

## Deliverable F: Prototype I and Customer Feedback

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## Prototype I

App

<https://apps.powerapps.com/play/f60200e9-5a49-4dae-b587-544fdaed2ecd?tenantId=d41fdab1-7e15-4cfb-b5fa-7200e54deb6b>

Username: Tom

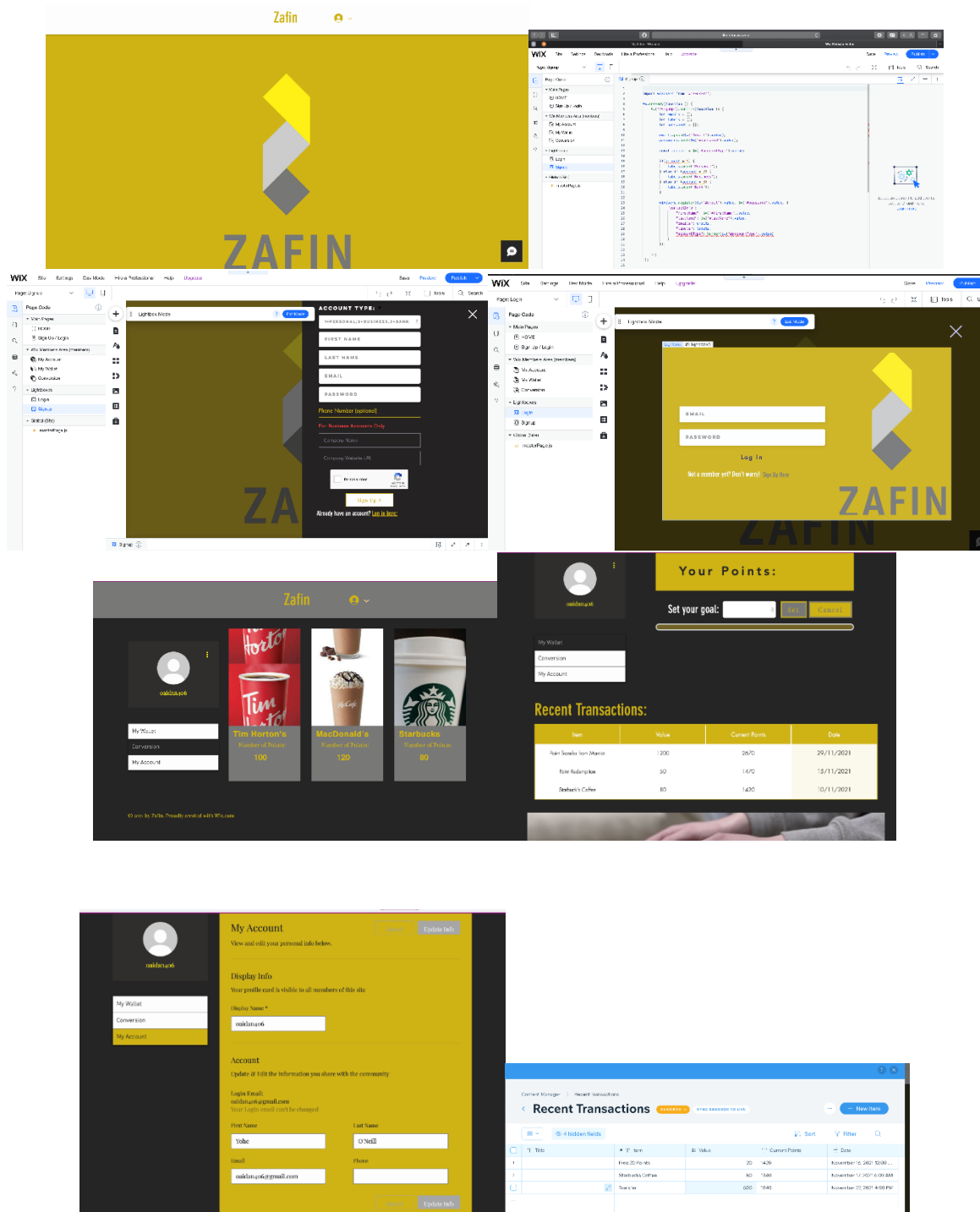
Password: 123

The image displays two screens of a mobile application prototype. The left screen is a login page with a large ZAFIN logo at the top. Below the logo are two input fields: 'User Name' and 'Password', both with orange borders. A yellow 'Login' button is positioned below the password field. The right screen is a dashboard. At the top, a yellow bar shows '50 Points'. Below this, the ZAFIN logo is repeated. There are two sections, each with a 'Name' and 'Summary' label. A progress bar is visible below these sections. A 'Set your goal:' section has a 'Points' input field. Below that, a 'Your Goal' section shows a progress bar. At the bottom, a yellow navigation bar contains four icons: a hamburger menu, a coin, an envelope, and a gear.

This app interface is designed to be simple to make sure that the user knows how to use it without any introduction pages. After the user logs in successfully, screen 2 shown in screen 2 will have 3 buttons at the bottom going to different page notification, Setting, and Point Transfers.

Website Layout and coding

Website: <https://aonei075.wixsite.com/zafinpoints>



This website interface utilizes the Wix.com website creator. Users can register/login, which opens hidden pages that only members can access. Information can be stored in datasets, which can be individualized. Also, it is possible to assign roles at registration which change the permissions/interface look given to the user. This application can be updated by administrators, and has a plethora of automations such as email confirmation, automatic promotions, etc. One caveat of Wix.com is that it cannot be integrated directly with a Microsoft list... This means that

as of now we cannot connect it with the Microsoft app. We could look at the possibility of integrating it with an excel document which is also integrated with a list.

## Conversions

Conversion Coding ☆

