Rights Quest: A Game for Child Rights Awareness

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Abstract: The interactive video game "*A Way Home!*" is a serious game for promoting pro-social change by raising awareness of children's rights, as outlined in the United Nations Convention on the Rights of the Child treaty. All countries except the United States have ratified this treaty. Through a collaborative effort, faculty and students developed this game using an open-source platform to create an immersive first-person video game experience to disseminate crucial knowledge about children's rights and the need for ratification. Game design guides players through real-world comparative scenarios depicting environments that support or do not support those fundamental rights. Through engaging gameplay and storytelling, iterative development processes facilitated the game's effectiveness in conveying complex concepts, such as the distinction between rights and responsibilities. The significance of children's fundamental rights, such as access to food, a safe, clean home, the right to speech, and freedom of expression, as enshrined in the CRC, are emphasized by juxtaposing different environments and depicting the consequences of choices. Grounded upon the Diffusion of Innovations theory (Rogers 2010), the first step to adopting cultural change is education. Using gameplay elements, including rewards for positive choices and learner guidance instructions, *"A Way Home!"* rights quest motivates players to explore and understand the principles of children's rights. The player wins the game when they achieve the goal of being heard in a court of law. By combining education with entertainment, the game aims to inspire empathy and foster understanding, with the ultimate goal of teaching about the need for ratification of the CRC Treaty in the U.S. and empowering players to take action and advocate for children's rights. This paper depicts the methodology involving participants (n=17) from one southeastern university in the States to capture qualitative and quantitative feedback through a perception survey to evaluate the first demo model. Results support advancing data collection for the next version developed using virtual reality (V.R.) headsets to further immerse the learners in the experience.

Keywords: Game*, DGBL, VR, Child*, Rights, CRC

1. Introduction

Since the birth of the Convention on the Rights of the Child (CRC) in 1989, the United States (U.S.) remains the only United Nations (U.N.) member in absentia to ratify this human rights treaty. The CRC Treaty encompasses fifty-four articles centered around four key themes: survival, development, protection, and participation. Articles 12 and 13 articulate that children should have the equitable right to express themselves freely and that all legal proceedings affecting them count their voices (Patel et al. 2021). The challenge is that many may be unaware that a list of fundamental human rights exists for children to improve their well-being or that any children in the States may even be suffering and need the protection of fundamental human rights. The researchers, a small team of faculty and research assistants set forth to develop a prototype (Ensmann 2017) into an interactive video game called "*A Way Home!"* as a serious game to begin pro-social change by raising awareness of the CRC treaty and that the U.S. stands in absentia.

Serious games, crafted to educate and motivate action, have emerged as influential tools for tackling social issues, including children's rights. Examples include "*Ayiti: The Cost of Life,*" which allows players to manage a family in Haiti and deal with poverty, education, and health challenges (Oygardslia 2015). Although not explicitly marketed as such, this game engages players with the challenges outlined in the CRC, particularly the right to education and a standard of living adequate for the child's development. Jennifer Anne's Group offers several other examples of fostering an annual competition to raise awareness, education, and advocacy to improve social issues seen in teenage domestic violence (Crecente 2014), which largely supports communication, further aligning to articles 12 and 13 in the CRC. These examples illustrate the power of serious games to convey important social messages. At the same time, the gap in the literature reflects that no previous games demonstrated that the U.S. still needs to be present in ratifying the CRC treaty for equality amongst all children in the States. Oygardslia's study also suggests that game developers have the crucial role of guiding players from awareness to action, serving as a catalyst for social change (2015). Bacon suggests that "Knowledge is power" (García 2001, p. 109). Thus, disseminating this knowledge about the CRC and the need for ratification, with specific action steps for players, offers a step to begin this change.

