AR PLAYABLE THEATRE ROSENSTRASSE

We Choose Each Other

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ABSTRACT

To explore the future of storytelling in AR, Team MemoiAR iteratively designed an AR adaptation of the award-winning game *Rosenstrasse*, an analog immersive tabletop roleplaying game that explores Jewish-Aryan marriages in WWII Berlin. This AR adaptation, *Rosenstrasse: We Choose Each Other*, preserves major themes and one dyad's storyline of growing love and sustained personal resistance from the original game while AR extends the original live, interactive narrative experience, described in this paper as playable theatre. As a post-mortem and analysis of self-reflections on this playable theatre experience, this paper analyzes key moments of *R:WCEO* and presents autoethnographic descriptions of the first author's play experiences to illustrate design strategies developed by MemoiAR coauthors. These designs facilitate narrative immersion, foster player interpersonal connections, and support physical roleplay enactments to produce a compelling AR playable theatre experience. To conclude, this paper presents transferable insights, drawn from the presented design strategies, for the design of immersive, technologically-mediated playable theatre experiences.

INTRODUCTION

Team MemoiAR explored the future of storytelling in Augmented Reality by iteratively designing and playtesting an AR translation of the award-winning game *Rosenstrasse*[1], an analog immersive tabletop roleplaying game set in WWII Berlin. Designed for four players and a trained facilitator, the transformational game explores "mixed" marriages between Jewish men and Aryan women. The game culminates in the women-led Rosenstrasse Demonstrations that resulted in imprisoned Jewish men being released by the Third Reich back to their protesting Aryan loved ones. MemoiAR's AR adaptation, *Rosenstrasse: We Choose Each Other*, preserves major themes and the dyad narrative of Max and Annaliese, the Jewish violinist and Aryan florist who fall in love and struggle together, from the original game. The adaptation uses AR to build upon the immersive qualities of the live, interactive narrative experience, described in this paper as playable theatre. As a post-mortem and analysis of self-reflections on this playable theatre experience, this paper analyzes key moments from Max and Annaliese's storyline in *R:WCEO* and presents autoethnographic descriptions of the first author's play experiences of these key moments to illustrate design strategies developed by the MemoiAR coauthors. These designs function together to produce a compelling AR playable theatre experience of love and survival in Nazi Germany. Strategies to use physical and digital elements such as diegetic markers, set pieces, and devices facilitate roleplay identity and world-building to produce this meaningful, immersive experience. Additionally, user interface prompts foster interpersonal connections of the dyad within the playable theatre narrative, and embodied game mechanics support increased immersion in physical roleplay enactments to create this technology-mediated playable theatre experience.

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1. Full details and associated media can be found on the *Rosenstrasse* webpage.

Rosenstrasse: A Story of Love and Survival

Rosenstrasse, the historical roleplaying tabletop game designed by Moyra Turkington and Jessica Hammer, is based on the Rosenstrasse protests during which non-Jewish German women demanded the return of their Jewish family members by the Nazi Regime in 1943. Structured roleplay enabled by a facilitator casts players as both a Jewish man and Aryan woman as the civil liberties of Jewish-Aryan couples are eroded by the Third Reich from 1933 to 1943 in Berlin. Culminating in the Rosenstrasse Demonstration, each player roleplays as one half of two different intimate dyads, experiencing everyday moments of love, fear, and bravery in their relationships. Dyads engage in roleplay conversation as the core mechanic to share intimate experiences ranging from romantic moments to dangerous, frightening scenarios. For example, in Max and Annaliese's storyline, this includes scenes of their budding romance, building their lives together after marriage, and responding to the powerful external pressures that would see them separated. *Rosenstrasse* exemplifies the following key themes:

Anti-heroism

Rosenstrasse places players in the everyday relationships of its characters, impacting their available choices and actions, with smaller scale narrative stakes as opposed to epic heroism; e.g. when Max is attacked for being Jewish, he cannot epically battle the Brownshirts[2], as this could result in serious injury or death.

Relationship-centric Play

Players connect with other players by roleplaying key yet everyday conversations as dyads, developing these core relationships throughout *Rosenstrasse*; e.g. Max and Annaliese

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2. See the US Holocaust Memorial Museum Holocaust Encyclopedia *Sturmabteilung* entry for more on Brownshirts.

discuss their feelings, from flirting when they first meet to coping together during Kristallnacht.

