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The Intersection of Theatre, Motion Capture, and Digital Avatars Exploring New Horizons in Children's Theatre

Cosmin MATEI •

Abstract: The integration of Motion Capture (MoCap)[1] technology and digital avatars into children's theatre offers transformative potential for both artistic innovation and educational development. These technologies enable immersive, dynamic performances that captivate young audiences while introducing new forms of storytelling. However, they also present challenges regarding emotional manipulation and the erosion of authentic human connection. MoCap complicates the traditional actor-audience relationship, as digital avatars assume increasingly active roles in shaping the narrative. This article critically examines the role of MoCap and avatars in reshaping children's theatre, drawing insights from two interviews with a theatre professional and a tech entrepreneur. The interviews explore the implications of these technologies on performance ownership, identity, and the blurred boundaries between human and digital expression. Additionally, the paper discusses how the integration of MoCap into educational environments is essential for preparing actors and audiences to engage responsibly with these innovations. Ultimately, the article argues for a balance between creative exploration, ethical considerations, and the critical engagement of both performers and spectators in a digitally evolving theatrical landscape.

Keywords: MoCap, digital avatars, children's theatre, performance ownership, digital literacy.

Introduction

The convergence of theatre, scenotechnics, and science has historically opened new dimensions for artistic expression, especially in children's theatre. Here, technology goes beyond mere visual spectacle; it interacts with cognitive and emotional engagement by allowing for the creation of worlds

• teaching assistant, Theatre and Film Faculty, Babeș-Bolyai University, Cluj-Napoca, ORCID iD 0009-0001-3885-033X.

[1] Digital motion capture

that challenge the boundaries of perception. Children's theatre, by nature, thrives on the blending of worlds, where the laws of gravity, time, and logic are bent or broken. This creates an environment where metaphor, imagination, and emotional liberation flourish, offering children the freedom to dream, innovate, and explore new possibilities for feeling and meaning-making. Such fluidity allows for a psycho-linguistic liberation, where both fantasy and reality merge, enabling the young audience to transcend the limits of verbal and social rules. The increasing integration of digital technologies into children's lives, including AI-driven platforms and virtual environments, has resulted in significant mental health challenges. Studies on digital wellness highlight the fragility of children's mental health, particularly as they engage with technology without proper guidance or literacy. Children today are more vulnerable to emotional instability, social isolation, and cognitive distortions driven by the rapid advancement of technology[2][3]. Without a robust framework for digital literacy, young minds may struggle to navigate the complexities of these interactions, leading to issues such as addiction, depression, or distorted self-image. This situation necessitates the implementation of strategies for ethical technology use in educational settings. As highlighted by the Digital Wellness Lab, children need to be equipped with critical thinking tools to discern the implications of digital media, build emotional resilience, and preserve healthy human connections[4]. When technology is used irresponsibly, it undermines the potential for human development, especially in children, who are particularly susceptible to manipulative or artificial emotional interactions. This is where theatre can play a transformative role. The

[2] David, Oana & Tomoiagă, Cristina & Fodor, Liviu-Andrei. Gamified Assessment of the Emotion-Regulation Abilities in Youths: Validation of the REThink Online Game-Based Assessment System. Games for health journal. 13. 10.1089/g4h.2023.0011, 2024.

[3] David, Oana, Predatu, Răzvan, Cardoș, Roxana. Effectiveness of the REThink therapeutic online video game in promoting mental health in children and adolescents. Internet Interv. Apr 20;25:100391. doi: 10.1016/j.invent.2021.100391. PMID: 33996508; PMCID: PMC8099491, 2021.

[4] https://digitalwellnesslab.org/research-briefs/children-artificial-intelligence/, Kaitlin Tiches, (2023), Children & Artificial Intelligence, www.digitalwellnesslab.org, 28.11.2024.

integration of Motion Capture (MoCap)[5] and digital avatars[6] in children's theatre provides an innovative, interactive space that can teach children how to engage with technology responsibly. By becoming active participants in a co-creative performance, children can learn not only how to interact with the digital world but also how to critically evaluate and reflect on it. MoCap and avatars are tools that can both educate and liberate, fostering a healthy relationship with technology by allowing children to experience digital identities while still engaging in real, emotionally authentic performances.

While these technologies provide new opportunities for creative expression, they also present challenges related to authenticity and emotional connection. As noted by researchers in the field[7], the key challenge lies in balancing the role of digital technologies with the need for real human interaction. The emotional depth of live performance, coupled with the innovation of MoCap avatars, can create a hybrid space where technology is not a substitute for human connection but an extension of it. By using theatre as a tool to teach digital literacy and ethical technology use, the theatre world can address the growing mental health concerns posed by unmediated exposure to digital environments, helping children learn to navigate these spaces responsibly, creatively, and emotionally. This balance between human and digital interaction could lead to a more holistic digital literacy, enabling

[5] Motion Capture (MoCap) is a technology that captures human body movements and facial micro-expressions through sensors placed on the body and face of actors, which it then converts into digital data to animate virtual characters. The technology is used in cinema, video games, and increasingly in theater performances. For more details see (Masura 2020), (Birringer and Danjoux 2023), (Kapsali 2020).

[6] Digital Avatars are CG-based visual representations of a human or non-human entity, controlled in real time by MoCap technologies, creating an interactive, flexible and customizable experience in virtual environments. For more details see (Nowak și Fox 2018), (Gagneré, Mays și Ternov 2020)

[7] https://www.weforum.org/stories/2024/01/ai-digital-children-risks-opportunities/, Simon Torkington, (2024), This is how to help young people navigate the opportunities and risks of AI and digital technology, www.weforum.org, 28.11.2024.

children to utilize technology not only for consumption but as an active, constructive part of their identity and creativity. The next step for educators and artists is to refine these practices, ensuring that technology serves as a tool for co-creation and emotional intelligence, fostering healthy cognitive and emotional development while mitigating the potential harms of digital overexposure.

1. The Role of Technology in Transforming Theatre for Children

The use of MoCap and avatars in theatre, especially for children, opens the door to dynamic, interactive, and immersive performances that were previously unimaginable in traditional theatre. These technologies enable performers to transcend the limitations of the physical body, allowing them to interact with digital characters in real-time, creating a new form of theatrical experience. As noted in the interviews with professionals in the field, there is a growing interest in integrating these technologies into children's theatre, although, as one interviewee pointed out, such initiatives are still in the early stages in countries like Romania, where both resources and openness to innovation in the state-run theatre sector are limited.

