Voiland Food Pantry & Wellness Center Data Tracker

Sign-in Method & Tracker for Food Pantry Clientele & Volunteers

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I. Introduction

Food insecurity for college students is a rising problem, which directly affects students' overall well-being and academic performance. Many students face financial stress that may impact their ability to afford necessities such as food. According to the GAO report on student food insecurity, ". . . an estimated 23 percent of students (3.8 million) reported experiencing food insecurity. [1]" The Voiland College of Engineering and Architecture (VCEA) works to lift this burden from the shoulders of students, faculty, and staff with a food pantry that supplies non-perishable food items. Volunteers help to ensure pantry operations run smoothly while also providing them with volunteer hours.

This food pantry operates using a paper sign-in sheet for clientele to provide information for the purposes of funding. Relying solely on manual processes can be time-consuming, inefficient, and difficult to properly manage. This project seeks to make this process easier for food pantry customers, administrators, and volunteers by integrating a Cougar Card swiping system with a custom domain website created using WordPress. Our goal is to create a sign-in method that is easy to use, trustful, and preferable for all parties and handles clientele information, tracks inventory data as well as volunteer hour tracking.

II. Background and Related Work

The front end of the site will be a WordPress site that will be hosted on the WSU domain. This is currently being set up by the WSU technical team. The computer terminal, barcode scanner, and card reader have already been acquired by our client. They must be checked for bugs, malware and other security issues before they can be released for use in the project. Since the hardware is not yet available and the site is not yet ready, specific details on them are not yet available.

Additionally, we will be working with 2 students taking CPTS 423 on this project. They will be working with us for one semester, and for that time they will be responsible for creating and managing the database for our software. We will rely on this database to store data on inventory, volunteers, and student users.

There is no prior existing code for this project. We are starting from scratch. We will create an on-brand web interface and set up the data collection and parsing for the database. We will create forms for the customers, volunteers and inventory data. We will integrate the terminal, card reader and barcode scanner with the user interface software. We are responsible for all the user interface, data collection, security and data output from the terminal and website. We will work together with the database team to obtain and store the data collected.

The CUB pantry has a similar card reader, but the project we are working on is more expansive. We want to incorporate inventory management, volunteer sign-in and printed reports, admin access and data collection and modifications, customer card reader service, customer forms, volunteer forms, barcode scanning, donation data, and possible OCR scanning.

The site and database should be accessible through the web and through the terminal. The site should adhere to WSU visual branding [2] and keep all the collected data secure. It should also be reusable to track volunteer data at the Health Center with some modifications to text and some code. Data scanned into the site will be parsed and added into the correct database according to the settings specified in the user interface. The forms will be an additional option to collect data, and forms for volunteer hours and other reports will be generated for printing. Admins will have access to all features and data.

As stated above, many specific details are still unknown as we await hardware and software approval from the school. However, we will certainly need to expand our skills with WordPress and Hardware Integration.

III. Project Overview

The Voiland Food Pantry & Wellness Center Data Tracker project is designed to modernize how the food pantry operates by moving away from a fully paper-based system and introducing a digital solution that is both efficient and user-friendly. The current system relies on paper sign-in sheets for clientele and manual logging of volunteer hours. While this approach works on a basic level, it creates a number of problems: information can be lost or misstated, compiling reports for funding is time-consuming, and there is no easy way to analyze patterns of pantry use or volunteer activity. As a result, the pantry's ability to serve students effectively and report accurate data to stakeholders is limited.

To address these issues, our project focuses on creating a WordPress-based website that will serve as the main point of integration for pantry users and staff. The system will connect to a Cougar Card Reader, allowing students, faculty, and staff to swipe their card upon arrival for quick and accurate sign-in. Volunteers will also use the same site to log their hours, with a dedicated option to distinguish their roles from that of clientele. This approach reduces waiting times and ensures that information is captured in a consistent format. In cases where the card reader is unavailable or a user does not have their card, the website will act as a digital backup, ensuring that no visit or contribution goes unrecorded.

