BRAIDED RIVER IN (VIRTUAL) PUBLIC SPACE: A NEW MODEL FOR COMMUNITY ENGAGEMENT AND DIGITAL LITERACY

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ABSTRACT

This paper delves into the first few years of the Bridging the Gap (BTG) project, an innovative initiative designed to bridge the digital divide and foster career opportunities in design and technology for refugee communities. The project creates flexible and scalable pathways for digital literacy and community engagement through a unique combination of virtual public spaces, game-based learning, and a co-creation model. The BTG project is rooted in the adaptive and resilient design philosophy, offering multiple entry points for participation and innovation within traditionally rigid resettlement frameworks. By leveraging cutting-edge technology and collaborative methodologies, this project serves as a pilot project for how refugee resettlement can be reimagined in the 21st century.

INTRODUCTION

The global refugee crisis has brought to light the urgent need for innovative approaches to resettlement and integration. Traditional methods often fail to address the complexities of modern refugee experiences, particularly in the digital age. This project emerged in response to this gap, aiming to empower refugees by enhancing their digital literacy and providing them with the tools to navigate the rapidly evolving technological landscape.

The work originated from a series of workshops conducted both within institutional settings and in the broader community. These workshops were the result of a collaboration between the International Rescue Committee (IRC) and the University of Utah, combining academic insights with practical, on-the-ground experience. The primary goal was to expose refugees to career opportunities in design and technology, which are increasingly crucial in today's job market.

However, the project's vision extends beyond mere job training. It seeks to create a sustainable model for innovation and engagement within resettlement agencies traditionally characterized by rigid structures and limited resources. By introducing flexible, adaptive pathways to technology, the BTG project offers refugees a means to not only survive but thrive in their new environments.

BRAIDED RIVER CONCEPT

The braided river concept is both a metaphor and a practical framework for the project. In natural environments, braided rivers are characterized by their multiple channels that split and rejoin, creating a dynamic and adaptable system. This imagery is apt for describing the project's approach to community engagement and digital literacy.

Modeled after successful STEM (Science, Technology, Engineering, and Mathematics) programs, the

braided river model emphasizes adaptability and resilience. These qualities are essential in an era of technological advancements and global challenges rapidly transforming the social and economic landscape. By drawing on the principles of STEM education, the project fosters a mindset of continuous learning and innovation among its participants.

In practical terms, the community-based project creates what can be seen as "innovation hubs" within resettlement agencies. These hubs serve as spaces where refugees can access resources, receive training, and collaborate on projects that align with their interests and aspirations. The project is designed to be inclusive, offering multiple entry points for engagement. Whether a participant is new to technology or has some prior experience, the project model provides pathways tailored to their needs and goals.

The theoretical foundation of the project is further supported by the work of philosopher Elizabeth Grosz, particularly her concept of the virtual as an ontological dimension of reality[1]. Grosz argues that the virtual encompasses the potentials, possibilities, and tendencies that have not yet been actualized but exist as inherent in the present moment. This idea resonates deeply with the braided river model as a metaphor, which seeks to unlock the future possibilities inherent in the present digital landscape for refugee communities. The project, therefore, becomes a space of innovation and active change where the virtual realm is harnessed to create new realities for its participants.

CO-CREATION MODEL

Central to the work is its reliance on a co-creation model inspired by the Massachusetts Institute of Technology (MIT). The co-creation process is a collaborative approach that involves multiple stakeholders in the design and implementation of solutions. This model is particularly effective in community-based projects where the needs and insights of the target population are crucial to the success of the initiative.

Figure 1 Co-Creation Model.

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The co-creation model used in the project involves several key steps, each designed to ensure that the solutions developed are both relevant and sustainable:

1. Listen Deeply: The first step involves engaging with the refugee community to listen to their experiences, challenges, and aspirations. This deep listening is essential to understanding the unique context in which the project operates and ensuring that the solutions developed are truly responsive to the community's needs.

2. Identify Needs: Based on the insights gained from the listening phase, the project team identifies specific needs that the project can address. These needs may relate to digital literacy, access to technology, career opportunities, or other areas where the community requires support.

3. Gain Insight: This step involves analyzing the needs identified and gaining a deeper understanding of the underlying issues. The project team may conduct further research, hold focus groups, or engage in dialogue with community leaders to comprehensively understand the challenges at hand.

4. Leverage Community Resources: The work recognizes that the refugee community itself is a valuable resource. This step involves identifying and leveraging the skills, knowledge, and networks that exist within the community. By empowering community members to take an active role in the project, the initiative fosters a sense of ownership and ensures that the solutions developed are grounded in the community’s strengths.

5. Develop Community Prototypes: With a clear understanding of the needs and resources available, the project team works with the community to develop prototypes of potential solutions. These prototypes are co-created with input from all stakeholders and are designed to be iterative, allowing for continuous refinement and improvement.

6. User Testing: The prototypes developed are then tested within the community. User testing is a crucial step in the co-creation process, as it allows the project team to gather feedback, identify any issues, and make necessary adjustments. This ensures that the final solutions are effective and user-friendly.

7. Implementation: Once the prototypes have been refined through user testing, they are implemented on a larger scale. The implementation phase involves rolling out the solutions across the community and ensuring that all participants can access the necessary resources and support.

