

Augmenting Against Inequality: Improving Social-Technological Access for the Senior Community via Design

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This discussion demonstrates how empowered, participatory design serves as a tool for enhancing the social health and wellbeing of vulnerable, disadvantaged, and stratified communities via technological access. With the essential goal of protecting and promoting the social health needs of a vulnerable and venerable elderly community in the Fifth Ward of Houston, Texas, USA – multiple collaborative initiatives between design students and educators, public health workers, city officials, and community partners are augmenting the seniors’ access to both space and technologies for improved social connectivity.

00 INTRODUCTION

In a world increasingly defined by technological proficiency and access, the provision of technology-oriented spaces and infrastructures to the broad community is a social and public health priority. With continuous advancements in technologies – particularly the ubiquity of Internet social connectivity, information dissemination, and communication methods – bolstering access and abilities is increasingly challenging to those who are unaccustomed and economically disadvantaged. As technologies encompass additional facets of everyday life, grave risk remains of leaving those with limited spatial, educational, and economic means behind – alienating them from broader society and detrimentally affecting their health. Simultaneously, the potential exists to harness the benefits of technology to elevate humanity with new resources. Strong need exists with some of our most vulnerable community members to ensure their continuing technological accessibility and enablement. Within this concern, the elderly are among the most vulnerable members of our communities, with high levels of social isolation in senior populations.

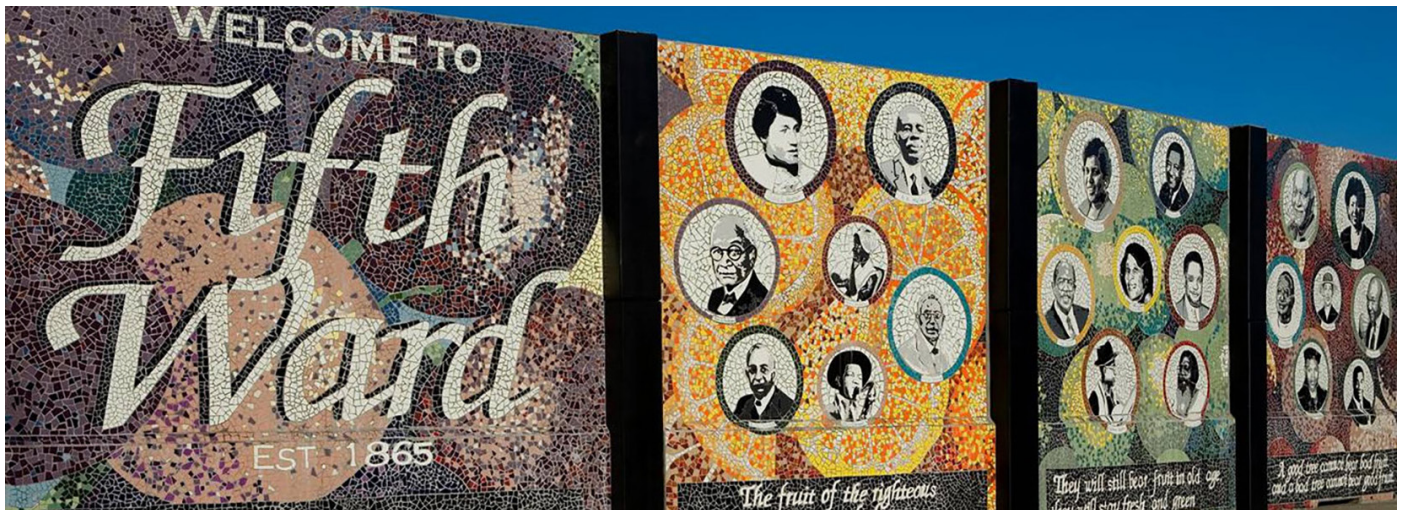
This discussion demonstrates how empowered, participatory design serves as a tool for enhancing the mental and social health and well-being of vulnerable, disadvantaged, and stratified communities. With the essential goal of protecting and promoting the social

