

Project Deliverable D: Conceptual Design

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1. Individual Subsystems

Please note, items marked with an asterisk will be reported on as future considerations. These items were deemed important for the Loyalty Platform, but their implementation is not feasible in the given timeframe.

1.1. Functional Requirements

1.1.1. Software should be cloud-based

- Coded using MS Power Platform

1.1.2. Should allow storage of loyalty points

- “Wallet” function for points storage
- Extra points can be gained by daily/frequent use of app*

1.1.3. Should allow exchange of loyalty points between ecosystem partners

- Users may exchange points from list of connected partners directly thru interface
- Points will have value, compared against 1 ZafinCoin

1.1.4. Must generate profit

- Points can be traded for other points at a rate such that the banks make a profit
- Banks takes cut of points to dollar conversion
- Bank takes cut of user-to-user point sharing

1.1.5. Should allow users to redeem loyalty points

- Redeem for cash
- Redeem for crypto
- Redeem for gift card
- Redeem for goods or service
- When paying with a card you would have the option to pay with points*
- Increase in use will unlock membership tiers, each with their own benefits*

1.1.6. Should provide insights on use of points

- Track points redeemed per user
- Track points exchanged per user
- Track points earned since using the platform
- Track equivalent dollars saved for each user

- Shows when future sales are coming up, so user know what's coming
- 1.1.7. Should allow exchange of loyalty points between end-users
- Users may exchange points by adding contacts who also use the platform, like e-transfer
- 1.1.8. Should allow users to convert points to cryptocurrency
- ZafinCoin
- Dabloonz
- Yes, should be able to purchase cryptocurrency*

1.2. Non-Functional Requirements

- 1.2.1. Should be high security
- Require security consultant
- 1.2.2. Should be customizable by each bank/client
- Customizable home page with selected KPI
- Banks can decide how many points they want to give out for certain actions*
- 1.2.3. Should have simple, visually appealing UI
- Give End-users a simple scheme, like apple products
- 1.2.4. Should be customizable by end-users/banks
- Airmiles "Dream Miles" or "Cash Miles"
- Customers can set point goals
- Points do not expire
- Give banks a great degree of freedom in the system design interface*
- 1.2.5. Should be free for ecosystem partners and end users
- Banks pay annual licensing fees
- 1.2.6. Should be easy to use
- Simple UI
- No complicated operations
- 1.2.7. Should be cross-platform
- Begin with PC and Apple (HTML?)*
- 1.2.8. Should support multiple languages
- English
- Mandarin

1.3. Constraints and Metrics

- 1.3.1. Must be cloud-based
- MS Power Platform
- 1.3.2. Should allow B2B, B2C, C2C
- MS Power Platform

1.3.3. Small file size to operate on all Operating systems and devices

- MS Power Platform

2. Refined Subsystems

2.1. Functional Requirements

2.1.1. Software should be cloud-based

1. Coded using MS Power Platform

2.1.2. Should allow storage of loyalty points

1. "Wallet" function for points storage and visualization
2. Extra points can be gained by daily/frequent use of app
3. Referral of friends could earn end-users additional points

2.1.3. Should allow exchange of loyalty points between ecosystem partners

1. Users may exchange points from list of connected partners directly thru interface

2.1.4. Should allow users to redeem loyalty points

1. Redeem for cash
2. Redeem for crypto
3. Redeem for gift card

2.1.5. Must generate profit

1. Banks take cut of point-to-point conversion

2.1.6. Should provide insights on use of points

1. Track points redeemed per user (where, how much)
2. Track points exchanged per user (where, how much)
3. Track equivalent dollars for sum of points

2.1.7. Should allow exchange of loyalty points between end-users

1. Users may exchange points by adding contacts who also use the platform, like e-transfer

2.1.8. Should allow users to convert points to cryptocurrency

1. Yes, points-to-dollars-to-crypto

2.2. Non-Functional Requirements

2.2.1. Should be high security

1. Use MS Power Tools

2.2.2. Should be customizable by each bank/client

1. Banks can control fees and exchange rates
2. Customizable insights reporting
3. Customizable user interface

2.2.3. Should have simple, visually appealing UI

1. Use simple scheme

2.2.4. Should be customizable by end-users

1. Customers can set point goals

2.2.5. Should be easily accessible by ecosystem partners (I.e., banks pay licensing fees, not ecosystem partners or end-users)

1. Banks pay annual licensing fees
2. Ecosystem partners pay to be listed on platform
3. Banks pay one-time licence

2.2.6. Should support multiple languages

1. Languages available in “settings”

2.3. Constraints and Metrics

Same as above.

