



The Value of **Inclusive and Equitable** Practices in Product Design

*Insights from a fellowship by the
Berkeley Haas Center for Equity, Gender & Leadership,
in partnership with Google*

NOVEMBER 2024



ABSTRACT

The Center for Equity, Gender & Leadership at University of California, Berkeley's Haas School of Business (EGAL), sponsored by Google, created an Inclusive & Equitable Product Design Fellowship where seven fellows explored the intrinsic business value of inclusive and equitable practices in the product development process.

The intent of inclusive and equitable product design is to reach those who are underserved by existing products in the market. The goal of this fellowship was to explore the potential opportunities, insights, and recommendations for implementing inclusive and equitable design practices throughout the product development process.

This paper outlines the two iterations of a meditation app designed by the fellows: the first leveraged a traditional design process, and the second embedded inclusive and equitable design practices throughout. First, this paper showcases the fellows' prototypes following these differing processes. Then, it explores their insights about the design methodologies and user experiences. And it concludes with takeaways and recommendations for the following key audiences:

- 1 **Leaders & decision-makers** across industries who are interested in learning about inclusive and equitable product design;
- 2 **Practitioners** (such as product managers, user experience designers, and researchers, among others) and product teams looking for guidance on how to operationalize product inclusion and equity into their existing approaches, in addition to articulating its business value;
- 3 **Educators**, particularly faculty at business schools, who seek to fill gaps in curricula around inclusive and equitable product design.

Methodology

The fellowship was focused on creating two iterations of meditation apps, as existing apps on the market reach mostly white, female, college-educated Americans (see [Box 1](#) below). For the first iteration, each team of fellows followed a traditional design process, creating a meditation application for a broad, general, non-specific user group. For the second iteration, the teams started the process again, this time designing a product tailored to a specific user group that is underserved and overlooked by existing meditation apps in the market. This was informed by user and product research. For the second iteration, the fellows leveraged Google's Guide to Product Inclusion and Equity (PI&E) and other inclusive and equitable product design best processes (additional resources described in [Appendix C.](#))

Findings

This fellowship showed evidence that using inclusive and equitable design practices to enhance the traditional product design process results in:

1. **Reaching new users who are underserved by existing products by designing solutions** (e.g., adapted language, features, and visuals) **that authentically connected with them by:**
 - (a) identifying their unmet needs, and
 - (b) shifting from interpreting user feedback to collaborating with users.
(For details, see [Phase 2: Ideate and design concepts](#), [Phase 4: Conduct product analysis](#), and [Key Learnings.](#))
2. **Developing more differentiated products with new features, potentially unlocking new market opportunities and revenue streams.** (e.g., community-based features users are potentially willing to pay for.) (For details, see [Phase 4: Conduct product analysis](#) and [a survey assessment.](#))
3. **Product designers experiencing more meaning and purpose in their work, and design participants** (who are underserved by the current market) **feeling heard and included in the design process.** (For details, see [Key Learnings](#) and [Final Insights.](#))
4. **Educators incorporating design for equity principles into their course curriculum.** (For details, see key takeaways for [educators.](#))

INTRODUCTION

The Center for Equity, Gender & Leadership at University of California, Berkeley's Haas School of Business (EGAL), sponsored by Google, spearheaded the Inclusive & Equitable Product Design Fellowship. This was a 4.5-month program in the Fall of 2023, where seven fellows explored the business value of inclusive and equitable practices in the product development process. The fellows were pursuing various graduate degrees including: MBA, Design, Development Practice, and Information and Management Systems. Their multi-disciplinary backgrounds in engineering, sustainability, psychology and more, provided a valuable and broad range of perspectives to the fellowship.

Goals of the Fellowship

The fellows aimed to

1. understand the potential opportunities and value of embedding inclusive and equitable design practices in the traditional product development process, as well as,
2. identify the opportunities and challenges of inclusive and equitable product design process, compared to that of the traditional product design process.

Structure of the Fellowship

The fellowship organizers from EGAL collectively voted on a number of different dimensions to determine what product category would most directly address the goals of the semester-long fellowship. They asked, for example: Will the fellows be able to easily find users of the product to conduct user interviews and testing? Will business leaders be interested about the business case of this product? Are the current solutions not serving or reaching marginalized populations? Through this prioritization process, it was determined that the fellows would design meditation apps — see **Box 1** for additional research reasoning.

The fellows were divided into two teams, each tasked with developing two iterations of meditation apps. For the first iteration, each team followed a traditional design process, creating a meditation application for a broad, general population user group. They interviewed people who were immediately available: other graduate students, friends, and relatives. The fellows did not track the demographics of those they interviewed.

For the second iteration, the teams restarted the process, this time designing a product tailored to a specific user group that is underserved, and overlooked, by existing meditation apps in the market. This time, the fellows leveraged Google's Guide to Product Inclusion and Equity (PI&E) to implement an inclusive design and testing process.

In addition to resources from Google, both teams participated in robust training facilitated by design and product experts at UC Berkeley's Haas School of Business. Finally, the fellows compared the business value of both prototypes, integrating the learning and recommendations, and drafting two final reports (one for each team) that informed this paper.

BOX 1

The Lack of Inclusion in Existing Meditation Apps

Meditation is proven to have benefits — especially for those managing significant stress and improving well-being. However, a majority of users of existing meditation apps are white, American, college-educated women. Existing meditation apps are not reaching potential users who could benefit from the practice of meditation, including people of color, men or those who are not college-educated. The following studies inform this finding:

- A research study, exploring the prevalence and predictors of meditation use among US adults, found that adults who are female, between 40–64 years of age, non-Hispanic white, living in the Western US, and having a higher education are more likely to practice meditation.¹
- A research study, examining the distribution of users accessing and using a widely and freely available meditation application, found that most users of traditionally designed mindfulness apps are affluent, white, and college-educated women.²
- A research study, tracking patterns in paid subscribers of a widely available meditation application, also found that a majority of these users were female (~80%), and white (~81%).³

¹ Cramer, H., Hall, H., Leach, M., Frawley, J., Zhang, Y., Leung, B., Adams, J., & Lauche, R. (2016). Prevalence, patterns, and predictors of meditation use among US adults: A nationally representative survey. *Scientific reports*, 6, 36760. <https://doi.org/10.1038/srep36760>

² Jiwani, Z., Tatar, R., Dahl, C. J., Wilson-Mendenhall, C. D., Hirshberg, M. J., Davidson, R. J., & Goldberg, S. B. (2023). Examining equity in access and utilization of a freely available meditation app. *NPJ Mental Health Research*, 2(1). <https://doi.org/10.1038/s44184-023-00025-y>

³ Huberty, J., Vranceanu, A.-M., Carney, C., Breus, M., Gordon, M., & Puzia, M. E. (2019). Characteristics and usage patterns among 12,151 paid subscribers of the calm meditation app: Cross-sectional survey. *JMIR mHealth and uHealth*, 7(11). <https://doi.org/10.2196/15648>