Despite these limitations, the potential for MoCap and avatars to transform the theatrical experience for children is vast. These technologies can offer children an engaging, visually stimulating experience, where the characters they interact with seem real, but also can take on fantastical and imaginative forms that challenge the boundaries of their reality. In this context, digital avatars are not just tools for entertainment but serve as a bridge between the real world and the imagined, allowing children to explore new identities and worlds beyond their physical capabilities.

The integration of Motion Capture (MoCap) and digital avatars in theatre has been explored by several innovative companies and institutions over the years. These technologies have significantly enhanced the expressive capabilities of actors and the immersive experience of the audience. Below, we will examine several key companies that, while not necessarily using MoCap or avatars, have pioneered the integration of multimedia, projections, and innovative visual techniques in theatre. These artistic practices have, in many ways, paved the way for the organic need to incorporate MoCap

technology, helping to bridge the gap between physical performance and digital interactivity. Through their use of dynamic projections, interactive installations, and digital scenography, these companies and projects have set the stage for the evolving role of MoCap in contemporary theatre.

The Gertrude Stein Repertory Theatre[8] is one of the early adopters of technology in theatre, based in New York, has explored the use of digital technology to engage with new forms of theatrical expression. Known for its experimental approach to theatre, the theatre has used technology to explore non-linear narratives and to create hybrid performances where digital elements and inter-media coexist with live actors. The company aimed to push the traditional boundaries of theatre by introducing the digital realm directly onto the stage, offering the audience an experience where the lines between the real and digital are continually blurred. This innovative use of technology provides a platform for examining how human-machine interaction can transform traditional performance, allowing for a more dynamic and multi-layered experience.

The Builders Association[9], a collective known for blending theatre, film, and digital technology, has explored multimedia and projection techniques to create compelling hybrid performances. While they do not necessarily employ MoCap in its current real-time capacity, their use of digital projections, video design, and interactive scenography has paved the way for the integration of such technologies into live performance. Their work often combines live actors with digitally altered environments, creating dynamic narratives that evolve with the story, where the boundaries between the physical and digital blur. These performances demonstrate the potential for technology to co-create with the actor, challenging the traditional concepts of authorship, identity, and performance. By immersing the audience in multi-dimensional digital landscapes, The Builders Association introduces a conceptual framework that critically invites the use of MoCap and digital avatars discourses in future theatrical productions. Their approach reflects a broader shift in contemporary theatre, where technological integration is seen

[8] For more references see: https://www.gertstein-org.ideazzz.org

[9] For more references see: https://thebuildersassociation.org

not as a novelty, but as a necessary evolution in the way performance is created and experienced.

Blast Theory[10] is a pioneering group known for its innovative use of technology in performance art, particularly in interactive and immersive theatre. While they are not specifically known for using Motion Capture (MoCap) in the traditional sense (i.e., capturing real-time actor movements to animate digital avatars), they have been instrumental in blending digital media, interactive technology, and performance to create unique and engaging experiences.

Their work often involves interactive installations, location-based experiences, and virtual reality (VR) elements. For instance, their performance piece *Rider Spoke* (2007) Rider Spoke is an interactive performance project by Blast Theory, where participants engage in a blend of physical interaction and digital storytelling. In this experience, participants cycle through the city while wearing headphones, listening to personalized, pre-recorded audio narratives that are triggered by their movements and location. The use of mobile phones and GPS technology allows the performance to evolve in real-time based on where the participants are riding, creating a unique, immersive experience where the physical world and the digital narrative intersect. This interaction gives participants the sense that they are part of the story, with their real-time actions affecting the unfolding narrative. *I'D HIDE YOU (2012)* is another interactive performance project by Blast Theory that explores the theme of surveillance and identity in the digital age. In this work, participants are given the opportunity to choose how much of their identity they wish to reveal while engaging in a digital, location-based experience. The performance is guided by mobile devices, which direct the participants through a virtual and real-world environment, merging both. The use of smartphones allows for a seamless interaction with the narrative, as participants must make decisions about their privacy, identity, and the information they disclose throughout the experience. The project examines how technology influences the way we present ourselves in public and private spaces, raising questions about identity, control, and authenticity in the digital realm. The performance pushes the boundaries of performance by allowing

[10] For more references see: https://www.blasttheory.co.uk

participants to take control of their interaction with the narrative, blurring the line between audience and performer.

The Wooster Group[11] has utilized innovative technologies in their theatrical productions for its dramaturgical experimental use of multimedia and technology, including live video feeds, video projections, and digitally mediated environments. These elements are integrated seamlessly into their performances, manipulating time, space, and identity to create a layered, dynamic experience.

The Wooster Group's work is centered on the fusion of digital and live elements, where video projections are used in conjunction with physical performances, often manipulating actors' movements and adding new layers of meaning. In this way, they explore concepts similar to what MoCap achieves, but through different technological means.

For example, in productions like *House/Lights* and *The Room*, The Wooster Group incorporated video projections that interacted with live performances, creating a real-time fusion between the actor's physicality and the digital content displayed.

In short, The Wooster Group's performances don't directly employ MoCap in the traditional sense of animating digital avatars in real-time using actors' movements, but they do use technology to manipulate and augment the actor's presence in ways that challenge the traditional boundaries of live theatre and digital media.

The **Royal Shakespeare Company** (RSC) used Motion Capture (MoCap) technology innovatively in their 2016 production of *The Tempest*[12] to bring the character Ariel to life. This marked a pioneering use of live, real-time digital avatars in a major theatrical production. MoCap technology was used to capture the actor's physical movements and facial expressions, which

[11] For more references see: https://thewoostergroup.org/blog/

[12] For more details on how the RSC utilized this technology, you can check the following link for an in-depth discussion: https://www.digitalmediaworld.tv/in-depth/mocap-innovation-captures-the-spirit-of-ariel-in-the-tempest.

were then translated into a digital avatar projected on stage. This approach blended traditional acting with advanced digital animation, creating a hybrid performance that expanded the visual and emotional landscape of the play. The integration of MoCap in this context raised interesting discussions about the intersection of human expression and digital enhancement, as well as questions of authorship and agency. The technology allowed Ariel to appear both ethereal and interactive, making the character a digital extension of the actor while reshaping the audience's perception of live theatre.