health needs of an economically marginalized and politically disenfranchised elderly community in the Fifth Ward of Houston, Texas, USA – multiple collaborative and ongoing initiatives between spatial designers, design students and educators, public health workers, city officials, and community partners are augmenting the Seniors’ access to both space and technologies for improved social connectivity. Particularly, in contrast to historical design methodologies, these initiatives have directly facilitated the Seniors’ participation, harnessing their input and perspectives to enable responsive and inclusive design results, including mobile technological infrastructures, flexible spatial insertions, and the creative adaptive-reuse of existing buildings. These architectural and urban initiatives for the Seniors of the Fifth Ward neighborhood have brought together in action the City of Houston, the Senior Services group at community advocacy organization Neighborhood Centers Inc., social workers engaged in the neighborhood, as well as architecture faculty and students at the University of Houston, demonstrative of the broad coalitions that are increasingly necessary in today’s environment to provide successful design responses to community health issues.

Via an offering of three exemplar community-based and collaborative initiatives, this discussion informs on the wider complexities, difficulties, and extensive benefits of on-the-ground trans-disciplinary partnerships. It’s intention is to enable and offer a potential model for the future, specifically illuminated by its example of broad participants united via a shared goal of enabling the improved mental and social health of Houston’s Fifth Ward seniors via spatial design and technological enablement.

01 ISSUE: SOCIAL ISOLATION AND THE SENIOR COMMUNITY

Social isolation is a primary health and well-being issue for the Senior community, and for the broader society as populations increasingly age. Demonstrative of its particular relevance to Senior and economically disadvantaged citizens, currently social isolation among the elderly is estimated to be as high as 43% nationally. Texas’ Harris County, in which Houston is located, has approximately 1 in 4 of its older adults living alone,¹ indicative of the socio-spatial realities and difficulties of this particularly vulnerable population. The vulnerability of Seniors is exacerbated via their marginalization, and they are particularly susceptible to isolation due to social



[Figure 1: Welcome Sign Art Installation, Fifth Ward neighborhood - Houston, Texas, USA.

disconnection in career retirement, sensory and mobility impairment as physical health declines, the loss of a spouse, spatial distancing from family, and their peers and friends passing on.²

The reduction of social isolation in the elderly population is linked to broader discourses on the prioritization of health and well-being in seniors, ensconced in increasing awareness by citizenry and new initiatives in public health policy and environmental design. Internationally, a number of new public health policy initiatives demonstrate this growing momentum, including the establishment in 2014 by the National Seniors Council of the Government of Canada of social isolation as its main priority area.³ In parallel with these new policy responses to social connectedness as a primary issue of human health and well-being, the role of social interactions in the built environment has also emerged as a leading health priority. Increasingly, architects, designers, and owners are cognizant of the importance of social interaction spaces in the built environment, and they are expressing how imperative the inclusion of such socially-oriented consideration is in constructed space. In a 2014 American Institute of Architects / Dodge Data and Analytics study illustrating the growing priority by both architects and owners to consider human health and design impacts, 75% of architects and 67% of owners responded that health is a consideration in the design of their spaces. In its report, the study outlined the five most used “healthy” design components, where “Spaces that enhance social interaction” was placed on a similar level to light/daylighting, thermal control, air quality, and acoustics.⁴ Human health and well-being, and its link to spatial design, is by extension a growing concern for potential clients, consumers, and tenants - and a priority of society at large.

In response to the primacy of the underlying social issue and growing initiatives, responses, and awareness from multiple agents the opportunity to potentially impact human health and well-being via enhanced socialization presents itself. Improving the social well-being of vulnerable populations, exemplified by our senior

communities, is not only a broader social priority but an essential priority of both design and design education.

