

Breast Intentions Inventory Tracking System

Project Description and Clarification

Created by Washington State University Students



InnerVentory Team

Joshna Prasanna Raghavan

Angel Ramirez

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I. Introduction

Breast Intentions is a Washington State Non-Profit Corporation with 501 (c)(3) status since 2014. They are committed to empowering underserved women by offering professionally fitted bras that help enhance their comfort and their self-esteem. Their mission is to help women of all ages, sizes, and backgrounds regain confidence and dignity by providing expert bra fittings in a fun, supportive, and welcoming environment. BI partners up with a variety of community groups and service organizations throughout the Spokane and the Inland Northwest region to host monthly events. At these events, women receive personalized fittings and leave with two new bras, a garment bag and detailed care instructions to help them maintain their new garments. These events are only made possible through the generous contributions of time, talent and resources from volunteers, donors and community supporters who believe in their mission.

The organization is currently facing challenges with maintaining an efficient inventory tracking system that supports their operations. The system they are using is more suited for businesses, rather than the specific needs of a non-profit. Their current app (Square) makes it difficult to track inventory for bras of various types and sizes. Additionally, they would like to keep a record of all the individuals they've assisted through their professional fitting events. These records would include details such as the individual's original bra size (likely incorrect), the accurate size determined after the fitting, the type of bra provided (e.g., regular, disability, nursing), contact information (if applicable), and the date(s) of fitting sessions attended.

II. Background and Related Work

Breast Intentions is a non-profit organization that provides essential clothing, specifically bras, to unrepresented women. The organization's focus is tailored to offering professionally fitted bras to women of diverse ages and backgrounds at community events. With the work that Breast Intentions does, it highlights their need for a new inventory and event management system. To achieve their mission, they rely heavily on inventory management systems to track bras by type and size and to document the impact of their services at community events. However, their current inventory management system, Square, does not fulfil their needs as it is a software for business transactions, so it lacks the flexibility and features for efficient inventory management for a non-profit organization like Breast Intentions [1]. Square does not allow Breast Intentions to track both – the type and size of the bras given and the people who have received them, which is crucial for Breast Intentions' reporting and prevents them from gauging their impact.

There exists a variety of inventory management systems like FoodBank Manager that have features that allow real-time updates in inventory tracking and volunteer management [2]. There are also other non-profit organizations like Breast Intentions, such as Dress for Success and The Bra Recyclers, all of which rely on inventory tracking systems to track their donations, inventory, and the items given to people [3], [4]. Currently, Breast Intentions uses Bloomerang to coordinate their volunteers which we plan to improve ourselves, as the issue they have is not being able to send SMS reminders/messages to all the volunteers. The state-of-the-art in this field has systems that combine both inventory tracking and client data tracking, which allow non-profit organizations to better serve their communities and obtain measurable and meaningful data/reports to visualize their impact.

While there are other inventory management systems, they are often not customizable, meaning that a non-profit organization like Breast Intentions cannot tailor the inventory management systems to fit their own needs of tracking both inventory and client information. For example, FoodBank Manager focuses on more of the inventory and donor management but

lacks the functionality to track event-specific data such as the number and information of the people who Breast Intentions helps [2].

The inventory tracking system that we plan to create for Breast Intentions would differ from other systems by offering two different types of schemas that they could track. One schema would be for bras by type and size and the other would be for the women served and event data, specifically the women's individual fitting details. This approach to creating an inventory tracking system will allow Breast Intentions with the functionality to manage their inventory, while also tracking the women they serve at the various community events.

To successfully create, implement, and integrate this project, our team must learn some technical skills. We as a team need to learn how to proficiently use the MERN tech stack to create an appealing and easy-to-follow UI for Breast Intentions' management and volunteers, as well as manage the database system where we plan to store their data in. Tools for front-end development are crucial when creating a UI that meets the needs of Breast Intentions. Additionally, understanding database management and using it to handle schemas that separate inventory and event data will need to be integrated in our system. We will need to learn how to use a database management system, such as MySQL or MongoDB, that would handle the two schemas we intend to create [5],[6]. Learning how to implement security features, such as role-based access control and security protocols such as two-factor authentication would help us to ensure that Breast Intentions' data is safe, and no unnecessary users will have access to the inventory management system [7], [8]. We believe that the utilization of Transport Layer Security (TLS) encryption would allow us to further secure the sensitive data that Breast Intentions handles [8]. Mastering these tools and systems will enable us to create an inventory management system that would provide Breast Intentions with a solution that is tailored to their needs. By creating a secure and efficient inventory tracking system for Breast Intentions, we will ensure that they have the tools necessary to further support their community efficiently.

III. Project Overview

Breast Intentions, despite its continued success and meaningful impact, is currently facing significant challenges with its inventory tracking system, which is important for its efficient operation of the organization. The application they currently use, Square, is designed primarily for business transactions and lacks the flexibility needed to manage their specific inventory requirements. Since the bras Breast Intentions distribute come in a variety of types and sizes, the current system's limitations make it difficult to accurately track and maintain a comprehensive inventory. This issue may lead to future inefficiencies, affecting their restocking process before their fitting events.