3. Solutions

3.1. Solution 1

Includes all Subsystem 1s.

3.2. Solution 2

Includes all Subsystem 2s. Where only one subsystem is present, it is included in Solution 2.

3.3. Solution 3

Includes all Subsystem 3s. Where only one subsystem is present, it is included in Solution 3.

3.4. Evaluation Matrix

The following evaluation matrix (**Table 1**) will be used to evaluate solutions to determine the global concept. Importance rankings range from 1 to 5, from least important to most important, respectfully. Solutions may be given 1 to 3 points, from worst to best, respectfully.

Table 1 - Evaluation Matrix

Specifications	Importance	Solution 1	Solution 2	Solution 3
Functional Requirements				
Software should be cloud-based	5	3	3	3
Should allow storage of loyalty points	5	3	2	1
Should allow exchange of loyalty points between ecosystem partners	4	3	3	3
Should allow users to redeem loyalty points	4	3	2	1
Must generate profit	5	3	3	3
Should provide insights on use of points	5	3	2	1
Should allow exchange of loyalty points between end-users	4	3	3	3
Should allow users to convert points to cryptocurrency	1	1	1	1
Non-Functional Requirements				
Should be high security	5	3	3	3
Should be customizable by each bank/client	2	3	2	1
Should have simple, visually appealing UI	3	2	2	2
Should be customizable by end-users	1	1	1	1
Should be easily accessible by ecosystem partners and end-users	4	3	2	1
Should support multiple languages	1	2	2	2
Total		139	119	99

4. Global Concept

The global concept has been identified as Solution 1, as per **Table 1** above. Concept sketches for Solution 1 can be found in **Appendix B: Global Concept Sketches**, and sketched for Solutions 2 and 3 can be found in **Appendix C: Solutions Considered but Rejected**. It should be noted that subsystems that have been rejected or included in other solutions may be reconsidered during iteration. The subsystems were scored based on their assumed feasibility, and the likelihood of the group being able to implement them in a functional prototype. Subsystems were also ranked based on how well they suit this application. Consequently, the selected solution will not only be the most in-line with the problem statement, but also be the easiest to implement.

Appendix A – Task Plan Update

Write Schedule, Task, and Assignment updates can be seen in below. Our team’s Wrike data has been transferred to the CEED MakerLab page, here: <https://www.wrike.com/open.htm?id=75882668>

