaction Numbe	Business Name	Type of Points	Transaction Size	Date of Trans	Custom
1	Loblaws	PC Optimum	25	10/29/2021	005
2	Shell	Air Miles	50	10/29/2021	005
3	Subway	Subway Tokens	13.05	10/31/2021	005
4	Metro	Air Miles	45	10/31/2021	005
5	Subway	Subway Tokens	15.64	10/31/2021	005
6	Metro	Air Miles	120	11/1/2021	005
7	Loblaws	PC Optimum	45.25	11/1/2021	005
8	Subway	Subway Tokens	36.24	11/3/2021	005
9	Metro	Air Miles	44.44	11/3/2021	001
10	Shell	Air Miles	44.52	11/3/2021	002
11	Walmart	Air Miles	338	11/3/2021	004
12	Starbucks	PC optimum	50	11/3/2021	003
13	Loblaws	PC optimum	50	11/3/2021	005

3. Record how the transaction is added to the corresponding business excel table and SharePoint list



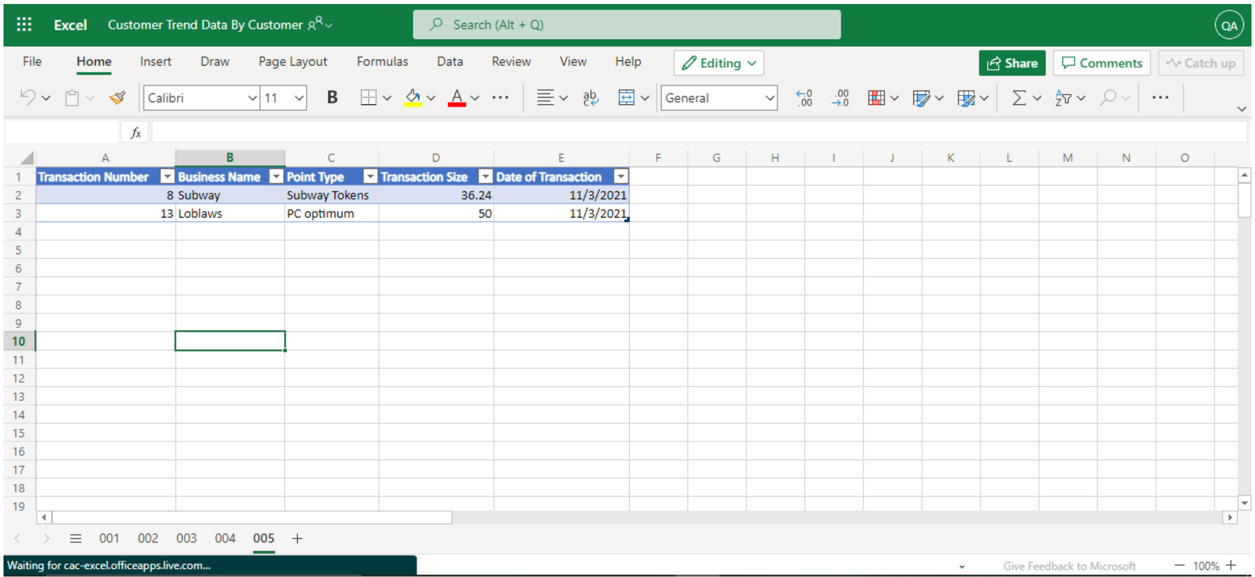
Transaction Number	Transaction Size	Date of Transaction
7	45.25	11/1/2021
13	50	11/3/2021



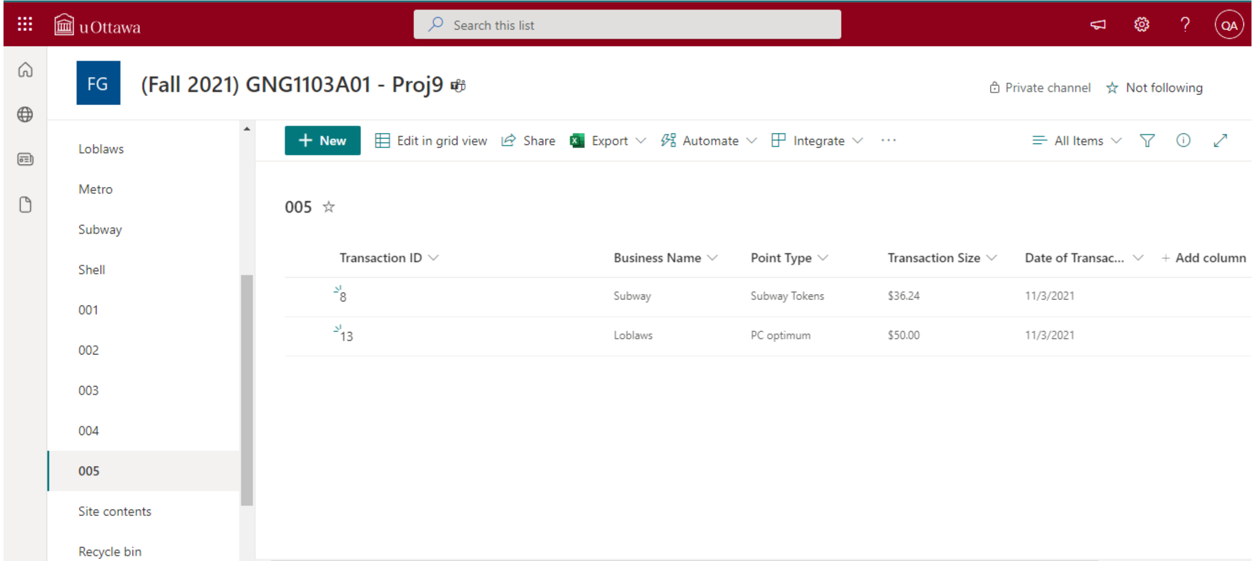
Loblaws

Transaction ID	Transaction Size	Date of Transac...
7	$45.25	11/1/2021
13	$50.00	11/3/2021

4. Record how the transaction is added to the corresponding user excel table and SharePoint list



Transaction Number	Business Name	Point Type	Transaction Size	Date of Transaction
8	Subway	Subway Tokens	36.24	11/3/2021
13	Loblaws	PC optimum	50	11/3/2021