As one of the interviewees emphasizes, while integrating MoCap into children's theatre in Romania is a distant possibility due to financial constraints, the potential for this form of theatre to grow and expand is undeniable. Children, already familiar with digital environments, could develop a deeper connection to the stories being told, as MoCap avatars can represent a variety of characters in a way that traditional puppetry or animation cannot achieve. The possibility of creating characters that have infinite life spans and can appear consistently over time introduces a layer of continuity and engagement that is unique to digital representations.

2. The Ethical and Social Implications of MoCap in Children's Theatre

While the use of MoCap and digital avatars introduces vast creative opportunities, it also raises significant ethical and social concerns. One of the most pressing issues highlighted in the interviews is the emotional connection that children form with digital characters, and the potential for this connection to surpass their understanding of the boundary between reality and fiction. Drawing on the theory of parasocial relationships[13], it is evident that children can develop strong emotional bonds with avatars, particularly in the context of live digital theatre where these digital entities are designed to mimic human-like behaviors and responses. This bond can significantly enhance engagement with the narrative, as children often find themselves emotionally invested in the characters portrayed by avatars. The immersive nature of MoCap technology allows for dynamic and responsive interactions, creating a rich

[13] Horton, D., & Wohl, R. R.. Mass communication and para-social interaction. *Psychiatry: Journal for the Study of Interpersonal Processes, 19,* 215–229, 1956.

theatrical experience that can captivate young audiences. However, while this engagement can foster a deeper connection to the story and its themes, it also raises concerns about the potential for unhealthy attachments. Children may struggle to distinguish between their interactions with avatars in a theatrical setting and real-world relationships. This risk is particularly pronounced during childhood, a developmental stage where the ability to differentiate between reality and fantasy is still forming. The immersive qualities of digital theatre can blur these boundaries, leading children to form attachments to avatars that may not translate into healthy social skills in their everyday lives.

In the context of dramaturgy, the narratives presented in live digital theatre often reflect societal norms and values, which can shape children's understanding of relationships and social dynamics. The avatars, through their human-like behaviors, serve as models for social interaction, potentially influencing how children perceive and engage with their peers. This is particularly relevant when considering the extended functional definition of learning, which emphasizes the interplay between individual behavior and the socio-cultural environment[14]. As children engage with these narratives, they are not only entertained but also learning about social roles, emotional responses, and conflict resolution.

Moreover, the socio-cultural context of digital theatre plays a crucial role in shaping these interactions. The stories told through avatars can reinforce or challenge existing societal narratives, providing children with a platform to explore complex themes in a safe environment. However, the risk remains that children may internalize the behaviors and attitudes modeled by these avatars without the necessary context to understand their implications in real life[15]. This can lead to a skewed perception of relationships, where digital interactions take precedence over genuine socialization opportunities. The immersive experience of MoCap technology in live digital theatre can also create a sense of immediacy and presence that enhances the emotional impact of the narrative. Yet, this same immediacy can contribute to the confusion

[14] De Houwer, J., & Hughes, S. Learning in Individual Organisms, Genes, Machines, and Groups: A New Way of Defining and Relating Learning in Different Systems. Perspectives on Psychological Science, 18(3), 17. https://doi.org/10.1177/17456916221114886, 2023.

[15] *Idem,* p. 22.

between digital and real-world interactions. As children become increasingly engaged with avatars that exhibit human-like qualities, they may prioritize these interactions over developing meaningful relationships with peers and adults. This dynamic poses significant challenges for their social development, as the skills necessary for navigating real-world relationships may be underdeveloped[16]. However, while the use of MoCap technology and avatars in live digital theatre for children can enhance narrative engagement and provide valuable learning experiences, it is essential to consider the broader implications of these interactions. The emotional bonds formed with avatars can enrich the theatrical experience, but they also necessitate a careful examination of how these digital relationships influence children's understanding of social dynamics and their ability to form healthy real-world connections. By fostering environments that promote critical engagement with digital narratives while encouraging authentic social interactions, we can help children navigate the complexities of their socio-cultural world in a balanced and healthy manner.

As another interviewee points out, there is a potential for these technologies to over-stimulate emotional responses. While the integration of MoCap and avatars can significantly enhance the educational and emotional engagement of children, it also raises concerns about the manipulation of their emotions. If these technologies elicit emotional responses too strongly, they may limit children's ability to form genuine emotional connections with other human beings. This concern highlights the need to balance the benefits of emotional engagement with the potential risks of over-reliance on digital interactions. The immersive nature of avatars can create powerful emotional experiences, but if children become accustomed to these artificial stimuli, they may struggle to navigate real-world social dynamics effectively. Moreover, this issue touches on broader questions of ethical responsibility within the theatre industry. Practitioners must consider the implications of using technology to create emotional experiences for young audiences. How can technology be employed responsibly to engage children without compromising their emotional well-being?

[16] *Ibidem, p. 30.*

To address these concerns, it is essential to develop ethical guidelines for the use of digital avatars in children's theatre. These guidelines should ensure that the emotional engagement fostered by these characters is not only appropriate but also beneficial for children's overall development. By establishing a framework for responsible use, we can harness the potential of technology while safeguarding the emotional health of young audiences.

3. The Interplay Between Actor and Technology: A New Form of Co-Creation

The integration of MoCap (Motion Capture) technology and digital avatars into theatrical performances, particularly in children's theatre, can be understood as a modern extension of the traditional puppeteer's role. In classical puppetry, the puppeteer manipulates a lifeless object, breathing life into it through skilled control of its movements. Similarly, with MoCap, the actor controls a digital entity – an avatar – that responds to their movements in real-time, mirroring the performer's physical and emotional expressions with increasing precision. This capability extends the actor's physical body, allowing them to create characters and perform actions that were previously beyond the limits of the human body. These avatars become direct extensions of the actor, embodying the same expressive capacities, thus transforming the traditional boundaries of the body in performance. However, the core issue here revolves around the distinction between traditional puppetry and MoCap technology in the context of children's theatre. The interviewee underscores that puppetry traditionally involves a careful balance between the puppeteer's control of a lifeless object (the puppet) and its ability to "live" through the puppeteer's gesture and emotion. This art form relies on the separation between the puppeteer's face and the puppet's performance, allowing the puppet to exist autonomously in the eyes of the audience, thus maintaining the authenticity of the puppet's emotions. In contrast, Motion Capture (MoCap) technology transforms this dynamic by transferring the actor's expressions, including facial gestures, onto a digital avatar in real-time. The problem identified in the interview lies in the fact that MoCap technology eliminates the traditional need for the puppeteer's face to remain "hidden" in favor of the puppet's agency. In MoCap-based performances, the avatar embodies the actor's emotional and physical states, which complicates

the dynamic of performance and identity, as the actor's face becomes intricately tied to the avatar's identity. This issue brings forth a key challenge in the debate surrounding authorship and control in the performance. When the actor's movements and expressions are directly imported into the digital avatar, the question arises: who owns the performance? The interviewer suggests that in MoCap performances, the actor may lose some of their individual agency because the avatar, as an extension of the actor, takes on a level of independence. In this way, the actor becomes less the sole creator of their character's identity, and the digital entity—though a direct extension of the actor's actions—introduces a new, autonomous layer that affects how we perceive the ownership of the performance.