1.1 Does This Matter Anymore?

According to the American Community Survey, 68% of children between the ages of 12 and 17 and 75% of children under the age of 6 lived with parents in two different households (U.S. Census Bureau 2023),

representing millions of children in the middle of a family law case between estranged parents. The courtroom determines the fate of many of these children. Only if that jurisdiction upholds children's rights will the children's voices be permitted. Even when the children are allowed to speak, their words are often discounted based upon engrained practices (Collins 2012). Whether their words are fairly weighted is left up to a judicial system that is often not trained in mental health issues to make these determinations (Lemon 1999). Examine the disparity within the court system. Criminal cases have acknowledged that children can credibly express their views, such as in the 1967 Gault Case (Federal Judiciary 2015). The Juvenile Detention division may deem children "fit to be heard." However, these same children may be considered "unfit" in the Family Law division (Taylor 2009) regarding where they feel safe to sleep and are nourished and protected. Likewise, children's rights vary by state and county. Forty states provide children a voice in their dependency cases, creating inequality for the children in the other states (Breger 2010; Rodham 1973). These rulings do not stem from research reflecting the children's ability to express themselves better in one court of law over another but from legislative traditions. LaShanda Taylor, a staff attorney with the American Bar Association Center on Children and the Law, summarized the need for children to have a fair voice:

> *Denying the child a voice in the lawyer's advocacy 'reinforces... lessons learned most thoroughly by abused*
>
> *and neglected children that he [she] should not expect to have any control over his [her] fate* (2009, p. 617).

To further support the need, a thirty-year study reveals that U.S. children continue to rate in the bottom percentile compared to adopters of the CRC (Vandenhole et al., 2019). UNICEF's "Report Card" series evaluates the well-being of children in economically advanced countries, focusing on various aspects such as education, health, and inequality. Since the first publication of *The State of the World's Children* in 1980, there has been a significant reduction in child mortality rates. At that time, 10% of children born that year died from preventable causes, but by 2018, this figure had decreased to 3%. Global milestones like the 1989 adoption of the Convention on the Rights of the Child contributed to this decrease, bringing children's rights to the forefront of global and national policy agendas, a previously lacking focus (UNICEF**,** 2019). Report Card 16 examined the worlds of influence to understand what shapes child well-being in rich countries and found that "Only Chile, the United States, and Malta are in the bottom third of rankings for each of the three well-being outcomes" (p. 10, 2020). This report included mental well-being, physical health, and social skills, as shown in Figure 1.

Overall ranking	Country	Mental well-being	Physical health	Skills
1	Netherlands	1	9	3
2	Denmark	5	4	7
3	Norway	11	8	1
4	Switzerland	13	3	12
5	Finland	12	6	9
6	Spain	3	23	4
7	France	7	18	5
8	Belgium	17	7	8
9	Slovenia	23	11	2
10	Sweden	22	5	14
11	Croatia	10	25	10
12	Ireland	26	17	6
13	Luxembourg	19	2	28
14	Germany	16	10	21
15	Hungary	15	21	13
16	Austria	21	12	17
17	Portugal	6	26	20
18	Cyprus	2	29	24
19	Italy	9	31	15
20	Japan	37	1	27
21	Republic of Korea	34	13	11
22	Czech Republic	24	14	22
23	Estonia	33	15	16
24	Iceland	20	16	34
25	Romania	4	34	30
26	Slovakia	14	27	36
27	United Kingdom	29	19	26
28	Latvia	25	24	29
29	Greece	8	35	31
30	Canada	31	30	18
31	Poland	30	22	25
32	Australia	35	28	19
33	Lithuania	36	20	33
34	Malta	28	32	35
35	New Zealand	38	33	23
36	United States	32	38	32
37	Bulgaria	18	37	37
38	Chile	27	36	38

Note: A light blue background indicates a place in the top third of rankings, medium blue denotes the middle third, and dark blue the bottom third. The rankings in the table were produced as follows: (1) We calculated a z-score for each indicator (reversed where necessary so that a higher score represents a more positive outcome); (2) we calculated the mean of the two z-scores within each dimension; (3) we calculated the z-score for each mean; and (4) for the overall ranking, we then calculated the mean of the mean z-scores for each dimension. This table includes the 38 OECD/EU countries which had data of sufficient quality across at least five of the six Outcomes indicators listed in Box 1. We were unable to include Mexico and Turkey due to low coverage rates in the Programme for International Student Assessment (PISA) 2018 survey (which provides three of the six indicators that make up the league table). We were also unable to include Israel as data were missing on two of the six indicators.

