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EMILY "FOZZIE" KRETSCHMER

Emily "Fozzie" Kretschmer is an award-winning product designer with a passion for building innovative solutions through data-driven strategy, creative visuals, and dynamic stories. She is a proactive, curious problem solver proficient in driving culture, navigating ambiguity, and collaborating with product and engineering partners. Her designs have been recognized by the Red Dot Design Award, International Design Award, Indigo Design Award, and European Product Design Award. A recent magna cum laude graduate of the Savannah College of Art and Design, her experience includes internships with Rocket Mortgage and UAS Cluster Initiative as well as collaborations with Mayo Clinic and the Chatham Savannah Authority for the Homeless via SCADpro and SCAD SERVE.

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RACHEL PRADO

Rachel Prado is a visual designer and current BFA student at the Savannah College of Art and Design, where she is studying Graphic Design with a minor in User Experience. She is passionate about designing impactful, accessible solutions that address real-world challenges. With nine years of experience across the tech, government, and nonprofit sectors, she brings a user-centered approach grounded in research, collaboration, and storytelling. Her recent work includes collaborations with SCADpro x Microsoft and SCAD SERVE x Chatham-Savannah Authority for the Homeless.

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ABSTRACT

The Compass Project is a community-focused initiative designed to enhance access to resources for individuals experiencing homelessness in Chatham County, Georgia. In collaboration with the Chatham-Savannah Authority for the Homeless (CSAH), a student team from the Savannah College of Art and Design (SCAD) developed a digital kiosk prototype that provides real-time access to resource information. The project employed Design Justice Network Principles, involving community members in three co-design workshops to ensure their lived experiences shaped the design process across Richard Buchanan's four orders of design: graphic, industrial, interaction, and systemic. Feedback from participants influenced the layout, visuals, and content of the kiosk. The final prototype prioritized accessibility, clarity, and community preferences, demonstrating dignity and usability for underserved populations. This article will analyze how the four orders intersected with participatory design practices, influenced the project's direction, and the final product.

Keywords: ***Design system, participatory design, co-design workshops, homelessness***

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CRAFTING INTERFACES FOR COMMUNITY RESOURCE DATABASES THROUGH CO-DESIGN

Introduction

In Chatham County, Georgia, the Interagency Council on Homelessness (ICH), a board consisting of key organizations supporting unhoused members of the community, work collaboratively to develop strategies for an effective and sustainable system responding to the challenges and complexities around the experience of homelessness. [1] The Chatham-Savannah Authority for the Homeless (CSAH), the Lead Agency coordinating the ICH, recognized a "critical need for centralized coordination of homeless services" [2] and approached the Savannah College of Art and Design (SCAD) for a project called the Compass Project to develop digital kiosks with real-time information on resources available to the unhoused.

Executed through SCAD SERVE's Design for Good initiative, which are ten-week courses collaborations between SCAD SERVE and selected nonprofit organizations who have an innovative design challenge that they cannot effectively solve themselves [3], the Compass Project was grounded in participatory design, or co-design, which brings together lived experience and expertise with professional experience to facilitate inclusive design that integrates many ways of knowing, being, and doing. [4]

The Compass Project interacted with each of the four orders of design as described by Richard Buchanan: graphic, industrial, interaction, and systemic. [5] This article will analyze how the four orders intersected with participatory design practices influenced the project's direction and final product.

Co-Design Workshops: Designing With, Not For

The Compass Project aimed to meet the real needs of people experiencing homelessness in the community. To achieve this, a participatory design approach was employed that follows the Design Justice Network Principles, which center on people who are marginalized by design and utilize collaboration to find solutions to the problems their communities face [7]. The design approach included three co-design workshops. The workshops consisted of individuals with lived experience in the community, who shared their insights and guided the development of our solution. Throughout the sessions, participants had a significant influence on every aspect of the project. Each workshop was intentionally designed, building on the previous one to create a feedback loop that guided the design choices.

