Elevating Strengths and Capacities

The Different Shades of Assets-Based Design in HCI

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As researchers working in different subareas within human-computer interaction, but with a shared commitment to work with communities facing historical inequities, we—the collective authors—have been keen to explore alternative approaches to designing with communities. In particular, we are enthusiastic about moving away from focusing on a community's needs toward building on its strengths [1]. We see the potential of focusing on assets to enrich HCI work toward social justice, informing designs that could take us beyond the traditional "here and now" fixes that rarely attain sustained impact. However, our varied experiences with assets-based design across contexts (e.g., education, health, humanitarian action, community development, and immigration) have also unearthed two fundamental questions that loom large in the process of translating assets into designs that interact with intersecting systems of oppression: *What is the right thing to do?* and *How do we know we have done it?*

Our conversations with one another have highlighted several open questions for the research community interested in assets-based design more broadly, as well as specific considerations in particular contexts. Below, we summarize the discussions we have had, illuminating different shades of assets-based design in HCI and related fields and the pending dilemmas each of these shades entails.

DISABILITY JUSTICE

By Lucy Pei and Vivian Genaro Motti

While the principles of disability justice [2] are in line

Insights

- Assets-based design of digital platforms may increase equitable access to critical services for vulnerable groups and dismantle systemic barriers.
- Pursuing assets-based design, however, can be challenging: It entails grappling with the fact that assets are often politically situated and exist on a continuum with deficit-based approaches.

with the goals of assets-based design, a significant majority of research on disability justice within HCI and related fields has focused on independence/dependence narratives, leading to designed solutions that do not support agency. At times these solutions have been outright oppressive. Assets-based design could enable a shift toward interdependent relationships, centering the wholeness of an individual rather than fixing gaps in personhood. Two issues stand out as raising important, open questions for disability justice in HCI: 1) challenges in assets when hegemonic biases and power differentials exist, and 2) the use of existing methodologies and theories prevalent in disability justice studies together with assets-based design.

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HCI is very problem-centered, making it difficult to see experiences as ASSETS.

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Designers' biases are a key aspect defining their roles and practices in assets-based design endeavors. Bias is defined as a tendency in design to prioritize decisions in the design process that reflect partial views [3]. Bias is often misunderstood and ignored, but it is crucial to adopt strategies to prevent it, to the extent possible. In addition to trying to prevent bias, it is equally important to recognize its potential sources and acknowledge the impossibility of generating bias-free knowledge. All knowledge is situated, as feminist science studies scholars have pointed out, but, as designers, it becomes critical to evaluate our biases, perspectives, and motivations when designing and identifying assets in the context of disability justice. Work on disability justice needs more methodological pathways for determining assets in ways that circumvent hegemonic bias. Questions that might help illuminate these pathways are *Who are the real disability experts (e.g., people with disabilities, caregivers, clinicians)?* and *How can they truly support a discussion on assets?*

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There is a gap in invested stakeholders (community, evidence-based researchers) between the individual (micro-level) and industry (macro-level) when tools are being developed, which perpetuates the limited emphasis on strengths of the users (i.e., assets).

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Another salient theme for assets-based design and disability justice is how we go about using different methodologies and theoretical approaches that are prevalent in disability justice work in support of assets-based goals. A key problem is that the nuanced differences between the concepts these approaches propose and what assets-based design might entail remain unclear. For instance, while codesign aims to bring together end users to propose a system and shape the design informing all decisions in an assets-based design, we focus on the strengths that each community and end user bring to the design process. How, then, to ensure that designers use codesign toward assets-based goals? Other approaches that may contribute to inform assets-based methods include critical disability studies [4], critical race studies [5], work on allyship, and work on naming biases instead of trying to ignore them [3]. How might we use these approaches for supporting disability communities in amplifying, better utilizing, and becoming aware of their assets?

EDUCATION

By Wendy Roldan and Anthony Poon

While education and assets-based design both are intended to enable individuals to achieve their goals, the former has historically taken a deficit-based approach, seeing learning situations as filling gaps in knowledge and skills rather than cultivating capacities among learners [6]. We have leveraged our identities within education settings as learners, as educators, as activists, as researchers, and as designers, to discuss what assets-based design could mean for work at the intersection of education and technology design. In sharing our personal experiences, two key themes surfaced: 1) the struggle of working within the historical contexts of a deficit-based educational system from an assets-based perspective, and 2) assets-based design in education as a spectrum, not a totality. Such critical questions will be important to further explore when taking assets-based design approaches in educational and learning contexts.