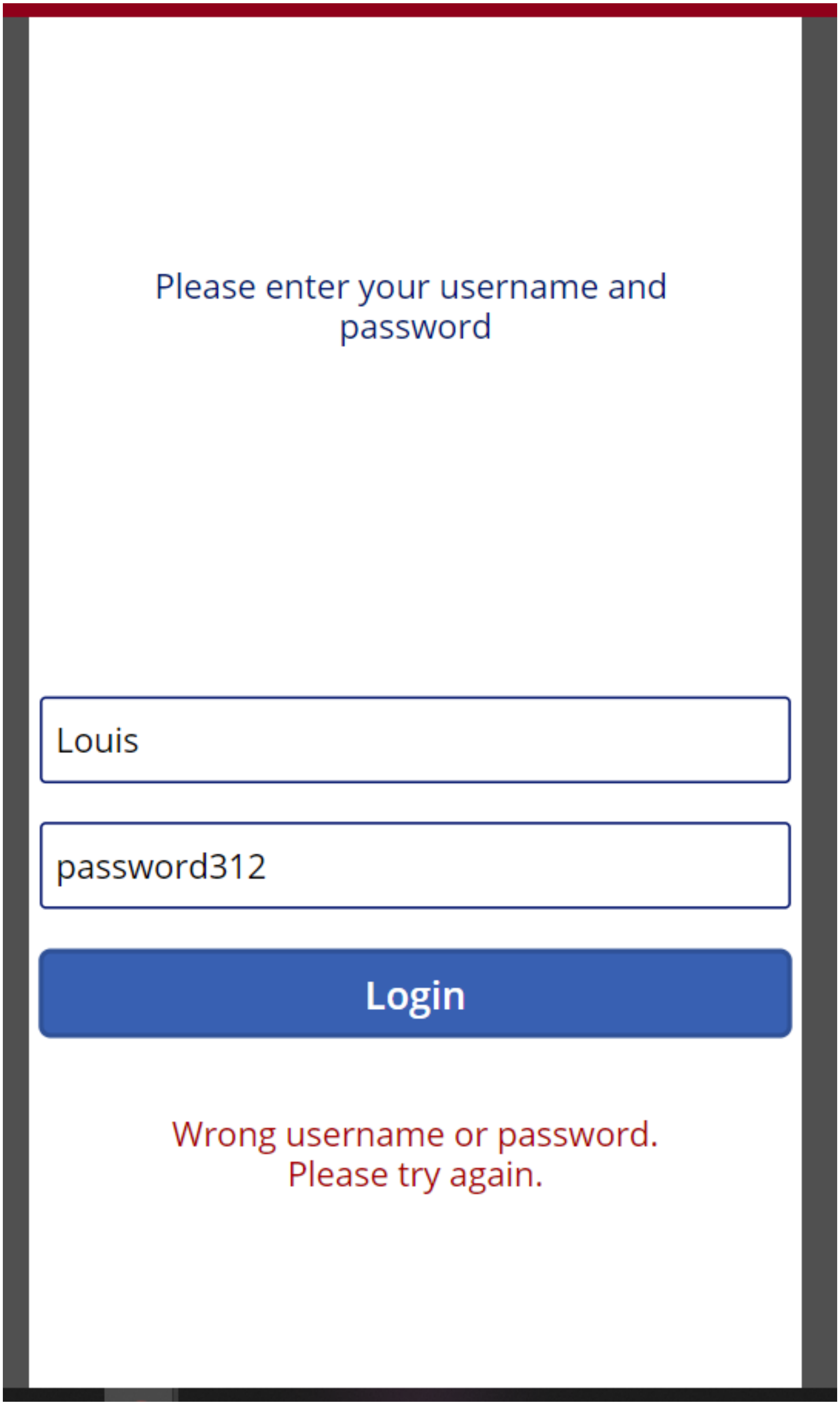


Transaction ID	Business Name	Point Type	Transaction Size	Date of Transac...
8	Subway	Subway Tokens	$36.24	11/3/2021
13	Loblaws	PC optimum	$50.00	11/3/2021

Measurable	**Trial 1**	**Trial 2**	**Trial 3**
Does it update everywhere (yes/no)	Yes	Yes	Yes
Time it takes to update (seconds)	81	82	44

3.2 Test 2

Testing login correct username is Louis and password is password1 (this is only one of many acounts.