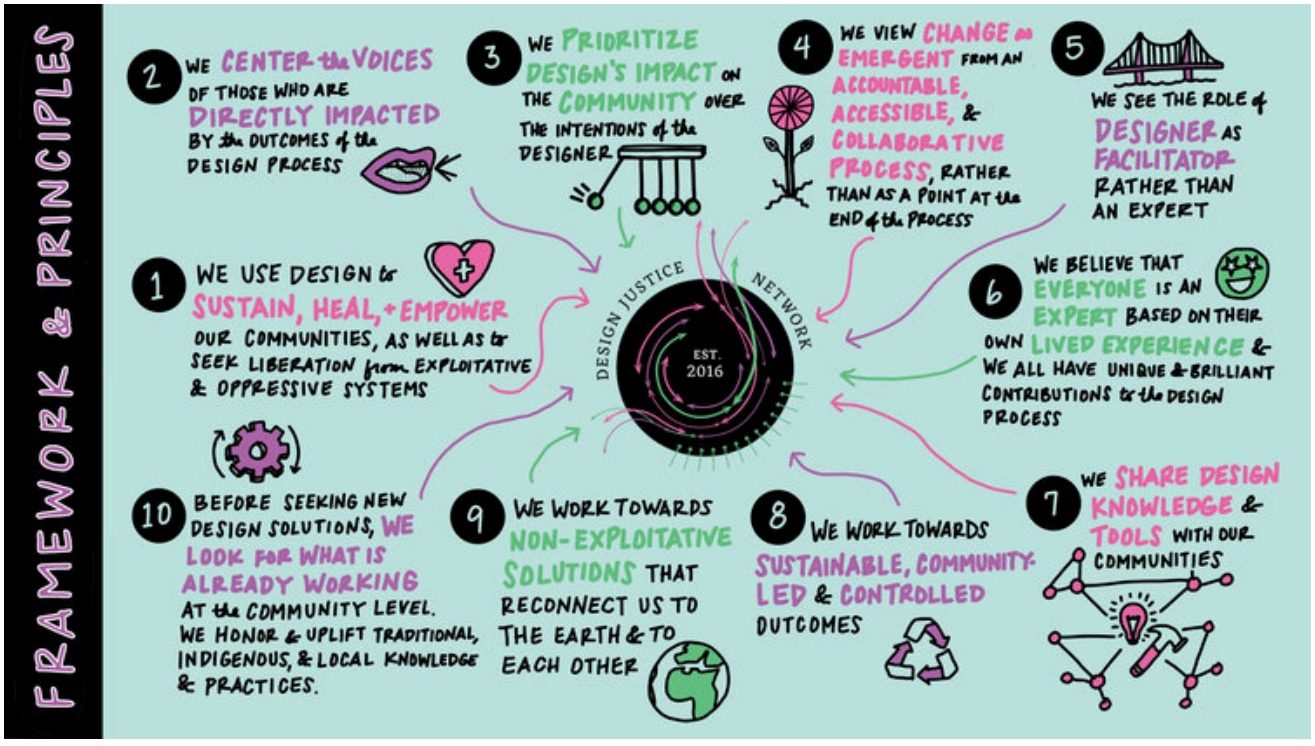

Figure 1: Design Justice Network Principles, Tamra Carhart 2021, designjustice.org

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Workshop 1: Mapping Resources

The first workshop focused on building rapport among participants and facilitators, understanding how participants categorize various resources, which resources they prefer, and the reasons behind their choices. The first workshop was conducted with the goal of including participants at the initial stages of design. This approach aimed to prevent the development of a preemptive solution that may not align with the participants' needs. [8] The session started with a mural activity where everyone collaborated to create illustrations of essential places and sources of joy in Savannah. Participants then filled out resource journals, ranking key services like day centers, shelters, meals, and healthcare facilities. One key finding was that word of mouth served as a primary means of communication within the community, as participants highlighted gaps in the current list of resources compiled from secondary research. The session concluded with an activity where participants sorted puzzle pieces representing various resources into groups based on their urgency and importance.