External Relationship Pressure

Characters may want to separate from their partner given civil rights erosion, and *Rosenstrasse* prompts reflections on how a character's Jewish identity contributes to their partner's suffering; e.g. Max is banned from air raid shelters because he is Jewish and is encouraged to reflect on how this danger extends to Annaliese as his wife.

Multiple Perspectives

Players roleplay as multiple characters who are impacted differently by the historical events leading to the Rosenstrasse Demonstrations; e.g. a roleplayer who is Annaliese might also be Josef, a Jewish editor and publisher married to an Aryan woman and father of two children, enabling two very different roleplaying experiences within the same playthrough.

Rosenstrasse: We Choose Each Other

R:WCEO is an AR adaptation of Max and Annaliese's storyline; it includes a tutorial, or Part 0, and three major parts connected by transitions. In Part 1, Max and Annaliese meet, and in the following transition they get married and move in together. In Part 2, the couple experiences Kristallnacht, and in the following transition they suffer harassment and are separated when Max is imprisoned. Part 3 is the Rosenstrasse Demonstration and a short follow-up after they are reunited.

Played in a dedicated physical space by two roleplayers using iPads, *R:WCEO* includes diegetic street signs as AR markers in real-world space, seen in **Figure 1**, and period-appropriate costume accessories at the Setup Table for roleplay preparation, shown in **Figure 2**. Using UI prompts, the iPads function mainly

as dyad roleplay conversation facilitators and guide players'
physical movement and interaction within the layout of AR-
generated spaces that can be considered stages for roleplay
improvisations, shown in **Figure 3**. The physical space is
organized so that Max's home and Annaliese's flower shop are
opposite each other and closest to the setup table, with Monbijou
Park and Rosenstrasse about 15 feet away (also opposite each
other) and furthest from the setup table. These locations are
denoted by the street sign AR markers and players use the iPads
to register markers to see and interact with the AR environment
of the playable theatre game.

Figure 1: Diegetic street sign markers for where Max and Annaliese first meet,
Annaliese's Flower Shop, and Max's Home

Figure 2: Setup Table of costume accessories and character markers for Max and Annaliese

Figure 3: Layout of Setup Table and AR roleplay stages marked by street signs, ~15 feet apart

This translation to AR-enabled playable theatre preserved

Rosenstrasse's original key themes of *anti-heroism, relationship-centric play, external relationship pressure,* and *multiple perspectives.* Extending players' enactments of *anti-heroism* and *relationship-centric play, R:WCEO* immerses them in everyday relationships with corresponding narrative stakes and choices which are purposely limited throughout play. Players' experiences of *external relationship pressure* and *multiple perspectives* are similarly extended in *R:WCEO* via its design pillars *"We choose each other"* and *"Our world is getting smaller."*

"We choose each other"

This is the core narrative theme of Max and Annaliese's story, and *R:WCEO* structures roleplaying so that two people share emotional and historical moments by rapidly building, stressing, and supporting intimate bonds between them.

"Our world is getting smaller"

This theme applies to both the AR spaces of *R:WCEO* and the freedom of movement of Jewish people and its effects on Jewish-Aryan couples during WWII. Max and Annaliese's movement is increasingly limited over time during the experience to reflect this.

These pillars are intertwined with three design strategies generated by MemoiAR iteratively designing and playtesting *R:WCEO* with twenty-eight playtesters over six sessions: 1) *Augmenting identity and world-building via diegetic elements and devices,* 2) *Cultivating intimate bonds via AR-facilitated roleplaying,* and 3) *Intensifying experiences via AR-facilitated embodied actions and feedback.* This paper analyzes key moments of *R:WCEO* and presents autoethnographic descriptions of the first author's play experiences to illustrate these design strategies. Such design strategies and pillars coalesce to structure AR playable theatre enactments in what can be considered a play in which players, as

actors, do not yet know their characters nor what they would do or say on the varied stages created by Augmented Reality.