Total Amount of Points ▾	CAD Conversion ▾	Investment ▾	Transfer ▾	Air Miles Points ▾	TD Canada Trust ▾
700	\$7.00	\$5.38	700	2,100	350
8000	\$80.00	\$61.54	8000	24,000	4,000
10000	\$100.00	\$76.92	10000	30,000	5,000
4206	\$42.06	\$32.35	4206	12,618	2,103

## Wallet

Wallet	
Search Items	
Point A 60	>
Point B 25	>
Point C 10	>
Point D 100	>
Point E 70	>
Point F 500	>

This is a rudimentary wallet UI that is connected to the share point list below.

Wallet ☆				
Point Type ▾	Amount ▾	Exchange Rate ▾	CAD ▾	+ Add column ▾
Point A	60	1	60	
Point B	25	0.5	12.5	
Point C	10	2	20	
Point D	100	2	200	
Point E	70	0.1	7	
Point F	500	5	2,500	

Points can be deposited and withdrawn from the app interface, which will then be updated in the SharePoint list database. New types of points can be created, which will create a new row in the database.

✕	Wallet	✓
* Title	<input type="text" value="Point A"/>	
Amount	<input type="text" value="60"/>	
Exchange Rate	<input type="text" value="1"/>	
CAD	60.00000000000000	

This is the interface for the movement of points in and out of the database. This is proof of concept of changing data in a SharePoint list using PowerApps.

The screenshot shows a PowerApps flow interface. At the top, a message box states: "No additional information is needed for this step. You will be able to use the outputs in subsequent steps." Below this, there are two steps in the flow:

- Create item:** This step is configured with the following fields:
  - \* Site Address: (Fall 2021) GNG1103A01 - Proj4 - <https://uottawa.sharepoint.com/teams/GNG1103A01-Proj4>
  - \* List Name: Wallet 2
  - \* Title: CreateItem\_Title
  - Amount: CreateItem\_Amount
  - Exchange Rate: Exchange rate to CAD as a fraction.
- Delete item:** This step is configured with the following fields:
  - \* Site Address: (Fall 2021) GNG1103A01 - Proj4 - <https://uottawa.sharepoint.com/teams/GNG1103A01-Proj4>
  - \* List Name: Wallet
  - \* Id: DeleteItem\_Id

For the transfer of points between SharePoint list databases, a flow was created that deletes and item from one list and adds it to another. This flow was then added to PowerApps, so when a button is pressed the flow runs.