A common piece of feedback received was the need for clarification regarding service eligibility and program requirements for resources, such as shelters. Participants voiced frustration over traveling long distances only to discover that the service was unavailable. Participants also expressed a need for employment opportunities, education, and affordable housing, in addition to short-term resources such as food and showers. The participants' feedback challenged pre-existing ideas on vital community resources by suggesting that long-term support is equally important.

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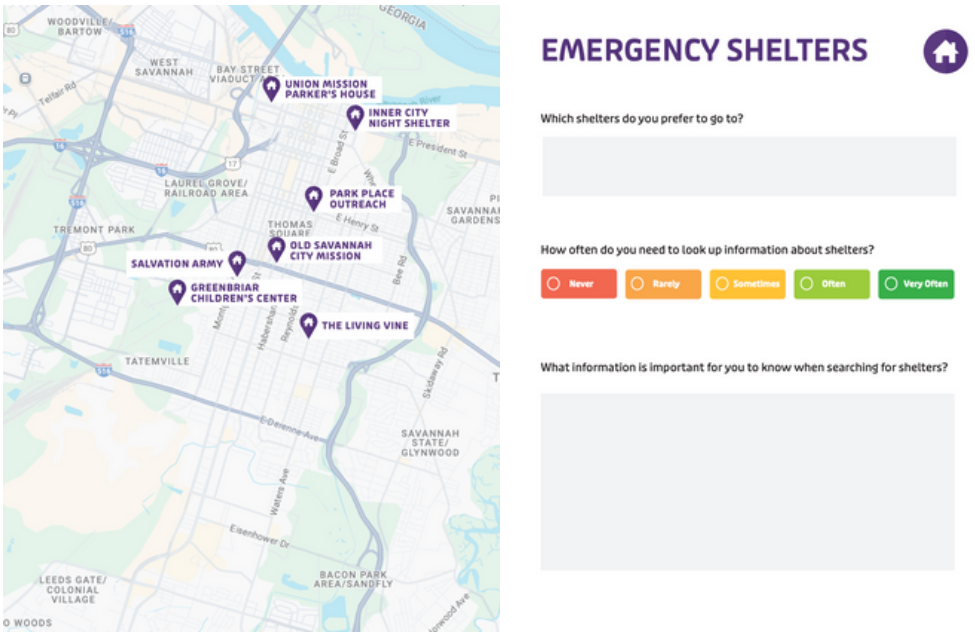

Figure 2: Resource Journal Layout from Workshop 1

Workshop 2: Interface Design

The second workshop focused on designing the interface and visual identity of the Compass Project. For the first activity, participants worked in small groups using iPads preloaded with a component-based design kit in Figma to construct digital wireframes of the kiosk screens. Each group was assigned two facilitators: one to assist with the design process and another to document participants' decisions and reactions. Participants were asked to design mobile screens that would help them access services like shelters, food, showers, or healthcare, based on real-life scenarios.

The session also included a visual design exploration during which participants discussed their emotional associations with different colors, icons, typography, and shapes. They chose blue colors that conveyed a sense of calmness and trust and shades of red to signify urgency. Participants expressed a preference for familiar interfaces, like those of Google, and specifically requested a search function that matches their current habits for finding information. Accessibility was a top priority within the design, with participants stressing the need for bold text, clear labels and icons, and high-contrast visuals. All of these insights informed a visual system that focuses on simplicity, legibility, and user familiarity.

