

# Design Strategies for SocioTechnical Food Justice

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## Abstract

For projects of moral and ethical import, designers and researchers are frequently motivated by notions of justice. However, it is unclear how justice influences design process. Within a participatory design process aimed at food access issues, I traced how concepts of justice manifested, were used when introduced, and under what conditions were concepts of justice ignored or laid aside for other concerns. This analysis produced several categories of design strategies participants employed to navigate complex ethical discussion around issues of food access. Within the design process, these design strategies included designing artifacts that were expanding food options, utilizing local resources, and localizing control. These results highlight the complex worlds in which these concepts of justice were situated within during the design process and inform how to support designers developing socially beneficial technologies while working alongside local communities.

**Keywords:** Social Justice; Food Justice; Participatory Design; Community Informatics; Interaction Design

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## 1 Introduction

Some researchers and developers of information technologies are focused on providing social and technical innovations that benefit society. Much of this work is motivated by a general interest in promoting social justice. However, notions about what 'social justice' is and how it might be promoted through design are largely implicit and under-examined.

In my broader dissertation project, I address how implicit notions of justice affect how challenges are framed and solutions are understood within the design process for information and communication technologies. This research asks how various perspectives on social justice affects the visioning and design of systems and technologies aimed to address issues of food justice. Specifically, I explore this question from two angles: how different perspectives on justice affect the design process; and how a certain perspective on justice can be operationalized differently depending on the perspective of those involved in the design process. For example, food justice scholars generally describe justice in a relatively narrow manner; often in terms of redistributing the benefits and burdens of a food system or by enabling people to have control over their own food system through the production of their own food [e.g., Alkon & Agyeman, 2011; Gottlieb & Joshi, 2013]. Thus, these perspectives do not explore other possible dimensions of social justice including defining who has the right to identify a problem, seeking out reparations for past inequities, focusing on value generation within a community, etc.

In addition, even when different stakeholders organize under the banner of social justice as promoting redistribution of goods or enabling control, stakeholders often hold competing ideas about how to operationalize goals in practice. For example, while an organization and community may want to facilitate better access to food resources, it is not immediately apparent how to best achieve that goal. Supporting the production of community gardens, figuring out better ways to distribute excess food resources, and helping people sign up for government nutrition programs each require different tools, strategies, and resources.

Given the subjective nature of how social issues are understood as well as how technology is designed in practice [Nelson & Stolterman, 2003; DiSalvo *et al.*, 2011], it becomes incumbent upon academics and design practitioners to understand how complicated and diverse notions of justice impact the design process. If designers do not interrogate their own practices and methods, they run the risk of designing technologies that may perpetuate social conditions that produce inequalities. Designers may also have an impoverished sense of potential technological outcomes that may address underlying issues, instead of developing technologies that address the symptoms of larger systemic issues. Reflecting on multifaceted notions of justice will benefit the design of technologies, enabling more explicit engagements with these issues in the design process by unearthing previously hidden or implicit assumptions.

Novel technological systems can address large social problems and create a lens through which to examine these social problems and the role of technology in addressing these large, systemic social issues. In this work, I use participatory methods from design and human-computer interaction to understand the goals, challenges, and lived experiences of these nonprofits and communities and to match technologies to these needs.

Within the context of hunger and food access, nonprofit organizations and communities encounter challenges that create important case studies to elicit key issues applicable for pro-social design. In what follows, I articulate the key categories of design strategies participants employed to navigate complex ethical concerns around issues of food access. These results highlight the complex worlds in which these concepts of justice were situated within during the design process and can inform how to support designers developing socially beneficial technologies while working alongside local communities.

## 2 Methods

From 2010 to 2013, I led a research project focused on understanding work and information practices of various workers within the hunger-focused nonprofit ecology (e.g. social service employees, nonprofit workers, etc.). This study provided insight into their technological practices, available resources, the goals for their local communities, their challenges, and unmet needs in their work. This work cultivated relationships with these organizations and helped provide insights in to how to co-design innovations with these organizations given their practices, challenges, relationships, and goals [Dombrowski et al., 2013; Dombrowski et al., 2012].