Figure 1: Innocenti Report Card 16. Worlds of Influence: Understanding What Shapes Child Well-being in Rich Countries Reproduced with Permission from the Global Office of Research and Foresight (UNICEF 2020)

Figure 2 defines the indicators used to determine these areas of well-being.

Box 1: Indicators used in the report

	Dimension	Components	Indicators	Source
Outcomes	Mental well-being	Life satisfaction	Percentage of children with high life satisfaction at 15	PISA, 2018
		Adolescent suicide	Suicide rate for 15- to 19-year-olds	WHO Mortality Database, 2015
	Physical health	Child mortality	Child mortality rate (all causes), 5–14	UN IGME project, 2018
		Overweight	Percentage of children overweight, 5–19	State of the World's Children, 2016
	Skills	Academic proficiency	Percentage proficient in mathematics and reading at 15	PISA, 2018
		Social skills	Percentage who make friends easily at school at 15	PISA, 2018
Activities	Play	Playing outside	Frequency of playing outside at 10 years old (days per week)	Children's Worlds, 2017–19
	Digital	Internet use	Average duration of Internet use by children	EU Kids Online, 2018–19
Relationships	Family	Family support	Level of family support reported by children at 15 years old	HBSC, 2017/18
		Family participation	Percentage of children aged 10 totally agreeing that they participate in decision-making at home	Children's Worlds, 2017–19
	Peers	Being bullied	Frequency of children being bullied at 15 years old	PISA, 2018
	School	School belonging	Sense of belonging at school at 15 years old	PISA, 2018
		School participation	Percentage of children aged 10 totally agreeing that they participate in decision-making at school	Children's Worlds, 2017–19
Networks	Parent–community	Parental support networks	Main sources of support for parents in looking after children	European Quality of Life Survey, 2016
	Parent–work	Work–family balance	Percentage of employees struggling to fulfil family responsibilities	European Quality of Life Survey, 2016
		Hours worked	Average weekly hours worked on main job	OECD based on Labour Market Statistics, 2017
	Parent–school	Relationship with school	Parents' rating of their relationship with school	European Quality of Life Survey, 2016
Resources	Household resources	School books at home	Percentage of children aged 15 having books at home to help with school work	PISA, 2018
	Neighbourhood resources	Local play facilities	Percentage of children aged 10 who agree that there are enough places to play in their local area	Children's Worlds, 2017–19
Policies	Family policy	Parental leave	Weeks of full-rate equivalent parental leave in early childhood	OECD Family Database, 2018
		Child poverty	Percentage of children in households below 60% of median income	Eurostat, HILDA, LIS and national statistical agencies, 2018
	Education	Early childhood education and care	Percentage of children attending early childhood education and care one year before school	UNESCO, 2017, *Report Card 15* and UNSTATS
		NEET	Percentage of 15- to 19-year-olds out of school, employment or training	OECD Family Database and Eurostat, 2018
	Health	Immunization	Measles immunization	WHO/UNICEF, 2018
		Low birthweight	Percentage of newborns weighing less than 2,500 grams	OECD Health Database and WHO, 2017
Context	Economy	Income	Gross national income per capita in international dollars	World Bank, 2018
		Jobs	Unemployment rate (percentage of active population)	World Bank, 2019
	Society	Social support	Percentage of adults who have someone to count on	Gallup World Poll, 2016–18
		Violence	Homicide rate	World Bank, 2017
	Environment	Air pollution	Mean levels of fine particulate matter PM2.5	Global Burden of Disease Study, 2017
		Water quality	Percentage of population using safe water	WHO/UNICEF Joint Monitoring Programme, 2017

Figure 2: Innocenti Report Card 16. Worlds of Influence: Understanding What Shapes Child Well-being in Rich Countries Indicators Reproduced with Permission from the Global Office of Research and Foresight (UNICEF 2020)

