

Final Report

For Community Empowerment Network (CEN) Haiti

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Written By:

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Abstract

CEN Haiti is an organization that's devoted to reducing poverty and promoting economic growth in Petion-Ville, Haiti. CEN Haiti wants to develop a Community Development Marketplace (CDM) web application to help sponsors connect with the CEN Haiti schools. Currently, sponsors can donate through PayPal links on CEN Haiti's website and schools have only short profiles. A new tool is needed to allow sponsors and site visitors to browse all of the schools and choose which ones to donate to. CEN Haiti will need to have access to all of this information in one place.

The original goal of the CDM was to enable people to easily view and donate to CEN Haiti schools. The purpose of this was to increase the number of sponsors donating and raise more funds for Petion-Ville's schools. Part of making the schools easily accessible is giving them a platform to effectively market themselves to sponsors. The CDM would have allowed schools to have their own web pages which display information about their school, teachers, and students. Due to budget constraints, the goal of this project is now to only allow CEN administrators as users for the platform. Sponsors will still be able to view school information and schools will be able to submit a form to administrators including school information. However, they will not be able to create their own profiles to be users.

Clients

Greg Foster: foster_452@hotmail.com

- Greg is an officer on the CEN Haiti board. He is with the organization part-time and helps with IT and data operations.

Armele Vilceus: arvilceus@gmail.com

- Armele works full time at CEN Haiti and helps manage daily operations. She works to bring awareness of the organization and issues in Haiti.

Methods

Requirements Interview

The requirements interview occurred during our first meeting with the client. It allowed us to ask questions or comments about the project charter and about the previous group's documentation. This was important to ensure that no changes were made since last semester. Before the interview, we reviewed the previous team's report, documentation, and Figma prototype and compiled questions for further contextual inquiry. The clients believed that the prototype addressed many of their requirements. However, they also added a few more functions that they would like to implement if possible. This included disabling the ability for sponsors to be able to view profiles of individual students for privacy reasons and allowing them to view page metrics for each type of user.

The second interview was mainly to review our project plan to make sure that the client was in agreement with the deliverables and schedule. During this interview, we further discussed

elements of the app that were confusing and asked about the budget for this project. This prompted the need to conduct a market analysis of other platforms.

The third interview was conducted in order to get feedback about the first draft of the application. This was part of our user testing process. We asked the client to evaluate the app after he had tested it and discussed it with other staff members. The client revealed that they were not able to support schools and sponsors to be able to sign up as users. This meant that only CEN administrators would be able to modify the application, which would be used by them to send sponsors information about schools.

Figma

The previous team's Figma needed to be reviewed and edited to reflect the current goals and requirements of CEN Haiti. Due to ineffective page wiring, the application prototype could not mimic the final product as it was a low-fidelity prototype. The prototype was edited as elements and requirements were changed.

Market Analysis

CEN Haiti is a nonprofit organization who needs an affordable no-code application that will include necessary capabilities and be usable by non-technical staff members after the conclusion of this project. The client wanted to use AppSheet because they had previous experience with it, but needed to ensure it was the most beneficial option. It was important to provide different options and recommendations for affordable platforms. We presented the client with cost analyses of AppSheet and three alternatives, AppyPie, Zoho Creator, and Airtable. We recommended that continuing to continue using AppSheet was the most affordable option and allowed for functionality of most of the requirements.

AppSheet

AppSheet is a no-code development platform. This means it allows anyone to develop working web and mobile applications without writing any code. We inherited an AppSheet application from the previous group, and over the course of the semester, we modified this application based on the project requirements that we drafted with CEN Haiti. The members on our team who worked on the app had to work on it in shifts as the platform only allows a certain number of people to work on it at a time. Since it can be difficult to be thrown into an unfamiliar development environment, we have included some documentation on the structure of application. This documentation focuses specifically on what we feel are the most important concepts to understand for our application. For example, we had issues understanding how AppSheet handled displaying a different UI for each user, so we included a section that covers this. This will aid any CEN Haiti admins making changes or debugging the application.

User Testing

User testing was conducted to both ensure that users could perform tasks easily through the application and to ensure that the interface was appealing and intuitive. Testing was conducted over three weeks. Testing groups included CEN Haiti staff and potential individual sponsors, allowing the client to give preliminary feedback and suggest changes if necessary. Our user

testing revealed the budget constraints, leading us to change the project requirements and delete the sponsors and schools views/user sign in.