The link to this basic app is found below, but also requires access to the SharePoint list database found in the project 4 teams space:

<https://apps.powerapps.com/play/5a62ff82-2bf3-447f-b97a-d9aba708aa4f?tenantId=d41fdab1-7e15-4cfd-b5fa-7200e54deb6b>

## Prototyping Test Plan, Analysis and Results

### Prototype I 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)
<b>Interface</b>				
<b>1</b>	User Experience	Present our ideas to other people (friends, TA's); an app/website	Get feedback from users (what they liked, and what they didn't)	<b>Saturday, Oct 30; 9:00pm</b>  5 different users tested
<b>2</b>	App – Website interface are smoothly connected	See if changing something on the app changes it instantly on the website too... are they connected?	The results to record would be the delay/updating time, and to see if "spent" points	<b>Wednesday, Oct 27; 7:00pm</b>

			disappear from the website and apps jointly	3 10-minute test periods throughout day
<b>3</b>	Functionality of Website & App	Try if each of the functions do what they're supposed to do (buttons links to the correct functions)	If buttons link to where they're supposed to, and if not, where do they link to?	<b>Tuesday, Oct 26; 3:00pm</b> 3 10-minute test periods throughout day
<b>4</b>	Bank/company input	Make sure that adjustments/offers made by the institutions update on the app/website <b>and</b> that they can't be changed	Time it takes for the user account to update/if the values were locked or not.	<b>Thursday, Oct 28; 12:00pm</b>  3 10-minute test periods throughout day
<b>5</b>	Layout of App / website	Get feedback from random users to see if the layout is efficient	Take in the feedback to ideate more prototype drawings	<b>Friday, Oct 29; 5:00pm</b>  3 10-minute test periods throughout day
<b>6</b>	Loading screen	Asking the question of do you think the app/website is fast?	Take the feedback to change the loading screen	<b>Friday, Oct 29; 5:00pm</b>  3 10-minute test periods throughout day
<b>7</b>	Password/login	Make sure that the password made at login is remembered	When a password is put in, is the user able to move on to the next screen?	<b>Friday, Oct 29; 5:00pm</b>  3 10-minute test periods throughout day
<b>8</b>	Work without internet	The points data is saved in the data system and the personal device	If data and numbers can be stored and converted once internet AND mobile data are turned off.. What happens if it doesn't work?	<b>Friday, Oct 29; 12:00am</b>  3 10-minute test periods throughout day
<b>Conversion</b>				



<b>9</b>	Conversion	Make sure that a conversion factor that is input is used consistently and to the same number of decimals every time.	Record / calculate the conversion of 5 numbers using 3 different conversion factors each... observe any discrepancies. A number should convert both ways	<b>Tuesday, Oct 26; 12:00am</b>  3 10-minute test periods at different times in the day
<b>10</b>	Multi-faced conversion	Can a number be converted using different conversion factors at the same time (for example, with different loyalty rewards systems) for comparison?	Observe the conversion of the same number into 5 different systems (and repeat 5 teams) to see if the numbers are converted consistently every time.	<b>Tuesday, Oct 26; 12:00am</b>  3 10-minute test periods at different times in the day
<b>Wallet</b>				
<b>11</b>	Wallet – storage	Is the account balance stored and correct? Are gains and losses constantly stored so that the number remains true?	Redeem points 5 times (different amounts) and spend them 5 times to ensure that the value is being calculated and stored correctly.	<b>Wednesday, Oct 27; 1:00pm</b> 10 5-minute test periods; this should be checked consistently over 2 days
<b>12</b>	Email Confirmation	Once an interaction is made (such as a redemption), an email must be sent to the user. The test would be whether or not the email was sent, and what was sent in it.	We will record when the email was sent (with relation to the time of the interaction), what was sent, if it was only sent one time, etc.	<b>Thursday, Oct 28; 12:00am</b>  3 10-minute test periods throughout day (with three different email accounts)
<b>13</b>	Business Account – purchasing points	Are businesses able to purchase points through “business accounts”?	We will record if they can, if they receive the actual number they purchased, how	<b>Thursday, Oct 28; 8:00pm</b>

			long it takes for them to receive the points	3 10-minute test periods throughout day
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## Prototype I Analysis

