Project Deliverable H: Prototype III

Bailey Watson, 7761424

Ethan Mumford, 300233682

Yang Peng, 300257350

Aditya Mukhopadhyay, 300250553

Ayo Oladipupo, 300200715

Prototype III

A third and final prototype has been created for the purposes of testing and iterating before the creation of the final solution for Design Day. This comprehensive, high-fidelity prototype was creating by combining previous prototype elements, Power Apps and WIX webpage. This prototype is shown in detail in **Appendix B – Prototype III**.

Prototype III consists of the previously created WIX webpage, which now hosts the functional PowerApps that were presented in Prototype II. This has been achieved by using an HTML iFrame code to embed the power apps on their respective WIX webpages. The result is a complete, easy to use prototype that closely resembles the final project.

Before embedding the Power App sub-systems into the webpage, it was imperative that each apps front- and back-ends were fully operational. This required thorough testing of both the UI and the functionality of each individual power app. The goal of UI testing was to ensure inputs were being read and stored correctly, while the individual power apps were tested to ensure they work both individually (e.g., "Wallet" storing points), and in conjunction with each other (e.g., "Exchange" apps trading properly, and "Bank Profit" reporting correct amounts). Furthermore, once embedded into the app, testing was required to find appropriate locations on each page for the Power Apps.

Moving forward to Design Day, each SharePoint List (and thus it's associated Power App), will be linked to Power BI. This will provide data visualizations that update in real time and will be a valuable addition to the "Insights" portion of the WIX webpage. The Power App visualizations will be embedded into the webpage using the same HTML code that was used to embed the Power Apps. Testing before Design Day will consist of inputting different values into the embedded Power Apps, and measuring their time to execute commands.

Analysis of Critical Components

An analysis of the critical components of this Prototype can be found in **Table 1** below. The purpose of this analysis is to validate the components that were presented in Prototype II and assess their effectiveness.

Table 1 - Analysis of Critical Components

Critical Component	Analysis
User Interface	Functional. See photos in **Appendix B – Prototype III**.
Store Points	Functional. Storing points will add them to the desired list.
Exchange Points	Functional. Exchanging from "PC Points" will add to "Scene Points". The correct value will be added to the "Bank Profit" List.
Redeem Points	Functional. Redeeming points will exchange the points to a cash value. The correct value will be added to the "Bank Profit" List.
Send Points	Functional. Sending points simply discards them from the user's wallet. The correct value will be added to the "Bank Profit" List.
View Insights	Partly functional. The "Insights" app tracks all bank profit; it has been connected to Power Bi to display the insights properly but is not yet embedded in the WIX website.

Test Results and Updated Prototyping Test Plan

The elements of Prototype II that have been identified as needing testing have been tested according to the Prototyping Test Plan created in Deliverable E. Results of these tests can be found in **Table 2**. These tests provided more insight into Prototype III, and therefore some changes to the Testing Plan were required. See **Table 3** below for the updated prototyping test plan. Please note photos are not included in this section to justify test results, as both the WIX Webpage and Power Apps are included in Appendix.

Table 2 - Test Results

Test Parameter	Test Result
Test ID 3	As indicated in the Analysis of critical components, all power apps are functioning as intended. Some iteration was required when modifying the Power App UI, mainly to ensure drop down menus displayed the correct options.
Test ID 4	Apps can be successfully embedded into their respective webpages, and their position and size can be modified to suit.

Table 3 – Updated 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	Determine if updated Logic is functional for this application.	CodeBlocks prototype, using different information and situations	Record information input, record information output and code behaviour	1 week 11/04/2021 to 11/11/2021
2	Determine if updated UI/UX is functional.	Allow multiple users to use UI and ask questions about UX.	Record questions, answers, and comments from users	11/04/21 to 11/11/21
3	Test individual Power Apps before Embedding them into Website	Record inputs and outputs in each app. Check that correct info is being stored.	Record Results as bullet points using MS Word	11/04/2021 to 11/11/21
4	Test to see if iFrame HTML method is functional for embedding objects into WIX	Test embedding of random webpage	Record behaviours of embedded object	11/20/2021

5	Test if Power Bi is reading correctly from SharePoint List	Compare Power BI data to List data	Note discrepancies and correct	11/25/2021 to 11/30/2021
6	Test how Embedded Power Apps Perform on Websites	Ember Power App into Website and Test Functionality	Record Results as bullet points using MS Word	10/25/21 - 10//21

Appendix A – Task Plan Update

Write Schedule, Task, and Assignment updates can be seen in below. Use the following link to access Wrike: https://www.wrike.com/open.htm?id=761228072

Appendix B – Prototype III

Comprehensive prototype is displayed below.