8. Assess Impact: The final step in the co-creation model is to assess the impact of the project. This involves measuring the initiative's outcomes, gathering feedback from participants, and evaluating the project's overall success. The insights gained from this assessment are used to inform future iterations of the project and ensure continuous improvement.

VIRTUAL REALITY IN CULTURAL ORIENTATION

One of BTG's most innovative aspects is its use of virtual reality (VR) technology in cultural orientation programs. Cultural orientation is a critical and required component of the refugee resettlement process, as it helps newcomers understand and navigate their new environments. Traditional orientation programs often rely on lectures and printed materials, which may not be effective for all learners.

During these meetings, the work leverages VR to create immersive, interactive experiences that enhance the cultural orientation process. Through VR, refugees can explore realistic depictions of their new surroundings, from local landmarks to public transportation systems. This immersive approach helps participants gain a deeper understanding of their new environment and build confidence in their ability to navigate it.

However, the project also acknowledges the limitations of technology, particularly when it is used in a one-dimensional manner. Like any tool, VR must be employed thoughtfully and in conjunction with other forms of learning and engagement. The project ensures that VR is integrated into a broader educational framework, where it complements and enhances other teaching methods.

Virtual Reality In Refugee Context

In the refugee context, the use of VR presents both opportunities and challenges. On one hand, VR can provide a powerful platform for education and orientation, offering refugees a safe space to learn and practice new skills. On the other hand, there is a risk that technology may be used in a way that is disconnected from the realities of the refugee experience.

METHODOLOGY

The research aimed to build on the collective momentum behind emerging technology in resettlement. The experimental hypotheses draw upon the IRC in Salt Lake City's successes in 360 immersive learning modules and other physical and digital prototypes. The research conducted at IRC in Salt Lake City identifies newcomers' receptivity and comfort in using VR technology and immersive learning environments.

Research Design

The research team includes Mozari (title), Krysti Nellermoe, Training Officer for Emerging Technologies at Switchboard/ IRC; two part-time Emerging Technology Coordinators; former refugees hired by the University of Utah as research affiliates; university design students; and IRC staff, who will facilitate Cultural Orientation training and 360 film shoots and served as enumerators for the research.

Mozari led the development of the immersive user experience survey, establishing an appropriate consultative process, completing all data collection in the IRC's Cultural Orientation training, and conducting all data analysis. The data collected is newcomer refugee self-reported experience immersed in 360° VR modules, including simulated walkthroughs of U.S. schools, doctor's offices, pharmacies, public transportation, and grocery stores.

Data Collective Method & Timeline

This research was implemented in a mixed-method approach with institutional support, community voice, and a thorough analysis of quantitative data. The main tool developed was a user experience survey to gauge newcomer refugees' receptivity and comfort in both the VR headset technology and the immersive environment of 360° modules. The survey was administered with linguistically appropriate interpretation and enumerated by trained IRC staff. Between January and June 2023, with a sample size of 140 newcomer refugee adults attending monthly Cultural Orientation trainings from their first three months in the U.S.

Ethical Considerations:

- No collection of sensitive data
- Trauma-Informed
- Demonstrate technology with volunteer newcomer first
- Provided linguistically appropriate instructions
- Allow time for learning at one's own pace
- Communal use of technology
- Culturally Appropriate facilitation (separation of genders as needed/ intergenerational)
- Voluntary participation

Limitations:
The initial survey identified a receptivity to immersive learning. Future research will build on this initial user experience survey to explore how VR technology can enable newcomers to learn at their own pace and in their own context, immersing them in new environments and creating new cognitive frames for information.

DATA FINDINGS

Collected feedback data from more than 140 clients who have experienced VR. Of the group surveyed, clients spent an average of 6.8 minutes inside VR. During that time, they rated their comfort level (1 being not comfortable and 5 being very comfortable) at an average of 4 in a headset and 4.16 inside a headset immersed in a 360°video. The survey results also showed that 60% of clients indicated they could imagine using VR in their homes, and 79% could describe the types of 360°videos they would like to see in the future. After initial exposure to VR, clients have also offered suggestions for new ways to introduce VR into resettlement. Requests for virtual experiences based on supermarkets, college campuses, police procedures, and work environments, among other settings, indicate that clients find VR-based learning engaging and welcome further opportunities to use this technology.

The project addresses these challenges by ensuring that its use of VR is deeply rooted in refugees' lived experiences. The project team works closely with community members to create relevant, accessible, and meaningful VR content. By focusing on real-world applications and integrating VR into a holistic learning experience, the project maximizes the potential of this technology while minimizing its limitations.

CONCLUSION

BTG presents a compelling new model for community engagement and digital literacy, specifically tailored to the unique needs of refugee communities. By utilizing the braided river concept, the project has successfully created adaptable, flexible pathways that mirror the complexity and fluidity of the refugee experience. The co-creation model, deeply embedded in the project's methodology, ensures that the solutions developed are relevant and sustainable, empowering refugees to take an active role in their resettlement journey.

Overall, the BTG project serves as a pilot for future initiatives in the field of refugee resettlement, demonstrating how digital literacy and community engagement can be effectively integrated to create meaningful, lasting impacts. As the project continues to evolve and scale, it offers valuable insights into how technology and innovation can be harnessed to empower marginalized communities, fostering resilience and paving the way for a more inclusive digital future.