Getting Started with Virtual Reality

Guide for Introducing VR Technology in Refugee Resettlement Service Provision

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About this Toolkit

This toolkit offers refugee service providers an introduction to virtual reality (VR) in the context of resettlement and integration programming. Through this guide, users will learn promising practices for integrating VR as a training tool in programs that support refugees and other newcomers. Future Switchboard resources will provide more details about the technical process of using VR.

Switchboard provides technical assistance to support providers interested in integrating emerging technologies in their work. To submit a request, visit Switchboard's TA request page.

What is Virtual Reality (VR)?

Virtual reality, or VR, describes immersive, computer-generated environments that a person can explore and manipulate. Virtual reality scenes are typically accessed via a VR headset, which blocks out external stimuli and uses motion-sensitive technology to have the onscreen images mimic the movement of the person using the VR hardware. VR systems work alongside the physiology of their users to create a sense of presence. Many users report as feeling as though they were "really there" in the scene they only virtually experienced.

Virtual reality has widespread applications. While VR is often associated with video games, it has also been used to train surgeons on new techniques without risking patient health, create immersive art exhibits, prepare astronauts for upcoming missions, and much more.

Why Use Virtual Reality in Resettlement and Integration Programming?

Incorporating current technologies in resettlement can improve newcomer access to services, help develop a sense of community among resettlement professionals, and promote feelings of safety among new arrivals.[1] It can also help newcomers improve digital literacy skills that are crucial to successful integration in the U.S., as well as pique their interest in and exposure to emerging technologies.

VR creates spaces where clients can experience new situations in low-stress environments and allows them to build confidence navigating unfamiliar settings. Students and parents, for example, can practice navigating the differences of the U.S. school system before their first day of instruction. Other applications include:

- **Citizenship training**: rehearse oral tests undergone as part of the naturalization process
- **Community navigation:** simulate a typical doctor's visit or experience riding the bus

- **Cultural orientation**: learn banking and money management basics or discuss housing rights and responsibilities
- **Job readiness**: practice job interviewing skills or undergo training in common employment settings, such as hospitality or manufacturing
- **Youth services**: illustrate "day-in-the-life" experiences of higher education or possible future careers in an interactive format

While research on VR in the social services is still emerging, there are early positive results. As VR technology has become more affordable, studies have examined various ways it can support resettlement and other services. In 2017, for example, programmers from the MIT Media Lab in Dubai reported positive feedback on *Sphyria*, a VR program that allows Syrian refugees to virtually experience their pre-war country, while other early research indicates that VR may help those who suffer from post-traumatic stress.[2,3] Research also suggests that VR may result in higher levels of information retention when compared to other teaching methods (like verbal instruction or PowerPoint presentations) often used to impart essential information during resettlement.[4] A recent study from the World Bank on the effects of VR in adult education concluded that "VR training is, on average, more effective than traditional training as a mechanism to develop student's technical, practical, and socio-economic skills."[5]

Client from IRC Missoula uses a VR headset for the first time.

Frequently Asked Questions

Is VR hardware prohibitively expensive?

VR hardware has become much more affordable in recent years! Basic versions like Google Cardboard may cost as little as $10, though these versions typically have more rudimentary capabilities than more expensive models and require users to already own a smartphone. Providers interested in this option can explore the

Federal Communications Commission (FCC)'s Lifeline program that provides discounted phone service and broadband based on low-income eligibility; find more information at the FCC Lifeline website.

The Meta Quest, a more advanced VR headset that does not require smartphone use, begins at approximately $250 per headset. In a typical classroom setting serving 10–15 newcomer students at a time, service providers might plan to purchase four to five headsets, requiring a budget of around $1,250.

Is VR technology difficult for service providers to learn?

You do not need to be an expert in virtual reality to use this technology with clients. Providers who are new to VR can start with this toolkit and reach out to Switchboard for additional support. If you have never experienced VR, seek out opportunities to experience it for yourself and consider how you might apply it in your work. To learn more, explore best practices in including VR in digital learning.

Do clients like to use VR technology?

Yes! The IRC in Salt Lake City has collected client 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 60% of clients indicated they could imagine using VR in their homes, and 79% were able to describe the types of 360° videos they would like to see in the future.

> **"When the VR video is playing, you can't be distracted."**
>
> —Clementine, a refugee client providing feedback on VR-based cultural orientation

After initial exposure to VR, clients have also offered suggestions for new ways that VR can be introduced 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.

What about clients with lower levels of digital literacy?