AUGMENTING IDENTITY AND WORLD-BUILDING VIA DIEGETIC ELEMENTS AND DEVICES

R:WCEO's colocated, structured roleplay is complemented by diegetic markers and devices that meld with AR assets and mechanics to create stages for improvisation. Illustrated in **Figure 1** above, the physical street sign markers are designed to match digital assets in the experience. They enable player navigation between AR stages via an iPad shape-matching mechanic. Crafting physical markers to match overarching visual themes of *R:WCEO*'s AR spaces firmly grounds the digital roleplay stages in physical reality. Players assume a different identity through enacting the intimate dyad narrative on these AR stages. The introduction of diegetic markers, set pieces, devices, and their uses in Parts 0 and 1 (the tutorial and the couple's first meeting) are specially crafted to augment the sense of becoming a different self that inhabits a different world: players learn who they are becoming, what world they will inhabit, and how they can navigate and interact with others and objects within it.

In these earliest moments, the UI provides key details for a player's new identity, e.g. "You are Max…Your happiness comes from your music, your freedom, and your family." The UI also prompts them to choose a favorite accessory from the Setup Table. From there, they physically compose their new persona by donning costume pieces. The iPad acts as a mirror, reflecting their identity-building using the front-facing camera, a period-appropriate frame overlay, and a 1940s camera filter, depicted in **Figure 4**. Following this, the AR stages of the *R:WCEO* world are built around the players as they learn how to use the iPad shape-matching mechanic on the character name markers, also depicted in **Figure 2**, and the diegetic street sign markers. The

street signs manifest key narrative locations within the screens of the iPads that serve as windows into the AR stages for roleplay. As players settle into their new diegetic costume set pieces and identities and construct their new world through exploring diegetic street sign markers, music specific to their new self plays from the iPad. The diegetic street sign markers, costume set pieces, and iPads acting as mirrors and windows facilitate identity and world-building so players can enact different personas and experience new perspectives in *R:WCEO*.
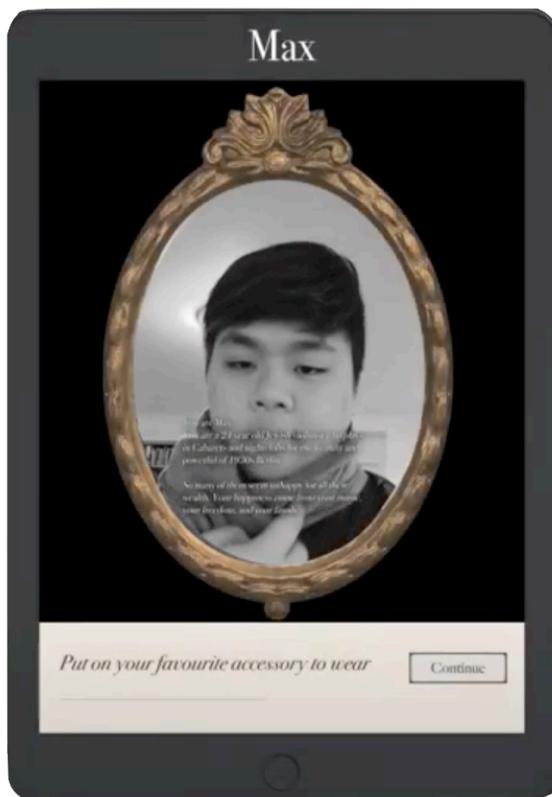

Figure 4: Details about the character Max are displayed on the iPad that also acts as a mirror the player uses to put on a scarf costume piece as he physically constructs his new self

Autoethnographic Play Perspective: Becoming a Different Self in a Different World

Throughout this paper, autoethnography as self-reflection is used to explore personal play experiences towards deriving insights about the playable theatre experience design. The first author's play experience of Part 0 illustrates the construction of identity and world building augmented by diegetic elements and the iPad:

These moments felt like careful, deliberate steps for me to become someone else. The UI prompt "You are Annaliese" suspended my everyday self, and further UI descriptions taught me who I was becoming and what was important to me. When I picked a costume accessory, I picked what I thought Annaliese would like–I didn't pick my *favorite: I picked hers. Watching myself in the mirror-iPad while wrapping her favorite scarf around my new self aided in constructing my new identity, being built directly on my body. Doing all this and seeing the scarf wrapped around my neck as* her *scarf pushed me fully into thinking of my body, myself as* her*, and I felt like I was Annaliese, at least so long as I was playing R:WCEO.*

Next, I peered through the window-iPad at AR stages manifested by street sign markers. They were like physical frames for the colocated AR spaces, elements that existed across planes of reality, both in the AR stages for improvisation and the space I physically inhabited in reality. I learned the shape of R:WCEO's WWII Berlin and the tone and historical setting of my enactments from the UI descriptions and digital assets. The music playing from the iPad served as my new theme song, binding the pieces of my newly constructed self and world together.