02 TECHNOLOGICAL TREND: GENERATIONAL SHIFTS, AGE, AND ONLINE SOCIAL ACCESS

A means of enhancing social connectivity among the elderly is directly linked to the ensurance of their continuing access to technology and preventing them from being left behind. As technologies penetrate into wider facets of contemporary social life - represented by the ubiquity of Internet social connectivity, information dissemination, and communication methods - the particular challenges of ensuring and bolstering access and abilities are furthered when addressing vulnerable populations with limited spatial, educational, and economic means. This issue of access and education transcends geographic definitions, and has become a global priority. Representative of this prioritization and contemporary relevance, recently major global initiatives such as MIT’s One Laptop per Child program, Facebook’s Internet.org, and Google’s Project Loon have attempted to rectify large-scale technology and internet access issues in the developing world.⁵ These initiatives demonstrate not only organized large-scale responses to technological access, but illustrate the gravity of the issue of egalitarian technological access to underserved populations in general, as well as the potential to harness technology to the benefit of humanity with new resources. Such developments and large-scale initiatives, while not without controversy, engage a variety of corporate, government, and NGO partners to attempt to reconcile unequal access to technological resources, augmenting access and abilities on the social and human level. These initiatives raise questions on the right of technology, and whether technological proficiency and Internet access should be considered a fundamental right of broader humanity.

Whether new technologies such as the Internet and mobile phones exacerbate social isolation remains an ongoing topic of debate among sociologists. Despite this, the advent of online social networking methodologies means there are increasing options to become involved with social activities that do not necessarily require real-world physical interaction. Resistant against declines due to

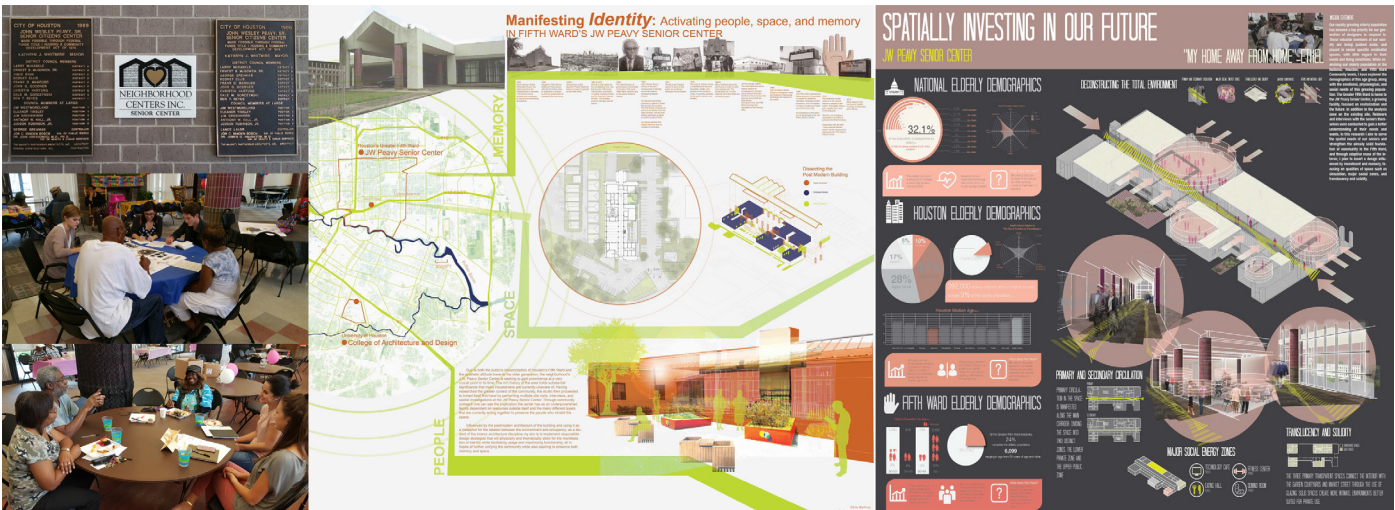


Figure 2: Charrettes and “Retro/ACTIVE Revitalizations: Resisting the Spatial Erasure of Houston” design work (Students: Silvia Martinez/Jamie Newcomb).