VR technology is not necessarily the right fit for everyone. In some cases, the use of VR can help increase clients' digital literacy, particularly among clients who are already confident about using other digital devices (such as smartphones). But clients who are unfamiliar or uncomfortable with interacting with digital devices or experiencing virtual environments may find VR confusing.[6] Providers can support those clients by cultivating an inclusive and safe learning environment for exploring the technology. The Switchboard website houses a suite of digital inclusion resources for service providers just starting out with digital skill building programming. The National Digital Inclusion Alliance (NDIA) also offers digital inclusion resources for practitioner support, advocacy, community, and research.

Can VR cause motion sickness?

Yes, some users experience motion sickness in VR simulated environments. Motion sickness can sometimes be avoided by keeping VR sessions short and may also improve as clients become acclimated to VR. Some clients may find motion sickness caused by VR prohibitive and therefore may benefit from a different mode of learning.

Case Study: International Rescue Committee in Salt Lake City, UT

In 2021, IRC Salt Lake City (SLC) looked to expand the office's education program, prioritizing digital inclusion and cultural orientation (CO). The office's newly established Emerging Tech team developed training modules that allow new arrivals to experience the U.S. public school system in virtual reality.

The team worked with a community group of Afghans to help implement VR modules in the Youth Education CO that is completed by young newcomers prior to starting the U.S. school system. Modules were made available in Dari and Pashto and accessed using Google Cardboard and clients' smartphones. The success of this initial program led IRC SLC to fully integrate VR programming into their monthly cultural orientation training for all new arrivals. This programming contains a suite of 360° VR modules that include walkthroughs of U.S. schools, doctor's offices, pharmacies, public transportation, and grocery stores that were created to specifically fit the needs of IRC SLC clients. All modules are shared via virtual public access channels to increase accessibility.

Screenshot from IRC Salt Lake City 360° video showing a school cafeteria. Full video available here. Please find links to other IRC SLC 360° videos in the References and Resources section at the end of the Toolkit.

Using 16 Meta Quest headsets, acquired via a University of Utah grant, the team at IRC SLC further developed VR health trainings in partnership with a local health care provider, Redwood Health Clinic. These trainings, built with input from newcomers, simulated doctor's office visits, the process of visiting a pharmacy, and how to use Medicaid cards.

The process of creating the VR modules was informed by field research using a co-creative model between paid former refugees hired as research affiliates and design students at the University of Utah. These groups worked with IRC SLC staff to apply design principles to address challenges facing new arrivals in resettlement services. This co-creative process encourages the inclusion of clients' voices in program design.

> **"I learned how to get to school and how to act with authority in school."**
>
> *—Mohammed, new arrival (2023) to Salt Lake City*

The ongoing initiative solicits regular client feedback, which is then used to refine the program and add new subject modules to the VR library. As the program develops, staff members are trained in how to use and repurpose the VR modules, so that this technology can be adapted for various aspects of service provision. IRC SLC's VR project indicates that new arrivals are interested in and receptive to using VR. This technology creates a space where newcomers can learn at their own pace and in their own context, be immersed in new environments, and create new cognitive frames for information.

Key Takeaways

- Sustainable VR programming exists in resettlement services and can be replicated.
- Initial research on client satisfaction suggests new refugee arrivals are receptive to VR technology for community navigation training.
- Co-creation is an effective process for inclusive program design. It helps ensure client voices are prioritized in creating and implementing VR learning resources.
- Training staff on how to use and repurpose the VR modules allows technology to be adapted for various aspects of service provision.

An IRC Salt Lake City client views a 360° video on an iPhone. Photo credit: IRC

Case Study: SHIFA Project in San Diego, CA

Screenshot from SHIFA Project 360° video showing a Somali home. Full video available in English and Somali here.

In 2019, looking to increase the rate of pediatric vaccinations among East African refugee populations, the Somali Family Service (SFS) of San Diego developed the SHIFA Project, a culturally responsive VR experience that addresses the needs and concerns of community caregivers and health care providers. The program, which is available in English and Somali, uses current research regarding the benefits of and reluctance toward vaccination and was developed using a community-based approach that gathered feedback from Somali refugees, Somali immigrants, and U.S.-born Somali Americans.

In a four-minute 360° immersive video animation, the SHIFA Project discusses religious and cultural considerations along with the impact of vaccination on overall pediatric health. The video offers particular attention to the measles-mumps-rubella (MMR) vaccine, informed by studies of communities affected by recent measles outbreaks. After experiencing the VR prototype, 54% of participants reported that the experience made them more comfortable or much more comfortable with vaccination, and 83% reported that they would recommend the MMR vaccine to a member of their community. In addition, 88% reported planning to vaccinate their own children.[7]

Key Takeaways

- VR can be an effective tool to inform communities about public health matters.
- Community-based approaches, involving gathering client feedback and input, are essential to the development of VR-based programming in resettlement.

Planning to Integrate VR into Programming

Incorporating new technology into programming can feel like an intimidating and daunting task. Yet certain assessments can help service providers think through if the integration of VR would benefit their specific programs and offer insight into developing sustainable VR-based programming.