In retrospect I can see how these moments set the AR stages for the design pillars "We choose each other" and "Our world is getting smaller." I had not yet met the other half of my dyad, but in becoming Annaliese and inhabiting her world, I recognized my significant other, Max. He was attached to my new identity and was to be central to my experience. I was beginning to become the person who could choose him. In the same way,

my movement in the physical and AR space was uninhibited, but I learned the shape and extent of Annaliese's world. This enabled me to feel the sharp contrast brought on by later limitations on my character's civil liberties. With all of this, I felt ready to move forward as Annaliese.

Cultivating Intimate Bonds via AR-Facilitated Roleplaying

R:WCEO's AR UI and mechanics are designed to facilitate connections between players in the absence of a human facilitator. This AR experience, like the original game, is designed so that player-to-player conversation is the heart of the experience. AR goes beyond visualizing 3D assets, and instead functions as the primary way the game makes storytelling a playable, immersive activity. Throughout *R:WCEO*, Max and Annaliese's relationship is built, tested, and cultivated, all accomplished and augmented by the use of AR UI to structure and facilitate roleplaying interactions. These interactions are supported by *narrative text, internal thoughts, game instructions, conversation starters,* and *full roleplay conversation* prompts, some of which are depicted in **Figure 5**. Facilitating roleplay via UI presents the danger of players focusing on the iPad during roleplay scenarios when they should be directly engaging with each other, so the UI dynamically directs focus as called for by the playable theatre experience. To manage player focus between the UI, the real world, the digital AR world, and their partner, the screen disables certain features when they might be distracting, and uses audio to draw player attention back to the screen when needed. For example, all UI updates are accompanied by a page turn sound, and all chapters end with camera-blocking UI to signal the end of digital interactions and draw focus back to the other player.
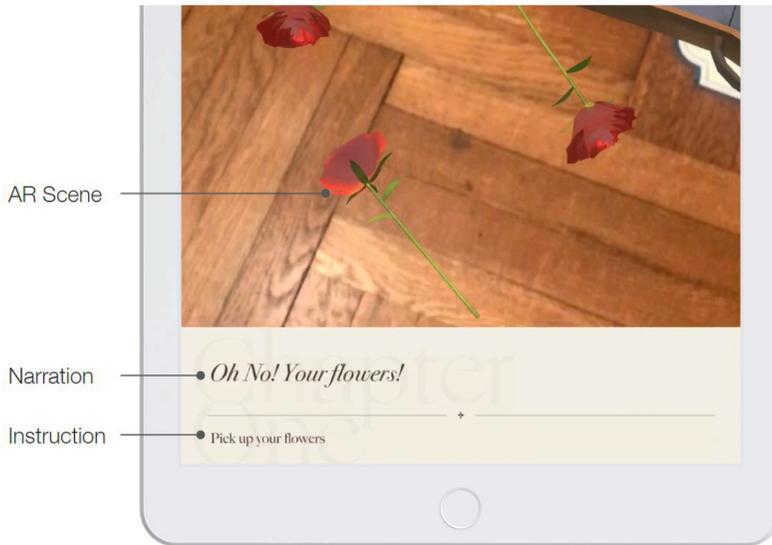
Figure 5: UI narrative text and game instructions prompts facilitate structured roleplay of Annaliese meeting Max for the first time

AR-facilitated roleplay cultivates the intimate bond between Max and Annaliese during especially harrowing moments in Part 2, when their relationship is strained by external forces during Kristallnacht. After being harassed in the park, the couple tries to head home, but intimidating crowds block the quickest route. Unable to discern friend from foe, the couple cautiously returns to the AR stage of their shared apartment. The pair attempt to have tea together to cope with their shared negative experiences and the escalating tension outside their home. However, their peaceful moment is violently interrupted when a thrown rock shatters their window, toppling a vase holding a rose and physically marking the moment the chaos of Kristallnacht invades their home. In these moments of fear and helplessness, roleplaying is facilitated via AR UI prompts to cultivate Max and Annaliese's bond as it is tested in the face of violence. *Internal*