An important tension hinders assets-based approaches from taking place in schools: *How can we create an assets-based approach that enables self-determination and social transformation in educational systems that have been historically biased toward seeing deficits only?* Working with students with disabilities, some educators have focused on addressing this bias by challenging assumptions of ableism and creating curricula that encourage inclusion in the classroom. Other educators advocate for fostering critical consciousness and sociopolitical awareness that enables students to challenge injustices tied to what are traditionally seen as deficits. We believe it is important to continue exploring ways to assess the effectiveness and efficacy of the diverse forms that assets-based approaches can take.

Finally, learning happens in classrooms but is also a process that involves people making meaning from their experiences and creating

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[Key people working on ABD include] researchers and technology enthusiasts focused on customizable and tailorable software, and DIY / "makers" community.

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understanding in a variety of settings, from the workplace to daily interactions. It is important to foreground students', teachers', and/or family voices, strengths, weaknesses, goals, and aspirations and recognize that these can all vary based on the social context of learning. As researchers, we need to consider how this influences the findings of our studies, which are contextual, situated, and specific to a group of people. A possible path forward might be to push for transferability instead of generalizability, and creating more specific lessons for large-scale, hard-to-change institutions such as educational systems or learning situations that occur outside the classroom.

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[Key questions include:] How do you identify assets? How to develop cultural humility when developing new techs with marginalized communities? How to co-design innovative technologies while at the same time addressing community requirements at present? How do we evaluate the effectiveness of tools developed using ABD?

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GENDER/SAFETY, POLITICS AND POWER, AND RACE

By Aakash Gautam, Karla Badillo-Urquiola, and Sheena Erete

Power-related issues are crucial to consider for moving past deficit-oriented thinking and undertaking an assets-based design approach, recognizing that, for many actors within community development, engaging with a community's needs is easier than uncovering assets that are often overlooked or underappreciated. Broadly, we want to highlight three themes: 1) engaging with power differences at different levels and scales, 2) attending to who has control over the narrative regarding the assets and its potential, and 3) researchers' role in ensuring that the approach is sustainable.

Assets manifest at different levels and across different structures. Thus, to realize sustained changes, designers have to engage with assets that are accessible to both community members and collective and institutional infrastructures. However, working assets-based design from an individual to a collective and institutional level raises challenges: Not all individual assets are shared at a collective level and institutions might value a different set of assets than communities do. Research must find ways to account for this difference.

One challenge in gender, safety, politics, power, and race revolves around how we can support the community to have greater control over the engagements and the narrative regarding their assets. For instance, coming into a community with academic terms that are not created by the community (e.g., *assets*) may form barriers to the community having control over the engagement. Researchers need to be reflexive and aware of our positionality, and, following participatory design traditions, we should enable the communities to frame the language surrounding their strengths.

As researchers, we tend to frame our work as "empowering people and/or communities." Yet, who are we? And what position are we taking by stating that we have the ability to give the group power or to show that power? Acknowledging that such framing stems from white supremacy helped us recognize the need for reconsidering our underlying assumptions and decolonize our approaches.

HEALTH

By Veronica Ahumada-Newhart, Azra Ismail, and J. Maya Hernandez

Designing for digital health is frequently aimed at filling perceived gaps or deficits in healthcare infrastructures, but it could be more focused on leveraging existing strengths. This would entail more interdisciplinarity; greater attention to the perspectives of multiple stakeholders such as patients or clients, caregivers, clinicians, and insurance providers; and willingness to grapple with the interwoven complexities of the healthcare systems in diverse environments. Two goals are key for charting pathways toward more-equitable solutions in digital health: 1) identifying diverse assets in health settings, and 2) developing methodological approaches for moving past the deficit-based perspectives prevalent in the health sector.

Community and familial relationships are critical assets for effective digital health interventions across our contexts of study. The increased ubiquity of health communication media could leverage this asset and strengthen relationships across ecologies that affect health, such as an individual's ties with family, peers, and clinicians. Communities' social and cultural practices (e.g., familism in Latine [7] and Black communities in the U.S., and youth technology and information fluency) are also assets that can contribute to the design of digital health ecosystems that support equitable health access.

We want to highlight several challenges in identifying and operationalizing such assets in individuals' and communities' everyday digital health practices. Oftentimes, assets are deeply personal and complex, and thus hard to bring to light. That is even more so for groups facing health-based marginalization, even as they struggle to flip the narrative of how they use online spaces, find health information, and use it to protect themselves and their families. To change the focus to community strengths and not just "needs" in the healthcare space, a shift in methodological approaches is needed. Study protocols and community partnerships could help facilitate this shift by focusing on aspirations and journey mapping with community partners to help users showcase their strengths,

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[Key questions include:] How is assets-based design different from other participatory design approaches? What exactly constitutes an "asset"?

