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# Women’s Reproductive Health: An Introduction

*“I believe that the rights of women is the unfinished business of the 21st century*” - Hilary Clinton

A woman’s reproductive system is a delicate, yet strong and complex system in the body. It is crucial for women to take preventative steps as they age to maintain their reproductive health and protect themselves from infections, injuries, and long-term health problems through proper care. Giving access to reproductive healthcare is a basic human right. Although menstruation is a naturally occurring process, there is a negative stigma that surrounds it. Even though the menstrual cycle affects nearly half of the world’s population, society as we know it still refuses to talk about the struggles that accompany it. Such struggles include the inability to afford feminine hygiene products, and the lack of accessibility of these products to the public. There are millions of women who are enduring these struggles silently. We are here to start a conversation about the lack of accessibility to feminine hygiene products and awareness surrounding menstruation.

# Idea Pitch

Over the last few years, there has been an explosion in “femtech,” digital tools and services centered around women’s health. While empowering women, we want to introduce an application idea named *pinPad*. *pinPad* is a point-of-care app which aids those who endure periods by displaying the stock of sanitary products available in a specific bathroom near them based on their location and preference settings.

This application allows the user to sign in with their university issued NetID and password, and connects to the university’s database. The student’s homepage will have options such as “My Account”, “Resources”, “Map”, and “FAQ”. The “My Account” option leads to the student’s personal account information with settings, while the “Resources” page will list campus resources based on needs such as McKinley Health Center, the Women’s Resource Center, and the Counseling Center. Next, there is a “Frequently Asked Questions” page, in which there will be a list of commonly asked questions regarding the menstrual cycle that students may be too shy to ask due to social stigma. When a user goes on the Map page, it will lead to a page with a map along with a list of locations sorted based on what the user chooses. These options include distance, stock, and preference for location. A list of locations appear, and after clicking the preferred location building, a chart of available stock will be visible to the user. These products will vary depending on the university or setting in which this app is utilized in.

Every dispenser will have a sensor attached to it, which can measure the amount of stocks present. This sensitive sensor will be connected to an IoT device which will periodically send the collected data to the server over the internet. The data collected can easily be analysed by engineers or corporate or university to infer useful information such as - maximum footfall centre (this can be used to make sure that there is good transport connection to this centre), busiest days of the week (expecting it to be weekend, because public transport becomes infrequent so people would prefer going to these centres than to a far away Walmart) and popular product (highly useful for corporates).

Some of the barriers to reproductive health rights include discrimination, stigma, restrictive laws and policies, and entrenched traditions. Progress remains slow despite the evidence that these rights can have a transformative effect, not only on individual women, but on families, communities, and national economies. Our primary target revolves around college students that experience periods, yet it is not restricted just to them. The primary goal that we are focusing on is increasing accessibility to feminine hygiene products. Additionally, we also want to attempt to solve the unaffordability and misuse problem coupled with it. This is our way of committing—fully and actively—to the reproductive health rights of all women, those in the trans community, and those who identify as non-binary. This is how we came up with the idea.

## Surveys, Interviews and Secondary Research

To begin, we needed to narrow down a more specific target audience other than just women. In order to achieve that goal we conducted a survey to get an inside perspective on those who needed our application’s service the most. For our first set, we sent out a survey to the public, and received a total of 74 responses. 73% of those surveyed were between the ages of 18 and 25. 58.1% were students at the University of Illinois. The employment status of each individual surveyed was almost equally distributed. Questions asked on the surveys were mainly centered around understanding what brands were the most popular and the reason behind it. Why did people select one brand over another? What are the deciding factors when it comes to purchasing a product? Why do some individuals prefer one type of feminine hygiene product over another and what benefits does this product offer that makes it unique from the others?

After we concluded our survey, we were able to analyze the demographics and select a more specific target audience, which were college students who struggle with access to feminine hygiene products. We then subsequently conducted in-person and online interviews as an opportunity to further explore our initial questions and learn more about the extremes of our target audience. The outliers, or extremes, include males, mothers of young children, the homeless, transgender men, and individuals who suffer from endometriosis or unusally heavy periods. Additionally, we included those who have a pre-existing medical condition, such as diabetes, that require daily treatment. One obstacle we ran into while contacting a homeless shelter was the realization that none of us were able to provide monetary compensation to the interviewees.

In conclusion, we were able to conduct eleven interviews, six of which were with females, and five with males. Out of all of the interviews, 6 of the participants were extremes because they either identified as male or transgender. The age range of our interviewees was between 19 to 27. Approximately 90.9% of the interviewees were unemployed and 72.7% were students at the University of Illinois.