Subsystems	Analysis
App	<p>The app is working but the way it codes is only works for a single user not for multi-user. However, this is just a rapid prototype.</p> <p>I know how to code progress bar. Nevertheless, when I change the value to changing value it does not work. I am still finding a way to fix it or re-code it to make it work.</p> <p>Fixing the progress bar will allow the theme purpose of the app matching, which is to make you understand how to use the app without teaching you of how to use the app because the progress bar is the simplest thing to show a lot of information and the user will understand immediately.</p>
Website Layout and Coding	<p>We have lots of maneuverability, but data is still stored directly on Wix. This is just a representation of the kind of layout that a ZafinPoints website could have.</p> <p>I understand how to make custom forms for registration and login but I am still figuring out the coding for connecting them. Doing this will allow me to add account-type specifications so that I can differentiate between regular users and businesses.</p> <p>I am still trying to figure out how to add and remove numbers from a database (I.e. user points/wallet). This includes making user-specific datasets. I am somewhat limited by logistics, and possibly by cost (Wix puts limits on the number of forms, for example, depending on your membership with them).</p>
Conversion Coding	<p>The total points are able to be converted to CAD, investments, transfers, and changed from company A to company B.</p> <p>The next step would be to add a redeem feature that is able to instantaneously take exact points out of a user's total points when they redeem an item.</p> <p>The conversions also need to be implemented into the function app. As the app will include several different options for what users want to do with their points; checking the total amount of points, redeeming, or looking at the different conversion rates that are available.</p>

	<p>Within the coding there also needs to be an option to add additional conversion rates as more companies join the app, this prototype only included two companies' conversion rates just to give a visual, but moving forward there would need to be a dropdown menu that includes every company's different conversion rates for the points.</p>
Wallet Coding	<p>In the final product, the exchange rate will be hidden and determined by Zafin, the bank, and the retailer. Currently, the exchange can be altered in app for developer purposes but can easily be hidden from the user. Additionally, depositing points will be done through a retailer specific API, not directly by the user.</p> <p>For the transfer of points, the flow is specific to two lists, so transferring between other lists requires a separate flow. This is proof of concept of transferring points and requires much more development in the next prototype.</p>

### Prototype I Results

Subsystems	Results
App	<p>In conclusion, the app is working well and successfully based on the login program and the layout overall, from screen one to screen three, it can connect the website Wix in screen 3.</p> <p>The next step is to connect the wallet and wallet-database together.</p>
Website Layout and Coding	<p>Overall, this is promising as a model of what a website could look like. This <b>will not</b> be used as a functional site for this project. I got a little bit less done than I'd hoped but at the same time, I know that I would run into issues with coding. It is less than ideal that we cannot connect the app and website, but we can at least use Wix as a representation.</p>
Conversion Coding	<p>For the conversions, we are now able to take the total amount of points and instantly see the conversion rate calculations for CAD, Investing, Transfers, Air Miles Points, and TD Canada Trust.</p> <p>This prototype included two different companies' conversion rates just to provide a visual of what a 'company A to points to company B' would look like on the final product.</p>
Wallet Coding	<p>Power Apps was successfully used to alter data in a SharePoint list. New entries in the list could be made and existing entries could be altered, representing the deposit and withdrawal of points. The next prototype will focus on the transfer of points to another wallet (moving data from one SharePoint list to another) through Power Apps and Power Automate.</p>