As of March 2014, I am currently conducting participatory design workshops [Simonsen & Robertson, 2013] with hunger-focused nonprofit workers and community members to 1) articulate problems and challenges, 2) brainstorm potential solutions, 3) iteratively refine solutions to address community needs, and 4) evaluate and reflect on how the designed solution addressed their goals and problems. In these workshops, I examine how different ways of understanding social justice impact the design process during discussions of problems and solutions. To date, I have run four workshop series, each with three two-hour session, with over 30 participants. The participants included local low-income community members who experience food issues, hunger-focused nonprofit organizational employees (e.g., food bank program and client managers, etc.), locally-focused food entrepreneurs, and urban farmers. Each design session was video recorded and transcribed. The workshops took place in Georgia and southern California within the US.

During my analysis, I used grounded-theory based iterative and inductive analysis of field notes, transcriptions using coding, memoing, and affinity diagramming [Charmaz, 2006]. Within this analysis, I traced how concepts of justice (*i.e.*, recognition, reciprocity, enablement, distribution, accountability, and transformation [Lotter, 2011]) manifested, were used when introduced, and under what conditions were concepts of justice ignored or laid aside for other concerns within the design process. This analysis produced several categories of design strategies participants employed to navigate complex ethical discussion around issues of food access.

## 3 Results: Design Strategies

These results demonstrate the key categories of design strategies participants employed to navigate complex ethical concerns around issues of food access: expand food options, utilize local resources, and localize control. By design strategies, I refer to the parallel approaches that worked towards contending with a set of food concerns.

### 3.1 Expand Food Options

All of the workshops groups, in some way, wanted to raise awareness and increase the available food options to different stakeholders. This included new urban farmers' ability to participate in more traditional commercial food markets and to assist local low-socio-economic status individuals in accessing additional food resources by lowering barriers to more expensive, but potentially healthier food options. For example, within one group, participants were interested in developing designs connecting local urban farmers with senior citizens. The were multiple, intertwined motivations for these decisions, including health, wellness, empowerment, and fostering human dignity associated with being able to select food instead of given food handouts.

### 3.2 Utilize Local Resources

Within the context of the design workshops, participating local nonprofits organizations and communities had rich social resources and relationships that often played a key role in understanding what was pragmatic and possible. A number of designs played on their preexisting relationships to create mutually beneficial interactions between institutions and their local communities to address access issues. For example, one participant, a project manager at a local food bank, knew grocery store managers and was actively talking to the managers between design sessions to assess the feasibility of design possibilities that would incorporate local stores.

### 3.3 Localize Control

The idea of localizing control came up most strongly for the urban farmers due to concerns about keeping the value and control of their food more local and out of the hand of big agriculture business and to increase local food resiliency. The vibrant urban farming community felt underappreciated and disadvantaged when compared to large farming operations and experienced difficulties in selling their product related to lack of awareness by potential buyers and complicated food-related legislation. Technology was seen as a means to help shift money and control from large institutions and business back to the local community.

## 4 Discussion and Conclusion

Beyond attending to the type of justice designers would like to promote, designers should also seek to understand how different concepts of justice are operationalized in the design process. Within the context of food access and sovereignty issues [e.g., Alkon & Agyeman, 2011; Gottlieb & Joshi, 2013], there are three key design strategies that influenced decisions during the design process: expanding food options, utilizing local resources, and localizing control.

These design strategies are attempts to increase the capacity for localized agency and choice by creating platforms for participation that premeditated additional, distinct options and actions that were currently foreclosed to participants. These strategies highlight the need for equity-based research to democratize control and power by shifting choices from large bureaucratic institutions to those that would be immediately impacted by decisions.

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