The interview questions were primarily focused on accessibility and affordability, compared to the survey we conducted which had a broader focus. We wanted to learn in depth about what people thought of periods, how their experiences were, how they would improve certain issues related to menstruation and what kind of education they received during their childhood. Some of the questions varied based on the gender identity of the person we were interviewing. *If you would like to get a copy of the interviews and survey results, please contact us over email.*

We also looked into previous academic research work done in this domain, and found that Elizabeth Peberdy et. al. published a paper titled, “A Study into Public Awareness of the Environmental Impact of Menstrual Products and Product Choice,” which aligned with our work closely, and helped shape our perspective and ideas (It’s genuinely a good read). After identifying our target audience to college students, we found a highly useful paper, titled “Menstrual Equity in Public Higher Education,” by Sara Darwish which focuses on menstrual hygiene product availability, accessibility, and barriers to access among students at NCSU. Using these two papers as our base papers, we designed our prospective product, *pinPad*.

## Observations

In order to refine our research, we needed to observe our environment in real-time. For our project specifically, our observations revolved around the locations providing free period products on campus. We noticed that the twist dispensers located in the bathrooms were being unused, and looked worn down and unapproachable. Based on personal experience, we also knew that people have difficulty operating the knobs, as they often get jammed. Due to these factors, many of those needing these free product services were less willing to utilize these dispensers due to the mystery of knowing whether the products were in stock, and how long those products were sitting in the dispensers.

Thus, we aim to provide alternatives to these problems by building an upgraded dispenser, which will not only be easily accessible, but also aesthetically pleasing. We also aim to take into account the disabled community, so they are able to use the dispenser in a hassle-free manner. As explained above, this dispenser will be connected to an application, so one can know about the product availability remotely.

## Feedback

To improve the purpose of our idea, we reached out to others to receive feedback on our pitch. Specifically, we reached out to our interviewees and explained our end goal. The most common feedback we received was that we were headed in the right direction in starting the conversation, but needed to think about future goals and how to implement the plan. We took this into account when continuing with the design thinking plan.

## Overview of Ideation Process

The ideation process was a long and tedious journey. We began the process by figuring out the main goal of our project, and ensured to never lose sight of our mission. We planned our project by thinking about what already exists on campus and how we can optimize those pre-existing ideas in a feasible way. We then began the designing process by brainstorming the factors we wanted to focus on to build our 2 x 2 frameworks through reviewing the responses of our interviewees. From here, we concluded to specifically focus on: brand trust versus quality, misuse versus cost, and access versus awareness. The framework that we primarily utilized for our project was access versus awareness. The axes of our graph were high awareness, low awareness, high access, and low access. We plotted where each of our interviewees belonged on the graph and determined the most optimal quadrant, which is high access and high awareness. Most of the male participants were in the least optimal quadrant, as in their interviews many stated that they were not well educated on the topic of menstruation. One of the outliers was a male interviewee who grew up in a female dominated family, and the other was someone who identified as a transgender male. After creating our frameworks, we extracted the key insights and utilized the approaches taught to us by our guest lecturers.

## Implementation Plan

There is immense opportunity for progress in our ideas for future implementation. We strongly believe that to succeed in making our idea a reality, we need to recruit additional teammates, especially those with an extensive knowledge of electrical engineering, material science, and computer science. It is crucial to recruit teammates that possess these skills specifically so that we can further understand how the engineering aspect of our dispenser would work. To accomplish this, we could pitch our idea at the *SocialFuse* event on campus. Once we understand the engineering behind the dispenser and what materials are required to build a prototype, we will be able to come up with a more accurate cost estimate and see where we would stand regarding financial needs. Because we are integrating a variety of technologies into our product, the duration over which this product would be developed and manufactured is lengthy, including learning in depth how vending machines work when linked to an app, then layout a design, and develop and test several prototypes of both the dispenser and the app to ensure its functionality.

There are many entrepreneurial resources at the University of Illinois that could be utilized. We are mainly interested in the *Cozad New Venture* *Challenge*, as we believe that we could create a startup out of our idea. There are a lot of opportunities regarding creating products that solve problems related to menstruation. In addition to designing a new dispenser, it would be interesting to explore how to manipulate the dispensers that currently exist in order to make them more accessible to the disabled community or those with poor hand control. This could create an opportunity for us to take our ideas to the Health Make-a-Thon competition.

There is also a variety of registered student organizations on campus that we could partner with to make our idea a reality. These organizations include *Founders* and *Design For America.*

In addition to on campus resources, we would also be interested in creating a partnership with a corporation such as Tampax, Always, or Target. We are hopeful in our pitch, and would love to further this project.