Equally important is the administrative side of the project. Pantry supervisors will be able to access records directly through the system, giving them the ability to manage data, generate reports, and verify contributions without having to sort through stacks of paperwork. These features will not only save time but will also improve accuracy and consistency in reporting, which is essential for maintaining funding and demonstrating the impact of the pantry's services.

The project is being developed in collaboration with another student team responsible for the database infrastructure. While our team focuses on the design and implementation of the website interface, the database team will handle secure storage and organization of the collected data. This partnership ensures that the project addresses both the user-facing and back-end requirements, creating a more complete and robust system. Looking ahead, the client expressed interest in making the application adaptable so that other departments within Washington State University can adopt similar sign-in and tracking tools. By designing the system with flexibility in mind, our work can serve not only the Voiland Food Pantry but also the broader university community, like the Wellness Center.

Our main objectives for this project are as follows:

- Create a website using WordPress to act as a default food pantry clientele sign-in page for a computer terminal set up in the food pantry.
    - It will include a link to another page specifically for volunteers to sign in, allowing them to track their volunteer hours worked at the VCEA food pantry.
- Clientele and volunteers should be able to sign in by swiping their Cougar Card in an attached card reader.
- If the reader does not work or the customer forgets their card, the website will act as digital sign-in backup.

- Allow food pantry administrators to manage food pantry inventory, as well as information collected from customers who have used the pantry.
    - A paper sign-in sheet will still be provided for use. Volunteers will be available to collect and record this information if customers prefer to use the sheet instead.
- Allow a supervisor to access and print volunteer hour information to sign off and confirm these hours.

IV. Client and Stakeholder Identification and Preferences

The primary client for this project is Maynard Siev, who serves as the sponsor and main point of contact for the Voiland Food Pantry and Wellness Center. Our faculty mentor, Parteek Kumar, also plays a key role by providing guidance and ensuring that the project aligns with both course requirements and the pantry's operational needs. Together, they represent the direct clients who will oversee the system's development and evaluate its effectiveness.

The most frequent users of the system will be pantry customers. Customers, including students, faculty, and staff, need a sign-in process that is quick, private, and easy to use. For most, swiping a Cougar Card will be the preferred method, though the option of a digital backup form ensures inclusivity for those without a card.

Volunteers rely on the system to log their service hours accurately. Their preference is for a simple and dependable method that allows them to check in quickly while guaranteeing their hours are properly recorded and verified.

Pantry administrators and supervisors form another critical stakeholder group. They are responsible for overseeing client usage and volunteer participation, preparing reports for funding, and managing daily operations. Their primary preference is for a system that reduces paperwork, improves accuracy, and provides easy access to data. Features like report generation, digital recordkeeping, and minimal manual entry are essential for making their work more efficient.

Additional stakeholders include the university IT staff and the student team responsible for the database. The IT staff will support hardware approval and ensure the system meets campus standards, while the database team will handle the back-end infrastructure. Both groups prefer a solution that integrates smoothly with existing resources and requires little long-term maintenance. Looking ahead, the pantry hopes this system can serve as a model for other departments, so adaptability and scalability are important considerations for future stakeholders as well.

V. Glossary

Card Reader: A hardware device that allows the transfer of data from a card with a magnetic stripe to a computer or other data collecting device.

WordPress: An open-source framework for building and publishing websites.

Hardware Integration: Interfacing our software with specific hardware tools (such as the Card Reader or Barcode Scanner)

VI. References

[1] United States Government Accountability Office, “Estimated Eligibility and Receipt among Food Insecure College Students,” US Government, Washington D.C., June 2024. Accessed: September 12, 2025. [Online]. Available: https://www.gao.gov/assets/gao-24-107074.pdf

[2] Washington State University. “Go Cougs.” Washington State University – WSU Brand Guidelines. Accessed: September 12, 2025. [Online]. Available: https://brand.wsu.edu/