Protocol:

- 1. Give user a specific scenario**
 - a. Scenarios:
 - i. Schools and sponsors view: Create a profile
 - ii. Sponsors view: Make a donation (process only)
 - iii. Admin view: Edit and delete a sponsor or school
- 2. View user performing scenario tasks**
 - a. Screen record user actions
 - b. Record user comments
- 3. Prompt user to take optional survey or provide written feedback**

Obstacles

This project came with many obstacles. First, AppSheet has a multi-factor authentication system, like other G-suite apps, and the recovery number attached to it was from one of the members of the previous group. We had difficulty contacting this member, and, as a result, we did not have access to the AppSheet until the middle of the semester, which delayed our work. Through working with the TA, we were able to become administrators for the application and ensured that the clients also had access to it.

Once in the AppSheet, there were issues surrounding permissions for different kinds of users. There were originally supposed to be three user groups, including schools, sponsors, and CEN admin. With a free account, AppSheet only allows a certain number of users and features for free. Adding sponsors as users was too expensive, so the clients changed our requirements to adapt to this. Additionally, only a certain number of accounts could be linked to the main admin account for editing purposes, so only a few group members were able to make changes. We instead had different views for members who were not editing so that they could test the app and give feedback on functionality and usability.

Recommendations

Our team recommends using the documentation we provide to understand how appsheet works in order for the admin of CEN Haiti to continue managing data. One of the ideas earlier on that could potentially work with the final implementation of the appsheet is encrypted messaging between the admin and the schools to keep certain data secured. Along the same lines of communicating with stakeholders, the client expressed wanting to be able to send sponsors updates on their schools and students. We recommend sending out a Google Form or another kind of survey tool to ask sponsors to complete after sending a donation. This way, CEN admin can keep a running Google Sheet of the sponsors who are requesting updates. Additionally, given one of the original intents of the application was to connect the sponsors more to the schools, it may be of interest to the client to find a low cost way to do this by expanding the current AppSheet. Finally, a portion of the money from sponsors could potentially be used to fund an app that includes all the types of users, which would then allow for more interactivity.

Conclusions

Our final deliverables, therefore, are the updated Figma and documentation to show mockups for the web application, the market analysis demonstrating why AppSheet is the best choice for a no-code platform for the application both financially and functionally, the actual appsheet and documentation, and a user testing survey. The final product will be used by CEN administration to add and modify school and student information, as well as keep track of donations coming in from sponsors.

As mentioned above, CEN wants to still give sponsors a way to access any updates to the schools and students they are donating to now that they will not have a view of the web application. This could be done through a Google Form sent out to sponsors after a donation, where they indicate if and how they would like updates, such as through email. CEN admin can then extract the necessary updates from their Google Sheets database connected to the appsheet and send these updates as necessary and as requested.

CEN Haiti can reach out to any of the members of our team via email, and in some cases, by phone as well. We will be available as a point of contact in case there are problems administering the appsheet. Our contact information is listed below.

Team Contact Information:

- Humdan Ahmed
 - Email address: humdan.ja@gmail.com
- Snigdha Palli
 - Email address: snigdha@samirpalli.com
- Matthew Leins
 - Email address: matthewleins99@gmail.com
- Zach Wild
 - Email address: zacharyjwild@gmail.com
- Didier Ernest
 - Email address: jeandidierernest@gmail.com

Deliverables

Figma:

<https://www.figma.com/file/Vo7WRdQjNk4f3PwWMi7y5t/CEN-Haiti-Mock-Up-Prototype?node-id=1%3A14>

Market Analysis:

<https://docs.google.com/spreadsheets/d/1mnd28JKmDmeA5Tz7HwWEO67bBVdJLdxvrLz5pLgke-0/edit?usp=sharing>

Appsheet:

<https://www.AppSheet.com/start/76adc40c-5bfd-443a-8ab7-f7102c626b74>

Appsheet Documentation:

<https://docs.google.com/document/d/1j9IdUiE-qBVjdaVSURskup1qyP0CvkTtJR7dS70YKCA/edit?usp=sharing>

UI/UX Testing Survey:

https://docs.google.com/forms/d/1BvpAt-zSQrzRsjFlPnYlvFS5I72LqyY0IEOA_7osIms/edit#responses