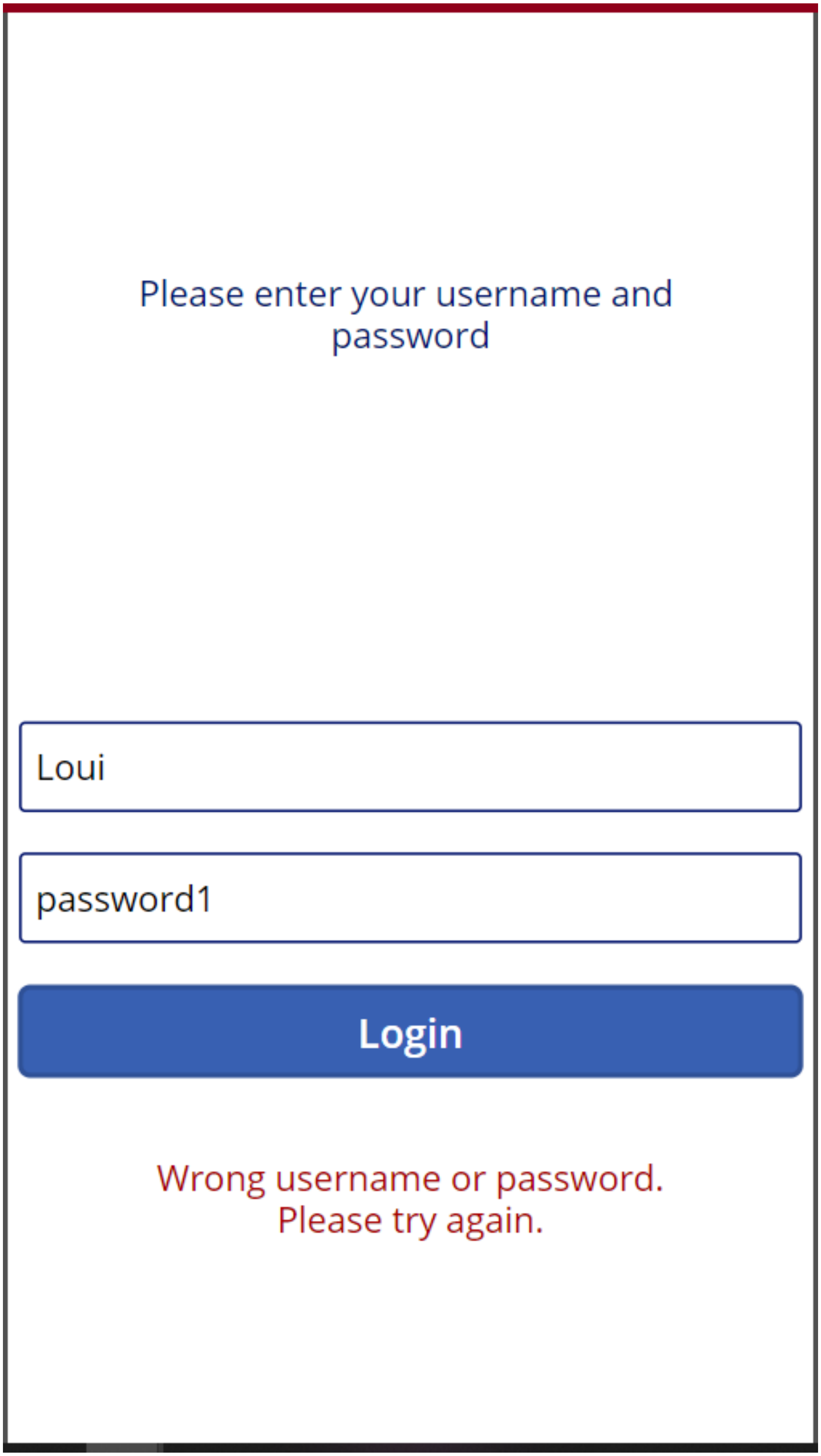


Please enter your username and password

Louis

password312

Wrong username or password.
Please try again.



Please enter your username and password

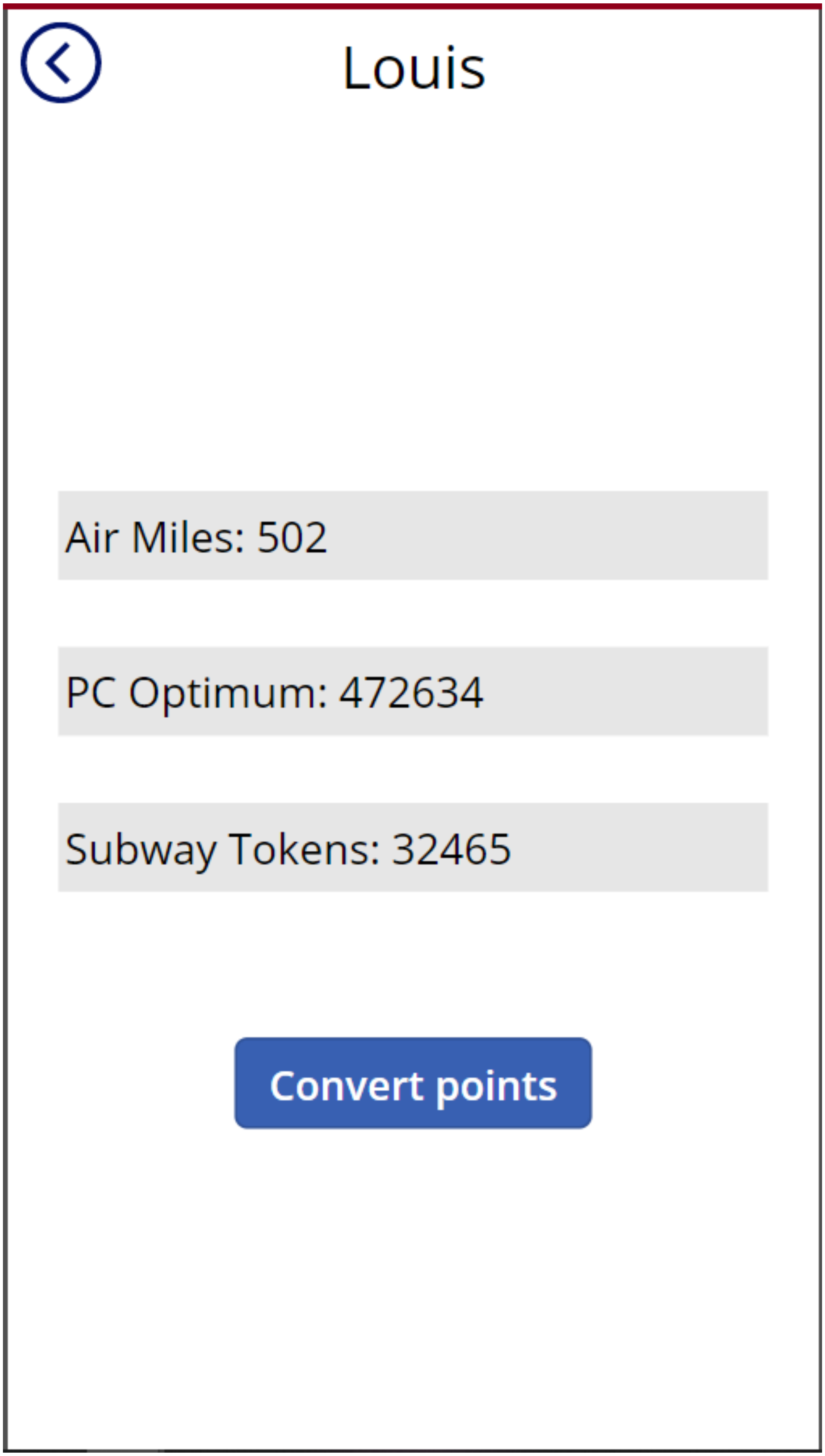
Loui

password1

Wrong username or password.
Please try again.