1.2 Disseminating the Knowledge

In the U.S., the Entertainment Software Association (ESA) conducts surveys to gather data on video game usage, and a recent report shows that approximately 190.6 million Americans play video games weekly, with the average player age (2024). The report further reflects those consumers spent $57.2 billion (including content,

hardware, and accessories) in 2023 (2024). Studies reflect that digital game-based learning (DGBL) is a motivational means to learn (Justice and Ritzhaupt 2015) and improves focus, learning cognition (Eichenbaum et al. 2014), and retention (Brent and Felder 2009; Gee 2008; Gordon 1970). Reasoning and critical thinking skills become by-products of problem-solving instruction (Gordon 1970), and systematic thinking and processing are vital parts of simulations (Prensky 2001; 2006). Gee posits that brain function embodies sensory involvement (2008). Video games, therefore, serve as a logical platform for learning based on how the brain works. Games provide a problem, and players select avenues of advancement to solve it. Players advance or retreat through game stimuli, learning through each experience (Connolly et al. 2012; Gee 2008; Hamari et al. 2016; Plass et al. 2015).

Gaming has been used to educate about other U.N. treaties. For example, in answering the call to promote sustainable energy, Ball State University initiated the Second Chance Game for Global Awareness and Responsibility development in collaboration with local partnerships. The outcomes of this DGBL initiative demonstrated that teaching social justice knowledge and getting buy-in from key players to develop innovative educational strategies go beyond governments creating treaties or passing laws (Pacheco et al. 2006). Moreover, gaming in education has far greater capabilities of influencing learners than traditional instructional methods, as highlighted in the article "Can a Video Game Make Someone Nice?" (Kapp 2012). In both instances, players who engaged with the game were more likely to influence others to make positive choices and were more inclined to help someone in need (Kapp 2012). Note that the terms *player* and *learner* are used changeably in this paper. Each term brings opposing entertainment, and educational positive or negative connotations based on readers' experiences. Therefore, to have the most significant impact on the broadest population, this instruction is designed for all adults who play games in an immersive, first-person video game. The goal is to shift the cultural paradigm to one where mindsets realize that players can learn and can be motivated to transfer knowledge uncovered by playing with others and using serious games for learning.

2. Research Question

The research questions this game set out to answer are:

Can the rights quest game, A Way Home

1. *inform people about the CRC Treaty and change their perceptions about the need to support children's rights in the U.S.?*
2. *motivate players to take action by sharing the game and/or information learned from the game?*

The long-term social impact goal is to ultimately encourage Americans to ratify the CRC in the U.S. to improve the quality of life for all children. For the short-term goal, we aim for users to consider "Never believe that a few caring people cannot change the world… indeed, that is all who ever have,*" Margaret Mead.*

3. Methodology

3.1 Game Design and Development

The primary investigator and research assistants embarked on creating a first-person video game using the Unity Engine, an open-source 3D game development platform. The development team selected this platform as a cost-effective means that provides ample free tutorials for educational institutions and independent developers to produce high-quality games without the significant financial burden often associated with game development. The game design facilitates gameplay with unfolding scenarios in which the player navigates the world through the eyes of a child. By leveraging narrative, interactive elements, rewards, and consequences, players move through each experience, highlighting the impact of children's rights, as listed by the CRC articles, as they are supported and when they are not. Scenarios include the fundamental right to play, nourishment, a safe environment, freedom of expression, and the right to equitable speech, the latter being the ultimate win the player can achieve at the end of the game. Scenes compare and contrast with music and imagery. For example, the first scene reveals an environment where the child has ample food and a safe home, as depicted by a caring parent who engages them in discourse about the difference between rights and respectfully communicating desires.

In contrast, the next scene offers an unsafe environment, denoted by barren land, hostile ambiance, lack of food, broken windows, and unsafe provisions for the toddler teetering on a slide alone. Rewards are embedded

based on players' game decisions whereby players can achieve collectibles for positive choices, such as being *kind*. A heart on the player's wrist, designed like a watch, grows points when the player selects choices to be kind, such as feeding a bird, picking up garbage, or looking after a sibling. Conversely, players lose points by making poor decisions throughout the game, such as disrespectfully speaking to the parent or making demands. The heart on the player's wrist that grows with positive actions serves as a tangible representation of moral choices, aligning with the concept of "serious games" that aim to provoke reflection and inspire action (Michael and Chen 2005). Imagery and audio continue to evoke emotion and changing attitudes.