Reflect on Your Program

The first step to implementing a successful VR program is to reflect on your organization's current services and approaches to service provision. Ask yourself the following:

Sample Reflection Questions: Is VR Right for Our Program?

1. Am I (and are members of my staff) energized by new program models, technology, and innovation?
2. Do I have supportive leadership for experimenting with new program models, technology, and innovation?
3. Does my organization have a system to solicit the inclusion of client voices in designing and evaluating programs?
4. Can I list at least two donors or funders that might invest in technology and innovation?
5. Can I list at least two community partners that would allow access to their facilities for filming 360° modules (e.g., schools, transportation facilities, community centers, public spaces, etc.)?
6. Does my organization have interns or volunteers who are skilled in animation or video editing?

If you can answer "yes" to most of these questions, your organization may be well-suited to explore integrating VR technology into your programming. If your answers are mostly "no," reflect on initial

Conduct a Needs Assessment

Conducting a needs assessment can help identify where VR can enhance and support service delivery. Look for "good problems" that need innovative solutions. Draw on clients' insights as well as staff perspectives and connection to the work. Take time to observe and reflect on the responses, looking for themes and surprises. *See the sample exercise on the next page.*

Sample Needs Assessment Exercise for Incorporating VR Technology

1. 20–30 minutes: Ask the following questions of a group that includes service providers and current and former clients (ideally with a maximum of 10 respondents). Capture the group's responses, quotes, and observations using sticky notes or other movable items to organize concepts.
   - What program elements would we like to improve?
   - What program elements that we find positive or hopeful would we like to retain?
   - What are clients' highest priority needs during [relevant timeframe] or in [relevant area]?
   - What are clients' most crucial digital literacy needs?
   - What technology is our team using? What technology do we want to use? Does our programming support clients in using this technology?
   - *VR creates spaces where clients can learn at their own pace, be immersed in new environments, and create new cognitive frames for information. With this in mind, ask:*
     - What client-facing program areas currently require hands-on, immersive learning? *List all program areas.*
     - Are we currently creating learning environments that meet these needs?
     - Where do our current learning environments not meet these needs? *Identify gaps between client needs and current learning environments.*
   - What are our learning objectives as a program or organization? Does the use of VR align with those goals?
   - Which programs currently incorporate client voice and feedback? Which do not? *Identify gaps where client feedback is not incorporated into future programming goals.*
2. 8–10 minutes: Review the responses as a group. Connect responses by noticing patterns. Cluster your sticky notes by similar topics or themes. Try to organize themes into a story that describes the main needs of your organization's clients.
3. 8–10 minutes: Using different color sticky notes, add ideas in response to the needs and themes. Consider whether the gathered information sheds light on what clients need and want. What opportunities for innovation emerge? Where could technology help address these needs?
4. 15 minutes: Discuss the needs and solutions as a group and identify one or two program areas, ideas, or needs that your group would like to explore with VR.
5. Follow-up: Identify insights from this exercise to help inform the next steps of the co-creative process for developing multimedia, such as 360° videos. Keep a record of the exercise to serve as a motivating guide through the design and training phase.

Ensure Support from Leadership

Implementing VR-based programming requires organizational investment, both in terms of funding and protected time for staff. Given this, support from sponsors in senior leadership is essential to ensure sustainable VR programming. Here are some ideas for how you can demonstrate the worthiness of these investments and generate excitement from leadership:

- Clearly outline the specific ways VR could support the goals of the office related to programming, community outreach, and fundraising. For example, the Norwegian Refugee Council (NRC) website offers free 360° videos depicting the global displacement crisis to inform the public and funders of the vast needs.
- Offer a one-on-one VR demonstration. The interactive nature of VR provides an easy way for leaders to experience its possibilities firsthand. For example, you might choose to spotlight VR used for on-the-job training for staff hitting the ground running in a new job or supporting promotion and outreach initiatives.
- Invite leaders to group events that showcase VR (e.g., youth workshops, community events with universities, technology expos, etc.).
- Share relevant case studies, such as the ones included in this toolkit.
- Share supporting research on the outcomes of VR in service delivery, such as the references included in this toolkit.
- Emphasize that incorporating VR to support resettlement objectives is innovative and attractive to partners and potential funders.

Identify Technology Leads

Identifying a technology lead within your organization can help streamline the process of incorporating VR in your work. Technology is always changing and improving, so designating a lead can help ensure accountability for keeping your VR programming relevant and sustainable over time. This also helps with knowledge management, which is particularly important in resettlement contexts with high turnover rates and rapidly changing external environments.