thoughts prompts guide the dyad's reflection and shared expression of their anxiety and uncertainty while *conversation starters* helpfully nudge players to check in with their partner. *Full roleplay conversation* is facilitated by prompts and conversation topics that provoke extended conversation between the dyad. Guided by the AR UI prompts, Max and Annaliese clean up the shattered glass together and press the fallen rose into their album of memories. The UI encourages them to reflect on their relationship in the aftermath of the danger and fear of Kristallnacht invading their home. In these moments, AR-facilitated roleplay cultivates their tested connection by prompting Max and Annaliese to respond to the strain exerted on their bond by fear and violence with small moments of love, as shown in **Figures 6 and** 7.
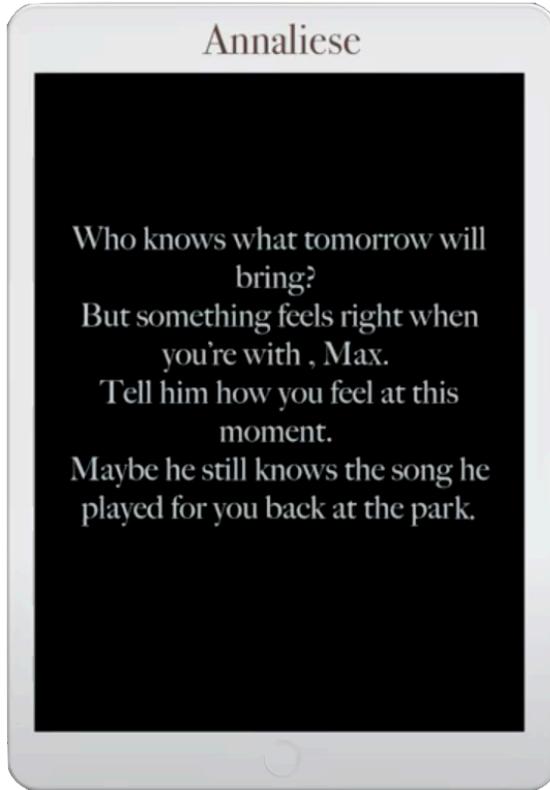
Figure 6: Full roleplay conversation prompts guide Annaliese to reflect and communicate her feelings to Max and initiate a small moment of love amidst the chaos and fear of Kristallnacht
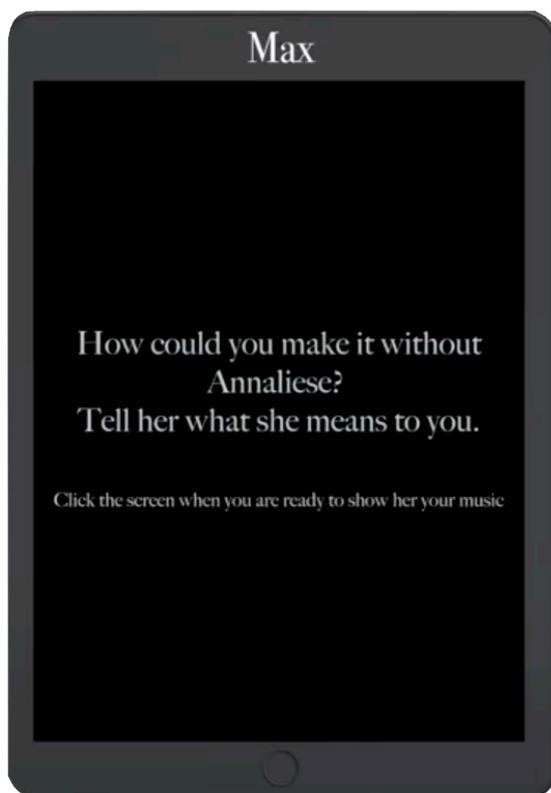
*Figure 7: Full roleplay conversation and game instructions
prompts guide Max to think about and share how he is
feeling with Annaliese before playing his violin for her*

Autoethnographic Play Perspective: Picking Up the Pieces, Together

To illustrate AR-facilitated roleplay cultivating player-to-player connections, the first author describes her play experience of Part 2:

As Annaliese, I felt like my connection with Max had been attacked repeatedly. It was a dark turn in what had previously been a playable theatre experience full of light, love, and laughter. Together, we tried to cautiously move through masses of strangers who made me uncomfortable

and fearful that they might see that Max was Jewish and act upon that. Their dark forms, audible negative remarks, and the AR visual effects indicating likely hostility (shown in **Figure 8)** *kept me on edge. I even heard some discriminatory statements against Jewish people, and I found myself hoping Max hadn't heard them too–I felt we were both worried enough. Because of the harassment we endured in the park and how unsafe it felt to be outside, the feeling "Our world is getting smaller" built within me, and I felt compelled to go home and stay there.*

I felt the same strain even within the relative safety of the AR stage of our shared home, feeling powerless when I realized we could not even comfort each other by having tea together–and feeling scared in the moment that our window was broken and Kristallnacht physically breached our safe haven. But, during the careful, quiet enactment of cleaning up the glass with Max and pressing the rose into our album so that he could preserve the memory of this moment, I felt less fear and uncertainty because I realized we had, and were continuing to, meet these challenges together. To me, the action of adding this negative memory to our album was a small but significant decision that exemplified Max and I continuously choosing each other despite the external pressures on our marriage. It was like a page in our album of happiness that showed they tried to scare us for loving each other, but we still loved and chose each other. This feeling got stronger when we shared our affection, gratefulness, and intent to stand by each other. Our bond was tempered instead of weakened by Kristallnacht. When Max played our song, even after that fear and violence, I felt hope. Despite how terrible things were, we were still together.

Figure 8: Silhouettes on the streets during Kristallnacht communicate tension and hostility through threatening crowd audio and emanating red vectors

INTENSIFYING EXPERIENCES VIA AR-FACILITATED EMBODIED ACTIONS AND FEEDBACK

R:WCEO uses AR to facilitate physical enactments of embodied actions during roleplay to intensify the dyad's experiences. To do so, this AR playable theatre experience carries over interactive mechanics from Virtual Reality and infuses them in the dyad's AR-facilitated actions within AR stages, producing a versatile set of AR roleplayer performance abilities. This set includes: *picking up digital objects* by physically moving the iPad closer to touch or pick up interactive digital objects visible on the iPad screen; *passing objects between players* by using on-screen markers and

aligning one iPad over the other to exchange interactive digital objects; *playing the violin* by dragging a finger over a digital violin on-screen depicted in **Figure 9**; *drawing or writing* by dragging a fingertip on the iPad screen to write messages into the photo album or a letter, seen in **Figure 10**; and *verbally participating* by speaking and using the iPad's speech recognition mechanic. Through the above, the iPad functions not only as a mirror and a window as observed in Parts 0 and 1, and as a roleplay facilitator observed in Part 2, but also as a controller (e.g. picking up flowers) and prop (e.g. playing the violin) that roleplayers can use to physically enact embodied actions. Drawing from theatrical performance, AR-facilitated enactments are designed so that roleplayers must assume a physical gesture in the real world in addition to imagining it when engaging in this AR playable theatre experience, intensifying the quality and immersion of their roleplaying by facilitating embodied actions through use of the multifunctional iPad. Furthermore, *R:WCEO* rewards players for physically enacting embodied performances via AR; e.g. playing the violin causes the iPad to emanate pleasing music, and speaking up during the Rosenstrasse Protests in Part 3 causes AR-generated voices to rally with the player, essentially encouraging them to continue in a positive feedback loop.

Figure 9: Player acts as Max, performing the embodied action of playing his violin on the iPad

Figure 10: Max writes a letter to Annaliese by dragging his finger across the iPad screen

R:WCEO's AR-facilitated embodied actions for roleplay intensify the most emotional moments for Max and Annaliese within Part