Furthermore, this digital collaboration challenges the authenticity of the emotional connection between the actor and the audience. As the actor's facial expressions and body movements are transferred to the avatar, it could disrupt the actor's authentic emotional connection with the audience, as the avatar now serves as the focal point of the emotional exchange, not the actor themselves. This dilemma highlights the shift in how performative identity is constructed in MoCap performances, especially in children's theatre, where the actor's identity plays a central role in creating an emotional bond with the audience.

While this technological advancement offers exciting opportunities for expanding creativity, it also introduces a need to reconsider the relationship between actor and technology, authorship, and emotional authenticity.

Therefore, in a MoCap-based performance, the co-creational process between actor and avatar destabilizes the boundaries between the performer and the technology, raising important questions about ownership, control, and the authenticity of performance. The actor's face and body now belong to both themselves and the avatar, leaving the audience to question: when does the actor's emotional expression end, and when does the digital avatar's start?

This paradox is particularly critical in the context of children's theatre, where the relationship between the actor's identity and the audience's emotional connection is vital. While MoCap and avatars provide new expressive possibilities, they also necessitate a careful balancing act to

preserve the authenticity of both the actor's presence and the digital representation. While the actor maintains the role of co-creator, the avatar's autonomous presence in the performance may overshadow the actor's direct involvement in shaping the character, leading to questions about the authenticity of their expression and the sense of ownership over the performance. This issue is particularly pertinent in children's theatre, where the relationship between the actor's identity and the audience's emotional connection is crucial.

The challenge here is more than a technical one; it touches on the very essence of performative identity. Traditionally, puppetry allows for a clear distinction between the human performer and the puppet, but MoCap technology makes the boundaries between the human actor and the digital entity fluid and interdependent. The actor's body, transformed and amplified digitally, becomes not just a means of expression but a bridge between reality and imagination, creating a hybrid corporeality. Similar to Fabre's exercises[17], where human beings are transposed into animals, the actor finds their own body in a new, almost alien form, in dialogue with the digital avatar, a fusion where the human and non-human intertwine. In contrast, MoCap avatars challenge this separation, making the boundaries between human performer and digital entity more fluid and complex. According to Deleuze and Guattari's (1987) theory of assemblage, this can be viewed as a merging of human and technological elements in a dynamic, co-creative process. The assemblage of actor and avatar creates a new form of identity that is neither entirely human nor entirely digital, but a hybrid that blurs the lines between the two. The sense of belonging in this process refers not only to the actor's control over their movements but to the negotiation of this hybrid corporeal space – a space in which the actor's expressive capacity and the digital technologies they work within co-creative frame for the performative action, in real-time. This construction is not fixed or inherent but is formed, often reflecting social, cultural, or technological influences. In assemblage theory, identity is seen as a product of various interconnected elements – human, technological, spatial, and affective – that come together to form a temporary

[17] Fabre, Jan, Van den Dries, Luk. From Act to Acting. Fabre's guide lines for the 21st century performer/De la Act la Performare: Un ghid pentru performerul secolului al XXI-lea. Presa Universitară Clujeană, Cluj-Napoca, 2023.

'whole.' These situational acts are not mechanical reactions to the present moment but responses of self-negotiation of the sense of ownership and control, efforts oriented toward the act of becoming, and are continuously reorganized by a set of evolving opportunities, within a process of reciprocal determinism. In children's theater, the actor's identity is essential for creating and maintaining an authentic emotional and cognitive connection with the young audience. Changes in the construction of performative authorship, driven by technological influences and the hybridization of the actor's identity with digital elements, raise important ethical dilemmas. These transformations not only affect the perception of the actor's role but also question the authenticity of the performative act, especially in a context where children are highly sensitive to the sincerity and coherence of the actor-audience relationship. MoCap does not simply represent the actor's performance; it becomes a co-creational tool that challenges the very act of representation. The actor is not only shaping a character but also negotiating their own identity in relation to the digital and the human, in a space where the emotional connection with the audience is central. Therefore, it becomes critical to explore how digital avatars can both enhance and complicate the relationship between actor, audience, and performance, particularly in contexts where emotional authenticity is paramount[18].

The ability to convey emotion through MoCap avatars without losing the authenticity of the human actor's performance lies at the heart of the evolving relationship between actor and avatar. Using Barad theory[19], we could say that the process of intra-action between the actor and the digital avatar creates a shared reality that cannot be fully attributed to either the human or the machine. Rather, it is through their ongoing interaction that new forms of expression emerge. This dynamic, however, demands a new way of thinking about ownership and authenticity, especially in a performance art that relies so heavily on the visible, embodied presence of the actor in the moment.

[18] Shaughnessy, Nicola (ed.). Affective Performance and Cognitive Science: Body, Brain and Being. London: Bloomsbury, 2013.

[19] Barad, Karen. Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter, Vol. 28, No. 3, Gender and Science: New Issues, The University of Chicago Press, 2003.

In conclusion, the integration of MoCap and digital avatars into children's theatre offers immense creative potential while also presenting intricate challenges related to authenticity, emotional connection, and identity ownership. Traditional puppetry thrives on a clear separation between the performer and the puppet, enhancing emotional authenticity through this distinction. However, MoCap blurs these boundaries, merging the actor's physical and emotional expressions with a digital entity, complicating the relational dynamic between actor, avatar, and audience. This fusion introduces a delicate balance between human agency and conventional digital autonomy, requiring a dramaturgical reevaluation of these two components within the performance. If embraced thoughtfully, these technologies have the power to redefine theatre as a collaborative space where human expression and digital innovation intersect. This transformation invites both audiences and performers to navigate new realms of creativity, fostering deeper engagement and expanding the horizons of theatrical experience in the digital age.