Appoint at least one staff member and/or intern to be responsible for documenting how your program is implementing VR, maintaining the technology as updates are released, and coordinating ongoing staff training on new developments. This person should be passionate about digital inclusion for newcomers and enjoy staying up to date on new technological advancements. Managers will need to recognize the time and effort this work will occupy and should consider including VR programming in that staff member's performance goals and time and effort allocations.

Tip: Technology leads may also access technical assistance from Switchboard to help them in their work!

Choose VR Technology

There are many options for VR technology. While Switchboard does not endorse any individual product or for-profit corporation, this section provides an overview of some common options. The information is up to date as of February 2024. Due to the rapid development of emerging technologies, options may change over time. The Switchboard team will create up-to-date resources as changes emerge.

Understanding Different Levels of Immersion and Interactivity

There are multiple ways to engage with virtual reality, each involving different levels of immersion and interactivity. There are three common options to consider, all of which have pros and cons:

Smartphone with No Headset | **Cardboard Viewer** | **VR Headset with Controllers and Hand Tracking**

- **Smartphone with No Headset:** Any smartphone can play 360° videos. Also known as surround, immersive, or spherical videos, these videos are made by recording views in all directions at the same time. Viewers "look around" inside the videos by holding their phone up to their face and tilting and rotating it to explore the 360° space. Providers and clients can access thousands of existing 360° videos from sources like Google Arts & Culture, National Geographic, and NASA (Internet access required). Smartphones without headsets are much less immersive than other options but provide an affordable, accessible, and easy-to-understand introduction to VR.

- **Cardboard Viewer**: Cardboard viewers are devices made of cardboard that work with any smartphone to run virtual reality apps. Google Cardboard is a popular option. Clients can use their own existing smartphones with this type of viewer. Two windows are displayed within the lenses, creating a sense of depth. Viewers "look around" by moving their head within the cardboard viewer. As with smartphones, providers and clients can access thousands of existing 360° videos from sources like Google Arts & Culture, National Geographic, and NASA (Internet access required).

- **VR Headset with Controllers and Hand Tracking**: This option allows for a much higher level of interactivity: users can navigate through virtual spaces without "leaving" the VR environment, interact with objects inside of VR environments, and share spaces with other users online. This option also offers an immersive experience by combining high-fidelity visuals, spatial awareness, and realistic physical interactions. In addition to the resources mentioned above, users have access to a variety of games, apps, and VR experiences not available to those using phones or cardboard viewers. The Meta headset, for example, has access to Meta's library of content, Steam's library of content, and many other third-party apps. While this type of headset is costly, data collected during joint programming by the IRC in Salt Lake City and the University of Utah suggests it is the most useful option, generating more positive client feedback than handheld, phone-based VR experiences.

Virtual Reality Headsets

Used to access videos, games, experiences etc. in virtual reality

Photo	Device	Description	Approximate Cost	Considerations
	Meta Quest 2	A device made of lightweight plastic and fabric that includes a headset and handheld controllers. Like a computer, the Meta Quest 2 runs its own operating system and includes a high-resolution screen.	$250 per headset	■ Providers can download content to the headset in advance, which clients can then use in classrooms with or without Internet access. ■ Other versions of the Meta Quest are available, but the Quest 2 represents a good balance of technical features and affordability. ■ The Quest 2 can be used almost anywhere due to its "inside out" tracking system: cameras point out, away from the headset, and allow the operating system to orient itself in 3D space. Users are also asked to draw a "boundary," or a border that determines where it is safe to use the VR headset. If a user leaves their boundary, the Quest 2 will stop displaying VR content and instead use the external cameras to show users that they are about to walk into a wall or obstacle.
	Meta Quest 3S	Relative to Quest 2, the headset has a slimmer profile and more comfortable strap, though it weighs slightly more.	$300 per headset	■ The Quest 3S is more expensive than the Quest 2 but is positioned as the step-up choice for programs that want noticeably better graphics and faster processing. ■ The Quest 3S retains "inside-out" tracking but includes full color passthrough, which means users can see the real world while using the headset. This makes it better for mixed reality experiences. ■ It still uses a user-drawn boundary to prevent collisions, but improved sensors make boundary warnings more accurate than on Quest 2.

 	Valve Index VR Kit	A device made of lightweight plastic and fabric that includes a headset, handheld controllers, and external cameras called “base stations.”	$1,000 per kit	■ The headset and base stations must be connected to an external computer in order to communicate and display VR content. ■ Typically used in one dedicated space due to its “outside-in” tracking system: the kit uses external cameras to track the headset and controller locations in 3D space. The headset and controllers must always be in view of the base stations. ■ The kit is designed largely for gaming but has access to the same libraries of content as the Meta Quest with the help of third-party apps.

Frequently Asked Questions: Virtual Reality Headsets

What are the differences between Quest 3S, Quest 2, and Quest Pro?