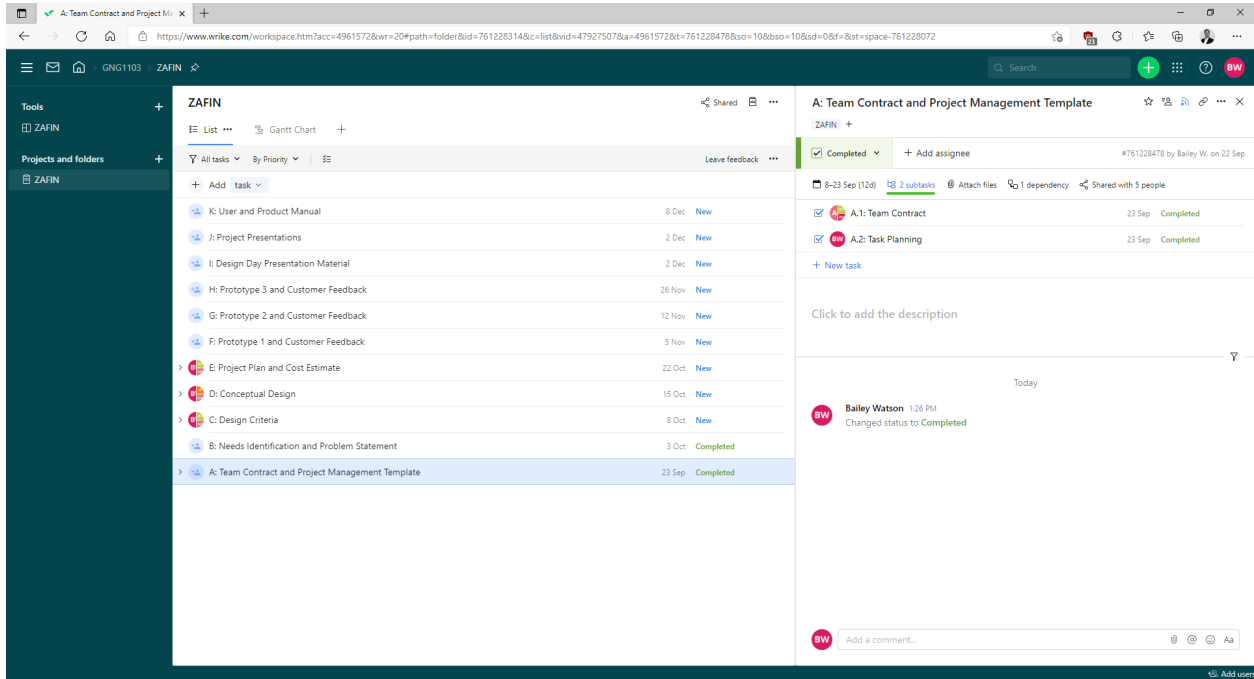


Figure 1 - Completed Tasks

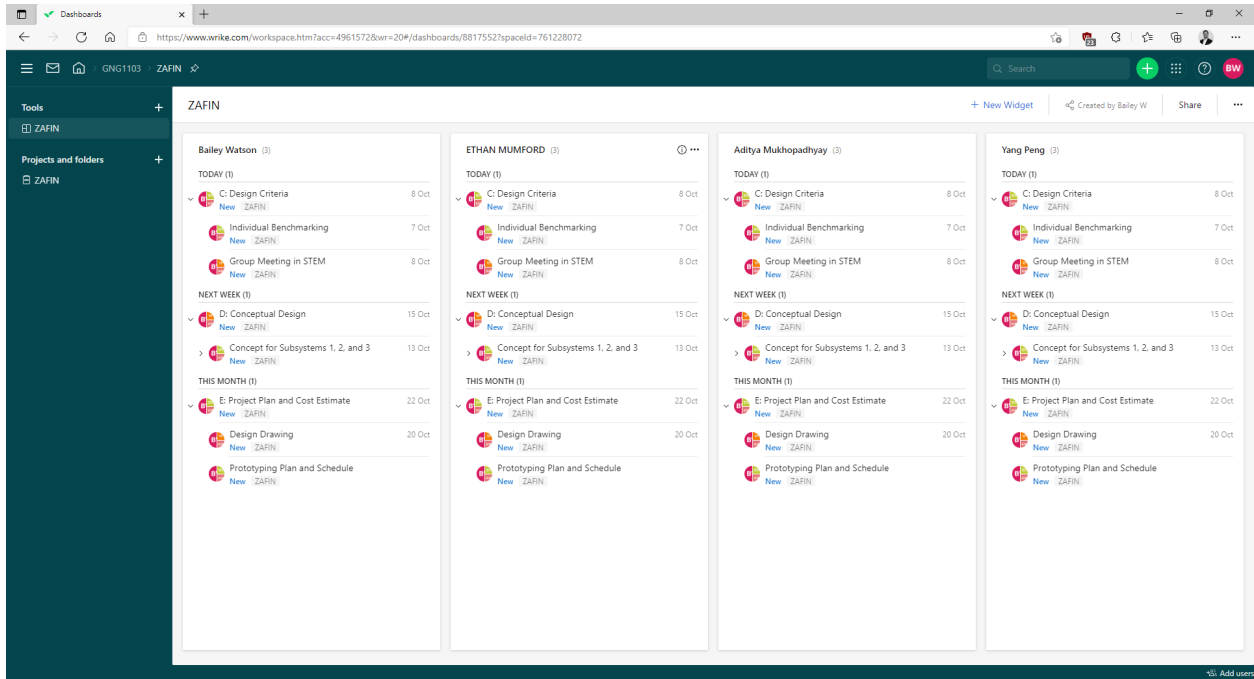