4. The Role of Education: Preparing the Next Generation of Performers and Audiences

Meanwhile, educational institutions around the world are beginning to recognize the transformative potential of MoCap and digital avatars beyond their artistic applications. By integrating these technologies into their curricula, they are reshaping the learning environment to reflect the evolving digital landscape. MoCap is not only used to enhance physical performance but also to foster creativity, critical thinking, and interdisciplinary collaboration in fields ranging from theatre and storytelling to animation and game design.

This shift in educational practice highlights a broader trend where digital tools become central to the development of new pedagogical strategies. Institutions are creating immersive learning experiences that allow students to experiment with embodied expression, problem-solving, and digital literacy, equipping them with skills relevant to an increasingly digitized world. These initiatives demonstrate how the convergence of performance and technology can serve as a powerful educational resource, opening up new avenues for student engagement and learning.

Let's examine how various educational environments are implementing MoCap to foster both artistic and cognitive development.

The **CSUSB**[20] Projects in Educational Contexts at California State University, San Bernardino, has integrated Motion Capture (MoCap) training into its Theatre Arts program. This allows students to explore physicality and poetry through real-time digital creation, enhancing their expressive and creative abilities. The use of MoCap provides an immersive learning experience, combining physical movement with digital representation. By incorporating this technology, CSUSB enables students to experiment with digital performance, broadening the creative boundaries in theatre.

The **University for the Creative Arts (UCA)**[21] has integrated a cutting-edge Motion Capture (MoCap) and Virtual Production Studio at its Farnham campus. This facility supports various disciplines, including performing arts, games design, visual effects, and film production. The MoCap studio is equipped with state-of-the-art Vicon motion capture systems and real-time rendering technology, enabling students to create immersive digital environments and avatars that respond to their movements. This studio not only enhances creative learning but also provides hands-on experience with technologies widely used in the entertainment industry. The MoCap integration at UCA is part of a broader initiative to blend traditional artistic practices with innovative digital tools, positioning students at the intersection of art and technology. It allows them to explore new storytelling methods, develop performance capture skills, and engage with real-world projects through industry collaborations

CINETic[22] (International Center for Research and Education in Innovative Creative Technologies) in Bucharest integrates Motion Capture (MoCap) technology as part of its research and educational initiatives. Their focus includes sensory motion capture and the generation of content through sensor data manipulation, blending physical performance with digital

[20] For more details see: https://www.csusb.edu

[21] For more details see: https://www.uca.ac.uk

[22] For more details see: https://cinetic.arts.ro/en/about/

interfaces. This allows them to explore interactive installations, virtual reality (VR), augmented reality (AR), and mixed reality (MR) environments, enhancing both artistic performance and audience interaction. As professional training in the performing arts increasingly integrates emerging technologies, CINETic, from its inception as a research center within UNATC, has directed its efforts towards testing and applying these technologies alongside research initiatives. The outcomes of this research have been reflected not only in theatre productions utilizing virtual reality but also in the development of animation theatre. Furthermore, the center contributes to generating digital knowledge, which is subsequently reintegrated into UNATC's curriculum, supporting the formation of a new generation of artists capable of navigating between traditional artistic expression and technological innovation.Their applications span from digital animations to performances with significant social impact and even therapeutic visual forms, making them a leading figure in merging technology with performing arts in Romania.

As vocational and educational training (VET) in performing arts begins to integrate emerging technologies like MoCap and digital avatars, it becomes increasingly necessary for educational environments to prioritize comprehensive curricula that focus on children's theatre. Traditionally, performing arts education has centered on drama productions, often overlooking the complexities and unique demands of performances for children. However, in an era where digital innovation reshapes narrative structures and modes of engagement, children's theatre offers a fertile ground for experimentation with these technologies. Integrating MoCap technologies and other multi- and inter-media technological discourses into curriculums for children's theatre education necessitates more than technical training; it requires a paradigm shift in how students are taught to approach storytelling, audience interaction, and digital literacy. As Hans Robert Jauss's theory of reception emphasizes, audiences are active participants in constructing meaning. This is especially pertinent in children's theatre, where young audiences interact with performances through imagination and emotional engagement. In digital theatre, these interactions become even more complex, with children navigating blurred lines between human actors and digital avatars. Therefore, education must prepare future performers not only to master these tools but also to foster meaningful, ethical engagement with young audiences.

Training programs in acting, directing, playwriting, and scenography should be reformed to address this need. When working with MoCap, actors must remain grounded in their character's narrative context, especially when engaging with the extremes of imagination. A demon, for example, is not just a creature in a costume; it embodies a set of rules, behaviors, and psychology that must be deeply understood and activated through non-verbal means. As Prof. Lutterbie points out, the *Actor's Score*[23] involves navigating uncertainty, which in MoCap may come from the unpredictable integration of physical performance with digital input. Actors must be mentally prepared to regulate and maintain their groundly connection with their own sense of ownership and sense of agency while their physicality is transformed by the digital world, ensuring they don't lose their grounding in the character hey've created.

To embody such far-reaching characters, training must encourage actors to step beyond traditional theatrical forms like realism, tragedy, or commedia dell'arte. Instead, they need tools that foster the ability to embody and maintain complex, imaginative characters through a mental framework that includes unique behavioral patterns and physicalities. Actors should learn to work in realms where physicality isn't restricted to naturalistic movement but extends into symbolic gestures that bring non-human characters to life.

Training should emphasize mental tools like scenario-building and empathy exercises, which help actors understand not only the physical traits of their characters but the inherent psychology that drives them. By diving into the environment of a scorpion or a demon, actors need to develop a framework where imagination and creativity aren't bounded by realism but are harnessed to create believable, dynamic performances in completely imagined worlds.

Acting training for the digital age should focus not only on physical technique but also on the mental and psychological flexibility required to work with non-human avatars. Students should be encouraged to explore and develop ways of thinking that go beyond familiar acting traditions, enabling them to create depth in characters that exist outside of human experiences. In

[23] Lutterbie, John. Toward a General Theory of Acting: Cognitive Science and Performance. New York, USA: Palgrave Macmillan. 2011.

practical terms, this could include training in improvisation for non-human characters, as well as structured exercises that help actors anchor themselves in their characters' mindset and behaviors, allowing for emotional regulation and heightened imaginative performance in any given moment.

In conclusion, training actors to work with MoCap and digital avatars requires a fundamental shift in how we understand performance, going beyond traditional boundaries to teach new ways of thinking, emotional regulation, and imaginative freedom. By integrating the concepts of ownership, emotional control, and flexibility, actors will be better prepared to meet the challenges posed by digital theatre.