THE DIFFERENCES BETWEEN TRADITIONAL VS. INCLUSIVE & EQUITABLE DESIGN PROCESSES

In this fellowship, the traditional and the inclusive and equitable design methods shared the same four-step approach: 1. Research user experiences by interviewing people and getting their feedback on concepts; 2. Ideate and design concepts; 3. Test and iterate prototypes; 4. Conduct product analysis. Traditional design was focused on getting user input on functionality and aesthetics. Recognizing that traditional methods inadvertently overlooked the nuanced needs of marginalized and underserved groups, the inclusive and equitable design process prioritized those needs to better reach underserved populations, mitigate risks, and enhance experiences. While there is not a universal definition for inclusive or equitable design, in this fellowship, fellows integrated best practices, such as:

- Understanding the cultural and historical context of meditation, and why and how it spread as a practice in the United States
- Co-designing with users (according to the Sunlight Foundation, “Co-design’ refers to a participatory approach to designing solutions, in which community members are treated as equal collaborators in the design process.”⁴ Instead of interviewing and getting feedback from different users at every stage of the design, the fellows recruited and met with the same group of co-designers regularly in co-creation sessions throughout the process)
- Integrating feedback throughout the process at co-design sessions (this repeated integration of feedback within the specific user group made the feedback deeper and more nuanced. It also brought the co-designers from that user group directly in the design process, instead of getting their feedback and making assumptions about next steps outside of that collaborative space.
- Considering the potential unintended consequences of specific features, with those who are the intended audience for the product
- Reflecting on the fellows’ own biases, identities, and positionalities in relation to those they are designing with and the challenges they face

⁴“Co-design” refers to a participatory approach to designing solutions, in which community members are treated as equal collaborators in the design process. It involves intentionally including target users in designing solutions, gathering feedback, synthesizing such feedback into insights and developing “Guide to Co-Design.” Roadmap to Informed Communities, Sunlight Foundation, <https://communities.sunlightfoundation.com/action/codesign/>. Accessed 9 May 2024.

See **Table 1** for a depiction of the phases of traditional and inclusive and equitable product design process followed by the fellows, and [Appendix A](#) for details about the features in their final prototypes.

TABLE 1

Traditional Product Design Phases	Additional Inclusive and Equitable Design Practices at Each Phase
<p>1. Research user experiences</p> <p>This phase included interviewing users about meditation apps and their feelings towards meditation. The teams showed users potential concepts, and gained insights about potential prototype directions. The teams aimed to understand the user’s needs and the problems to be solved.</p>	<ul style="list-style-type: none"> • Interviewed experts who gave larger, related context (historical, social, political, economic, etc.) • Recruited co-design participants from the intended user groups, across intersectional identities • Participated in a moderated reflection on the fellows’ identities, biases, positionalities, and lived experiences in relation to the challenge and to the intended underserved users
<p>2. Ideate and design concepts</p> <p>In this phase, the teams synthesized the user research to identify insights to further develop their concepts’ value propositions and different features, in response to different user needs.</p>	<ul style="list-style-type: none"> • Conducted co-design session(s): Focused on getting to know the participants, their needs, developing relationships with one another and with the fellows, and getting feedback on early concepts • Determined the product’s business impact (Who is paying for this service, and who benefits from it? Is the intended underserved user group benefiting from this service and gaining business value?)
<p>3. Test and iterate prototypes</p> <p>In this phase, the teams tested these more developed prototypes of features and value propositions with potential users. Then, they designed wireframes for features that reflect the needs of users.</p>	<ul style="list-style-type: none"> • Conducted co-design session(s): Focused on co-designing concepts for specific features, getting feedback on prototypes, and refining concepts • Considered the unintended consequences alongside those from the intended user group
<p>4. Conduct product analysis</p> <p>Finally, the teams took the learnings from all of the prior phases to articulate a single clear and compelling concept.</p>	<ul style="list-style-type: none"> • Conducted an asset-based language audit⁵ • Conducted an accessibility audit • Gathered final feedback from co-design participants on prototypes through a survey

⁵“Grand Valley State University.” Language Matters: A Reflection on the Critical Use of Language – START Project – Grand Valley State University, www.gvsu.edu/autismcenter/language-matters-a-reflection-on-the-critical-use-469.htm#assetbased. Accessed 4 June 2024.

Designing a meditation app using traditional product design

In the traditional design process, each team interviewed 5–7 users (they had two weeks for interviews) with a range of experience and familiarity with meditation – from people not interested in it, to people who frequently practiced meditation. It is important to note that there is no singular definition of traditional product design, but in this fellowship, the students followed 4 common phases, which are described in the left column of Table 1.

The interviews in Phases 1 and 2 provided insights into specific features of existing meditation apps that are highly valued by its users, and revealed that users felt that meditation is a challenging task. The people interviewed were those more immediately available to the fellows: other graduate students, friends, and relatives. The students did not track the demographics of those they interviewed, as they focused more on getting feedback than on who was providing the feedback.

Each team identified a similar set of unmet needs, finding that their users hoped meditation apps would provide: practices that are integrated into their daily lives; a better ability to focus; and tangible results of improvement to keep them motivated. All of these needs were ones that existing apps on the market try to address. This resulted in the creation of several low-fidelity prototypes, which included features such as personalized content or live and pre-recorded sessions with professional instructors. One team explored the potential for reaching elite athletes, in particular. Both teams iterated on their designs with some user feedback. Team A conducted feedback sessions in a high-traffic location on campus. This allowed a random self-selection of participants, however, most participants were UC Berkeley graduate students, ages 20–35. Team B had a different approach – instead of setting up a table and getting passersby to provide feedback, they conducted user testing workshops. Both teams used the feedback to iterate and improve their designs to better align with the users’ needs.

At the conclusion of the 6-week traditional product design process, the teams developed the two prototypes depicted in **Images 1 and 2** below.

IMAGE 1 – A prototype resulting from the traditional design process

ShhShh (Team A)

An app that is a daily go-to destination for user generated content related to mindfulness.