Developers used ongoing iterations of formative evaluation to guide revisions and drive improvements to game performance. Advancing the instruction from the 2-dimensional prototype (Ensmann 2017) into a realistic video game takes ample time, expertise, and hardware capable of handling the graphics. Specific design decisions embedded into the first two scenes include beginning the game with common elements players are most likely to be familiar with (such as a soccer ball and a bird) to capture their attention (Gagne 1981) while moving into the fanciful and interactive elements (through user-driven exploration) to motivate gameplay (Gunter et al. 2008). For example, players may play soccer with their siblings to achieve more game points. Game controller navigation uses players' prior knowledge based on common prompts in the game industry. Still, detailed instructions also appear within the first scene for learner guidance before introducing complex concepts (Gagne 1981). The team designed the demo as a computer-based game and redesigned the next version for delivery using V.R. headsets. This experiential learning approach aligns with research showing that interactive digital environments can significantly enhance the retention of complex social and moral concepts (Gee, 2008; Prensky, 2003). The game taps into emotional responses by contrasting positive and negative environments to change attitudes and deepen learning (Bogost 2007).

3.2 Evaluation Instrument

According to the literature, survey methods offer the quickest response rate and cost-effective advantages for mid to large-sized populations (Babbie 1973; Creswell 2017; Fowler 2009). Therefore, the researchers used consensus agreement (Creswell 2017) to create a mix of closed- and open-ended survey questions to enhance numerical data and capture a rich perspective of participants' responses focused on the guiding questions:

Can the rights quest game, A Way Home,

1. inform people about the CRC Treaty and change their perceptions about the need to support children's rights in the U.S.?
2. motivate players to take action by sharing the game and/or information learned from the game?

The survey included instructions and three Likert scale questions regarding gameplay, each followed by open-ended questions for participants to elaborate qualitatively. Three additional open-ended questions offered participants the option to elaborate further. The nine-item survey inquired about the game's motivational aspects and specific facts about the CRC Treaty. Lastly, demographic questions consisting of four multiple-choice and two Likert scale questions captured the participants' gaming habits.

The content questions were distributed to two university students to test the instrument for interrater reliability and reflected a 78.78% agreement rating. Questions were revised based on consensus agreement to offer further clarity (Creswell 2017), resulting in 100% agreement. For example, raters found the first question confusing: *Did the game motivate you to engage?* Consensus agreement offered the modification: *How do you rate the game's features for motivating gameplay?* For the second question, raters found a misspelling corrected by revising a pronoun from "you" to "your."

Each survey began with informed consent, and the university's International Review Board approved the study protocol.

3.3 Participants

Faculty in the Communications department agreed to administer a voluntary pilot test to undergraduate student volunteers (n=17) enrolled in their classes as a convenience sample to gather formative evaluation for game improvement. Students who volunteered between the ages of 20 and 24 at a university in the southeastern region of the U.S. No one was excluded from the pilot test. Researchers did not gather any identifiable information, and the participants were anonymous. Due to the 3D game prototype being in the demo phase of development, the researchers had concerns about possible technical issues the participants could experience if they were to download and play the game themselves. Therefore, a brief video demonstration recording of

gameplay portrayed navigation through all scenes and showcased all the available game interactions. The protocol included having participants watch the video demonstration and then answer the short perception survey to gather information about user experience and knowledge gained about the CRC Treaty.

4. Findings

The first question inquired how the game's features motivated gameplay. Most students answered positively (n=12); some stated that it did not motivate them (n=3); and the rest had a mixed answer (n=2).

The second question inquired about the players' interest in staying in the game until the final scene. While three stated that they did not lose interest, the rest of the answers mentioned specific moments that varied across different stages of the game, from the opening credits to the last scene of the demonstration.

When asked, "What was the game about?" most participants described the contrasting quality of life between different children (n=11) and provided a general description of children's rights (n=4). Others stated that the game concerned high-risk behavior (n=1) and nutrition (n=1).

When listing one fundamental human right in the Convention on the Rights of the Child treaty, most (n=11) could recall at least one right, while some (n=6) did not remember any rights. The most common right mentioned in the answers was the right for children to have nutrition (n=4), followed by the right to love (n=3), to play (n=2), freedom of expression (n=1), and the right to own things (n=1), the latter being the only answer that was not accurate.