Directing children's theatre in the digital age requires an expansion of traditional training, incorporating MoCap technology and virtual environments to blend live performances with digital avatars. Directors must learn to coordinate both the physical and digital elements of a show, ensuring they complement the narrative while maintaining emotional engagement. Training should emphasize technological fluency, collaborative skills, and flexibility, enabling directors to adapt to the evolving demands of immersive, interactive storytelling. This interdisciplinary approach ensures directors can harness new technologies to enhance the emotional and imaginative impact of performances for young audiences. Playwriting programs should explore how digital environments can expand narrative possibilities, while scenography courses should consider how virtual and physical spaces intersect to create immersive experiences for children. Moreover, digital literacy must be a core component of this training. Both performers and audiences need to understand how digital interactions shape identity, narrative, and emotional resonance. By embedding these principles into curricula, educational institutions can ensure that future practitioners approach digital theatre not merely as a technical challenge but as an opportunity to deepen artistic expression and audience connection, particularly in the transformative space of children's theatre. Ultimately, a focus on children's theatre within VET programs will prepare students to engage with digital innovations responsibly and creatively, shaping a new generation of artists who can connect with diverse audiences while expanding the boundaries of theatrical performance.

5. Voices from the Industry: Perspectives on MoCap and Digital Avatars in Children's Theatre

The following interviews provide valuable insights into the current state and potential future of digital technologies, specifically Motion Capture (MoCap) and avatars, within the context of children's theatre. These discussions offer contrasting yet complementary perspectives on the integration of MoCap and avatars in theatrical productions, focusing on both the creative possibilities and the ethical, educational, and emotional challenges posed by these innovations.

The first interview is conducted with Ana Cucu-Popescu, a Romanian playwright and dramaturg with a strong focus on theatre for children. She graduated with a Bachelor's degree in Theatrology in 2010 and a Master's degree in Playwriting-Filmology in 2012, both at the Theatre and Film Faculty/Babeș-Bolyai University, Cluj-Napoca. Ana has been actively involved with Reactor Cluj private company, where she has contributed to various theatrical projects and workshops aimed at young audiences, particularly through MiniREACTOR program, the children's branch of Reactor, and lately at Zbeng Cultural. Her work is notable for its emphasis on fostering creativity and inclusivity through interactive and innovative storytelling methods, often blending traditional and contemporary dramaturgical approaches. Ana also co-founded the "Scena Mică" theatre school in Târgu Jiu, where she continues to lead creative writing and dramatic workshops for children and teenagers.

The conversation highlights the challenges related to funding and technological infrastructure but also emphasizes the potential of MoCap to enhance the storytelling experience and engage a new generation of audiences familiar with digital environments.

The second interview was made with Dragoș-Florin Stanculescu the co-founder and designer of Holotech, the company behind Animaze, a digital avatar program that allows users to create and interact with avatars in real-time. Initially, the company developed FaceRig, a program focused on facial expression, but later reworked and expanded it into Animaze in 2020. The technology is now used by creators, educators, and brands to develop avatars that are highly expressive and reflect users' real emotions and movements.

Dragos, who has also a background in coding, digital art, and game development at FunLabs, was inspired by the idea of overcoming social anxiety through digital avatars. He believes that avatars, by masking the user's physical identity, provide a new level of confidence, enabling individuals to express themselves more freely. His work emphasizes the emotional potential of avatars, aiming to create deeper emotional connections through the use of AI and real-time motion capture technology.

The Holotech CEO's perspective on avatars and their role in digital communication also draws from a psychological understanding of perception, influenced by thinkers like Jean Baudrillard, and is deeply concerned with the potential of hyperreality. He is motivated by a vision of digital spaces that foster genuine, emotional connections, promoting the idea of using avatars to bridge the gap between the digital world and authentic human interaction. The interview explores the possibilities offered by MoCap and avatars from a more technical and artistic perspective. It focuses on how these technologies create a new form of co-creation between the actor and technology, while also raising concerns about the potential risks associated with emotional manipulation and the erosion of authentic human connection. Furthermore, it touches on the need for education and training to ensure that both performers and audiences can effectively navigate this new digital landscape.

Together, these interviews underscore the complexities and opportunities of integrating advanced digital technologies into children's theatre. They provide a critical reflection on how theatre can evolve to meet the demands of a digital age, while maintaining its core values of emotional authenticity, creative expression, and educational impact. The discussions also set the stage for further exploration into the ethical and social implications of such technological integration in performing arts.

Ana Cucu-Popescu

What would be the perspective of children's theatre on the use of Motion Capture technology and digital avatars in children's performances? Do you

think these technological elements can coexist harmoniously with the tradition of puppet theatre?

ACP: These are two completely different questions. To answer the first one, I feel the acute need to structure my thoughts in two layers:

1. In Romania, the idea of using Motion Capture technology in children's theatre is still in the realm of science fiction, unfortunately. In recent years, there have been initiatives to incorporate more technological elements or even conceptualize the spectator experience for children (for example, *Dragoni/Dragons* created by Bobi Pricop at the Theatre for Children and Youth GONG[24]), but these trends are still in their infancy. The prospects for using Motion Capture technology in children's theatre in Romania seem rather distant for two main reasons: state theatres, which would have the funds to implement such projects, do not seem to have the necessary openness, and independent theatres, which might be more open to innovation, are extremely far from having the required financial resources.

2. Outside of our borders, I believe it is very likely that in a few years this type of technology will be experimented with in children's theatre, why not?

As in any field, there are people in children's theatre who are very open to the new, to experimentation, and to using any available means to maximize the spectator's experience and understanding.

As for the second question, I would first like to make a clear distinction: children's theatre does not only mean puppet theatre, and puppet theatre is not exclusively for children. The art and craft of puppetry involves bringing a lifeless object to life and "tricking" the audience into believing that this object lives, even having feelings and emotions. From this perspective, I do not think that Motion Capture technology is compatible with puppet theatre. When using this type of technology, the digital avatar does not have the same characteristics as a puppet, and the skills and abilities required from a performer to "handle" such an avatar are more related to their bodily expressiveness, their facial expressiveness, rather than puppeteers, for whom it is essential to hide their facial expressions (sometimes even the entire face under a mask) to allow the audience to focus all their attention on the puppet.

[24] https://teatrulgong.ro/ro/events/dragoni

Therefore, I believe that, at least at the performer level, we are talking about two diametrically opposite skill sets.