KEY FEATURES:

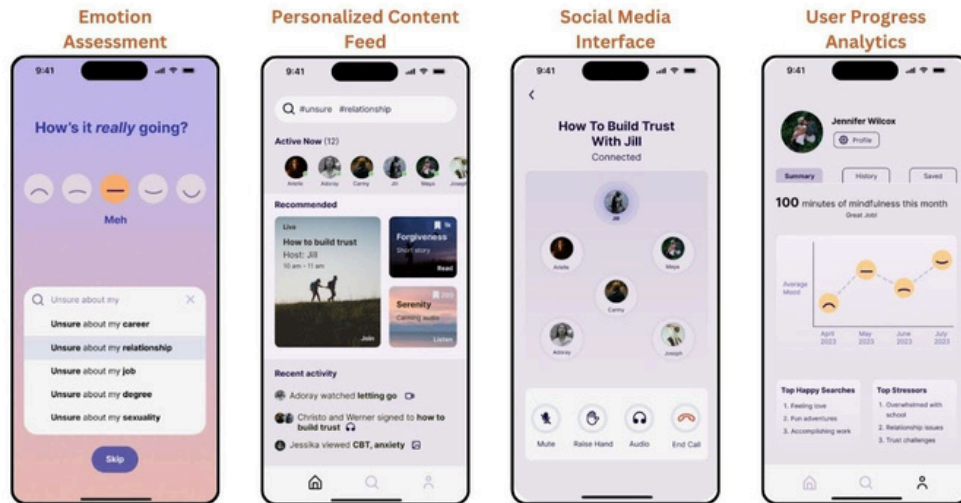
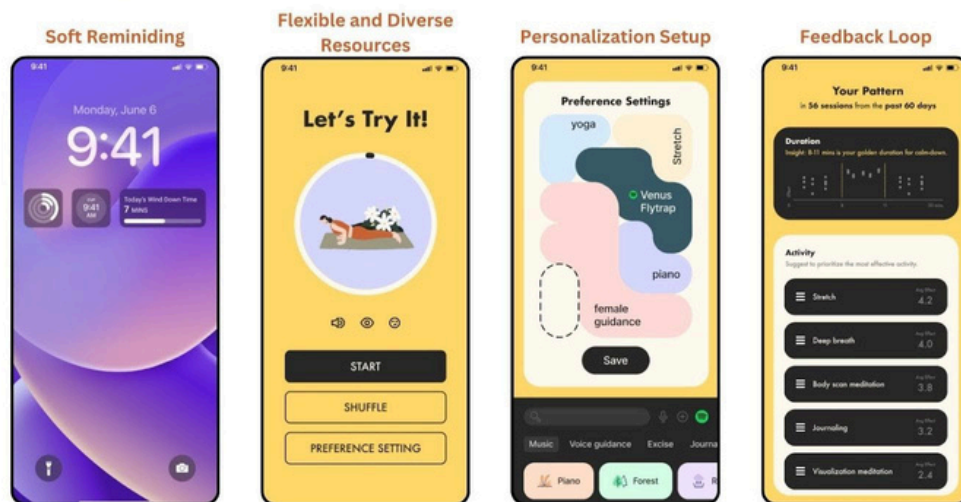


IMAGE 2 – A prototype resulting from the traditional design process

WorryFree (Team B)

An app that provides personalized physical and mindfulness activities tailored to the user's preferences

KEY FEATURES:



Designing a meditation app by integrating inclusive and equitable product design practices

In the second iteration of the meditation apps, the teams incorporated inclusive and equitable product practices to their design process. First, they considered which specific populations would benefit from meditation apps, but were currently underserved by existing products. Given the tight 8-week timeline, they quickly made decisions based on available data.

Phase I: Research user experiences

Team A decided to focus on formerly incarcerated people, who encompass about 2 million people in the US.⁶ Research shows that meditation programs instill hope in incarcerated individuals about their future,⁷ and that incarceration brings with it a unique set of stressors, most of which are not adequately addressed by traditional meditation apps. Given the constraints of time and the need to access research participants, the team chose to focus on formerly incarcerated individuals rather than those currently incarcerated. The team inferred that this population, though relatively small in market size, could reveal needs and preferences that are currently not found in existing meditation apps. They had connections with non-profit organizations that serve formerly incarcerated individuals, which also made recruiting more possible.

Team B chose to focus on caregivers, a community of about 40 million individuals in the US, predominantly women (>75%), often women of color,⁸ who engage in mostly unpaid or underpaid and emotionally taxing work.⁹ Research also shows that 79% of caregivers are not college graduates, while, as mentioned above, widely used meditation apps overwhelmingly reach college-educated users. Although meditation apps are largely used by women, and caregivers are a majority women, these apps are less frequently used by people of color and those without college degrees.

⁶ Initiative, P. P. (n.d.). *United States profile*. United States profile | Prison Policy Initiative. <https://www.prisonpolicy.org/profiles/US.html>

⁷ Spina, F. (2023). The Importance of Mindfulness Meditation in Correctional Settings. *Journal of Correctional Education* (1974-), 74(2), 56–71. <https://www.jstor.org/stable/48730994>

⁸ *Caregiving in BIPOC Communities*. Mental Health America. (n.d.). [https://mhanational.org/caregiving-bipoc-communities#:~:text=Currently%2C%2Onearly%2040%25%20of%20caregivers,People%20of%20Color%20\(BIPOC\)](https://mhanational.org/caregiving-bipoc-communities#:~:text=Currently%2C%2Onearly%2040%25%20of%20caregivers,People%20of%20Color%20(BIPOC))

⁹ Alliance, F. C. (n.d.). *Caregiver statistics: Demographics*. Caregiver Statistics: Demographics – Family Caregiver Alliance. <https://www.caregiver.org/resource/caregiver-statistics-demographics/>

After identifying the underserved group to center, each team made a concerted effort to recruit research participants and experts across different intersectional identities within each group. They first reached out to relevant local businesses, advocacy organizations, and posted on social media to related affinity groups. Once they established relationships and trust with certain participants, they were able to access those participants' networks to reach more people in these groups. They set the expectations up front of what was needed from participation. They paid participants for their time (a small amount given the budgetary constraints of the project), and met with participants in private spaces so that they could speak openly and freely. They also asked participants if they needed any accommodations to participate in the research.

Phase 2: Ideate and design concepts

In this phase, each team conducted co-creation sessions with 3–5 participants. The close relationships established through the inclusive and equitable design process allowed for a more collaborative approach with intended users, which allowed the fellows to continuously incorporate direct input and iterate their prototypes. The relationships deepened as the teams repeatedly went back to the same co-designers, spending more time with them to hear their stories and get their feedback in more in-depth sessions.

Both teams found that, indeed, the needs of the underserved populations related to mindfulness were different from those revealed during the traditional design process. When engaging with formerly incarcerated individuals and their advocates, Team A found that expressing gratitude, peer-to-peer connection (1 to 1), and more customized support emerged as key needs for this particular group. The team also identified relatability as a critical barrier for this group when using meditation apps. These users, emerging from an environment of intense introspection and challenging experiences, sought more than just soft music and pastel colors; they were also put off by “soft” and “formal” language. Instead, they craved connection and relatability in their mindfulness practice. In the co-design session, the team initially presented a prototype centered around introspection and self-reflection to spark deeper conversations sooner. However, they quickly learned from feedback that this approach did not align with the group's needs. In response, the team designed an app featuring colloquial language and design elements that genuinely resonated with this group. It included peer-to-peer support, recommendations for mindfulness resources, and content created by individuals with similar lived experiences.