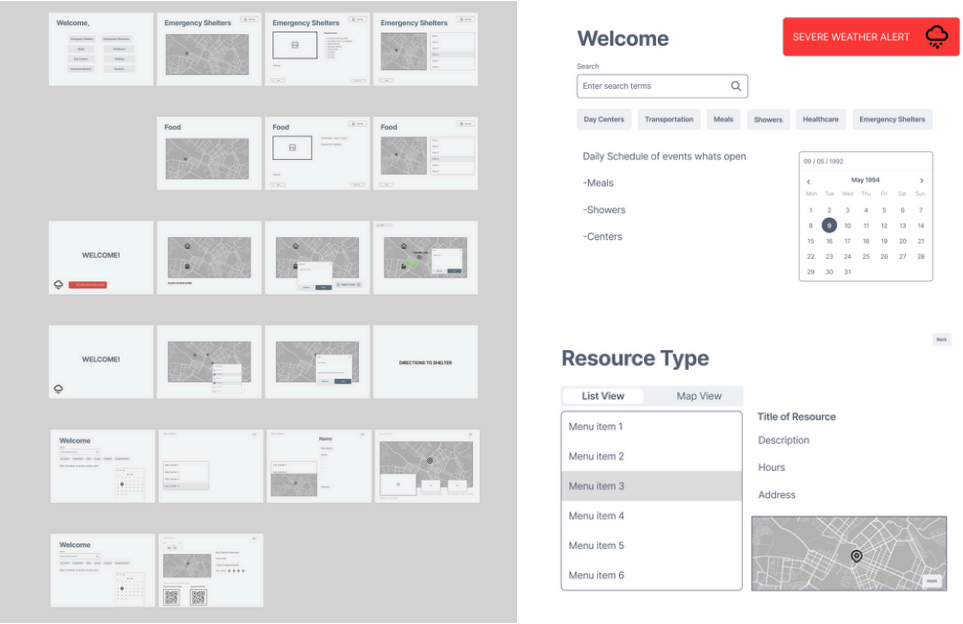

Figure 3: Figma Prototyping Workspace for Workshop 2

Workshop 3: User Testing and Refinement

The last workshop focused on evaluating the prototype's functionality, layout, and readability on iPads and when displayed on a kiosk screen. Participants walked through real-life scenarios, such as finding nearby shelters, while facilitators took notes and prompted open discussions on user preferences. One common piece of feedback that was reiterated was the need for higher-contrast visuals. This was especially important for outdoor kiosks with unpredictable lighting and weather conditions, as well as for users with varying levels of vision.

Participants also responded positively to larger text and icons, which supported users with limited eyesight or literacy barriers. Participants reiterated the need for long-term benefits, such as employment, housing, and case management. Although this was outside the project's scope due to limitations in information and time, we included basic information on how to get assigned a caseworker and how to obtain government IDs. This addition lays the groundwork for a comprehensive library of long-term resources for the community in future iterations. This feedback reinforced that the interface should not only address immediate survival needs but also include tools that support pathways out of homelessness.