If username or password is incorrect a message appears at the bottom

3.3 Test 3

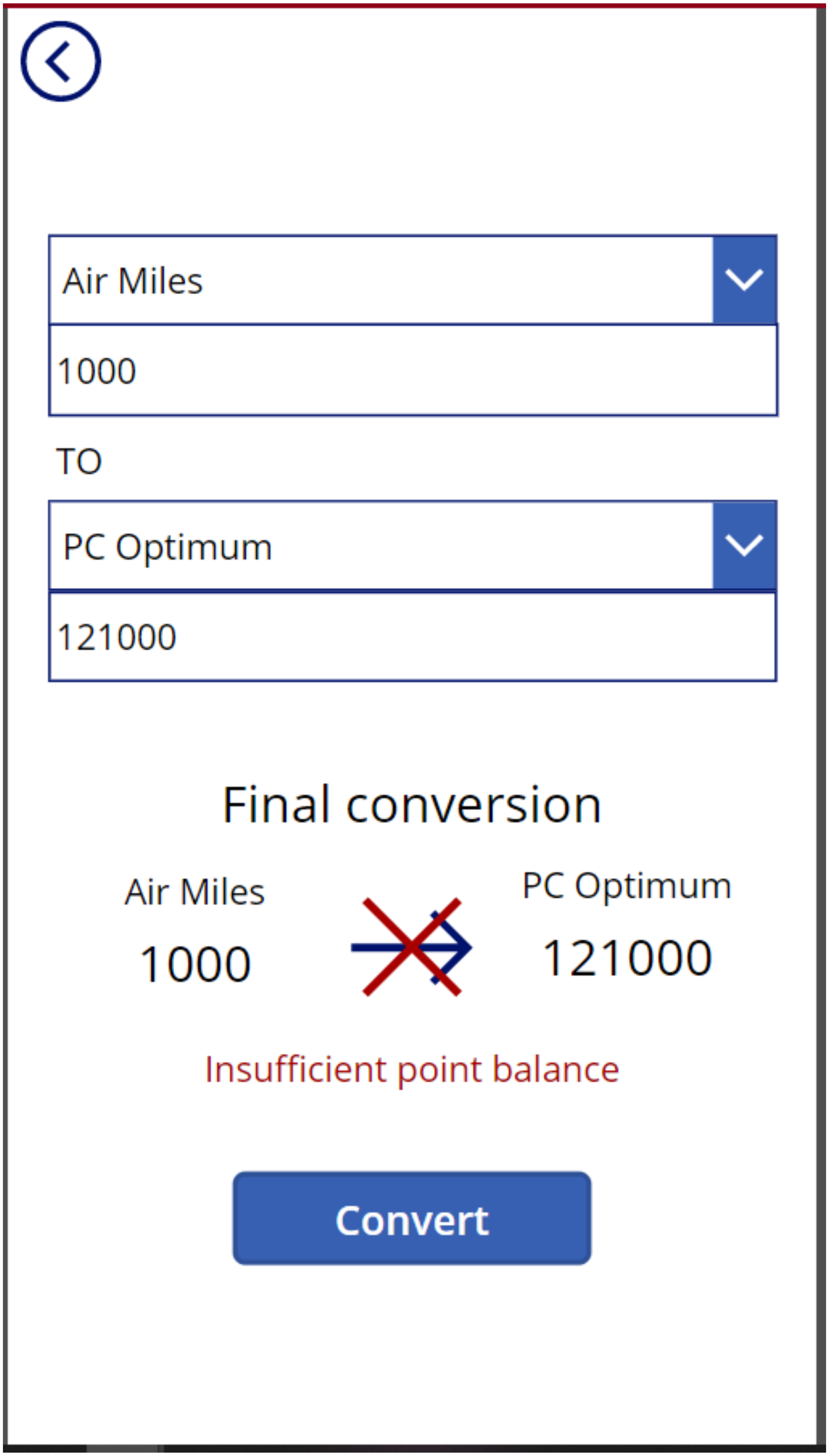


Louis

Air Miles: 502

PC Optimum: 472634

Subway Tokens: 32465



Air Miles

1000

TO

PC Optimum

121000

Final conversion

Air Miles

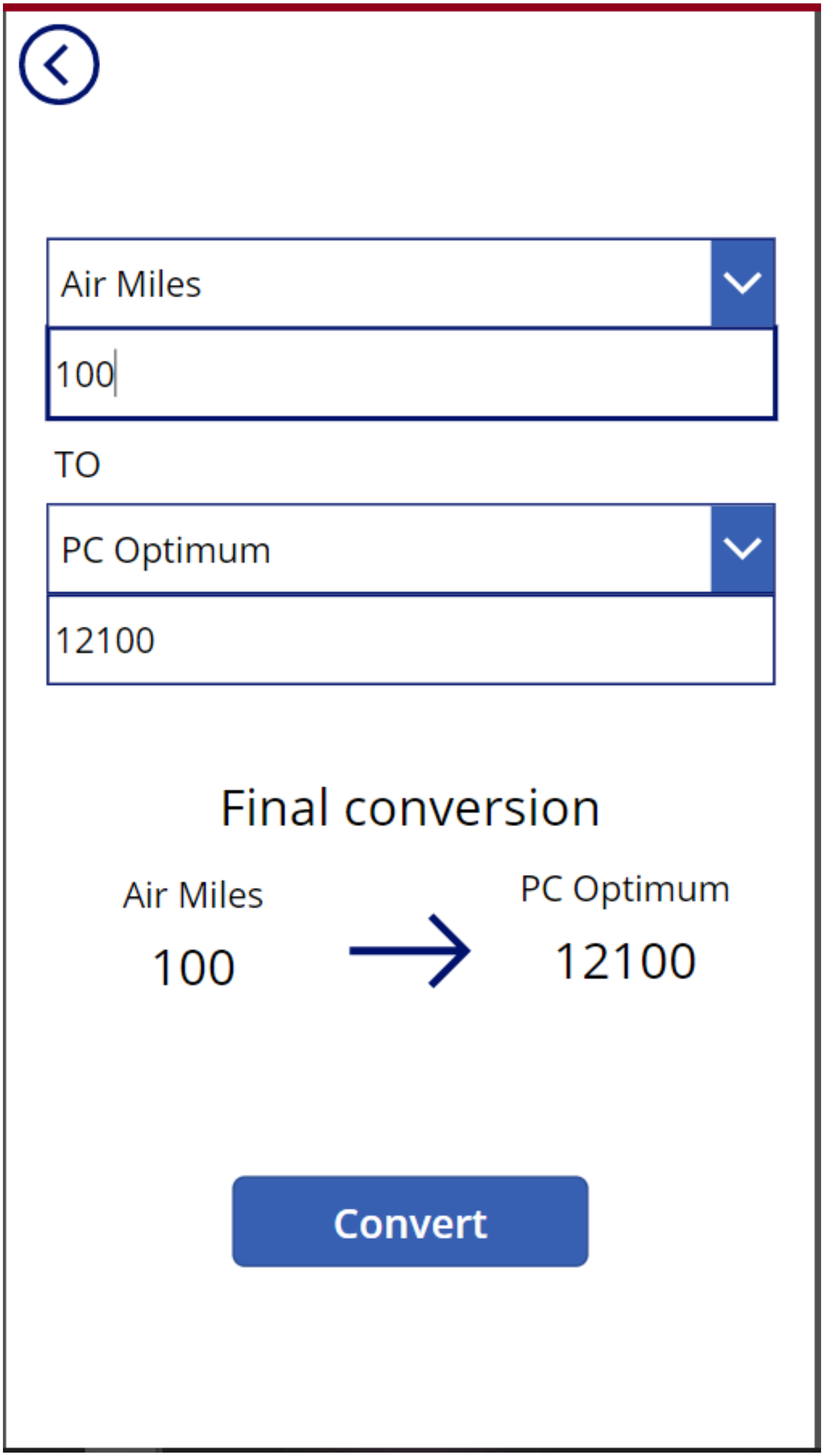
1000

PC Optimum

121000

Insufficient point balance

If you try to convert more points that you have is does not allow you and a message pops up