Figure 2 - Assigned Tasks

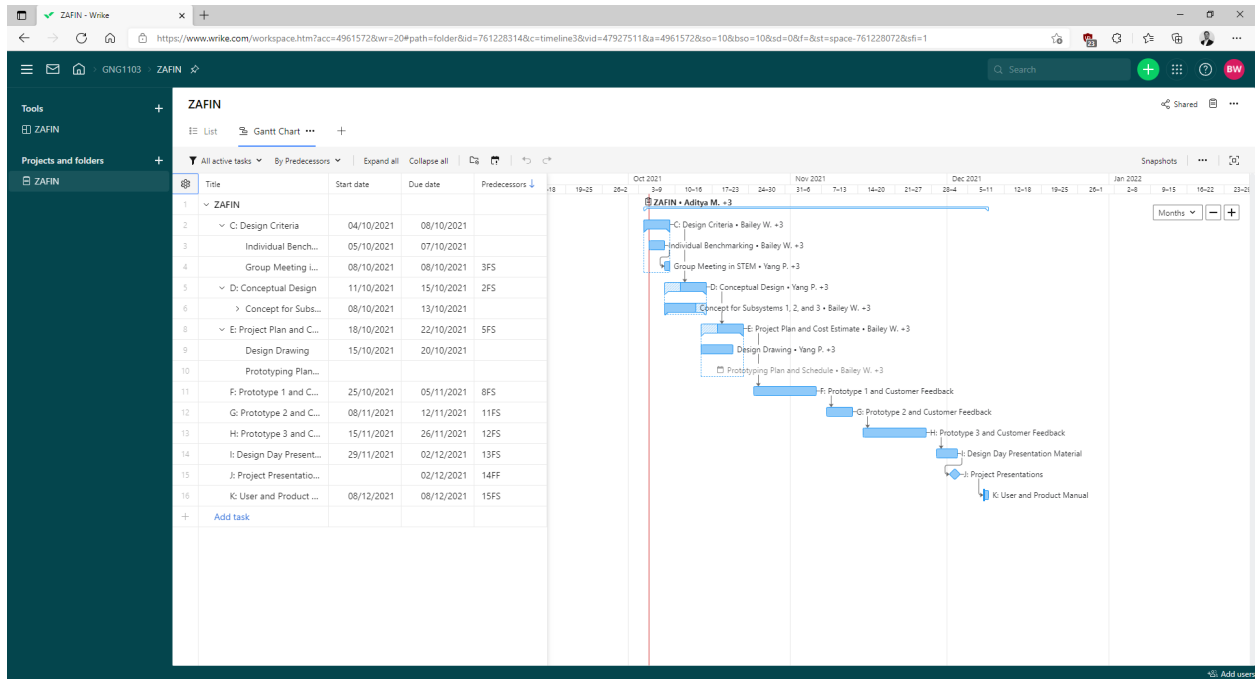
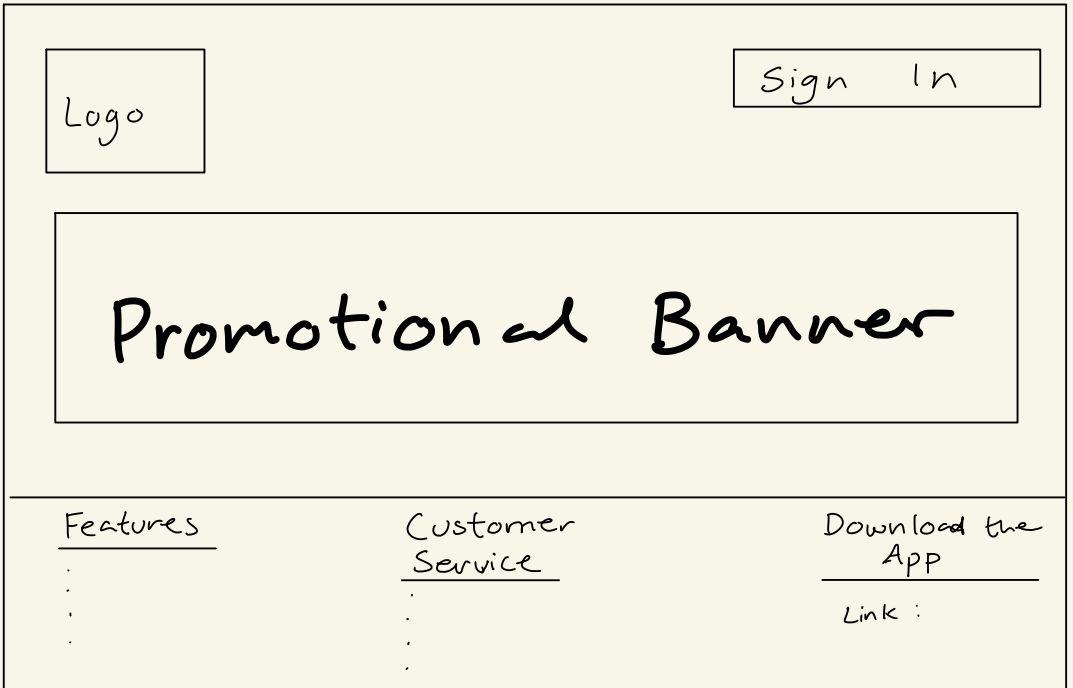