Meta’s Quest 3S headset looks and feels similar to the Quest 2, but it runs faster and shows clearer visuals. One standout improvement is how it sets up the “boundary,” the safe space where users can move around while using VR. Unlike the Quest 2, which requires you to manually draw this space, the Quest 3S can do it automatically if you allow it. It still supports both sitting (Stationary) and walking-around (Roomscale) modes, which improves the ease of implementing immersive content with it in a training setting.

The Quest 3S includes full color passthrough, which means users can see the real world around them while using the headset. This makes it better for mixed reality experiences, blending virtual elements with the real environment, not just full VR. While battery life and shape are similar to the Quest 2, the more advanced features of the Quest 3S make it even more useful for interactive training or orientation.

Do I Need a Quest 3S for My Clients?

If your budget is tight or your training needs are simple (like watching videos or basic tutorials), the Quest 2 is still a solid choice, especially if you can get one donated or at a discount. But if you’re planning to use more immersive or interactive content, or you want to explore mixed reality tools, the Quest 3S may be worth the upgrade.

Cameras and Microphones

Used to record 360° video and audio to create immersive videos, games, experiences, etc.

Photo	Device	Description	Approximate Cost	Considerations
	Insta360 ONE RS 1-Inch	A camera capable of capturing 360° footage	$800 per camera $875 for camera and essential accessories	■ Essential accessories (tripod, selfie stick, SD card) needed to record video ■ Captures 6k video; the better the video quality, the less VR sickness users experience
	Insta360 X3 (5.7k video quality)	A camera capable of capturing 360° footage	$450 per camera $465 for camera and essential accessories	■ Essential accessories (additional battery, selfie stick, SD card) needed to record video ■ Captures 5.7k video; the better the video quality, the less VR sickness users experience
	H3-VR	An ambisonic mic that records 360° audio	$250	■ Captures 360° audio, which helps create a more immersive experience for 360° module users

Software

Used to edit and upload immersive videos, games, experiences, etc.

Photo	Device	Description	Approximate Cost	Considerations
	Insta360 Studio	Video editing software that can stitch and export 360° footage from Insta360 cameras	Free	■ Software can be downloaded for Windows, Mac, and Linux ■ Essential for compiling 360° footage from Insta360 cameras ■ Footage must be transferred from an Insta360 camera to a device with Insta360 Studio installed, using a SIM card
	Insta360 App	Video editing app that can stitch and export 360° footage from Insta360 cameras	Free	■ App can be downloaded on Android and Apple devices. ■ An alternative to Insta360 Studio that allows for compiling footage on mobile devices ■ App allows for exporting of 360° footage online

	Adobe Premiere Pro	Video editing software that can process 360° video and audio files	$30 per month	■ Software can be downloaded for Windows and Mac ■ 360° footage from Insta360 cameras must be compiled in Insta360 Studio/App before editing in Adobe Premiere Pro
	Davinci Resolve 18	Video editing software that can process 360° video and audio files	Free $295 for 5.7k+ video editing	■ Software can be downloaded for Windows, Mac, and Linux ■ 360° footage from Insta360 cameras must be compiled in Insta360 Studio/App before editing in Davinci Resolve ■ The free version can only export 4k videos, while the paid version can export 5.7k+ videos. The better the video quality, the less VR sickness users experience.
	Final Cut Pro	Video editing software that can process 360° video and audio files	$299.99	■ Software can only be downloaded for Mac ■ 360° footage from Insta360 cameras must be compiled in Insta360 Studio/App before editing in Final Cut Pro.
	SideQuest	Desktop app for uploading 360° videos and VR apps on Meta Quest headsets	Free	■ Software can be downloaded for Windows, Mac, and Linux ■ No Wi-Fi needed to watch 360° videos once downloaded onto headset
	YouTube VR	VR app for uploading 360° videos to watch on a VR headset	Free	■ App installed from Meta Quest Store or, for Valve, via the Opera browser ■ Wi-Fi needed to watch videos
	VR Media Player	VR app for downloading/watching 360° videos on mobile Android devices	Free	■ App can only be downloaded on Android mobile devices ■ No Wi-Fi needed to watch 360° videos once downloaded onto mobile device

Frequently Asked Questions: Custom Video Tutorials

Can I Film my Own Videos For Clients?

If you want to create your own videos for clients, but all through the power of a smartphone, you can watch our Creating Quick Tutorial Videos for Clients Microlearning on filming video tutorials with clients. Also, watch our Basic Media Tutorial and learn how to use mobile editing apps to empower your clients.

Can I Upload my Own Videos to my VR Headset?

If you want to upload your own videos to your Virtual Reality Headset, you can now watch our video on how to use the free desktop app SideQuest and learn how to Upload 360 Content to a VR Headset.

Switchboard team member David Buatshia, Program Officer for Web Development, tries out a VR headset.