Air Miles

100

TO

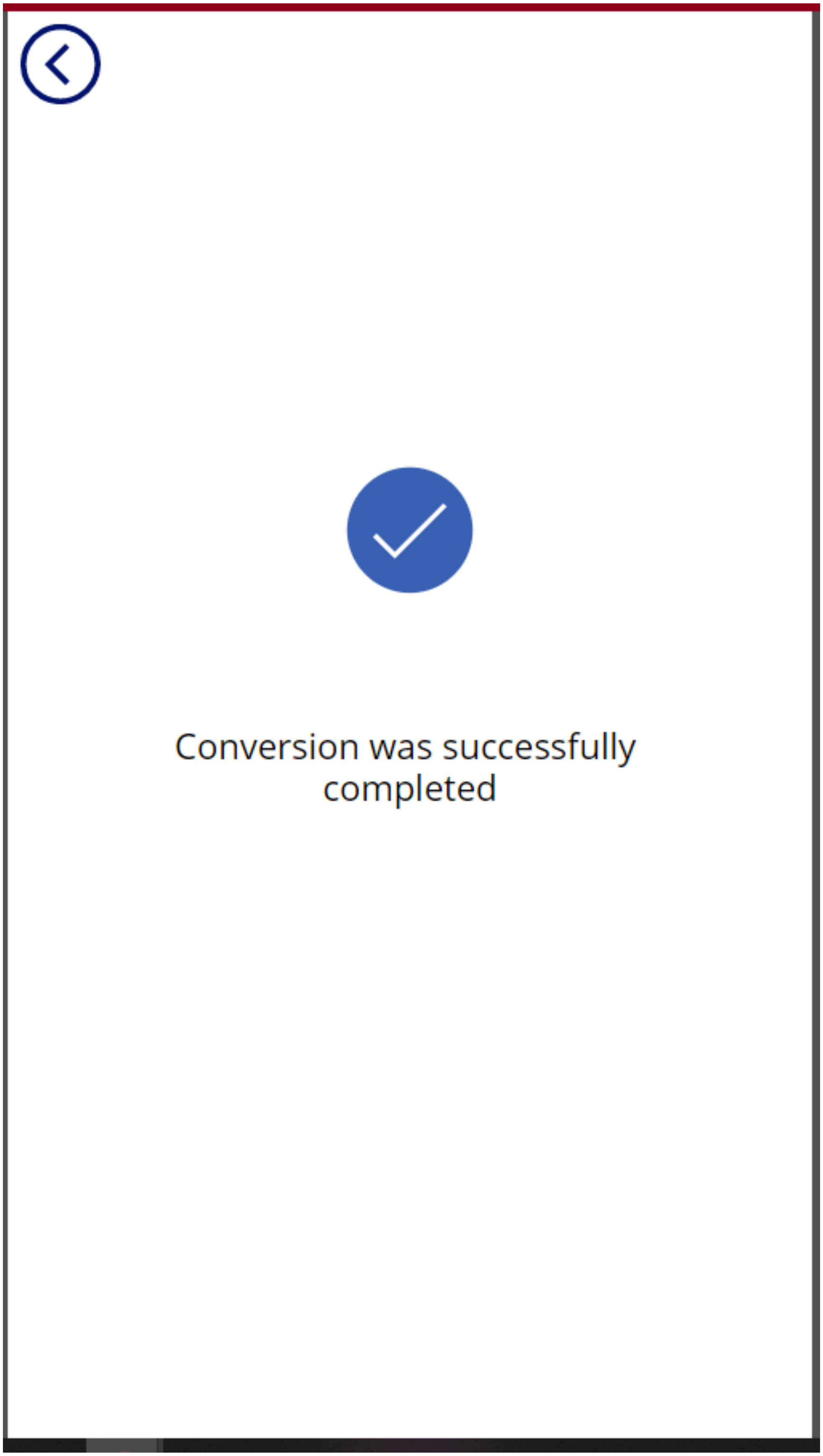
PC Optimum

12100

Final conversion

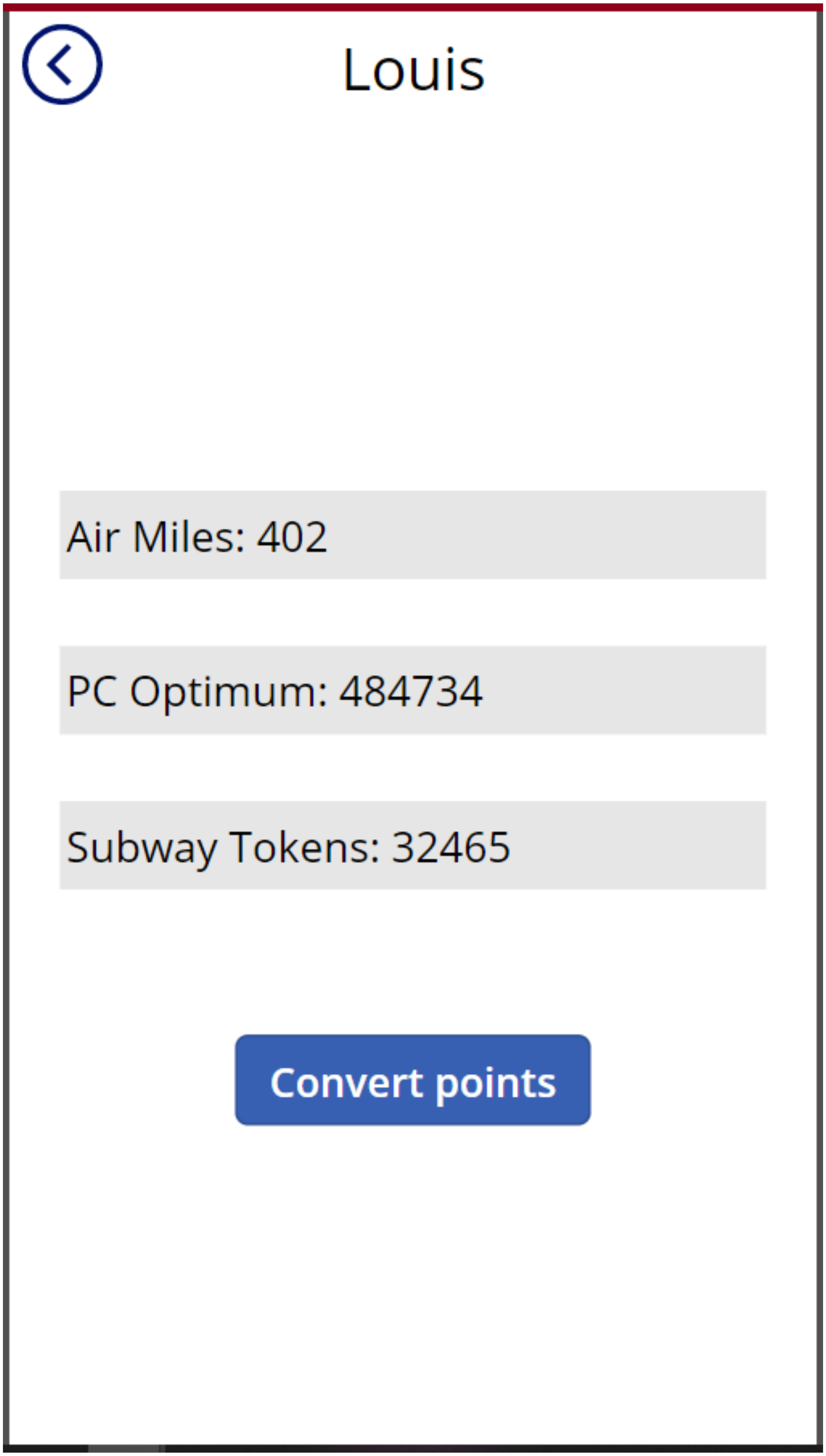
Air Miles → PC Optimum

100 → 12100



Conversion was successfully completed

If the you have enough point and click the it shows a page saying it was successfully and update both point balance