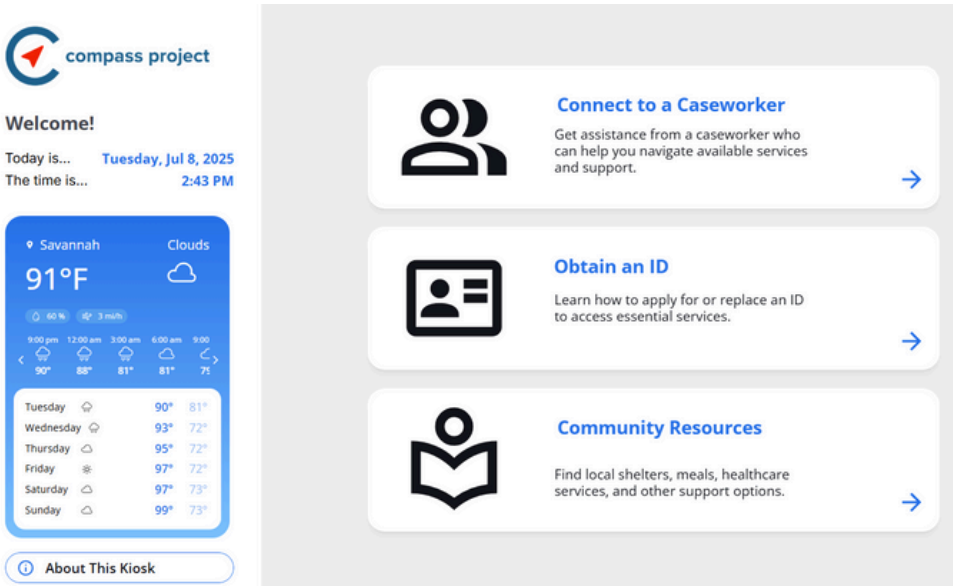

Figure 4: Kiosk Home Page Prototype

Structuring Resources for Ease of Navigation

The information architecture and page layouts were a synthesis of discussions and wireframed ideation between community members and the student team during the interface design workshop. These activities shaped the website through centering the need for maps and directions to resources and narrowing down what each resource category should be and how it should be displayed.

The homepage design is a hub to pages for three different sections: Connect to a Caseworker, Obtain an ID, and Community Resources. The first two sections are services that are outside of the scope of the ten-week project, but community members expressed a need for easy access to services like them, so a simple page explaining what these resources are and who to get into contact with to access them was added, to be expanded on in future iterations. The sidebar of the homepage displays the current date, time, and weekly weather, along with a button that leads to a separate About the Kiosk page.

The Community Resources section contains a separate page for each of the six resources: meal services, day centers, shelters, showers, healthcare, and transportation services. Each page contains a map with a sidebar listing each provider for a given resource. Clicking on a provider displays a pin of the provider's location along with the street address, hours of operation, website, phone number, services offered, and eligibility requirements. Users can also click a button to get directions to the location, which opens a separate Google Maps tab. The CSAH phone number is also listed on the page for further transportation assistance, if needed.

In the event of inclement weather, or if the need arises for any other kind of alert, a floating button will open an overlay page that contains relevant information and resources to help those in need.

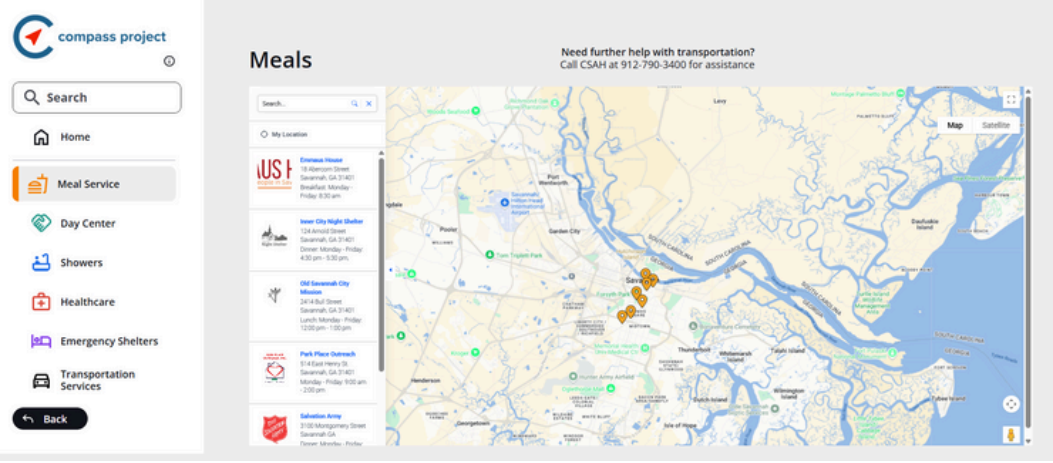

Figure 5: Prototyped Interface Design (Map View)

Bringing the Interface to Life

To actualize the interactive order of design while integrating the ideas and insights that were brought forth from the mapping resources and interface design co-design workshops, the student design team dipped into the second order of design to support them—the industrial order.