3, which portrays the eponymous Rosenstrasse protests and concludes the AR experience. During this time, Max is taken from his workplace and imprisoned at Rosenstrasse. Once Annaliese realizes where he is, she joins the crowd of Aryan women in similar situations to hers outside of his prison. Separated, uncertain, and fearing the worst, the couple cannot perform some epic act of heroism, as they are regular people whose civil liberties have been diminished by the Third Reich. Like in the original game *Rosenstrasse*, the dyad can engage in acts of *anti-heroism*: Max and Annaliese do what is reasonably within their power. For Max, imprisoned with highly limited movement, this means writing a letter to Annaliese that he is not even sure she will see. For Annaliese, uncertain of what will happen to her husband and limited to the environment outside at Rosenstrasse, this means joining the verbal protest starting among the women around her. For both, these emotional experiences are intensified by *R:WCEO* requiring them to physically enact writing the letter and joining the protest respectively. Shown in **Figure 10**, Max must use his fingertip on the iPad interface to scrawl out what he believes his last words to Annaliese will be, and Annaliese must muster strength and courage to use her voice to generate the emboldened chorus of demands for the imprisoned Jewish men to be returned, depicted in **Figure 11**. These intensified emotional experiences, enabled by the AR adaptation's digital interface spurring embodied actions and rewarding them with AR-generated positive feedback, result in the government releasing the Jewish men in response to the sustained protests of a few hundred brave Aryan women. Concluding Max and Annaliese's playable storyline is the final embodied action of their reunited embrace, prompted by the UI in **Figure 12** and followed by Annaliese being able to read Max's letter.

Figure 11: The iPad recognizes speech input from Annaliese during the Rosenstrasse Protests to generate a positive feedback loop of protesting voices
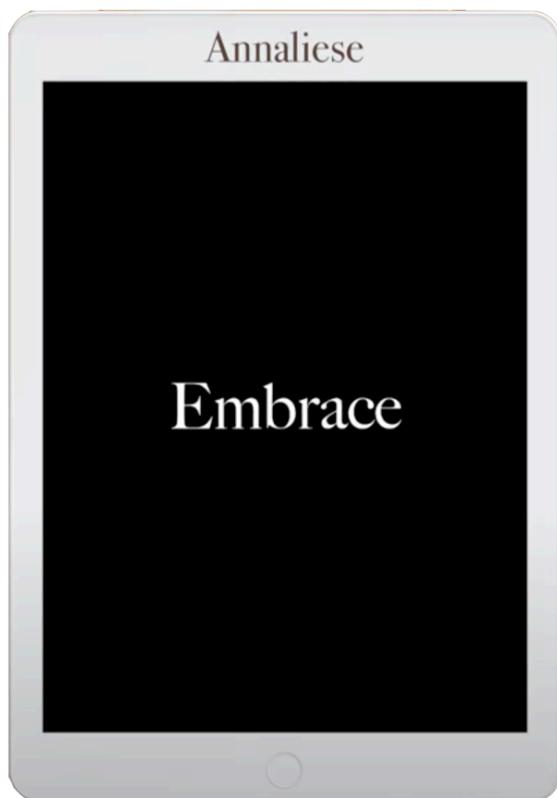
Figure 12: The final UI roleplay prompt in R:WCEO, initiating embodied reunion

Autoethnographic Play Perspective: Reaching Out to Each Other

The first author shares her play experience of Part 3, intensified by AR-facilitated embodied action and an AR-generated positive feedback loop:

> *As Annaliese, the protest that made me raise my voice felt especially emotionally charged. Even more than Kristallnacht, "Our world is getting smaller" manifested here, as I knew that Max could not move from Rosenstrasse and I couldn't physically reach him. My partner was trapped, and I felt helpless. In retrospect, the design pillar "We choose each other"*

informed my course of action in response to this helplessness. Like every moment before, I chose Max again–to do anything I could to help him. Still, just the thought of speaking aloud on my own made me uncomfortable. Previously accustomed to engaging in epic acts of heroism in other interactive roleplaying games via button presses, the necessity for me to perform a smaller-scale yet brave act of anti-heroism by not only speaking aloud but also doing so loudly and with emotion intensified the experience as a whole for me.

Despite my worry that chanting "Give us our husbands back!" loud enough so that both the iPad, as roleplay facilitator, and Max could hear me (and understand that I was protesting) would embarrass me enough to pull me outside of my role as Annaliese, it instead emboldened me because suddenly a crowd of voices joined me. It came from the iPad, and their voices added to my own. After that, every chant became easier than the last. My worry and uncertainty about Max's well-being shifted to bravery, indignation, and determination: I was doing the only thing I could do in the face of our unwilling separation. I was reaching out to Max in the only way I saw possible, and it felt like it was working. For me, the protest moments were the most emotionally charged, even more so than being reunited with Max and reading his letter after. I felt as though through the iPad's nudges, I was pushed into an intense and very embodied roleplay situation and that my participation in that intense moment was met with the narrative matching my energy.

