Personas & Storyboarding

UX Research   User Interface   FrontEnd

Overview 🖇️

In this project, I conducted a contextual inquiry to understand how users interact with a hot beverage vending machine in the Wellness 1st floor kitchen at Brown University. By observing and interviewing users in their natural environment, I was able to gain insights into their experiences, expectations, motivations, and challenges. From these observations, I created personas and a storyboard to illustrate user needs and experiences, demonstrating the complete user journey from start to finish.

The Interface ☕

- 💳 **Payment interface** showing *"Swipe or Tap to Begin"* with card reader and Flex Points indicator

- ☕ **Drink selection** interface showing various coffee options on touchscreen

- *˙˚Main welcome screen with **"Touch to Start"** button and attractive coffee imagery

This hot drinks vending machine is designed to provide a self-service beverage solution for students and staff on campus. It features a large touchscreen for selecting beverages, a card reader for payment (accepting both credit cards and campus ID cards), and a dispensing area for cups and drinks. The interface guides users through a sequential process: starting the transaction, selecting a drink, customizing options (if available), making payment, and collecting their beverage.

Preparation and Observations 🔍

I developed the following questions based on Dillman's principles for crafting objective, non-leading questions to gather insights about users' experiences with the vending machine interface:

- What caught your attention first when you approached the machine?

- Did you already know which drink you wanted before approaching the machine?

- Can you walk me through the steps you took to get your drink?

- Was there anything confusing or unexpected about using the machine?

- Was there any moment when you weren't sure what to do next?

- How did you know which buttons to press?

- Did you notice any options or features on the machine that you didn't use?

- Have you used this machine before? If yes, has your approach to using it changed over time?

Key Observations Across All Users 🗝

- Most users approached the machine with a specific drink already in mind

- New users were initially confused about the payment process - particularly when to pay and which payment methods were accepted

- All the users expressed uncertainty about whether the machine would dispense cups or if they needed to bring their own

- Frequent users developed workarounds for known issues (e.g., carrying a mug in case the machine runs out of cups)

- The colorful touchscreen interface attracted users' attention, but some had difficulty locating specific drinks

- The "Flex Points" payment option caused confusion for some users who were unsure if their IDs would work

Personas 🚶

Based on my observations and interviews, I developed two personas that represent distinct patterns of behavior and challenges with the vending machine interface:

Nina, The Routine Coffee Drinker

- Is a busy Junior, studying Math and CS living in Wellness 3rd floor

- Is a regular user of the coffee vending machine

- Always orders the same drink (French Vanilla)

- Is often in a hurry between classes

- Values efficiency and consistency in her routine

- Carries her own mug as a backup solution

Nina's Empathy Map

Thinks

I hope the machine has cups today.

Will my ID work for payment this time?

I just want my usual French Vanilla without any hassle.

Feels

Comfortable with the routine

Frustrated when the machine runs out of supplies

Relieved when the transaction goes smoothly

Says

I always get French Vanilla

I was confused about whether I can swipe with my Brown ID

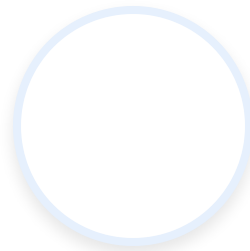Now, I always carry a mug in case the machine runs out of cups.

Does

Follows the same

Navigates quickly

Carries

sequence
of steps
each time

through the
menu to find
her usual
drink

her own
mug as a
backup

Greg, The First-Time Explorer

- A junior, studying Geology living in South Campus (far from Wellness)

- Is a first-time or occasional user of the machine

- Enjoys trying different beverage options

- Takes time to read through all available options

- Gets confused by unclear interface workflows

- Needs clearer guidance on payment methods

Greg's Empathy Map

Thinks

How does this machine work?

Do I need to pay first or select a drink first?

I wonder if this accepts my student ID or just credit cards.

Do I need my own cup or does it provide one?

Feels

Overwhelmed by the choices

Curious about drink options

Anxious about making a mistake

Says

I'm not sure where to start.

Do I need to bring my own cup?

I don't understand when in the process to swipe my ID.

Does

Hesitates before touching the

Checks all sides of the machine before starting

Looks around for instructions

These personas highlight the key interface problems users face. Nina struggles with unclear payment timing and uncertainty about cup availability, while Greg faces challenges understanding the workflow sequence and finding the options he wants. Nina represents experienced users who develop workarounds for interface issues, while Greg represents new users who need clearer guidance throughout the process.

Storyboard 🎬

I created the following storyboard to illustrate Nina's complete journey with the coffee vending machine, from initial approach to receiving her drink. The storyboard highlights both her efficiency due to familiarity and the moments of uncertainty she still experiences despite being a regular user.

1 Nina approaches the coffee vending machine

🏃 Nina approaches the coffee machine during her morning break, already knowing she wants her usual French Vanilla.
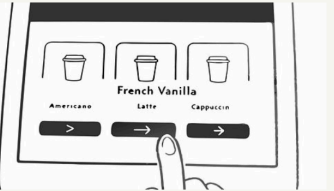
2 Nina checking for cups

🏃 Before starting her order, Nina checks if there are cups available in the machine. She also has her own mug in her bag just in case.
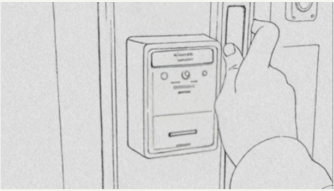
3 Nina touches the screen to start

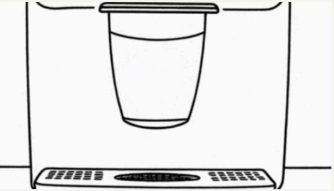🏃 Nina touches the "Touch to Start" button on the welcome screen to begin her order.

4 Nina browsing the menu

🏃 She quickly navigates through the menu, looking for the French Vanilla option she gets every time.

5 Nina swiping her ID card

🏃 Nina swipes her Brown ID for payment, hoping it will work with the Flex Points system.

6 Nina waiting for her coffee

🏃 She watches as the machine dispenses a cup and begins filling it with her French Vanilla coffee.

7 Nina takes her French Vanilla

🏃 Nina takes her completed drink, relieved that today's transaction went smoothly without any issues.

This is Nina's entire user journey from start to end, reflecting her goals of getting her usual French Vanilla coffee quickly and efficiently.

Reflection & Insights 💭

Thanks to this user research and exploration, I was able to better understand how not every user has the same goals or behavior when using an interface. I was able to find the following important insights about the coffee vending machine interface:

- **Payment Clarity:** The most consistent pain point was understanding when and how to pay. A clearer indication of accepted payment methods and the timing of payment in the process would improve the experience.

- **First-Time vs. Regular Users:** There's a significant gap between the experiences of first-time and regular users. While regular users develop workarounds for known issues, new users struggle with basic workflow sequences. Oftentimes, feeling annoyed if their transaction is interrupted or confused about how the machine will dispense their coffee.

- **Resource Availability:** Users are concerned about whether the machine has necessary resources (cups) available, indicating a need for better and more accurate status indicators.

- **Visual Guidance:** The colorful interface attracts attention but could benefit from clearer visual hierarchy to guide users through the correct sequence of steps.

These findings could inform several improvements to the interface design, such as adding clearer step indicators, providing better feedback about resource availability, and clarifying payment options earlier in the process.

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