When engaging with the caregiving community, Team B found that their unmet needs were slightly different. Caregivers hoped that meditation apps would provide “an avenue to reflect on their circumstances and emotions” and “tools, techniques, and resources to help them cope with the exact situation they were facing.” They also wanted flexibility to access mindfulness in a variety of settings and formats, and a shared experience with a community of other caregivers (1 to many). This led to the development of specific features in the team’s prototype, MindfulNest, such as the capacity to “easily journal about the good and challenging in their lives and track the balance between positives and negatives,” and the possibility to “personalize their profile based on detailed questions.”

These examples showcase how equitable design uncovers marginalized needs and drives innovative product features that serve overlooked user groups.

Phase 3: Test and iterate prototypes

As the teams progressed in their iterations, in Phase 3, they conducted an activity with their respective co-designers to consider and mitigate possible unintended consequences of the prototypes developed. In contrast to the traditional design process, the fellows changed some features that may have caused unintended harm to their users, relying not only on user feedback about desirability of the features, but also considering potential cultural, economic, and environmental implications. This activity was conducted in Phase 3, when the prototype was more refined so the co-designers could give their input before it was finalized.

Through this activity, Team A found that their proposed feature of connecting users with volunteer peers sharing similar lived experiences, could lead to inappropriate conversations and compromise privacy. In response, Team A refined their prototype to include the ability for users to connect with professionally trained and compensated individuals who have similar lived experiences. They also designed a more robust privacy policy to preserve authentic connections while ensuring reliability and professionalism.

Along similar lines, Team B found that their proposed features of creating peer-to-peer connection opportunities and daily gratitude could inadvertently result in loss of privacy, misinformation, and toxic positivity (overemphasizing positive emotions, and denying or suppressing negative emotions.)

A feature like peer-to-peer support is unique among meditation apps and warrants further testing to determine its broader appeal. Specifically, research could explore whether features like tailored meditation recommendations from peers with shared life experiences (not just those who are formerly incarcerated) resonate with a wider audience. Additionally, testing could assess the broader appeal of meditation apps fostering a sense of community for individuals navigating similar life journeys, extending beyond caregivers.

Phase 4: Conduct product analysis

In this phase, the teams developed the two prototypes depicted in **Image 3** and **Image 4** below. The teams did an asset-based language audit on the language used in the UX writing of the prototype, to ensure that it wasn't inadvertently using language that was judgemental, harmful, or biased. For a detailed table of all of the features in these prototypes, see [Appendix A](#).

IMAGE 3 – A prototype resulting from inclusive and equitable design process

FreeMind (Team A)

An app for formerly incarcerated individuals, which provides 1:1 support and mindfulness resources created by those in the community.

KEY FEATURES:

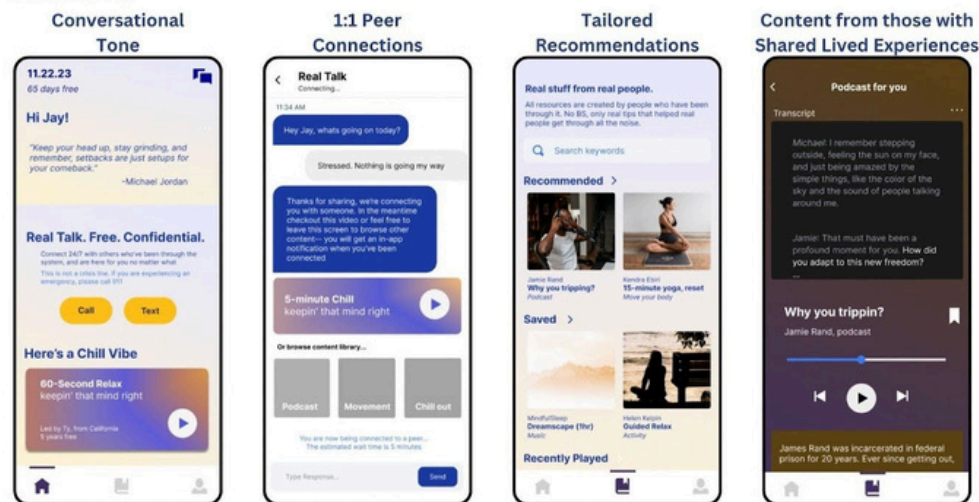
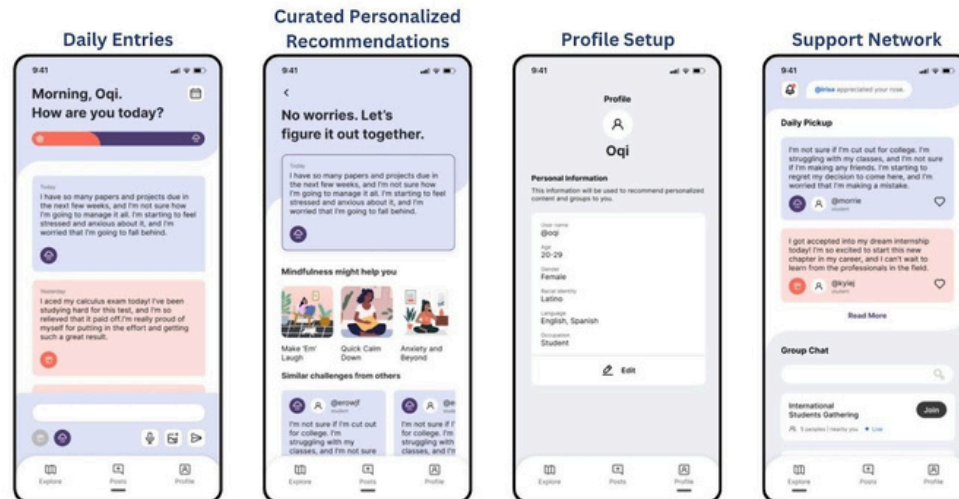


IMAGE 4 - A prototype resulting from inclusive and equitable design process

MindfulNest (Team B)

An app that connects caregivers to resources and a community for support.

KEY FEATURES:



After creating these prototypes, the two teams went back to their co-design participants for feedback. They used a survey (created, distributed and analyzed solely by the UC Berkeley fellows) to validate that the features in the final prototypes resonated with and addressed the needs of each specific group.

The prototype that Team A designed with and for formerly incarcerated individuals with representation across race and gender (FreeMind – inclusive & equitable design) was rated positively. At least 80% of respondents shared that they would recommend the app to a peer. One participant noted, “I was greatly impressed by the thoughtfulness put into the design and the accessibility features.” 100% of respondents also indicated that they had a positive experience throughout the product development process.

Along similar lines, Team B found that MindfulNest, the prototype they designed with and for the caregiving community, was able to reach this audience in a way their traditionally designed prototype was not. 75% of the caregivers they surveyed found MindfulNest useful, whereas only 25% found the traditionally designed prototype (WorryFree – traditional design) useful. In addition, 100% of respondents noted that they would be willing to pay up to \$10/month for MindfulNest.