Figure 3 - Updated Gantt Chart with Added Detail

Appendix B: Global Concept Sketches

* Home page before login (For the browser/computer



Logo

Sign In

Promotional Banner

Features
.
.
.

Customer Service
.
.
.

Download the App
Link :

* Login Page

Software Name

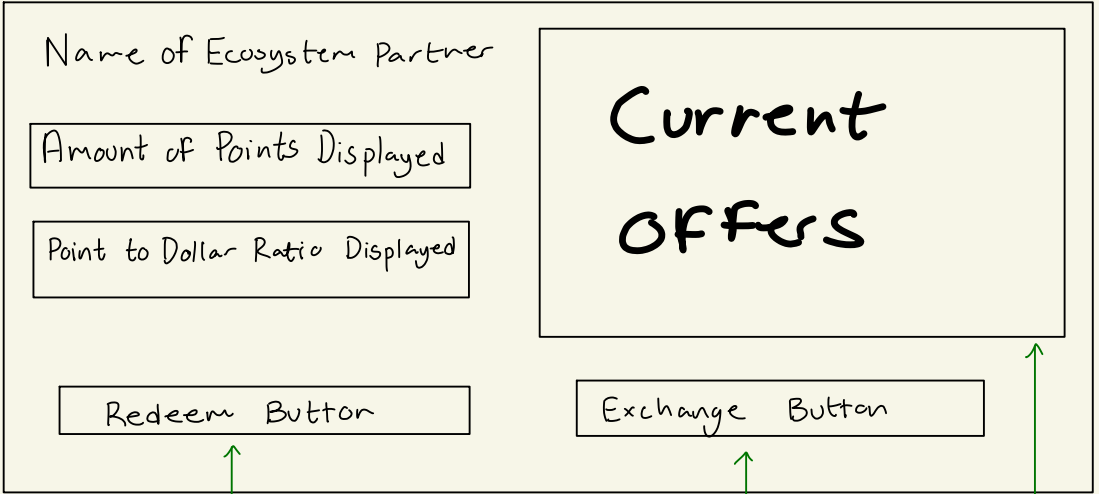
Card Number/Username

Password :

Wallet	Transfer	Settings	Insights	View my offers	Logout
Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:			
Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:			
Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:			
Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:	Loyalty Program Name Points: Dollar Value: Collection Goal:			

* can click on individual loyalty programs and will send to another window where you can access more about the loyalty programs deals, access exchange points between businesses, persons and also redeem, etc. (bitcoin??, etherium???)

* Dollar value per point changes according to the economy



* used to redeem for rewards

* used to exchange specific amount with another ecosystem partner

* displays current offers offered by the ecosystem partner

Appendix C: Solutions Considered but Rejected

Sign In

Logo

Promotional Banner

Features...

Customer
Service...

Download the
app...