## Feedback and Comments

Subsystems	Feedback
App	<ul style="list-style-type: none"> <li>• Monotonous login page</li> <li>• Simple to Understand on login page</li> <li>• Redundant page at error information page, “Error username and password please, forget password?”</li> <li>• Point Transfer page, Notification page, and Setting page does not work</li> <li>• The main menu is good clear for the goal and the point, “I like the layout”</li> </ul>
Website Layout and Coding	<ul style="list-style-type: none"> <li>• Runs a little slowly</li> <li>• Not very functional at the moment</li> <li>• Layout is nice</li> <li>• Some like the dark theme but others did not</li> </ul>
Conversion Coding	<ul style="list-style-type: none"> <li>• Needs to have separate tabs for different conversions</li> <li>• Should have a dropdown menu for all the companies to make it more convenient</li> <li>• Needs to be added under a tab on the app, not have the conversions on its own</li> <li>• The several different options for points are very nice and convenient</li> </ul>
Wallet Coding	<ul style="list-style-type: none"> <li>• noted that the app was very confusing</li> <li>• had few labels</li> <li>• many arbitrary numbers</li> <li>• will integrate with Billy’s UI for the next Prototype.</li> </ul>

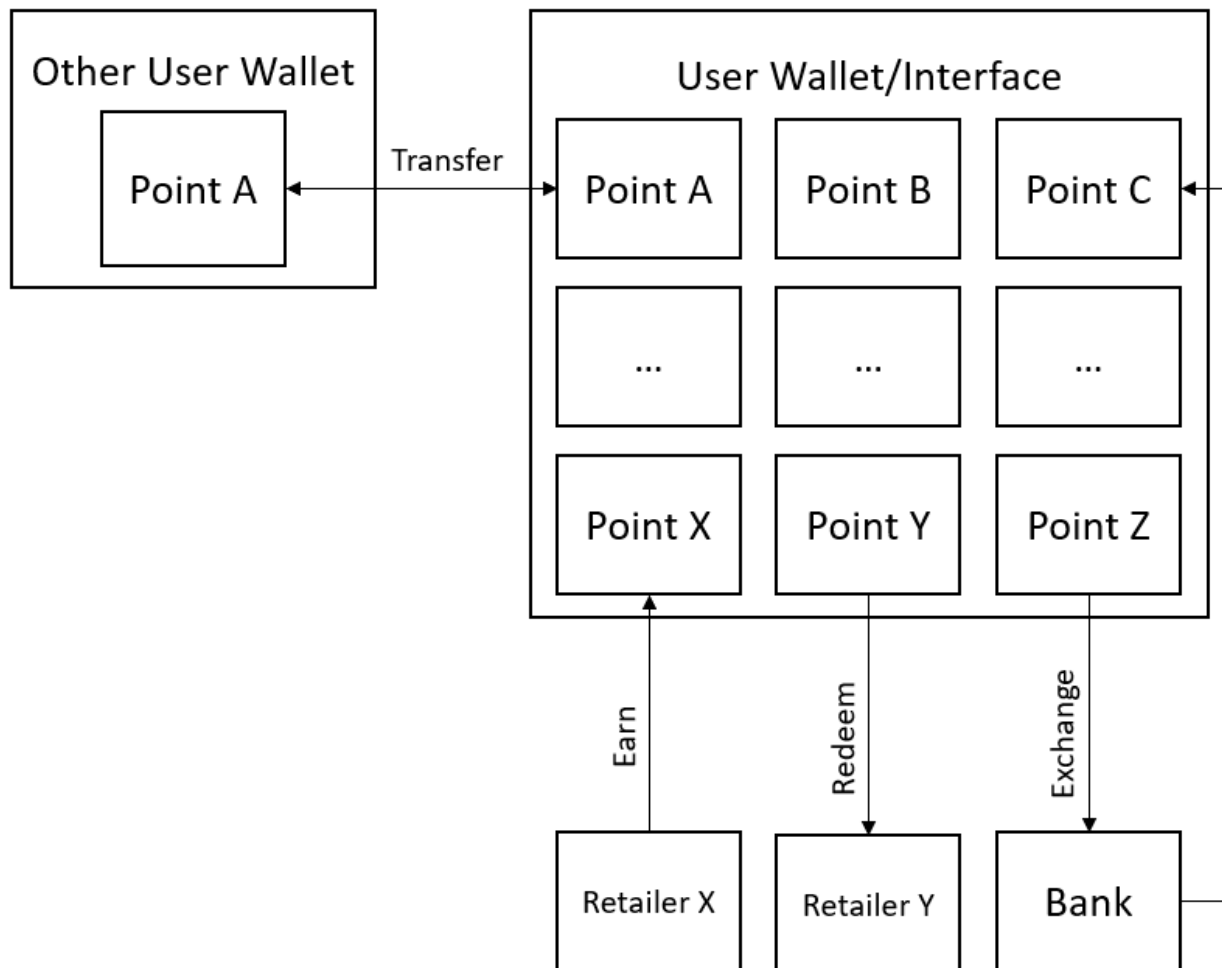
## Target Specifications, Detailed Design and BOM