A survey assessment of the designed apps

Simultaneously, while soliciting feedback from co-design participants, the fellows collaborated on crafting a comprehensive survey intended to evaluate the reactions of the general population to the apps. This survey (created, distributed and analyzed by the UC Berkeley fellows and EGAL) measured the potential widespread desirability of their prototypes from both the traditional and the inclusive and equitable product design iterations. To ensure fair and unbiased comparisons, adjustments were made to the equitable design prototypes to remove any explicit references to the specific user groups.

This survey was completed by 101 participants, who were representative of the demographics of the US population across race, age, gender, and different levels of experience with meditation. You can see more about who participated in the survey in [Appendix B](#). The survey was structured into three key sections: User Demographics, User Habits, and User Experience. The User Demographics section collected data on gender, education, age, and race to understand how the prototypes resonated with those who typically do not use meditation apps (see **Box 1**). The User Habits section gauged digital activity levels and the respondents' relationship to meditation. Finally, the User Experience segment assessed the respondents' reactions to the prototypes across these demographics. There were three key insights from the survey.

1. The equitably designed prototypes for both teams ranked higher among BIPOC survey respondents.

Team A observed that BIPOC individuals showed a slightly greater inclination towards FreeMind (inclusive & equitable design) over white individuals, with respective preferences of 43.75% and 40.38%. Similarly, Team B found that BIPOC respondents were slightly more likely to favor MindfulNest (inclusive & equitable design) over white respondents, with preference rates of 39.58% and 37.74% respectively. Also, all of the individuals that identified their gender as non-binary or "other" expressed a preference for both MindfulNest (inclusive & equitable design) and FreeMind (inclusive & equitable design). These findings underscore the potential for companies to tap into new markets by designing features using inclusive and equitable design practices.

2. Those who said they “do not practice meditation” were more drawn to both of the equitably designed apps.

The survey participants were categorized based on their relationship with meditation, falling into three main groups: "Do not practice meditation," "Interested in meditation, but haven't tried it yet," and "Practice meditation." For Team B, the data revealed that 58.33% of those who “Do not practice meditation” preferred MindfulNest (inclusive & equitable design) over WorryFree (traditional design). Also, Team A's findings indicated a higher proportion of individuals who “Do not practice meditation” (45.83%) opting for FreeMind (equitable design) compared to those “Interested in meditation, but haven't tried it yet” (31.58%) and those who “Practice meditation” (43.86%). These results suggest a potential for a currently untapped segment of the market to be reached, as they find equitably designed meditation apps compelling.

3. The equitably designed apps were seen as more unique and differentiated, compared to the traditionally designed apps, and to other meditation apps already in the market.

The respondents rated each meditation app on a scale of 1 to 5, indicating the extent to which they perceived each app as different from others in the market. A rating of 1, meant the prototype was similar to what's in the market, while 5 indicated the prototype was very different from existing market offerings. On average, both white and BIPOC individuals rated MindfulNest (equitable design) and FreeMind (equitable design) higher, averaging 3.2 out of 5, compared to ShhShh (traditional design) and WorryFree (traditional design), which received an average of 2.9 out of 5. This higher level of market differentiation points to the more unique features in equitably designed products.

The survey was limited by a small sample size and the use of wireframe prototypes rather than functional apps. Still, the preliminary findings offer encouraging evidence that equitable design has the potential to engage with underserved populations and expand product reach through more relevant features.

There is an opportunity for future research with a larger sample size and more refined prototypes, perhaps incorporating elements from both phases of app development, to further validate and to expand upon this potential.

Key learnings about two product design processes and the differing user needs that emerged

Throughout the fellowship, the fellows journaled their reflections and learnings. These resulted in the following insights about the design methodology and user experience when comparing products developed with traditional methods versus those incorporating inclusive and equitable design practices.

1. While the traditional design process prioritized efficiency, it came at a cost. It overlooked user needs and experiences that could unlock new potential markets.

Since the fellows did not need to tailor their user recruitment strategies for specific demographic groups during traditional design, they found it easier to engage quickly with a large audience in close proximity to them. This provided efficiency for getting feedback to prototypes quickly. For example: one of the teams organized a “pizza party” in a crowded location to test their prototype, through which they were able to gather all the necessary feedback within a few hours. However, this convenience came at a cost — the interview and testing participants were not representative across various intersectional identities, leading to mostly homogenous feedback. The focus on getting things done quickly also occasionally overshadowed the importance of thoughtfully defining the “why” underlying the features they designed. As a result, the fellows’ approach to designing “for” their users was infused with assumptions and biases, leading to traditional design prototypes that did not resonate with those underserved by current meditation apps.

2. Not intentionally designing equitably led to solutions that were more similar to meditation apps already in the market.

When undergoing a traditional design process, the fellows tended to default to their perceptions and biases when considering who the “general user” would be. They focused on people in their proximity: other students, friends, and family members. The traditional design process often overlooked underlying cultural and macro-influences, resulting in generic features lacking differentiation from competitors. Through the equitable and inclusive design process, the fellows learned how deeply personal mindfulness and meditation needs can be.

They found that the one-size-fits-all approach of traditional design resulted in a generic solution that left specific needs — particularly those of marginalized communities — unaddressed. As one fellow reflected, “Trying to build solutions in a deeply personal topic [such as meditation] requires more care, time and intention.”

3. Shifting from interpreting user feedback to collaborating with users led to more resonant design solutions.

In the traditional design phase, fellows based their design concepts on their interpretations of static survey and interview feedback. By contrast, the co-design sessions in the equitable and inclusive design process allowed the fellows to build meaningful connections over time with representatives from their user groups. This meant that they could gain a deeper understanding of user needs, revisit their assumptions, and continuously integrate user feedback.

FEEDBACK FROM A FELLOW

“We built relationships. We cared. What really stuck with us was this idea of building a relationship and genuinely caring deeply for our user. We could sense a shift in how much respect we were putting into thinking about how we were going to engage and co-design with our user in a way that isn't going to feel intrusive or unethical.”

FEEDBACK FROM THE EQUITABLE DESIGN PARTICIPANTS

“The process seemed open and thoughtful.”

“[The co-design process was] amazing.”

“[The co-design process was] inclusive.”

“Connecting recently incarcerated individuals to a community of peers has great design implications and potential benefits for this population.”

“The prototype presents many of the insights offered during the design workshop that could help caregivers.”

4. Intentionally designing for a specific, underserved, and intersectional group led to market differentiation in products.

By focusing on a specific group of individuals during inclusive and equitable design, the fellows were able to understand the unique needs of users more effectively, and uncover critical needs for groups not served by current meditation apps. Still, the fellows found that even within the underserved populations they chose to work with, there were substantial variations in individual needs, highlighting the importance of including a range of perspectives and intersectional identities. Centering intersectional perspectives during their inclusive and equitable design phase led the fellows to develop features that set their prototypes apart in the existing market. This market differentiation can be powerful in breaking cycles of user abandonment, a phenomenon observed in the mindfulness/meditation app space. Also, the feedback from users involved in inclusive and equitable design processes could help organizations by informing a product roadmap and a plan to further expand users.