age in physical mobility and in cognitive ability in the elderly that is further pressed by economic factors such as health care and transportation access, online social connectivity offers a means to respond to such challenges. The inequality of technological access by the elderly has been described as a “Grey Gap,” with the senior demographic particularly being vulnerable to generational shifts and being left behind by technological trends. Defying stereotypes and establishing the potential receptiveness of technological-social endeavors, a 2010 Pew Research Center’s Internet & American Life Project report stated that among all ages tapping into social network sites online “the fastest growth has come from Internet users 74 and older: social-network site usage for this oldest cohort has quadrupled since 2008, from 4 percent to 16 percent.”⁶

Not limited to seniors, inherent risk exists for all vulnerable and disadvantaged populations being left behind by technological trends, in particular the shift to the online realm of socialization. Augmenting against inequality and ensuring a measure of access and ability in technologies responds to the social needs of vulnerable populations, particularly via the provision of technology-oriented spaces and infrastructures to the broader community as a social and public health priority.

03 NEIGHBORHOOD: HOUSTON’S FIFTH WARD, A VULNERABLE AND VENERABLE COMMUNITY

Houston’s historic Fifth Ward represents a neighborhood with simultaneous challenge and resilience. Its history has been marked by parallels with general urban American inner-city conditions, in addition to a unique multi-layered and nuanced development over the last 150 years. The neighborhood has seen both prosperity and decline, linked to immigration, economic productivity, the Great Fifth Ward Fire of 1912, and Federal-level Urban Renewal policies for new freeway infrastructure in the 1950’s. While originally comprised of a multiethnic makeup, after the end of the American Civil War in 1865 and the Emancipation of black slavery, freemen seeking new

opportunities in the city of Houston joined the neighborhood en masse, a process that continued until Desegregation in the 1960’s. Desegregation, Urban renewal, and suburbanization contributed to an exodus of many prosperous African-Americans leaving the neighborhood, with the population declining significantly. In the latter-half of the 20th century the physical environment of the Fifth Ward reflected this social reality of evacuated population and economic decline, with minimal social resources available to its citizens in a climate marked by neglect, vacancy, poverty, and violence. The Fifth Ward Community Redevelopment Corporation was established in the 1990s, attempting to address chronic neglect of the neighborhood. More recently, an impetus to increase municipal and social investment in the Fifth Ward has led to increased recognition of its identity and history; growing investment by commercial interests; and ongoing endeavors by the City of Houston, developers and architects to provide improved housing and municipal services.⁷ In contrast to much of its contemporary history, the venerable Fifth Ward is seeing renewed interest in its unique needs, as it seeks innovative proposals that affect the wellbeing of its citizenry.

The social and demographic conditions of the Fifth Ward have particularly affected its vulnerable senior population. Spatial segregation and socioeconomic isolation, combined with the depletion of the neighborhood’s youth to other locations and opportunities, has impacted those who have remained as stalwarts in the face of grave difficulty. Those who choose to remain are invested and have often had a lifetime of dedication their neighborhood, a generation that experienced Segregated America and the Civil Rights struggle firsthand. The seniors of the Fifth Ward continue to face serious social and economic issues with limited resources and infrastructures available to them, while simultaneously they embody the resiliency of their neighborhood. Directly relevant to this discussion, the 2012 Pew study “Digital differences” found that “age (being 65 or older), a lack of a high school education and having a low household income (less than \$20,000 per year) are the strongest negative predictors for Internet use,”⁸ illustrating the particular challenges of the socio-economic conditions that especially face the Fifth Ward. The elevation of the Fifth Ward’s vulnerable and venerable seniors and