Get Staff Buy-In

Staff can become more comfortable and excited about VR technology when they experience it for themselves in a safe, low-stakes environment. You can do this in group settings using 360° videos and other VR games that are engaging and interesting.

Work with your technology lead to organize a low-pressure, in-person demonstration session. During the demonstration, explain what virtual reality is and what kind of content you'll be displaying. Meta offers a wide variety of games and videos for practice. *Note: Avoid violent games that have fighting, weapons, or distressing visuals, as these may create an environment that is physically or emotionally unsafe.*

After all interested staff have had a chance to explore the VR headset, hold a collaborative group discussion:

- Discuss how the content they experienced relates to resettlement. Encourage service providers to brainstorm how this technology could be adapted for their specific programming and client base.
- Remind providers that while some level of digital literacy will be necessary to use VR technology, and a somewhat higher level will be needed to demonstrate it to clients, curiosity and a willingness to "play" with new technology will be the most important thing in making sure a service provider will be able to fully take advantage of their VR headset.

- Be patient and willing to support staff for whom this technology is new or intimidating. Answer questions and explore concerns. Share resources like this toolkit with staff interested in learning more.

Commit to Co-Creation in Design Processes

> "Co-creation offers alternatives to a single-author vision, and involves a constellation of media production methods, frameworks, and feedback systems. In co-creation, projects emerge out of process, and evolve from *within* communities and *with* people, rather than being make *for* or *about* them."
>
> —Cizek & Uricchio, Collective Wisdom: Co-Creating Media for Equity and Justice. Cambridge: The MIT Press,

Once you have selected your VR technology and confirmed your organization is committed to using it, you will need to choose what VR content clients will experience. Many options already exist (see *References and Resources,* below), but you may also choose to create new content—for example, a 360° video demonstrating the specific bus routes that clients in your city use most frequently.

If you choose to create new content, commit to the process of **co-creation**, a method that puts clients at the center of the design process. It enables more innovative products and inclusive programs that do not have a single "owner."

Benefits of co-creation include greater insight into the needs of specific newcomer populations, more successful programs that accommodate these needs from the outset, and media where content and technology are mutually supportive.

Introducing VR to Clients

Consider Ethics, Safety, and Consent

Before sharing VR content with clients, consider ethics and consent. Your VR activities must comply with any applicable laws (which vary by state), relevant policies within your organization, and any terms and conditions of the technology you have chosen. Develop a policy for obtaining clients' consent prior to experiencing VR. Emphasize that VR activities are not mandatory and that clients who are not interested may opt out.

> For more information on obtaining client consent for data collection, see the Monitoring and Evaluation Technical Assistance (META) project's *Five Questions for Obtaining Meaningful Informed Consent* and *Sample Consent Form*.

Remember that VR may not be appropriate for some clients, including children.[8] Children under age 13 should not use Meta headsets or access most VR social apps, VR chatrooms, or VR stores available through Oculus VR, PlayStation, Steam, etc. Some states have additional age restrictions for minors aged 12–16.

Research has found that cybersickness, VR sickness, and motion sickness experienced in virtual reality headsets impacts some VR headset users. Caution clients, particularly those who are otherwise prone to motion sickness, that this side effect may occur. Those who wish to continue with a VR experience after suffering cybersickness may benefit from taking breaks between sessions and keeping sessions short. Research indicates that nausea caused by VR use may abate when users become more acclimated to it.[9]

Consider how you will ensure that user data is not stored or gathered. If using a Meta headset, for example, you may wish to have program participants access VR via a single, institutional Meta account for your organization. Because clients will not create personal accounts, their information will not be disclosed during registrations or interactions online. If you will collect other program data, such as demographic data or feedback data, ensure you have meaningful informed consent (as you would for any other program or service).

Below is a sample consent statement that you can adapt for your program.

Notes: The specifics of your program may require other disclosures so that clients understand the full risk involved with the VR environment. For example, if you plan to conduct research on client's experiences of VR, ensure you consult resources on understanding potential risks for human subjects research.

Given the recent COVID-19 pandemic, providers may also wish to disclose what cleaning processes headsets have undergone and discuss proper hygiene practices while using VR headsets.

Sample Consent Statement for VR Program Participants

To enter virtual reality (VR), you must wear a headset that will completely block your view of your real location, and headphones that will prevent you from hearing the outside world. Program staff have taken all reasonable precautions to avoid any accidents while you are in the VR environment, but some risk remains in any situation where your visual and auditory inputs are blocked. Please exercise caution when moving in the VR environment.

Some users experience mild motion sickness while using VR headsets. Many users who experience this sickness find that their symptoms disappear when they become accustomed to VR. If you experience any motion sickness, you may choose to 1) stop your VR experience entirely, 2) pause your VR experience and continue when you are feeling better, or 3) continue and see if your symptoms lessen. If you become dizzy or feel at risk of falling, please remove the headset.