INSIGHTS FOR DESIGNING TECHNOLOGICALLY-AUGMENTED PLAYABLE THEATRE

We draw insights for designing immersive, technologically-augmented playable theatre experiences from our design and play of *R:WCEO*.

Diegetic Mixed Reality Elements Can Augment Playable Theatre Immersion

AR technologies can augment immersion in playable theatre experiences by linking physical and digital set pieces. Mixing these realities can support environment design, playable actions,

and improvisational roleplay. Shared physical-digital assets, such as the street sign markers in *R:WCEO*, bind the physical to the virtual space. Mixed Reality mechanics create connections between a player's physical agency and the digital assets they affect, exemplified in Max and Annaliese enacting the physical movements required to pick up the digital shards of glass in Part 2 as a demonstration of coping with Kristallnacht together. In both of these cases, diegetic Mixed Reality elements act as magnets, clamping the physical and AR stages together and drawing player interactions to them. This firmly roots player activity in the Mixed Reality stages of playable theatre. Furthermore, *R:WCEO* demonstrates that reality-mixing can be accomplished with simple props, such as printable signs, and everyday items like hats.

A Digital System Can Independently and Effectively Facilitate Playable Theatre

A digital interface and underlying system can be designed to effectively structure playable theatre experiences. UI prompts, game-state tracking, and harnessing different input modalities are just some methods for a digital system to independently facilitate an entire multiplayer playable theatre experience. System attention to multiple roleplayer activity, relative location, and various inputs makes *R:WCEO* run well. This is illustrated in Part 3 wherein despite the chaos, the digital system smoothly guides Max and Annaliese through different overlapping roleplay activities during the Rosenstrasse Demonstrations. The same digital system can be configured to manage roleplayer focus, as it is likely players will pay more attention to a screen than their roleplay partner. *R:WCEO* demonstrates successful focus-management system designs. Every Part ends with the iPad turning off its camera view and displaying a simple UI *full roleplay conversation* prompt to redirect players' focus away from the screens to initiate key roleplay conversations with their

partner. *R:WCEO* also shows a digital facilitator can manage a multipart and emotionally potent historical narrative.

Technology Can Create Positive Feedback Loops to Drive Playable Theatre

Technologically-mediated playable theatre can tackle more involved roleplay scenarios by crafting technology-generated positive feedback loops. Involved roleplay scenarios might require unusual modes of participation from players, similar to the requirement for Annaliese's character to join the Rosenstrasse protests by loudly and emotionally chanting "Give us our husbands back!" In the same way *R:WCEO* facilitates player participation by creating a positive feedback loop of other protesters' voices to join Annaliese's efforts in her Part 3 experience. Other technologically-mediated playable theatre experiences can reward players for doing what can be considered advanced roleplay labor. Such rewards are more impactful than those roleplayers might receive in analog playable theatre experiences; e.g. laughter in response to a roleplayer's clever pun is not as empowering as AR voices rallying to join a character's cause. *R:WCEO* illustrates that technologically-generated positive feedback loops can drive more advanced, embodied roleplay actions and narratively-adventurous playable theatre experiences.

LEARNING FROM ROSENSTRASSE: WE CHOOSE EACH OTHER

Our team's struggles can guide future iterations of *R:WCEO* and other roleplaying game AR adaptations. Playtesting, crucial to the project's success, was complicated by COVID-19-neccessitated social distancing and hardware access. As a co-located playable theatre AR experience, *R:WCEO*'s playtesting was limited in later stages to playtesters who lived together and had two iPads. This can be addressed by reconfiguring *R:WCEO* so that mobile phones act as AR roleplay

facilitators and props, enabling co-located dyads to play using devices they are more likely to already have. Additionally, translating powerful narratives into AR elements requires extensive attention to text-based detail. Translation and refinement of AR adaptation texts to drive roleplay narratives were responsibilities shared by all team members, but the importance of crafting narratives without a human facilitator calls for these responsibilities to define a singular, dedicated role. Consistent focus on narrative translation can better facilitate roleplaying as well as do compelling narratives more justice in AR adaptations.

R:WCEO reveals how AR can enhance existing playable theatre, and these insights and lessons point to immersive technologies as tools for composing completely new playable theatre experiences. This warrants further exploration of the affordances of technologically-mediated playable theatre as an emerging genre, with special attention to the myriad of ways it might generate immersive, emotional play and meaningful roleplay.

ACKNOWLEDGEMENTS

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