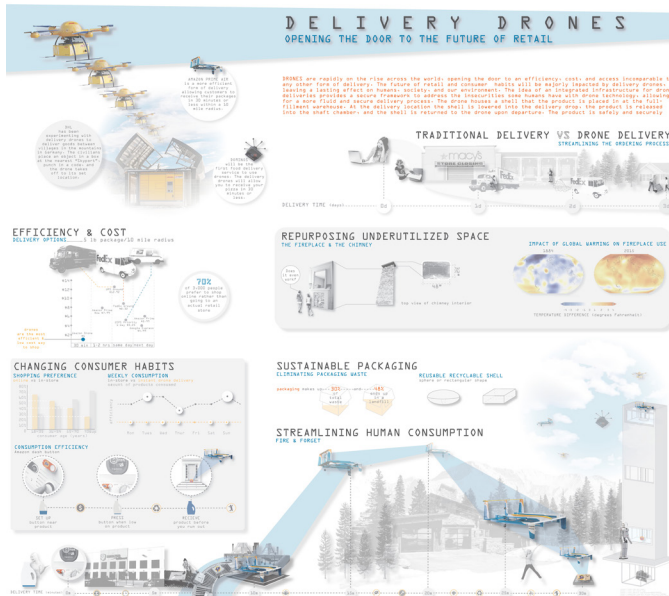


Figure 3: Initial technology research for “TECHNO-SPATIAL ENGAGEMENT: Interior Infrastructures of Technology for the Seniors of Houston’s Fifth Ward” (Student: Joanna Crabtree).

their health and well-being socially is clearly both an identified and prioritized need, as well as an enabled possibility via their participatory willingness.

Participatory and community-based design as a methodology recognizes the potential contribution by the seniors themselves to affect their conditions, enabling them themselves to be partners in design and health initiatives. Building on the legacy of pioneers in community-centered design such as John F.C. Turner, who posited the power of the “freedom to build,”⁹ participatory design globally has resulted in a legacy of success by advocating for residents to have a say. Harnessing this perspective, and in contrast to methodologies that have been employed previously in other Fifth Ward endeavors, the initiatives described in this paper have directly facilitated the Seniors’ participation. The intention is to integrate their input and perspectives to enable responsive and inclusive design results.

04 COALITION: PARTICIPANTS AND PARTNERS UNITED FOR HEALTH AND WELLBEING

Broad-based coalitions are increasingly necessary in today’s environment to provide successful design responses to community health issues. As emerging complexities, variegated conditions, and diverse participants come to impact the ability to design and serve, coalitions of partners offer the ability to create design results in and beyond the community. While a resource for enabled action, it is essential that partners share common ground, united despite their varied perspectives and inputs by shared goals and objectives.

The described architectural and urban initiatives for the Seniors of the Fifth Ward neighborhood have brought together in collaborative action a broad coalition, ranging from health and human outreach, neighborhood advocacy, grant funding, promotion and recognition,

community organizations, and municipal services. Community partner Neighborhood Centers Inc. (NCI), one of the country’s largest nonprofit social services organizations, was a primary contributor to these shared efforts via its Sheltering Arms Senior Services Division. This organization strives to provide “Mental, Physical, and Emotional Engagement for the Senior Population”¹⁰ via neighborhood-based social centers. Via its contract with the City, NCI operates 19 senior-specific facilities, with the only city-owned senior facility in Houston being the John W. Peavy Senior Center in the Fifth Ward that was established in 1982. As additional partners, the City of Houston’s Health and Human Services division facilitates municipal programs, and its General Services Department maintains the Peavy building facility itself. The John W. Peavy Senior Center, named after a prominent African-American judge, activist, and Fifth Ward resident, offers a multi-faceted program centered around provided meals, fitness classes and nutrition education, and public computer access. Other community partners included the Olivet Missionary Baptist Church and the Community Design Resource Center (CDRC) at the University of Houston.

In order to realize the three initiatives outlined in this discussion, securing funding was a continual challenge. After seeking appropriate opportunities, funding was provided by a number of grants and awards provided by multiple organizations. The University of Houston’s New Faculty Grant Award, the Rice Design Alliance (RDA) Grants Program “Initiatives for Houston,” and the Interior Design Educators Council (IDEC) Special Projects Grant 2016 provided financial means of facilitating the work. Directly relevant to the ability to generate grant funding were recognitions awarded by the Association of Collegiate Schools of Architecture (ACSA), Interior Design Educators Council (IDEC), and local Houston media that featured the ongoing work, including the ACSA’s Diversity Achievement Award 2015-2016 and the IDEC’s Special Projects Award 2016.