### Target Specifications

Specific ation No.	Specification	Priority	Specifics	Implementation
1	<b>Horizontal transfer of points</b>	Point transferability	Allowing points to move and be used easily.	Centralized interface which supports many kinds of users (banks, businesses, consumers). Provides a place where points can be transferred, redeemed, used, and converted all in one platform.
2	<b>Democratization of the point system</b>	Inclusion of smaller businesses	The inclusion of smaller businesses and	The app and website level the playing field by allowing smaller businesses to make

			more freedom to bank clients	accounts and offers, advertise, etc. By making this centralized platform, users will also have greater diversity in using their points.
3	<b>A general and adaptable product</b>	Allow data to be moved in and out of the wallet from multiple locations; locations that can be specified in Power Apps rather than in SharePoint lists and Power Automate	The product is meant to be sold to different banks and must be adaptable to their needs.	Create flows that are nonspecific to wallets, and allows outside wallets to be added within the app (make the data transfer location specifiable in app, rather than coding a new flow)

### Detailed Design



## Bill of Materials

Project	Inventory Name	Priority	Vulnerabilities	Task	Cost/ month (CAD)with tax
Prototype 2	Power Apps	primary	N/A	Building app & Building website	\$0.00
Prototype 2	Excel	secondary	N/A	Database	\$0.00
Prototype 2	Share Point	secondary	Cannot make any function and handle large database	Auto Database	\$0.00
Prototype 2	Wix	tertiary	Cannot connect to excel or SharePoint	Building website	\$0-13.98

## Prototype II 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)
<b>Interface</b>				
	Data transfer from website to app	Wix is used for the website. The test method would be to see if data entered through user input on the website could be transferred live; website <> excel <> SharePoint <> App	The results would be the speed at which they transfer (if they transfer at all), and making sure the data was transferred accurately.	<b>Monday, November 8.</b> Test duration: 3 days
	Custom registration and login	Velo forms (which use JavaScript) which are customizable. The test would be to make sure labels are given properly, that registered accounts can log in using the same credentials, and that changes made in one login session	Login / registration errors, accounts and their given roles/permissions	<b>Monday, November 8.</b> Test duration: 3 days