The kiosk unit selected was an I&E Kiosk, chosen for meeting ADA height and reach requirements to accommodate wheelchair users and designed to withstand outdoor conditions and provide durability for long-term public use. Both were critical needs to be met, as The kiosk utilized KioWare, a specialized kiosk software that secures public-facing devices by creating a controlled environment. It locks down web browsers to prevent users from accessing the operating system, restricts browsing to specific websites, and protects against tampering.

Along with the kiosk hardware and software, the student team sought to understand how existing products can be leveraged that both provided the various kinds of information community members expressed needing and allowed for CSAH to access analytic data to measure how often and in what ways the kiosks were actually being utilized. They strategized that using a custom website-building software along with customized widgets would be the most cost-effective and easy-to-maintain approach. This led to the selection of Framer for building the visual interface along with Common Ninja for widget implementation, both of which were customizable with analytic capabilities.

Widgets were a key component to making the kiosk function. They allowed the team to create lists of resources based on categories that doubled as interactive maps that showcased the location, hours, contact information, services, and eligibility requirements for each resource, along with the ability to find directions to the resource via Google Maps. Widgets also allowed the kiosk to display the date and time and weather as well as let users fill out feedback forms and change the language of the kiosk's text. Additionally, drawing from community desire for familiar, Google-like interfaces, the team initially utilized Material Design, Google's open-source design system for building beautiful, usable products. [9] While the user testing workshop proved the kiosk needed a visual system that was in higher contrast with larger-scale components, the open-source design system was useful in translating community members' wireframes into initial prototypes. All of these products were used in tandem to create an effective interactive experience that fulfilled the needs of both the community members accessing the kiosk and the organization managing it. To ease kiosk maintenance, the student team designed documentation explaining how to navigate and update the three softwares used for the kiosk.

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Visual Design Guided by Co-Design Insights

The name Compass Project was coined by the Chatham-Savannah Authority for the Homeless. It symbolizes navigation for accessing resources within the community, as well as a guide out of homelessness and a source of hope for the future. During the workshops, participants shared how a strong sense of neighborhood had been lost over time as Savannah grew and evolved. The Compass Project brand aims to strengthen participants' community among themselves and with all Savannah community members, serving as a resource tool and also as a reminder of a supportive network. The logo, featuring a "C" with a compass needle pointing up and to the right, communicates a sense of direction and hope within the community. The brand's color palette was chosen based on participants' preferences, with blue representing calmness and red emphasizing urgency. The brand colors are accessible and represent a balance of finding resources in crisis.

The Compass Project's visual system was built upon the insights generated through the co-design workshops. The visual design prioritized accessibility, clarity, and trust for use by individuals who often navigate stressful situations. Rather than designing based on aesthetics and assumptions, the design team based decisions on color, typography, and layout on the direct feedback and preferences expressed by participants during the co-design workshops. Community members selected their preferred icon styles, button styles, and sizes. They also influenced layout choices by the resources they would need most urgently and where they would expect to find them on and within the screens. These insights were translated into a cohesive visual system using elements based on the user's familiarity with Google interfaces. The final interface incorporated high-contrast elements, bold typography, and clearly labeled buttons with icons to assist users with limited vision, literacy challenges, or cognitive overload.

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compass project

Figure 6: Compass Project Logo

Conclusion

The Compass Project represents how intentional participatory design can not only create a short-term solution but also provide the opportunity for lasting systemic change. By working closely with community members who have lived experience, the solution was more than just a kiosk; it is a representation of a tool designed with dignity and usability for underserved populations at the forefront. With time and systemic constraints in mind, the project is not an end-all solution for centralized coordination between the ICH and service providers, but rather a foundation to build upon for long-term change.

By grounding the design process with the Design Justice Principles [7] and Buchanan's Four Orders of Design [4], the co-design workshops ensured the final product was rooted in the lived experiences of its users. The co-design workshops created a space where facilitators and participants could collaborate to refine concepts, challenge assumptions, and refine the design through immediate feedback. The Compass Project reflects more than a product; it represents how institutions and communities can come together to create equitable solutions designed with the expertise of marginalized members.

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