TAKEAWAYS FOR DIFFERENT AUDIENCES

This section provides learnings and next steps for the three following audiences:

- 1 **Leaders & decision-makers across industries** who are interested in inclusive and equitable product design practices, and in communicating its business value to other stakeholders
- 2 **Practitioners and product teams** looking for guidance on how to operationalize product inclusion and equity into their existing approaches, in addition to articulating its business value
- 3 **Educators, particularly faculty at business schools**, who seek to fill gaps in curricula around inclusive and equitable product design

01

Leaders & decision-makers across industries

Benefits of inclusive and equitable design practices

For leaders and practitioners looking to get their teams invested in prioritizing inclusive and equitable design practices, the Fellowship points to tangible quantitative and qualitative benefits. Integrating inclusive and equitable product design into traditional processes can yield significant advantages, including:

- Increased market reach
- Innovative and differentiated product features
- Meaningful user experiences, leading to enhanced user satisfaction and engagement
- Enhanced brand reputation, especially among customers who value equitable and inclusive business practices
- Employees who are more invested and engaged, as they are designing products for those who are underserved by the current market
- Reduced potential risks through an assessment of unintended consequences with underserved users and experts

Recommendations

For leaders to implement inclusive and equitable design practices in their organization, some recommended key steps are:

- Integrate product inclusion and equity into every team’s existing design processes and strategies, rather than treating it as an add-on, or delegating the responsibility to a separate team. Empower the teams through advocacy, accountability and financial support
 - e.g., understand who in the organization is already doing this work, and give these employees the time, opportunities, and recognition to scale these practices
 - e.g., encourage and empower teams to iterate the product(s), the language used, and the accessibility of their features, with ongoing input from underserved users
- Adopt equitable and inclusive guidelines for research and recruiting, such as recruiting individuals and those in communities who are not current customers or are not in close proximity to the employees or organization either by identity, circumstance, or location
 - e.g., set aside a budget to compensate research participants who are contributing their ideas and feedback to your product development
- Create business models and partnerships that financially benefit the communities and users the product is meant to reach
 - e.g. if creating an app serving caregivers, consider involving them as meditation instructors, content creators, stockholders, and owners. This allows them to benefit not only from the meditation services, but also financially from the app.
- Consider hiring equitable design experts to audit your products, your processes and train your employees on best practices on how to respectfully and equitably engage with research participants
- Share resources on how your organization is implementing inclusive and equitable design to help other organizations do the same
- Hire employees inclusively and equitably

02

Practitioners and product teams

Benefits of inclusive and equitable design practices

Designing inclusively and equitably results in a heightened sense of responsibility and care for practitioners and product teams. Product designers feel more invested in the work, as they are creating features that positively impact people underserved by current solutions. By designing inclusively and equitably, the learnings are more in-depth and nuanced, and the work is more meaningful.

However, product teams should be aware that inclusive and equitable design practices require intentionality, yet the effort is worthwhile. Considering unintended consequences and pivoting during prototyping can potentially address issues before they arise. However, convincing leaders to make the investment to try to prevent problems from arising can sometimes be more challenging than getting resources to pivot once a crisis has emerged.

Leaders of organizations are learning that causing harm to their customers and the environment can have monumental consequences to their business, and yet, it typically takes leaders with experience (and the gift of hindsight) to make this investment. To do this work, product teams must be led by those who understand the value of inclusive and equitable design to create more meaningful products that reach more people, more equitably.

Recommendations

For product teams to implement inclusive and equitable design practices in their organization, some key recommendations are:

- Account for more time to equitably recruit participants for user interviews and co-design sessions (for details, see [Designing a meditation app by integrating inclusive and equitable product design practices throughout](#)).
- Hire subject matter experts or those with lived expertise to guide your teams and provide valuable context about underserved users you want to reach
 - e.g., to help set norms around inclusive and respectful terminology and avoiding assumptions and biases
 - e.g., to review interview questions, participate in research, give feedback on prototypes

- Undergo inclusive and equitable design trainings
- Organize a facilitated conversation with the product team to raise awareness of how the team's biases, identities and positionalities could impact the design of the product
- Look to other companies and organizations both in your industry and outside your industry for inspiration and knowledge
- Collaborate with community-based organizations and small businesses that already reach the underserved communities
 - These organizations can sometimes connect the design team with individuals who have direct, lived experiences for more meaningful interviews, co-design, and feedback during testing
- Structure and plan co-design sessions thoughtfully, for example (a non-exhaustive list):
 - Incorporate exercises that encourage open reflection and dialogue among co-designers
 - Be open to shifting discussion completely based on more important topic areas or needs brought up by the community
 - Skillfully know how to discuss sensitive topic areas
 - Plan check-ins to make sure participants are physically and mentally comfortable
 - Set expectations early on about the a co-design project and how their specific ideas will be used and credited
- Incorporate an activity to consider unintended consequences (see [Appendix C](#) for resource) to gather direct insights from co-designers on potential harms to be addressed
- Consider intersectionality across various dimensions of identity (see **Image 5**) when developing products aimed at identities of growth that were historically marginalized. These experiences are facets of someone's life, yet they intersect with a multitude of other identities, enriching the individual's perspective. Therefore, intentional recruitment that accounts for these intersectionalities is essential to gather insights that truly mirror the diverse realities of the intended audience. (See [Designing a meditation app by integrating inclusive and equitable design practices throughout](#))

- Google’s Guide to Product Inclusion shares a non-exhaustive list of identity dimensions (see **Image 5**) that the fellows leveraged as they asked questions such as:
 - What is the problem being solved and how (and with whom) was the problem identified?
 - Who is underserved when it comes to meditation apps? Why are current products not working for them?
 - What needs or perspectives may we inadvertently be excluding?

IMAGE 5 – Google’s Guide to Product Inclusion

Consider all dimensions of identity

Keep this (non-exhaustive) list in mind as you build, to ensure you’re considering all identities and how they intersect.

Show all definitions ↕

Age	Geography and global relevance	Religion
Culture	Gender	Sexual orientation
Disability	Physical attributes	Socioeconomic status
Education and literacy	Race	Technology proficiency
Ethnicity		

Source: [Google Belonging](#)

- When in doubt, take a step back: Allocate adequate time for introspection and ensuring equitable design. Also, the equitable design process naturally evokes a desire to address other overlooked issues, so the fellows found it important to establish, review, and remember the project’s objectives to avoid getting sidetracked by out-of-scope problems. Also, know when the problem should not be solved by technology or if there are more risks or the potential for harm than value for people and communities.
- Conduct an asset-based language audit. Leverage resources around inclusive language, including EGAL’s [Playbook on Advancing Language for Equity & Inclusion](#) and [Inclusive Language Guide](#), to ensure that the language used is respectful and inclusive

03

Educators, particularly faculty at business schools

Benefits of inclusive and equitable design practices

EGAL conducted interviews with Product Management and Responsible AI Innovation & Management professors at UC Berkeley to understand the current landscape and potential opportunities of product inclusion and equity integration in curriculum. Through the various interviews, we found that there is interest and awareness from the Berkeley student body, although the ability to integrate it directly into practice is hindered by, according to one student, the lack of “relevant case studies.”