Essential to the three initiatives is the role of the University, architectural education, and the abilities and knowledge of students of design. The three projects outlined here are primary components of the Interior Architecture program at the Gerald D. Hines College of Architecture and Design at the University of Houston, involving a number of program faculty and multiple generations of students that offered the fundamental impetus for the work. Marked by a broad-based coalition of collaborative interest, the participants and organizations were unified by the shared goal of elevating the health and well-being of the Fifth Ward seniors of Houston.

05 INVESTMENT: LASTING LEGACIES AND CURRENT INITIATIVE

As responsive design initiatives to the wellbeing of vulnerable populations in Houston’s Fifth Ward neighborhood, three projects pursued varied solutions that directly facilitated community and partner participation for social connectivity and health, including mobile technological infrastructures, flexible spatial insertions, and the creative adaptive-reuse of existing buildings. These initiatives illustrate the application of community-based and collaborative design via trans-disciplinary partnerships, establishing increasing

investment and incremental engagement built on relationships and fulfilled goals. They offer the critical and essential value of socially-purposed architectural education focused on the health and wellbeing of vulnerable populations, to the mutual benefit all participants from students to seniors to the community.

Focused around the provision of digital literacy as a means of enhancing Fifth Ward resident's access to knowledge and information, the initiative "Inside/Out: Adapting a Shotgun Storehouse for the Greater Fifth Ward" embodies the ability of design to facilitate community needs. Inside/Out is a flexible spatial insertion intended to offer structural stabilization and spatial definition to the interior of a vernacular environment typical to the Fifth Ward neighborhood and the Gulf Region more generally - the shotgun house. Led by Interior Architecture faculty Jason Logan and Joshua Robbins, the design-build work was undertaken by undergraduate students in a collaborative effort with residents of the Fifth Ward. Community partner Olivet Missionary Baptist Church and its Pastor Robert Thomas provided a direct interface with the neighborhood and its priorities. Digital literacy and connection to technology defined the program, with the original intention of the space offering access to resources of the Houston Public Library to the residents of the Fifth Ward. The "Inside/Out" project contributed to the curriculum-based ACSA Diversity Achievement Award 2015-2016 for the Interior Architecture program at the University of Houston.

Directly engaging the seniors of Houston's Fifth Ward, the initiative "Retro/ACTIVE Revitalizations: Resisting the Spatial Erasure of Houston" developed an interior spatial re-envisioning for the J.W. Peavy Senior Center. The work was developed in collaboration with primary partner Neighborhood Centers Inc. in coordination with partner and social worker Meggin Lorino, Director of Neighborhood Based Senior Services for their Sheltering Arms Senior Services Division and the Site Director of the Peavy Center Bessie Hartford. Charettes with the Peavy seniors constituted the primary ingredient of enabled design decisions, based on discussions with, participatory workshop sessions, and surveys of the seniors. The major product responding to the request of community partner NCI was the creation of a vision for the Peavy Center, via the creative adaptive-reuse of the existing building. Led by faculty member Ziad Qureshi, a variety of design concepts were developed by University of Houston Interior Architecture students in collaboration with the seniors. The concepts were focused on the provision of human-centric needs and infrastructures including health and well-being via education, exercise, and augmented technology access. The developed design concepts were utilized by NCI for the promotion of its programs and for increasing visibility in the opportunities of the Peavy building's spaces to motivate potential fundraising for programs via exhibitions. The "Retro/ACTIVE Revitalizations" project contributed to the curriculum-based ACSA Diversity Achievement Award 2015-2016 for the Interior Architecture program at the University of Houston.