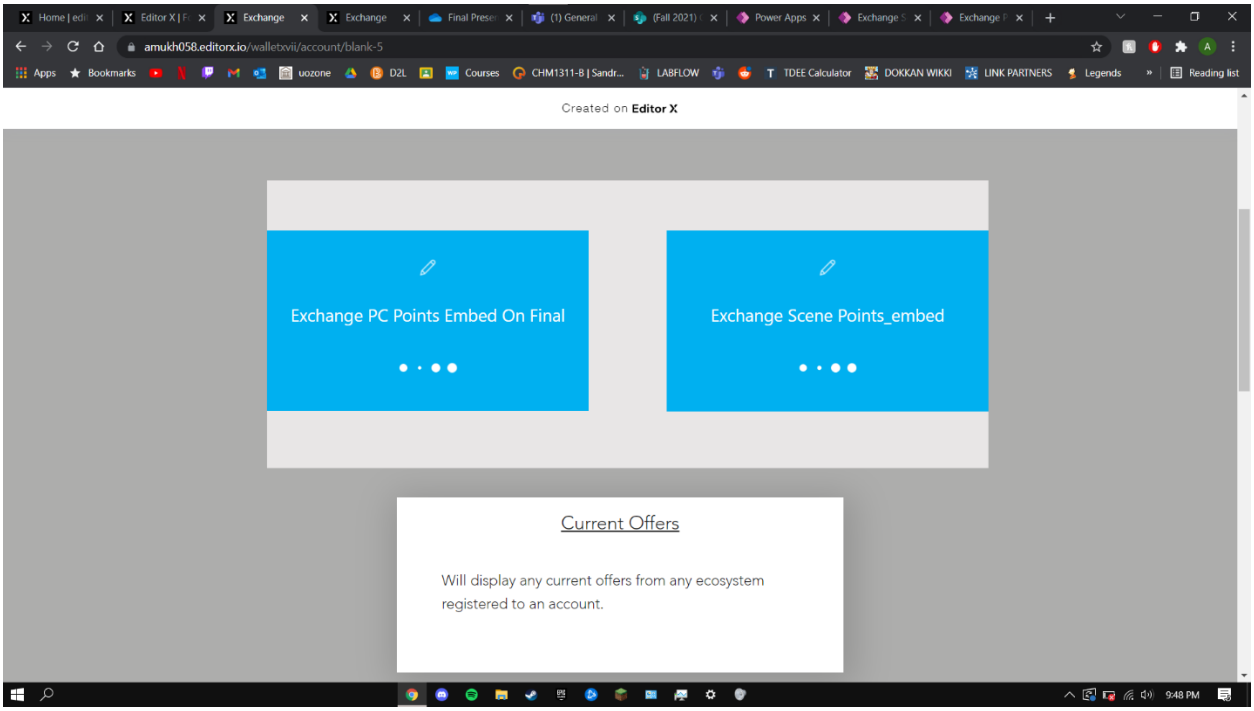

Figure 1 - Embedded Power Apps Loading

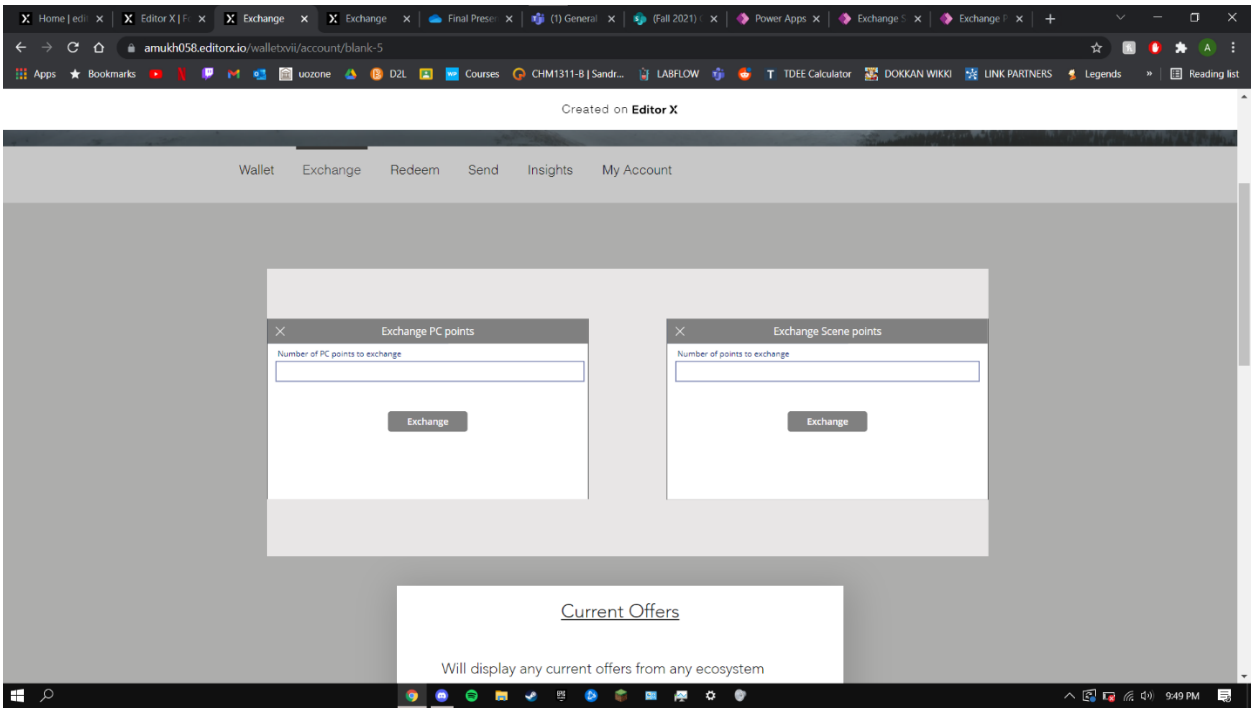