While university curriculum can periodically be a lagging indicator from industry, it is clear that within Product Management and AI Innovation, the ability to conduct research and user interviews is paramount to career success. The fellowship has sparked the redesign of techniques around inclusive & equitable expert interviews in the MBA Product Management course. The redesign specifically focuses on designing for equity, and “the importance of collaborative design processes, designing with versus designing for,” says Professor Vince Law.

Through this redesign, students are going to practice inclusive & equitable collaborative design instead of traditional design practices where one would come up with a solution and check with customers after the design process has been completed. From both professors, it was clear implementing new processes is needed and sought. Professor Genevieve Smith said, “It’s easy to talk through these things, but students really need to grapple with the challenges through applied challenges and projects.”

Recommendations

Educators can teach the practices of inclusive and equitable product design by doing the following:

- Include lessons and assignments related to teaching students how to recruit research participants inclusively, reaching beyond their typical networks and outside of their immediate proximity
- Assign students an activity that helps them to explore the potential unintended consequences of their designs with those underserved users who would be most impacted
- Bring experts of inclusive and equitable product design into the classroom from the industry

- Look outside of just tech to learn from many industries about inclusive and equitable product design
- Incorporate more case studies across all industries, and analyze why certain decisions/trade offs were made; what worked well or could have been better
- Share source materials like co-design exercises, discussion guides, concrete materials
- Teach students about products and services that are committed to underserved populations, not just products and services that are designed for “all,” which inadvertently can exclude certain groups

THE LIMITATIONS OF THIS FELLOWSHIP

This fellowship was conducted in an academic setting by graduate students, and was thereby constrained by the following:

The choice of a meditation app

A meditation app was chosen as the subject for exploration, and the topic turned out to be very connected to issues of mental health and overall health. And yet, the fellows could not explore topics related to health and mental health given HIPAA and privacy concerns. This created some limitations in user research interviews. Also, it was decided that an app needed to be created, however it was not explored if those who are underserved would have preferred a service by other means, for example, a book, other resources, or in-person gatherings, among other modalities of products and services.

Time and resources

Conducting this fellowship within an academic environment resulted in both resource and time constraints. While the fast paced nature of the fellowship mirrored product development cycles within companies, it did result in unique challenges that would typically be mitigated by product teams. For instance, the fellows did not have the opportunity to create a third prototype that embedded features from both design processes—grounded in inclusive and equitable design but with broader appeal. Fellows were also unable to iterate on the surveys they sent out to dig deeper into the initial insights they gained from a relatively small sample size. These survey results were also limited by the fact that respondents were interacting with prototypes as opposed to finished apps.

Inability to assess employee satisfaction

The fellows reported finding more meaning and purpose in their work when designing inclusively and equitably. This points to a potential future study that assesses whether investing and engaging in inclusive and equitable design practices result in improved employee job satisfaction, and higher employee retention rates. However, given the structure of this fellowship, which involved graduate students instead of product development/design employees, this key metric could not be leveraged to further establish the business value.

Managing co-designers' expectations

Navigating expectations when working with underserved populations, given that the prototypes were not going to be launched, was a challenge. Co-design participants were invested in the project and they wanted their ideas to materialize into real products, so the fellows occasionally found it extractive to engage with them without building a commercially available app. The fellows attempted to mitigate this challenge by emphasizing how much they valued their co-designers' insights, clarifying the outputs of this research, and compensating contributors for their time. The inclusive and equitable design training workshop proved invaluable in helping the fellows identify responsible and ethical engagement with users, helping them build trust-based relationships.

Overcoming biases

Without personally having the lived experiences of caregiving or incarceration, the fellows were in learning mode. Their unfamiliarity with these experiences — as well as the time constraints they were operating under — meant they had difficulty mitigating their biases and going as deep as they could have with those they were designing with. They approached this with humility and an openness to learn, and by developing respectful, collaborative relationships with those on the co-design groups who had these lived experiences.

FINAL INSIGHTS

The fellows' most profound realization after doing this work was that inclusive and equitable design gave them a heightened sense of responsibility and care. The stakes felt higher, and their work's impact was more meaningful. By establishing deeper relationships with those they were designing with, they felt a deep commitment to considering every detail. They felt as though they were not just designing an app, but instead creating a tool that could genuinely improve lives for those who could truly benefit from such services.

While practicing inclusive and equitable design, the fellows paid close attention to how each aspect of their design could affect individuals. When product designers are dedicated to the inclusion and equitable outcomes of those who are historically marginalized and underserved, it feels as though lives could change for the better, and the fellows' work has more meaning. And those from the communities they were designing for were heard and validated. The co-design participants in the equitable design process saw their input leading to real change that could benefit them, with one stating, "[I appreciated the fellows' ability to] listen to our ideas and turn them into a prototype that includes our needs." The value of these realizations — for both the fellows and the co-design participants — are significant, meaningful, and powerful.

APPENDICES

Appendix A – The Features in Each Prototype and the Needs They Address

These tables showcase the full list of features of each prototype created in the fellowship, as well as the specific needs they were designed to address.

Team A, Prototype A: ShhShh (Traditional Design)

Key Feature 1	Soft reminding
Need the Feature Addresses	Instead of interrupting users’ current tasks with push notifications, widgets on the lock screen are always there to remind users when they are ready.
Key Feature 2	Flexible and diverse resources
Need the Feature Addresses	Meditation is no longer daunting. Users can set a short duration that fits their busy schedule. Users can easily shuffle between a variety of recommended wind-down activities, without any extra effort on their part. Users can also choose which feelings they are experiencing, which can be used to recommend activities and track their emotion over time.
Key Feature 3	Personalization Setup
Need the Feature Addresses	Set up the user's own meditation resource preferences, and they will never have to click multiple filters for each search again.
Key Feature 4	Feedback loop
Need the Feature Addresses	We'll track the effects of each session and give users insights into their patterns, helping them find the best duration and type of activity for their wind-down routine.