Louis

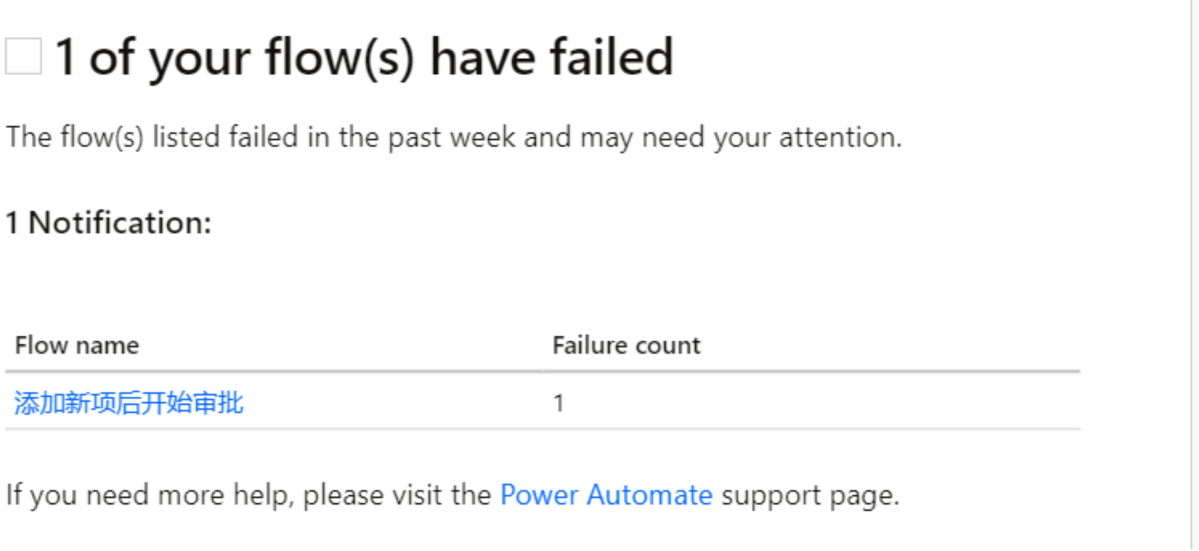
Air Miles: 402

PC Optimum: 484734

Subway Tokens: 32465

3.4 Test 4

Testing whether the data in the SharePoint list would be updated to Power BI tables properly. There are some errors occurred in the flow that we created, so the updating failed. We will figure it out as soon as possible.