The program you will experience today will take approximately [number] minutes. After spending 30 minutes in the VR environment, take a break of at least 15 minutes to avoid discomfort.

If you do not wish to continue with your VR experience, you can remove the headset at any time.

VR use is not appropriate for everyone. If you have impaired vision, a history of seizures, impaired balance, or severe headaches (including migraines), you may wish to consult a medical professional about whether VR is safe for you to use. VR is not recommended for children under the age of 13.

We will not collect any of your personal data from the VR headsets. You are welcome to take our voluntary survey about your experience in VR. [Describe how you will use feedback data.]

Please affirm with a "yes" that:

• your participation and/or the participation of your child [or other dependent] aged 13 or older is fully voluntary

and

• neither you nor your child has any known physical, mental, or health-related reasons that should preclude or restrict your or your child's participation in VR activities.

Demonstrate VR for Clients

As with service providers, demonstrating how VR works will help build clients' excitement about and understanding of virtual reality. Your demonstration should explain what virtual reality is and what kind of content clients will see in the 360° video. Here are some tips for planning your demonstration:

- Set aside around one hour to hold an in-person VR demonstration for a group of 10–15 clients. This might take place during a planned cultural orientation or job readiness training class.
- Interpretation is essential when providing the VR demonstration.
- Demonstrations should be conducted with a participant from the class. This will be more relatable to the audience and help create a digitally inclusive and interactive learning environment. Ask the participant if they are willing and interested before the class, and provide a brief description of what will happen and the expectations of their involvement.

VR demonstration for newcomers at the Glendale branch of the city library in Salt Lake City, UT

- Select a sample 360° video that you will show (see *Resources,* below). A sample video is available for download here.
- Only one person will use the headset at a time. Set up a TV, monitor, or projector screen to show the group what the person using the headset is experiencing.
- Have a volunteer participant demonstrate how to wear a VR headset for the group, keeping the headset on for around 10 minutes. Have this person sit in a chair while using the headset as a safety precaution.
- Offer clients who are interested the opportunity to experience VR for themselves, also seated in chairs. Demonstrating VR technology will help many clients feel more comfortable with trying out this new experience, but remember that not all clients will wish to enter a VR environment. Respect the client's decision if they decline to use a VR headset.

Gather Client Feedback

Consider using a feedback form to help clients who participate in VR programming reflect on their experience. This will provide insight on client preferences and support co-creation by soliciting suggestions on the kind of content or projects clients would like to see in VR. Protect clients' privacy by ensuring that all personal identifying information is excluded when presenting data regarding client feedback. *See the sample form on the next page.*

Sample Client Feedback Form: VR Experience

- Was this your first time using VR technology?
- If you've used VR before, how would you rate your experience (1–5; 1 being very limited experience and 5 being a regular VR user)
- How long did you spend exploring the VR experience?
- Did you experience any discomfort while exploring the VR environment?

Rate how much you agree or disagree with the following statements on a scale of 1–5 (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). Use the optional comment space following each question for any further information you would like to provide.

- I would be interested in using VR as part of my resettlement programming again.
- I felt comfortable in the virtual video environment.
- I learned a lot from the VR experience.
- Using VR was more helpful than other learning methods I've experienced, such as eLearning courses or PowerPoint presentations.
- The content I experienced in VR was applicable to my life and experiences.

What further programming would you like to see available in VR? Is there anything else you would like program designers to know about your experience?

Case Study: Youth VR Workshops with Soft Landing in Missoula, MT

In Fall 2023, the IRC in Missoula launched a program focused on integrating emerging technologies into their resettlement programming, with a particular interest in using VR in cultural orientation and transportation/community navigation. During a needs assessment phase conducted with the Switchboard team, IRC Missoula identified a local community-based nonprofit, Soft Landing, as a potential partner. The two organizations, which serve refugee and immigrant families in Missoula, worked together to identify a joint opportunity to introduce VR-based programming to new arrivals at a lower cost per partner organization.

IRC Missoula and Soft Landing serve the same group of newcomers with community navigation, but each work with clients in different phases of the resettlement journey. With their overlapping programmatic goals in mind, Switchboard trained both organizations to co-deliver a youth VR workshop during Soft Landing's afterschool programming. The workshop offered a chance for newly arrived youth to practice their digital literacy and experience new technology in a low-stakes environment. Staff also benefited from the opportunity to practice unfamiliar VR technology while building a collaborative and engaging partnership between Soft Landing and IRC Missoula.

Key Takeaways

- VR workshops and other microlearning opportunities create safe and comfortable environments for clients and staff to experience and practice new technology.
- Collaborating with partners can create the opportunity to introduce VR-based programming with diminished financial risk by lowering the costs of technology for each member of the partnership.