When prompted, "Which nation has not yet adopted the treaty?" Most participants (n=13) answered correctly that the U.S. is the only country yet to do this. A few (n=3) did not know the answer, and one responded that Venezuela had yet to adopt the treaty.

When asked about their motivation to take action, such as sharing this game with someone else, most participants (n=8) stated yes, some (n=6) stated no, and the rest of the responses were uncertain. Quotes listed below represent the range of responses:

Finally, regarding participants' gaming habit demographics, most of the sample did not identify as gamers. When asked, "Do you identify yourself as a gamer?" only one person selected "Definitely yes." One chose "Probably yes," two chose "maybe," seven selected "Probably not," and six chose "Definitely not." For the question, "How many hours a week do you play games?" two participants indicated that they play between 4 to 7 hours weekly, seven participants between 1 and 2 hours weekly, and the rest did not play games. Table 1 offers a range of direct quotes.

Table 1: Findings During Formative Evaluation to Improve the Game

Variable	Sample Range of Quotes
Did the game's features motivated gameplay	• *Yes the game motivated me to engage, it was very capturing for my attention* • *not really, I did not understand the point of the game and it was too boring* • *I was engaged, but at times was looking more at the content and missed some of the words on the screen, especially in the beginning.*
Interest in staying in the game until the final scene	• *Halfway thru because of the graphics* • *it was pretty interesting, but I know children are treated like that! so sad.* • *The dialogue needs to be improved, I feel like it's a small detail but would have encouraged*
What was the game about?	• *about solving some kind of escape room by showing the way children are treated in different areas of the world.* • *Provided a way to show people that many children are bless[ed], but others don't have as well made. With that being said at the end of the day the game showed me that no matter their circumstances all children deserve rights.* • *Raising awareness that children around the world or even two houses down from you are treated differently.*
Which nation has not yet adopted the treaty?	• the U.S. (majority)
Motivation to take action	• *yes I would definitely send this game to others* • *Yes since it will create conscious awareness!* • *no because the game looked too unreal.* • *Yes the second situation made me sad and I explained the game to my roommate* • *Yes, with educational school boards. Have children play the game and if a child's circumstance reflects or invokes familiar feelings of negative children's right then provide a prompt for the kids to click "I need help.".*
Do you identify yourself as a gamer?	• No (majority)

5. Discussion

The results indicate that the first game demo positively conveys the intended message and motivates most participants to take action. Most participants could recall critical information about the CRC Treaty and empathized with the disparity between children's quality of life. Many answered that they were motivated to

share information about this game and the topic. The two most common themes the participants recalled were that the U.S. is the only country that has not ratified the CRC and that children deserve fundamental rights. While most participants did not identify as "gamers," they did understand the overarching theme and the importance of raising awareness of this social justice issue. Participants also provided helpful insight regarding the usability of the game and the clarity of how the content unfolds in the game environment. For example, the game development team used participants' responses such as "the game looked too unreal," a need for "dialogue," or references to "boring" to move the game into the V.R. realm. Based on the literature and evolving technologies, future iterations were designed for V.R. headsets like MetaQuest 2 and 3 to improve graphics and motivation.

The transition from a 2D prototype to a fully realized V.R. game represents a critical technological and educational advancement in the project. V.R.'s immersive nature has enhanced empathy and understanding of social issues by placing players in the shoes of those experiencing these challenges (Herrera et al. 2018). This move to V.R. is a technological upgrade and a strategic decision to deepen the game's emotional impact and educational value.

Finally, survey responses revealed opportunities for improvement to clarify the rights listed by the CRC and how players can take action. See Table 2 for sample revisions.

Table 2: Sample revisions based on testing.