Team A, Prototype B: FreeMind (Inclusive & Equitable Design)

Key Feature 1	Daily entries
Need the Feature Addresses	Users can conclude their day by reflecting on their "highlights" or "lowlights" moments. It helps them to reflect on their experience and better to understand their emotions.
Key Feature 2	Curated personalized recommendations
Need the Feature Addresses	Once users share a "lowlight," our system will curate similar posts from other users or relevant online mindfulness techniques. The short and personalized feeds will specifically inspire their unique situation.
Key Feature 3	Profile setup
Need the Feature Addresses	All recommendations in the application are based on the profile that users created, they can easily change it if the situation changes.
Key Feature 4	Support network
Need the Feature Addresses	Users can also choose to keep their posts private or share them with the community. The shared posts can receive appreciation from other fellow caregivers, which will delight their life. Users can also discover a wealth of supportive posts and connect with others in nearby groups or those facing similar situations.

Team B, Prototype A: WorryFree (Traditional Design)

Key Feature 1	User Progress Tracking
Need the Feature Addresses	Provide users with a sense of accomplishment and to encourage consistent use of the app
Key Feature 2	Social Media-like Interface
Need the Feature Addresses	Leverage a familiar user interface style that is intuitive and engaging
Key Feature 3	Community Interaction
Need the Feature Addresses	Eliminate feelings of isolation when users seek support for stressors
Key Feature 4	Personalized Content Feed
Need the Feature Addresses	Provide a tailored experience that directly addresses the user's current emotional needs and interests
Key Feature 5	Emotion/need Assessment
Need the Feature Addresses	Personalize the content and ensure the app delivers relevant and targeted meditation experiences
Key Feature 6	Live Meditation Sessions
Need the Feature Addresses	Offer real-time, interactive experiences that can increase engagement and provide immediate support

Key Feature 7	Diverse Content Formats (text, photos, videos, etc.)
Need the Feature Addresses	Cater to different learning and engagement styles, keeping the app experience varied and interesting
Key Feature 8	Bookmarking and Liking Content
Need the Feature Addresses	Allow users to easily return to their favorite content and create a personalized library of helpful resources

Team B, Prototype B: MindfulNest (Inclusive & Equitable Design)

Key Feature 1	Gratitude/Progress Reminder
Need the Feature Addresses	Provides users with a positive start, reminding them of their progress and fostering a sense of gratitude, reinforcing the habit of using the app consistently
Key Feature 2	Static Materials During Wait Time
Need the Feature Addresses	Allowing users to engage with meaningful content while waiting for a live connection, optimizing their time on the app
Key Feature 3	Community Interaction
Need the Feature Addresses	Allowing peer-to-peer knowledge sharing to reduce feelings of isolation
Key Feature 4	Gratitude/Progress Reminder
Need the Feature Addresses	Provides users with a positive start, reminding them of their progress and fostering a sense of gratitude, reinforcing the habit of using the app consistently

Key Feature 5	Chat Experience Rating
Need the Feature Addresses	Users to provide feedback on their chat experience, ensuring continuous improvement in the quality of support provided by peer mentors
Key Feature 6	Live Chat with Peer Mentor
Need the Feature Addresses	Enables users to connect in real-time with a peer mentor who can relate to their experiences, fostering a sense of community and support
Key Feature 7	Meditation Resources from Real People
Need the Feature Addresses	Ensures authenticity and relatability by curating meditation resources from individuals who share similar life experiences
Key Feature 8	Chat History Viewing and Bookmarks
Need the Feature Addresses	Empowers users to track their progress and reflect on their journey

Appendix B – Survey Demographics

Here are the demographics of those who responded to the general population survey:

- 101 people, all based in the U.S.
- Age: most people are individuals (81.2% between 18–44, with the 25–34 age group having the highest representation, ~36.6%)
 - 18 – 24 years old: 19 people
 - 25 – 34 years old: 37 people
 - 35 – 44 years old: 26 people
 - 45 – 54 years old: 10 people
 - 55 – 64 years old: 6 people
 - 65 years old or above: 3 people
- Race: BIPOC (47.5%) and white (52.5%)
 - White: 53 people
 - BIPOC: 48 people
- Female (49.5%) and Male (48.5%)
 - Female: 50 people
 - Male: 49
 - Non-binary: 1
 - Other: 1
- Individuals with Short-term Education (60.4%), and Long-term Education (38.6%). Short-term education includes individuals with high school, associate, and technical degrees, while long-term education encompasses those with bachelor's, graduate, and professional degrees.
 - Short-term Education: 61 people
 - Long-term Education: 40 people
- Digitally active (92.1% extremely or very active, and 7.9% moderately or somewhat active)
 - Extremely or Very Active: 93 people.
 - Moderately or Somewhat Active: 8 people
- Practice meditation (57.4%), are interested but never tried (18.8%) and do not practice (23.8%)
 - Practice: 58 people
 - Interested But Never Tried: 19 people
 - Do Not Practice: 24 people

Appendix C – Additional Resources

Here are some additional resources to guide you as you practice inclusive and equitable design:

- Google: [Introduction to Product Inclusion & Equity](#)
- Google: [Guide to Practicing Product Inclusion and Equity](#)
- Google: [Case studies: inclusion and exclusion in tech design](#)
- [Liberatory Design Deck](#): Mindsets and modes to design for equity
- Annie Jean-Baptiste teaches [Equitable Product Design](#) on LinkedIn
- Harvard Business Review: [The business case for product inclusion design practices](#), by Annie Jean-Baptiste
- Annie Jean-Baptiste, [Building for Everyone](#)

Considering Unintended Consequences:

- Microsoft: [Types of Harm](#), an article creating awareness of the different types of harm, so that appropriate mitigation steps can be implemented.

Accessibility:

- [Google: Guide to Designing & Implementing Accessible UX](#)

Co-design:

- Google: [Considerations for Community Co-Design](#)
- [Creative Reaction Lab: Equity-Centered Community Design Field Guide](#)
- Teachers Guild + School Retool: [Codesigning Schools Toolkit](#)
- Western Australian Council of Social Service (WACOSS): [Co-Design Toolkit](#)
- [Co-design is not a panacea for inequality: But it's better than not engaging](#), by Alysha Baratta

Language:

- University of California, Berkeley, Haas Business School, Center for Equity, Gender and Leadership (EGAL): [Inclusive Language Guide](#)
- National Center on Disability and Journalism: [Disability Language Guide](#)

Appendix D – Acknowledgements

University of California, Berkeley, Inclusive & Equitable Product Design Fellows:

Nadia Abbasi
Hong-Chun (Kloe) Chen
Paola Virginia Gutierrez
Charlie Opper
Isabela Scarabelot
Briana Steele
Grace Thompson

University of California, Berkeley, Haas School of Business, Center for Equity, Gender and Leadership:

Zena Barakat, Traditional and Equitable Design Instructor, Fellows Mentor
Ishita Rustagi
Genevieve Smith
Maryam Adewumi
Jorge Barrios
Dr. Kellie A. McElhaney
Vince Law, Fellows Mentor
Isabela Scarabelot
Jennifer Wells

Google Product Equity & Inclusion:

Annie Jean-Baptiste
Carmen Villalobos
Real Canty
Asanka Herath
Dimitri Proano
Dalain Williams