Furthermore, the existing system doesn't provide a way for them to record and track detailed information of women they help. In addition to the tracking inventory, the organization needs a solution that will allow them to collect and maintain essential data on their clients, such as the bra size they wore before the professional fitting, the correct size they were fitted with, the type of bra they received (regular, disability or nursing), dates of the professional fitting they're attended and their contact details. This type of information helps Breast Intentions stay connected with the people they've assisted. The lack of an integrated system for this "client" information hinders their ability to provide personalized support.

Another key component of the project will be improving the coordination of volunteers, which is essential for Breast Intentions' events. The current system (Bloomerang) doesn't

effectively support volunteer management, particularly in terms of communication. We plan on configuring their current system so that Breast Intentions will be able to more efficiently organize and communicate with their volunteers, ensuring that the events are properly staffed and run smoothly. This improved communication will also contribute to the overall success of the events, as volunteers play a crucial role in providing a supportive and welcoming environment for the women who attend.

In conclusion, by developing a secure and efficient inventory, record and event management system, the project will provide Breast Intentions with the tools necessary to better serve their community. The new system will streamline operations, enhance client tracking, and improve volunteer coordination, enabling the organization to empower underserved women more effectively. With a solution tailored to their unique needs, Breast Intentions will be able to continue its work with greater precision and efficiency, ultimately expanding its impact on the lives of the women the help.

IV. Client and Stakeholder Identification and Preferences

Clients:

The primary client for this project is Breast Intentions, specifically its management team and volunteers, all of whom keep the organization up and running, serving the unrepresented women. They need an inventory tracking system that is tailored to their needs as the one they currently use, Square, does not have the tools and functionality to aid them in their mission of providing women with professional bra-fittings at community events. Breast Intentions needs a system that manages bras by type and size, as well as tracking the number of women served at their events. This would allow Breast Intentions to efficiently manage their inventory, performance, and aid in storing the information of the women they serve, all of which will aid in allocating resources to further meet the community's needs.

The secondary clients will be the volunteers who help check women in or assist with the professional bra fittings. They need an inventory management system that updates quickly in real time, which would allow them to check in women and update any information, such as contact information or bra size and type. Volunteers also need a UI that is readable and easy to use, so that they can fulfill their responsibilities without being held back by the systems they use.

Stakeholders:

The stakeholders are the women who attend the Breast Intentions' events because they utilize their services and receive bras that fit well and are suited for their needs, such as nursing or disability bras. The inventory management system must keep track of all the inventory that Breast Intentions has on hand because it ensures the right bra is available when someone needs it and allows Breast Intentions to check what they have too little or too much of. This will ensure that Breast Intentions can serve every woman that needs their services and that they leave events and bra-fittings with comfort and confidence.

Needs and Preferences:

The inventory management system should provide Breast Intentions' management team with real-time data on both the inventory and women served at their events to ensure they make

informed decisions on their inventory and upcoming events. They want to keep their inventory and the women's information secure and be able to access the system from multiple devices such as computers or mobile devices. They need to have the most control over the entire system as administrators because they will be the only ones to make major changes to the data. They will also need to have a UI that does not require much to learn nor much to use.

For the volunteers, the ease of use and simplicity of the inventory management system is crucial as they are in the front lines and must input any data in the system quickly and efficiently. They need a simple user interface to log in the women they check in, check what they have in the inventory by size and type, and update any information as quickly as they can during Breast Intentions' events. They need to be able to login and access the system from provided devices or their own smartphones as it would allow them to better complete their volunteer responsibilities. The inventory management system should be easy to use that once a volunteer becomes proficient in using the system, they minimize the time they spend entering or updating data/information and can focus on providing personal care and attention to the women they serve.

The inventory management system needs to ensure that inventory is up to date because the women served at Breast Intentions' events need to receive appropriate and well-fitted bras. It should store the women's data and information securely and ensure that they do not wait too long for volunteers to find if they have the size and type of bra they need in stock.

V. Glossary

Inventory Management System (IMS): This is a software that is used to track inventory levels and distribution of items.

Schema: This is a database structure that formats how data is stored and accessed.

Square: A business-focused software for payment processing and basic inventory management.

MySQL: A database management system that utilizes structured query language (SQL).

MongoDB: A NoSQL, document-based database system used for flexible data storage.

Front-end Development: This allows the creation of user interfaces and interactive elements in a software application.

Back-end Development: The development of server-side logic and database interaction for an application.

Role-Based Access Control (RBAC): A system where users are given permissions based on their roles.

Two-Factor Authentication (2FA): A security measure where users verify their identity using two factors such as password and SMS messages.

Transport Layer Security (TLS): A protocol ensuring secure communication between users and a server.

User Interface (UI): The part of an application users interacts with, like buttons and forms.

VI. References

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