Scene	Survey responses and technical challenges	Final VR Version 1
Begin	Wordiness and scrolling across the screen made it difficult for players to read.	Developers truncated scripts to reveal one concept per canvas, and words are directly in front of the player to avoid scrolling.
All Scenes	Participants recommended more contrasts between fundamental human rights provided and not provided and dialogue to clarify concepts. See Figure 3.	Because cultures and experiences vary, the player is now provided with background information prompts to assist in recognizing the environment.
All Scenes	Game elements such as collectibles motivate players to collect treasures for random acts of kindness, such as a gem for admiring the crow rather than scaring him. Still, nothing aggregates the wins for further motivation.	The VR environment now includes a heart on the player's wrist, reflecting points that grow, or decline based on the player's actions. Points now accumulate to spark competition. See Figure 4.
Second Scene	To motivate gameplay, audio evokes emotion, such as in the scene that reflects an impending fall a child could take standing upon a highly misaligned structure. Responses suggested graphics could be more realistic.	The child now falls and cries, offering a more realistic experience than the fantasy created in the demo version. All scenes now have realistic characters. See Figure 5.
End	Users wanted to continue playing at the end.	This version offers Play and Exit options.
All Scenes	Testers suggested that gameplay include realistic graphics and dialogue to reduce player boredom and increase motivation. Still, character agents and assets with high poly counts caused glitching in the Meta Quest headsets.	Beautiful high-poly-count assets were added and then deleted due to the VR headsets' inability to handle them, and developers began using low-poly-count assets again. See Figure 6.

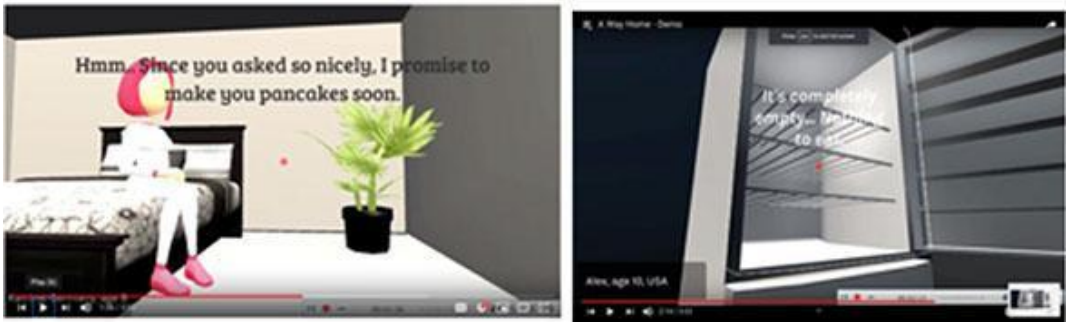

Figure 3 : The first scene was revised to include food and pleasant discourse, compared to the opposing scene with an empty refrigerator and grunts.

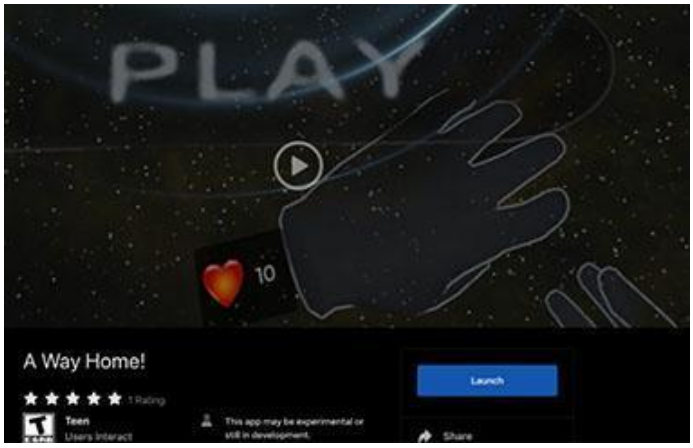

Figure 4: The game now includes a heart on the player's wrist, which grows or loses points based on positive or negative player actions.

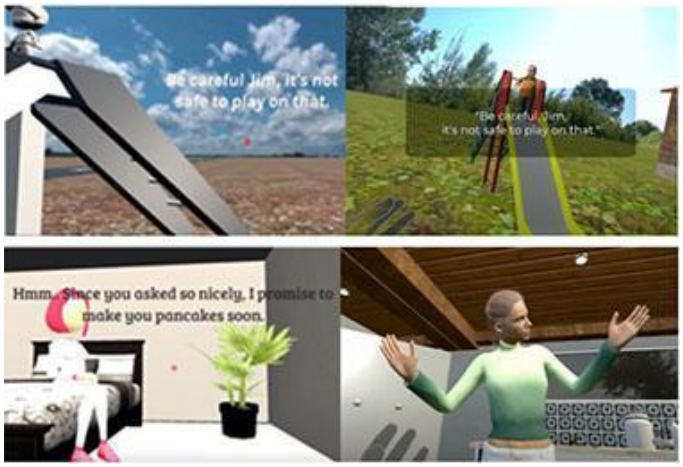

Figure 5 *:* The game now offers a sense of realism repurposed for VR headsets. The computer-based demo version images are on the left, and the final Version 1 images are on the right.