1 of your flow(s) have failed

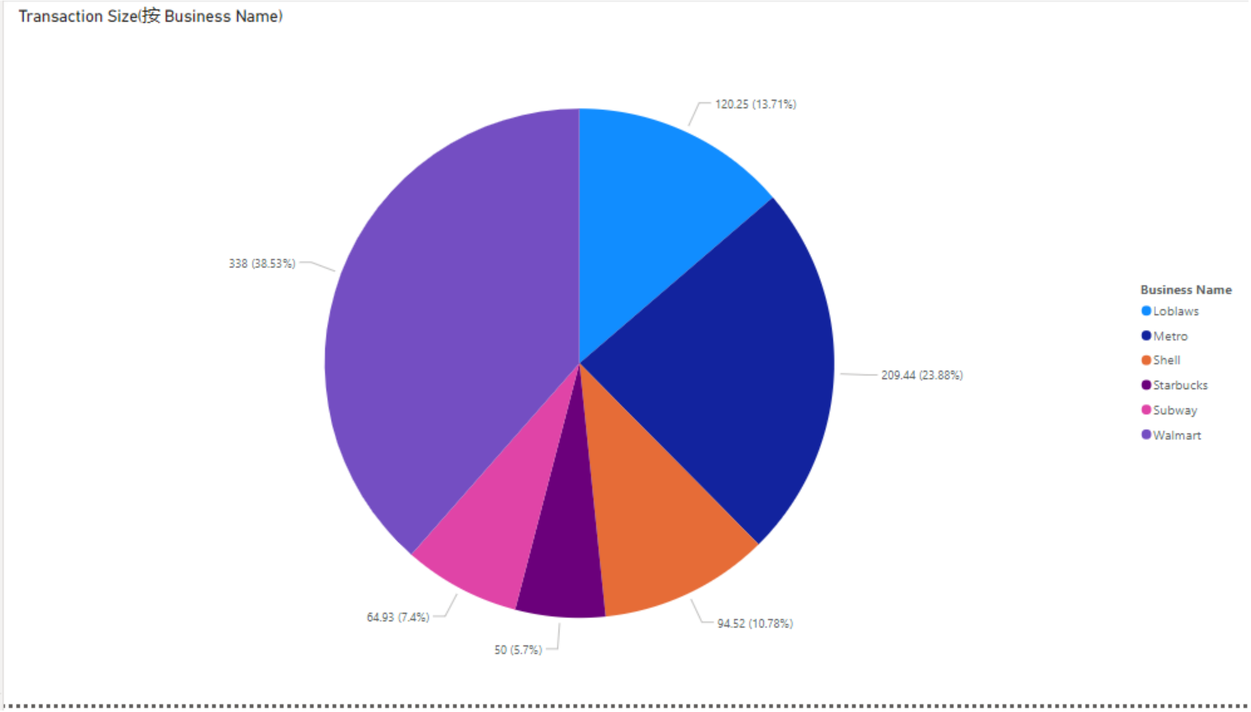
The flow(s) listed failed in the past week and may need your attention.

1 Notification:

Flow name	Failure count
添加新项后开始审批	1

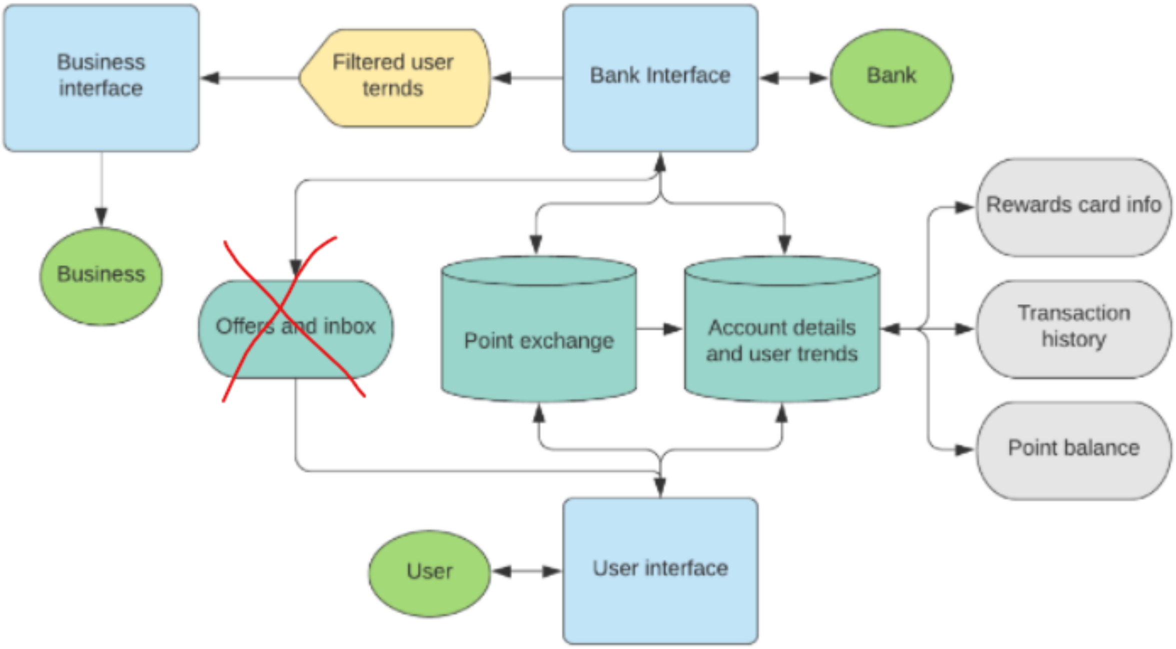
If you need more help, please visit the Power Automate support page.

Our current tables shown as below:



4. Updated target specifications and detailed design

Program runtime should not exceed 20 seconds:
From the results of test 1, our program runtime exceeds the previous target specification. Due to the limitations of the Power Platform cloud service, we will need to increase our target specification to 1-2 minutes.



5. Adjustments to Prototype 2

Instead of focusing on the individual functions of each interface, we will focus on connecting the user, bank and business interfaces together.

This will include:

1. User interface: (Louis and Bhavya)
   - Making transactions through the user interface and have them update in the bank and business interfaces
   - Users can see their transaction history in the user interface
   - When making transactions, point balances are updated (with support from Runxing and Quynh-Ni)
2. Bank and Business interface: (Runxing, Quynh-Ni, and Yiming))
   - Include more information to the "transaction size" column: total transaction size ($), amount of transaction paid in cash, amount of transaction paid in points, points earned (from the paid-in-cash column)
   - Continue working on the link to PowerBi