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and supporting spaces for codesign and participatory action research. Proposed frameworks such as assets-based inclusive design [8] can also help close gaps in accessibility and effectively leverage technology to support health and well-being in various communities.

PLURIVERSAL DESIGN

By Marisol Wong-Villacres, Pedro Reynolds-Cuéllar, and Neha Kumar

Striving toward emancipatory transformation requires a recognition of the unique value inherent in practices across different societal groups. In acting upon this, assets-based design works toward what decolonizing scholars and activists call the *pluriverse*: a world where many worlds, with different ways of being and knowing, can coexist, in partial connection with one another. Critical concerns emerged in our discussion in considering this potential: *What if, in pushing for assets-based design, we end up perpetuating inequities and exploitation?* We highlight here three questions the HCI community should consider before fully embracing assets-based design as a de facto approach: 1) What are assets and who defines how to use them in design? 2) How can we unlearn deficit-based views and a fixed idea of what assets should be? and 3) How do we navigate the multiplicity of assets and power differentials when going from a universe to a pluriverse?

Assets are often thought of as positive resources. Our research experiences, however, have pushed us to ask: Who gets to say what is a positive resource, for whom, and for what purpose? A community can recognize an asset as part of their social fabric and dismiss it, even go against it, to promote capitalistic goals (e.g., earn money faster). Even when strengths are used, they can perpetuate oppressive structures. Health systems, for example, frequently exploit community health workers' situated knowledge and willingness to volunteer without recognizing the value of their work. These complex situations shed light on the importance for assets-based designers to constantly unlearn. Assets-based design cannot be a tool for convincing communities to dismiss their needs and wants and settle for structural disinvestment. Unlearning entails an in-depth exploration of the *why* behind harmful assets, unveiling the power structures motivating their emergence, and limiting their influence. Without such exploration, we run the risk of prolonging inequities while disguising them as unintended consequences.

Our last concern focuses on how to navigate the multiplicity of assets—and the power differentials affecting them—across the diversity of stakeholders whom communities hold and connect with, including community members, institutions, external collaborators, and even natural resources. While some of these actors might strive for progress, they might not hold a shared vision and ethics of progress. Whose view of assets to prioritize and for what purpose? As designers, we can easily fall into the trap of paternalism, prioritizing institutionalized goals and views. Pluriversal design, we agreed, can be realized only when marginalized communities' imaginations are privileged. How to work with larger power structures toward that end without falling into paternalism, however, remains a pending challenge.

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[I would like to see] 1) The role of designers in empowering a community if they are not themselves part of it. 2) How does assets-based design consider changes in a community's assets over time. 3) What kind of fundamental changes are necessary to current software architectures to truly empower communities with tools they can adapt to their own assets.

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[Key questions include:] How might ABD strategies be translated from offline into online contexts? What are some characteristics of assets (lifespan, contextual value) that ought to be considered in online settings?

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CONCLUSION

The viewpoints, open questions, and dilemmas presented in this article stem from a workshop on assets-based design, held at CSCW 2020 [9]. The workshop was intended to be a first step in building a community, as well as an opportunity for us to collectively formulate the benefits and challenges of undertaking assets-based design. More than 75 invited researchers and industry actors who have been working with communities in realizing sustainable change across geographic contexts and research areas participated.

Assets-based design is a promising pathway to work with communities in realizing sustainable change. This approach challenged us to rethink assumptions about knowledge, strengths, and change in a way that illuminates decolonizing actions. Furthermore, as our conversations show, this approach

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[To better align with ABD, HCI needs more] diversity in those who work in the field; a need to empower those from marginalized communities to engage or participate in HCI-related systems/research/work. If we partner with members of these communities, this can further uplift the assets/strengths of these individuals to develop more appropriate digital tools.

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I would like to see the practice being integrated in technology design in research and industry. I'm also interested to see how ABD aligns with Community-Based Participatory Research.

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forced us to ask hard questions before, during, and after working with communities. While our discussions did not lead us to any definite answers, they shed light on important scenarios, considerations, and ideas for the HCI community to continue exploring so as to ensure that work from and with assets does inform a design "otherwise," where marginalized forms of being and knowing no longer have to struggle to exist but can thrive as they wish.

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