Figure 2 - Embedded Power Apps Exchange Function

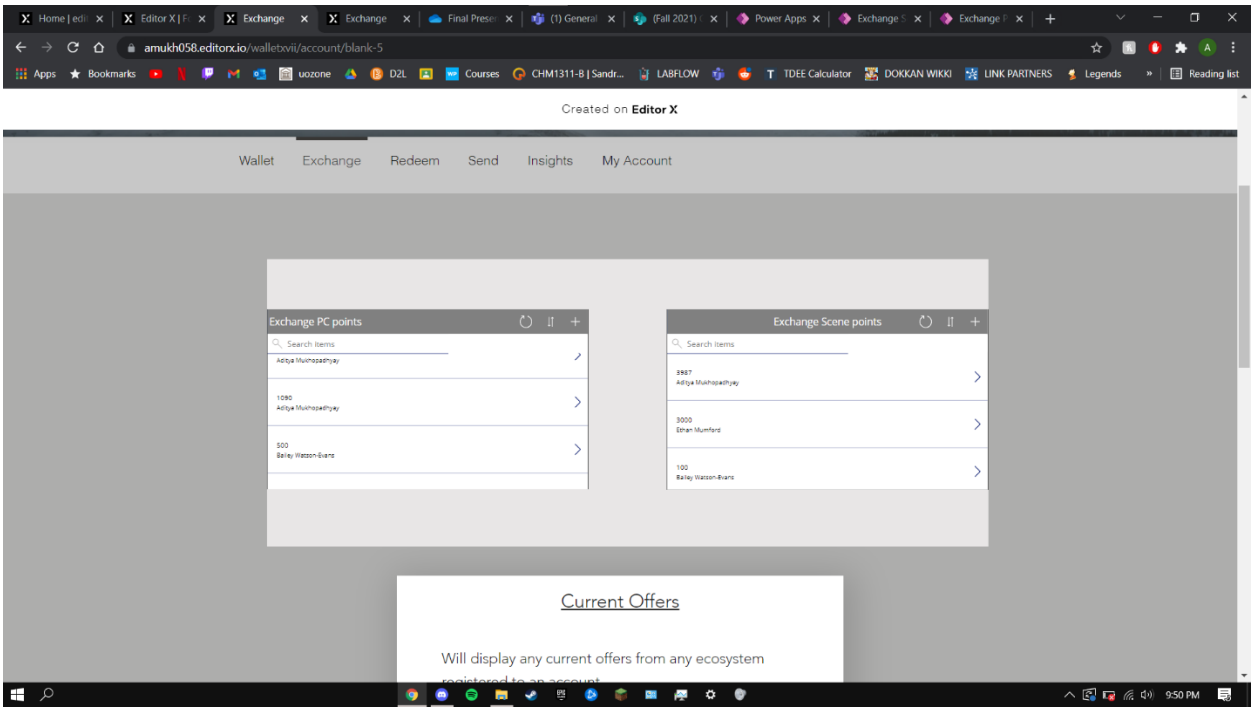

Figure 3 - Embedded Power App Exchange History