As a current and ongoing initiative, "TECHNO-SPATIAL ENGAGEMENT: Interior Infrastructures of Technology for the Seniors of Houston's Fifth Ward" harnesses the lasting legacies of



Figure 4: Trans-generational computing and technology program, Charlotte North Carolina 2011. (Photo credit: Knight Foundation/Flickr CC BY-SA 2.0).

its two predecessors, employing a graduated process of incremental engagement to enable its ambitious agenda. The work prioritizes the ability of design to facilitate improved access to social-technological resources, providing via increased social connectivity an impact on senior health and well-being. Broader research has included an exploration of precedent and emerging technologies, ranging from Anthropomorphic Robotics and future Healthcare, to Drone Deliveries and their potential for autonomy in the provision of supply, and their broader impact on human society, health, and space. Continuing currently as an Interior Architecture studio at the University of Houston, the endeavor will provide and fabricate a solution for a human-scale mobile furniture/installation/station to facilitate improved access to technologies. Led by faculty member Ziad Qureshi, a variety of design concepts were developed by University of Houston Interior Architecture students in collaboration with multiple stakeholders. As a framework, these furniture/installation "technological infrastructures" emphasize spatial mobility, ergonomics, independence, relevant skills education, and cost-effectiveness at the interior scale with specificity for the unique human needs of their Senior users. Conducted in collaboration with the Fifth Ward seniors, Meggin Lorino of NCI, and Bessie Hartford of the J.W. Peavy Senior Center, the outreach work prioritizes the public welfare needs of the community and the seniors, and simultaneously expects to enable the students to develop real-world professional skills via responsive design investigation, rapid prototyping employing emerging fabrication methodologies, and community-based problem solving and engagement. Charrettes were a primary ingredient of enabled design decisions, employing discussions with, participatory workshop sessions, and surveys of the seniors. Currently, the final design is entering the fabrication stage, with a goal of engaging the Peavy seniors who contributed to the design to join in the actual physical assembly and installation at the Center in December 2016 as the culmination of the experience. The "TECHNO-SPATIAL ENGAGEMENT: Interior Infrastructures of Technology for the Seniors of Houston's Fifth Ward" project received the Interior Design Educators Council Special Projects Award and Grant for 2016, providing a means of funding and visibility via this recognition. It



Figure 5: Collaborative design event with Peavy Seniors for current initiative “TECHNO-SPATIAL ENGAGEMENT.”

is intended that the momentum sustained by “TECHNO-SPATIAL ENGAGEMENT” will contribute to the continuation of the successful collaboration between UH Interior Architecture and the Fifth Ward senior community in future social-health endeavors.

06 EXPERIENCE: COUPS, COMPLEXITIES, AND CONCLUSIONS

AUGMENTING AGAINST INEQUALITY

The provision of technology-oriented spaces and infrastructures to the community is a social and public health priority. Bolstering technological access and abilities is increasingly challenging to those who are unaccustomed and economically disadvantaged, and without prioritization of this issue we face the risk of vulnerable populations being left behind in the face of increasing technological ubiquity. As socialization moves to the online sphere, social connectivity via technologies and access to Internet applications can facilitate a means of resisting social isolation, particularly in elderly populations with limited resources, physical mobility, and transportation. The health and wellbeing of seniors was pursued via three coordinated initiatives in Houston’s historic Fifth Ward neighborhood, an economically disadvantaged environment with both a difficult and highly resilient context. Four primary conclusions are offered as a summary of this discussion, exemplifying the complexities and benefits of on-the-ground trans-disciplinary partnerships - united by a shared goal of improving the social health of Houston’s Fifth Ward seniors via spatial design and technological enablement:

1. Broad-based Coalitions and Partnerships:

An increasingly necessary part of facilitating community health goals, coalitions of stakeholders provide diverse input and expertise in and beyond the community, while unified by health and wellbeing goals.

2. Participatory and Collaborative Methods:

While continuing to demonstrate their effectiveness, these methods are an essential means of providing responsive design, especially in vulnerable and disadvantaged communities.

3. Investment:

Demonstrated collaboration leading to growing trust and fulfilled commitments are key in vulnerable populations, particularly those who have been subjected to abandonment or neglect.

4. Engagement:

Incremental engagement with demonstrated success builds continuous relationships, and enables increasingly ambitious initiatives that sustain momentum over time.

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