		are stored for the next time the user logs in.		
	Automations	If the automations will automatically send confirmation emails	Where do automations send their emails and how long does it take?	<b>Monday, November 8.</b> Test duration: 3 days
	Database and Conversion	The addition or removal of points to the users wallet upon the click of the button. Conversion of said points which are stored for future reference.	History of addition/removal; if the times are automatically recorded; are conversions stored?	<b>Monday, November 8.</b> Test duration: 3 days
<b>Conversion</b>				
	Multi-faced conversion	Create a dropdown list on all partnering companies so users can easily switch between the different conversion rates for their points from different companies	Observe the conversion of the same number into 5 different systems (and repeat 5 teams) to see if the numbers are converted consistently every time.	<b>Monday, November 8.</b>  Test duration: 2 day
	Multiple Tabs for Different Conversion Options for Points	On the Home page of the app, create three different tabs; Redeem, Transfers and Invest  This will help better organize the different conversion options instead of grouping them together under one tab	Observe the conversion of the same points into the 3 different tabs. Check if the transaction is saved onto the wallet  Redeemed points should be removed from the user's total points	<b>Tuesday November 9.</b>  Test duration: 3 day
<b>Wallet</b>				
	Transferring points to other wallets through Power Apps (moving data from one	Will use flows in the Power platform to delete data in one list and add the same data to another	Successfully move identical data from one list to another	Friday, November 5. Test duration: 7 days

	SharePoint list to another			
	Clean up UI/Integrate with Billy's app	Make UI more accessible	Will test through user feedback	Friday, November 5. Test duration: 7 days
	Integrate with Adora's conversion system	Use Power Apps to change points in a SharePoint list into alternate points	Can accurately exchange points based on a set exchange rate; no miscalculation	Friday, November 5. Test duration: 7 days

### Prototype II Stopping Criteria

App Layout	<ul style="list-style-type: none"> <li>- Includes all tabs (Home, Favorites, Redeem, List, Profile)</li> <li>- Displays user's total amount of points</li> </ul>
App Coding	<ul style="list-style-type: none"> <li>- Most of the taps have to be functional</li> <li>- The process bar works with change value</li> <li>- Connected at least one of the databases.</li> </ul>
Website	<ul style="list-style-type: none"> <li>- Custom signup form and custom login form connect</li> <li>- User labels are given to the different kinds of accounts (as chosen at signup); different users have different displays)</li> <li>- User data seamlessly transferred to a dataset which is individualized</li> <li>- Users can interact/input information</li> <li>- Input is "remembered" upon logging out and then logging back in</li> </ul>



Conversion Coding	<ul style="list-style-type: none"> <li>- Be able to calculate the conversion of 5 different sets of numbers using 3 different conversion factors each</li> <li>- Converts points based on an exchange rate</li> <li>- Dynamic exchange rate</li> </ul>
Wallet Coding	<ul style="list-style-type: none"> <li>- Displays user's total amount of points</li> <li>- Be able to show the accurate results of 5 different point redemptions</li> <li>- Stores many (&gt;25) different types of points</li> <li>- Can transfer points from wallet to wallet</li> <li>- Can transfer points into the wallet</li> <li>- Can transfer points out of the wallet</li> <li>- Handles the movement of points &lt;2s</li> </ul>

Wrike Updates

Project 4

Shared

List

Board

Table

Gantt Chart

All tasks

By Date

NEXT WEEK (1)

Deliverable G – Prototype 2 & Customer Feedback

11 Nov

New

Feedback and Comments

7 Nov

New

Prototype 2

7 Nov

New

Analytical, numerical, or experimental model

8 Nov

New

Prototype II Analysis

8 Nov

New

Prototype II Results

8 Nov

New

Update stopping criteria

9 Nov

New

Update target specifications, detailed design and BOM

9 Nov

New

Prototype 3 Plan

10 Nov

New

Update Wrike

11 Nov

New

Prototype II Test Plan

4 Nov

Completed

Deliverable G – Prototype 2 & Customer Feedback

Project 4

New

Add assign... #772026239 by Ethan L. on 12 C

Milestone 11 Nov

0

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10

0

8

Prototype 2

7 Nov

New

Prototype 3 Plan

10 Nov

New

Update target specifications, ...

9 Nov

New

Analytical, numerical, or experi...

8 Nov

New

Prototype II Test Plan

4 Nov

Completed

Prototype II Analysis

8 Nov

New

Prototype II Results

8 Nov

New

Feedback and Comments

7 Nov

New

Update stopping criteria

9 Nov

New

Update Wrike

11 Nov

New