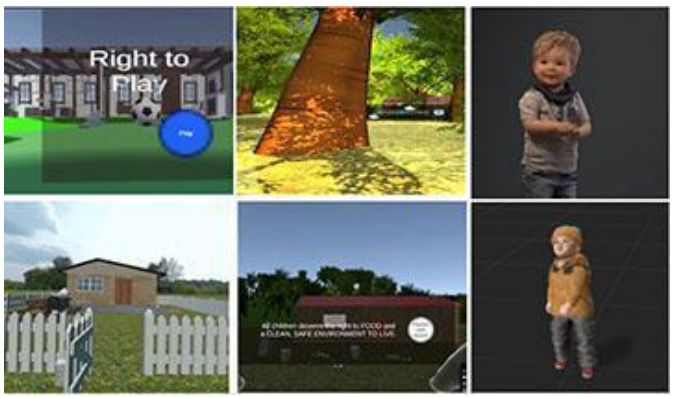

Figure 6: Developers included revisions with high-poly assets to add realism but removed them to improve functionality in VR headsets. Revised high-poly version images are on top, and the final photos are on the bottom.

6. Limitations

Limited funding offered constraints of time and expertise. This project cost approximately ten thousand dollars, which falls short in the industry that produces sustainable games with millions for V.R. environments. Testing results of the game may also include variances due to participants watching a recording rather than playing the game as per the protocol referenced under Methodology 3.3. The sample may be biased due to a

lack of randomization because it only represents a small population, leading to limited generalizability of the findings.

7. Conclusion and Future Work

The initial testing phase of *A Way Home* demonstrates the potential of using a first-person video game to raise awareness about children's rights in the U.S. and educate players on the CRC treaty. Developed using the Unity Engine, this game provides an immersive experience where players navigate the world through the eyes of a child, encountering scenarios that illustrate the profound impact of acknowledgment of children's rights—both when they are upheld and denied. The game's design incorporates unfolding narratives, interactive elements, and moral choices reflected through a tangible in-game mechanism: a heart on the player's wrist. This heart grows or shrinks in response to the player's decisions, symbolizing the consequences of their actions in real time. By engaging with everyday scenarios—like playing soccer or interacting with family—players earn rewards for positive actions, such as kindness, and lose points for negative behavior, fostering a deep connection between gameplay and the moral lessons it aims to convey.

As the game transitions from a 2D prototype to a more immersive VR environment, it leverages advanced technology to enhance its emotional impact and educational value. VR's capability to evoke strong emotional responses by placing players in contrasting environments—safe versus unsafe, nurturing versus neglectful—is crucial for fostering empathy and driving attitude change. This experiential learning approach, supported by research, emphasizes the game's role as a tool for awareness and a catalyst for social change.

Ongoing iterative revisions, guided by formative evaluations, have refined the game's performance and effectiveness. Integrating familiar elements, such as soccer balls and birds, with complex social concepts ensures that players are gradually introduced to the deeper messages of the game, enhancing retention and comprehension.

This concept aligns with Rogers' Diffusion of Innovations theory (2010), which suggests that cultural change is a gradual process driven by early adopters. *A Way Home* seeks to participate in this cultural shift. By building on the historical context of U.S. support for international human rights—dating back to President Reagan's work on the CRC Treaty and continuing with strong endorsements from Presidents Carter and Obama—the game aims to influence public opinion and inspire action toward ratifying the CRC in the U.S. As the game moves forward, the next research phase will explore its ability to motivate gameplay (affective domain), educate players about the CRC (cognitive domain), and inspire civic action in the V.R. environment. By continuing to refine and expand the game's capabilities, *A Way Home* aspires to be a powerful tool in the fight for children's rights, ultimately contributing to a better future for all children.

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