Youth at Soft Landing, Missoula participate in a VR workshop

References and Resources

Using VR in Educational Settings

Benefits of Virtual Reality in Education: Tools and resources from American University's School of Education.

Current Virtual Reality Best Practices for the Classroom – Teaching Resources: Guidelines and resources from NC State University on how to get started using VR for educational purposes.

Meta for Education: Meta's resources and recommendations for how to implement VR into educational programming.

Virtual Reality in the Classroom: What is VR?: A research guide from the University of Toronto that provides an overview to VR in education.

Access existing 360° videos from the International Rescue Committee (IRC): Navigating the First Day of High School (IRC Salt Lake City 2023), Going to a Pharmacy (IRC Salt Lake City 2022), Clinic Check-In (IRC Salt Lake City 2022), Navigating the Front Desk at a Public School (IRC Salt Lake City 2021), Taking a School Bus (IRC Salt Lake City 2021), and Enjoying a Local Tea Shop (IRC Missoula 2023).

Implementing VR Technology

VR Compare: Compare different VR and augmented reality (AR) devices on qualities such as price, manufacturer, display information, and battery life.

Virtual Reality Health and Safety from ClassVR: See general tips for how to maintain safety standards while deciding where to set your VR boundaries.

Partnership on AI (PAI)'s Responsible Practices for Synthetic Media: Explore frameworks for how to minimize harm when using VR technologies and engage with other stakeholders invested in developing ethical practices for VR.

Augmented World Expo (AWE): Engage with a community of extended reality (XR) professionals who host conferences, offer classes and workshops, and provide demonstrations for VR users worldwide.

Evidence on VR in Education and Resettlement Settings

Alencar, A. (2020). Mobile communication and refugees: An analytical review of academic literature. *Sociology Compass*, *14*(8).

Marougkas, A., Troussas, C., Krouska, A., & Sgouropoulou, C. (2023). How personalized and effective is immersive virtual reality in education? A systematic literature review for the last decade. *Multimedia Tools and Applications*.

Dahya, N., Garrido, M., Wedlake, S., Yefimova, K., & Iqbal, M. (2023). Learning Technology Systems in Everyday Life: Women's Experiences Navigating Refugee Resettlement in the United States. *Journal of Immigrant & Refugee Studies*, 1–16.

Shanneik, Y., & Sobieczky, E. (2023). Artistic Methodologies in Forced Migration: Using Body Mapping and Augmented Reality in Syrian Refugees' Narratives. *Arts*, *12*(2), 46–46.

Technology in the Settlement Sector: A report from the Association for Canadian Studies that looks at the broad impact of technology in resettlement over the past 25 years.

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[1] Vernon, A., Deriche, K., & Eisenhauer, S. (2016). Connecting refugees—how Internet and mobile connectivity can improve refugee well-being and transform humanitarian action. *Geneva, Switzerland: UNHCR, p.18*.
[2] *How This Lebanese Entrepreneur is Using VR to Help Syrian Refugees See Their Country Again.* (2023). Startupscene.
[3] Vianez, A., Marques, A., & Almeida, R. (2022). Virtual Reality Exposure Therapy for Armed Forces Veterans with Post-Traumatic Stress Disorder: A Systematic Review and Focus Group. *International Journal of Environmental Research and Public Health*, *19*(1), 464–464.
[4] Kirya, M., Debattista, K., & Chalmers, A. (2022). Using virtual environments to facilitate refugee integration in third countries. *Virtual Reality*, *27*(1), 97–107.
[5] *Can Virtual Reality simulators develop students' skills?* (2021, April 27). World Bank Blogs.
[6] Chang, C.-Y., Kuo, H.-C., & Du, Z. (2023). The role of digital literacy in augmented, virtual, and mixed reality in popular science education: a review study and an educational framework development. *Virtual Reality*, *27*(3), 2461–2479.
[7] Streuli, S., Ibrahim, N., Alia Ibrahim Mohamed, Sharma, M., Markie Esmailian, Ibrahim Sezan, Farrell, C., Sawyer, M. H., Meyer, D. M., Khaled El-Maleh, Ritu Thamman, Marchetti, A., Lincoln, A. J., Courchesne, E., Sahid, A., & Bhavnani, S. P. (2021). Development of a culturally and linguistically sensitive virtual reality educational platform to improve vaccine acceptance within a refugee population: the SHIFA community engagement-public health innovation programme. *BMJ Open*, *11*(9), e051184–e051184.
[8] *Meta Quest 2 Safety Hub: Manual & Guides. Meta*. (2019). Meta.com.
[9] *How People Adapt to Cybersickness From Virtual Reality*. (2022, August 15). Neuroscience News.