How do you perceive the influence of new technologies on children's ability to connect emotionally with the story and the characters? Do you think that technology can encourage or, on the contrary, diminish this connection?

ACP: That's an extremely interesting question. I'm tempted to say that the use of technology would certainly increase children's emotional connection with the characters and the story. There would certainly be delight and fascination. But I can't help but wonder: wouldn't it be too fascinating? Novelty and surprise, I think, are aspects that we experience rather rationally. So, it remains a question mark for me as well whether this strong rational response of children would come at the expense of a deeper emotional connection.

What challenges and opportunities do you identify in the process of creating a children's show that combines traditional elements of puppetry with digital technology? How do you see this fusion influencing the artistic and pedagogical training of actors?

ACP: I partially answered this question with what I wrote in the first question. Of course, it seems to me not only possible, but also beneficial to combine traditional puppets with digital avatars in a show. I think it would be something truly wonderful. One of the challenges I identified, however, is related to the prior preparation of the performers in the show. As I said above, I strongly believe that the two skillsets required for handling a puppet and "handling" a digital avatar are clearly different. I would go so far as to say that animating a digital avatar is an art in itself, which is closer to classical acting, but does not completely overlap with it either. To give you an example: I'm sure Andy Serkis can do what Brad Pitt can do, but I don't think Brad Pitt can do what Andy Serkis can.

So, I think that for the successful implementation of this technology in theatre, there needs to be a sustained effort to train actors for this type of work. Maybe there's no need for an entire university section dedicated to Motion Capture acting, but at least a postgraduate specialization would be beneficial.

Children's theatre has an important educational mission. How can the integration of technology in children's shows support relevant social themes

such as inclusion, diversity or environmental responsibility? ...but other themes?

ACP: I think that including technology in children's theatre would make us more… "credible". Let me explain, I don't think we can move forward completely ignoring the fact that younger generations are anchored in a completely different reality than we were.

As much as there are voices that support "maintaining the purity of children" or holding on to traditions as a guarantee of quality, I think the days of classic stories told in a classic way are about to end. Of course, at this point, one can still make the purely capitalist argument that classic stories (still) sell. The only reason for this is that parents are the ones with the purchasing power, not children, and those parents are still part of the generations that grew up with those stories. But that will stop at some point, not too far in the future. And then we will hit the inability of an entire field to keep up with the needs of the audience.

Having said that, I would personally advocate for a "modernization" of the means by which we bring relevant social themes to the young and very young audience. I think that we, as a profession, can no longer afford to reject technology. And why would we, after all?! Don't we all want the good messages we have to convey to reach as many children as possible and to be received with as little reluctance as possible?

How do you see the future of children's theatre in an increasingly digitalized world? Do you think technology can redefine the theatrical experience, or does it risk diluting the traditional values of theatre?

ACP: I believe that as long as the essence of theatre remains the same (the uniqueness of each performance and the fact that the audience participates in something irreplaceable, something that develops right before their eyes), I don't think we are in danger of diluting its traditional values. As long as the human element still lies at the foundation of the theatrical act, I believe technology can only enhance the spectator's experience.

As for children's theatre... I'm hesitant to make a definitive statement. On one hand, based on my direct experience with younger generations, I would believe that there is a need for an "upgrade" both in the content and the

form of children's theatre. However, on the other hand, I also feel it is equally important to try to preserve the classical art of puppetry. Perhaps the point where these seemingly diametrically opposed thoughts meet is precisely in adjusting the content and adopting a broader approach to the themes and subjects that concern today's children.

Dragos-Florin Stănculescu

How do you see the future of children's theatre in an increasingly digitalized world? Do you think technology can redefine the theatrical experience, or does it risk diluting the traditional values of theatre?

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What do you see as the main artistic opportunities this technology offers to actors and directors?

DFS: For actors, MoCap and digital avatars open up new acting possibilities, where their movements and expressions can be digitally captured and amplified. It can extend the physical limits of the human body and can lead to the creation of characters that are impossible to realize in the traditional way. Digital characters also have a theoretically infinite lifespan. They will never

age and can look the same now as in 50 or 100 years. Filmmakers can also explore new forms of storytelling, combining human performative acts with complex digital universes, offering greater creative freedom. In addition, this technology allows rapid experimentation with visual ideas that would have been impossible in a traditional setting.

How do you perceive the relationship between actor and digital avatar? Can we talk about a form of "co-creation" between the human actor and digital technology?

DFS: Yes, it is definitely a form of co-creation. The actor not only plays his role, but also creates his own avatar, and this avatar can be adjusted in such a way that its "response" is adapted to the actor's particular movements and expressions. It is a collaboration between the human actor and digital technology, each influencing and shaping the other. The actor can express his or her emotions and intentions, and the technology adds an extra dimension, perhaps even intensifying the performance. This means that both entities - the actor and the digital avatar - are interdependent to create a complete performance.

What difficulties might arise in integrating this relationship into the creative process and how can they be overcome?

DFS: One of the difficulties is the technological complexity – integrating the actor with the digital avatar requires precise synchronization and control of movements. Additionally, not all actors are familiar with digital technologies, and learning how to work with MoCap can be challenging. Moreover, there is a risk that technology could negatively affect the actor's performance if not used correctly. These difficulties can be overcome through education and continuous training of actors, as well as by creating technical support teams to help with the smooth integration of the technologies.

How do you think MoCap technology influences children's emotional and psychological development? Are they likely to develop a different emotional attachment to avatars compared to traditional puppets or marionettes? What do you consider to be the risks associated with excessive use of technology for children and how does your company relate to these challenges?

DFS: MoCap technology can influence children's emotional development as they interact with digital characters that have behaviors and reactions closer to reality than traditional puppets. This more realistic interaction can lead to a different emotional attachment, and children may begin to see their digital avatars as entities that they can relate to for the long term. However, there are risks associated with over-reliance on these technologies, such as reduced social interactions and possible isolation. Our team encourages a healthy balance between technology use and traditional socializing activities.

What kind of measures can be taken to make this technology more accessible to schools, disadvantaged communities, or the general public?

DFS: To make MoCap technology more accessible, we should focus on developing easy-to-use software solutions and creating more affordable equipment. It is also important to promote partnerships with educational institutions and disadvantaged communities to provide access to training and workshops, as well as to distribute the necessary equipment. Additionally, there are platforms that offer cloud-based solutions for creating digital avatars, reducing the need for an expensive creation process.

How do you see the potential of using this technology to create inclusive stories that reflect social and cultural diversity?