5.1 Prototype 2 test plan

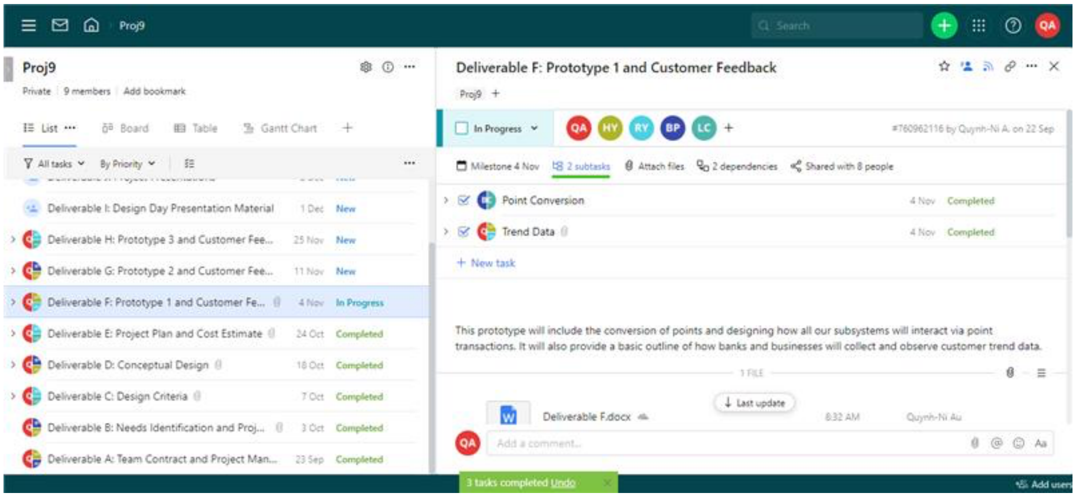
Test ID	**Test Objective (why)**	**Description of Prototype used and of Basic Test Method (What)**	**Description of Results to be Recorded and how these results will be used (How)**	**Estimated Test duration and planned start date (When)**
1	Track the recording of customer transactions through the system	Make transactions through the user interface and record how they are updated in the bank and business interfaces.	Are the bank and business transaction data updated (yes/no) Time it takes to update (seconds)	3-4 hours Tuesday (9th) and Wednesday (10th)
2	Test if user transaction history is	Make transaction through the user		

	updated in the user interface	interface and observe how the user transaction history is updated in the user interface		
3	Test aesthetics, maneuverability of the user interface		Have users take a look at the user interface	
4	Test how point balances are updated after a transaction			
5	Test how transaction data is updated in the PowerBi			
6	Test the representation of business transaction data		Ask businesses what information they want to see represented in the powerBi	

5.2 Stopping criteria

1. Time/due date
2. Once transactions can be made and information is updated throughout the system

6. Wrike Plan



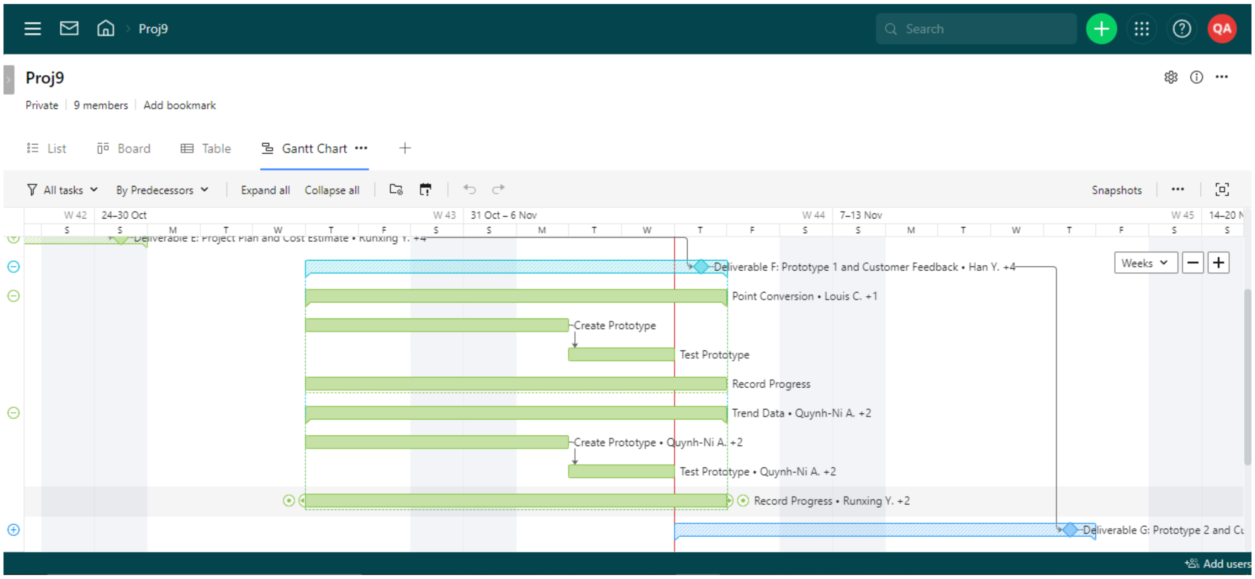
Deliverable I: Design Day Presentation Material	1 Dec	New
Deliverable H: Prototype 3 and Customer Fee...	25 Nov	New
Deliverable G: Prototype 2 and Customer Fee...	11 Nov	New
Deliverable F: Prototype 1 and Customer Fe...	4 Nov	In Progress
Deliverable E: Project Plan and Cost Estimate	24 Oct	Completed
Deliverable D: Conceptual Design	18 Oct	Completed
Deliverable C: Design Criteria	7 Oct	Completed
Deliverable B: Needs Identification and Proj...	3 Oct	Completed
Deliverable A: Team Contract and Project Man...	23 Sep	Completed

Deliverable F: Prototype 1 and Customer Feedback

Point Conversion	4 Nov	Completed
Trend Data	4 Nov	Completed

This prototype will include the conversion of points and designing how all our subsystems will interact via point transactions. It will also provide a basic outline of how banks and businesses will collect and observe customer trend data.

Deliverable F.docx 8:32 AM Quynh-Ni Au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Private | 9 members | Add bookmark
List
Board
Table
Gantt Chart
All tasks
By Predecessors
Expand all
Collapse all
Snapshots
W 42
24–30 Oct
W 43
31 Oct – 6 Nov
W 44
7–13 Nov
W 45
14–20 N
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F
Weeks
Deliverable E: Project Plan and Cost Estimate • Runxing Y. +4
Deliverable F: Prototype 1 and Customer Feedback • Han Y. +4
Point Conversion • Louis C. +1
Create Prototype
Test Prototype
Record Progress
Trend Data • Quynh-Ni A. +2
Create Prototype • Quynh-Ni A. +2
Test Prototype • Quynh-Ni A. +2
Record Progress • Runxing Y. +2
Deliverable G: Prototype 2 and Cu
Add users