DFS: MoCap technology and digital avatars are excellent tools for creating inclusive stories. In a digital world, there are no physical limits, which means any character or story can come to life, regardless of race, gender, or culture. This allows for greater representation of diversity in children's theatre performances and can help educate and raise awareness among children about social diversity.

Do you believe that Motion Capture technology and digital avatars raise specific ethical concerns, such as the loss of the actor's authenticity or excessive reliance on digital resources? How can a provider of such services address these concerns?

DFS: Yes, technology can raise ethical concerns in the sense that digital avatars can become more influential than human performance. If we encourage responsible use of technology, focusing on complementing the human actor rather than replacing them, things should be fine.

Are there any sustainability initiatives integrated into the development and use of digital technologies?

DFS: In our team, we focus on using energy-efficient technologies. What we are currently creating, the image, is generated "on-device," which does not have a major energy cost in the cloud.

What technical challenges are encountered in the process of implementing Motion Capture technology in live performances? What solutions do you think should be developed to overcome them?

DFS: Technical challenges include real-time synchronization of the actor's movements with digital avatars, especially when movement is tracked by multiple sensors of different types, and managing the complexity of the infrastructure needed to support live performances. Interactions between characters (when there is physical touch or aspects related to the direction of gaze) can be complicated, especially between characters of very different sizes, which obviously don't meet in real life for human actors. Also, the software should become more intuitive and accessible for artists without requiring an extensive technical team.

How do you see the technological evolution of Motion Capture in the next 5-10 years, and what impact could it have on the future of the performing arts?

DFS: In the next 5-10 years, I expect MoCap technology to become increasingly accessible, more precise, and easier to integrate into live performances, greatly supported by artificial intelligence to address the shortcomings of current motion capture methods. This will allow the creation of more immersive and interactive performances, where the boundaries between physical reality and virtual reality will become more fluid. Given the continuous progress in artificial intelligence and augmented reality, performing arts will evolve in a hybrid manner, where actors and avatars will coexist in a form of digital collaboration.

How can MoCap technology and digital avatars (characters) be used responsibly, given the risks mentioned?

DFS: To use technology responsibly, it is essential for creatives and developers to set clear boundaries between reality and fiction, ensuring that avatars do not replace authentic human interaction. Additionally, healthy digital education should be encouraged, helping children navigate this virtual world without losing their connection to reality. We must also be aware of the long-term effects of excessive exposure to digital technology and encourage physical and social interactions.

How do you see the future of interactive performances (especially for children) where digital avatars become an integral part of the story?

DFS: The future of interactive performances for children will involve digital avatars that adapt and respond in real-time to the actions and choices of the spectators. These experiences will become increasingly immersive, and children will be able to directly influence the course of the story. Technologies such as augmented reality and MoCap will allow the total integration of avatars into the physical world of theatre, bringing fantastic worlds to life.

What role could platforms like Animaze play in the development of a new type of digital literacy for children through theatre education?

DFS: Platforms like Animaze can play an essential role in the digital literacy of children by providing a safe and creative environment where they can learn about digital technology and how it can be used to create stories. Children can learn to express their creativity through avatars and understand the importance of collaboration between technology and art, thereby contributing to the development of essential skills for the digital world of the future.

Conclusion

The integration of MoCap (Motion Capture) and digital avatars into children's theatre offers immense potential for both artistic innovation and educational development. These technologies enable the creation of immersive, dynamic performances that can capture the imagination of young audiences while allowing for new forms of storytelling. However, they also present significant challenges, particularly in terms of emotional manipulation and the erosion of authentic human connection between actors and their audiences. The digital avatars, while engaging, can create a barrier between

the actor and the audience, raising concerns about the authenticity of the emotional engagement traditionally rooted in live, human performance.

Moreover, the use of MoCap introduces complexities related to the autonomy of the performers. As digital avatars respond in real-time to the actor's movements and expressions, the balance of power shifts. Performers may struggle with their sense of ownership over the performance, as the technology increasingly plays an active role in shaping the character and narrative. This raises questions about the nature of authorship and the actor's place within this new digital landscape. Moreover, this technological mediation of the actor's performance introduces a unique dynamic that could shift the traditional embodied empathy of audiences. When an actor performs in a MoCap suit, as seen with Benedict Cumberbatch's portrayal of Smaug in The Hobbit or Andy Serkis' iconic portrayal of Gollum in The Lord of the Rings, the intense effort and creativity that the actor invests in animating the avatar can bring an unprecedented level of emotional depth and physicality to the performance. Unlike traditional animation, where the actor's physicality is abstracted behind a completely digital character, MoCap technology allows audiences to witness the actor's embodied energy, even though it is translated into a digital avatar.

This level of behavioral creativity offers a new layer of embodied empathy for the audience. They are no longer just witnessing the movements of a fantastical, digitized creature but can also connect with the intense human effort and emotional investment that goes into bringing that character to life. The actor's physicality and emotional expressions – made visible through MoCap suits – serve as a bridge between the human and the digital, allowing the audience to engage with the process behind the performance. This creates a more nuanced relationship, where the audience can experience both the digital creation and the human actor's performative efforts, allowing for a deeper emotional engagement than in traditional animation or purely digital performances. This new form of performance may help foster empathy by connecting the audience to the embodied effort of the actor, making the digital avatar more than just a technological artifact but a humanized, lived experience. In addition to these artistic and emotional implications, the integration of MoCap and avatars presents new opportunities in terms of the workforce within the theatre industry. The technology requires specialized professionals – such as digital designers, motion capture technicians, avatar

creators, and real-time animators – who bring digital innovation into traditional theatre. As these roles become increasingly essential for theatre companies adopting new technologies, they open up pathways for interdisciplinary collaboration between fields like digital art, AI, and performance studies.

Furthermore, this technological evolution necessitates the development of new educational programs and training opportunities to equip students with the skills needed to succeed in these hybrid roles. As such, the theatre industry is not only evolving artistically but also creating new technical career paths, expanding the professional scope within the performing arts. Thus, while the digital revolution in theatre offers exciting possibilities, it also demands that we approach these changes with a critical eye. By fostering an environment that promotes ethical and thoughtful engagement with technology, theatre can harness the potential of MoCap and avatars to create dynamic, responsible art that resonates with audiences. Through this process, theatre can continue to serve its traditional role as a social laboratory, exploring and reflecting on the complexities of human behavior in the digital age, while simultaneously forging new professional pathways that merge creativity, technology, and performance.

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