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## NoCap – Dancing with Data

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In *NoCap – Dancing with Data* we question how motion capture technologies shape and constrain the ways in which bodies are represented on stage. The performance begins with a simple yet disruptive gesture: removing the Rokoko Smartsuit from the dancer and making it the central performer. This shift opened up an unexpected space of inquiry. Detached from the body, the suit's sensors still produced data streams that could be redirected into generative visual environments. Through this process, the performance evolved into a 'dance with data': a choreography where absence becomes presence, and the body is evoked through technological residue rather than physical appearance. The dramaturgical act of removal recalls Jérôme Bel's *Shirtology* (1997), where the seemingly simple act of undressing destabilises conventions of dance and representation. Similarly, *NoCap* undermines the expectation that motion capture must serve representation, instead foregrounding interaction, contingency, and the materiality of data itself. This exploration engages posthumanist and new materialist frameworks, particularly Karen Barad's 'agential realism', Jane Bennett's 'vibrant matter', Rosi Braidotti's 'assemblages', and Timothy Morton's 'ecological thought', which decentre the human subject and acknowledge the entanglement of body, machine, and code.

Within the wider ecology of a performative installation project, including artworks made of soil, sound, biosensing, fungi, and reflective structures, *NoCap* highlights how digital technologies can be reimagined when artistic practice resists normative uses. Drawing on Lisa Woynarski's *bioperformativity*, we propose that such experiments invite alternative dialogues between body, space, and technology where more-than-human agencies co-constitute performance.

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## Introduction

What happens when the apparatus designed to capture human movement begins performing independently of the body? This article examines *NoCap* – Dancing with Data, a performance that inverts the conventional logic of motion capture technology by making the technological apparatus itself the central performer. Through the dramaturgical gesture of removing the Rokoko Smartsuit from the dancer's body, the performance redistributes agency among sensors, algorithms, performers, and materials, opening up an investigation into how human and non-human performers co-constitute posthuman ecologies.

Conventional motion capture use positions the human body as origin and technology as conduit, visualising or transforming movement captured by sensors and software. Once detached from the body, the suit continues to produce sensor data that generate visuals. The suit does not fall silent. Instead, it *performs*: swaying on its hanger, responding to manipulation, generating data streams that produce generative visualisations. In this condition, the technological apparatus operates as a co-performer with its own temporal rhythms and algorithmic constraints.

*NoCap* functions as one segment within a larger performative ecosystem titled (CON)FUNDIR. The broader project stages multiple forms of human and non-human performativity across four adjoining exhibition spaces: an illuminated earth mound, a modular synthesizer deconstructing text into sonic frequencies, biosensors translating fungal signals into soundscapes, and audience-manipulated mirrors choreographing light. Within this ecology, *NoCap* occupies a crucial position by foregrounding the motion capture apparatus as performer rather than interface, making visible the technological mediation through which bodies, data and technologies co-constitute performance.

This shift from tool to collaborator requires a corresponding shift in artistic methodology. Rather than dominating non-human collaborators, the creative process centred on creating conditions for autonomous performance of more-than-human actors. This approach involved iterative experimentation with the suit off-body, observing how the digital avatar generated movement exceeding human intention and capabilities. Subsequently, the media artist operating the computational systems adopted a role of modulation rather than control, adjusting the parameters in response to the unfolding performance. Throughout the project, the research method embraced emergence: allowing the suit's sensors to generate unpredictable data streams, letting fungal biosignals shape sonic environments, and inviting audience members to actively participate in light and sound modulation.

This article situates *NoCap* within posthuman and new materialist scholarship, drawing on Karen Barad's agential realism, Jane Bennett's vibrant matter, Rosi Braidotti's nomadic posthumanism, and Timothy Morton's ecological thought. These frameworks provide important notions and concepts for understanding how agency emerges through entanglement, how materials possess their own vitality, and how encounters with non-human agents produce what Morton terms the 'strange stranger': beings that are simultaneously intimate and alien to us, whose otherness reveals our ecological interdependence. This concept proves central to the experience of separating the dancer's body from the smartsuit, allowing the audience to encounter the motion capture apparatus itself as a strange stranger.

The article addresses two central questions. First, how does the disruptive dramaturgical gesture of removing the smartsuit redistribute agency among the sensors, algorithms, performers, and materials? By creating conditions for autonomous performance, the project demonstrates choreography emerging from material entanglements rather than solely human intention. Second, in what ways does the placement of *NoCap* within a wider performative ecosystem require a different theoretical framework to reflect upon its ecological entanglements? This question examines how the integration of biological, digital, optical and material processes demands frameworks capable of accounting for diverse and conceptually correlating forms of human and non-human performativity.

The article proceeds as follows. We first provide a detailed description of the (CON)FUNDIR project and the *NoCap* performance, establishing the material conditions and dramaturgical choices that structure the work. We then situate *NoCap* within existing discourse on digital performance and posthuman performance. The subsequent sections examine the emergence of non-human co-performers through our practice, analyse the broader ecosystem, and engage with posthumanist and new materialist theory. We conclude by proposing that *NoCap* models a choreography of distributed presence in an age where human and non-human, organic and digital, presence and absence are inextricably intertwined.

### **Detailed Description of the project**

*NoCap – Dancing with Data* is a ten-minute performance forming part of the broader (CON)FUNDIR project, presented at Capelo Norte Gallery of the National Museum of Contemporary Art (MNAC) in Lisbon. As illustrated in the floor plan below (see **Figure 1**), (CON)FUNDIR consisted of five distinct components, distributed across four adjoining exhibition spaces. The audience followed a circular path through these spaces experiencing, each segment in sequence.

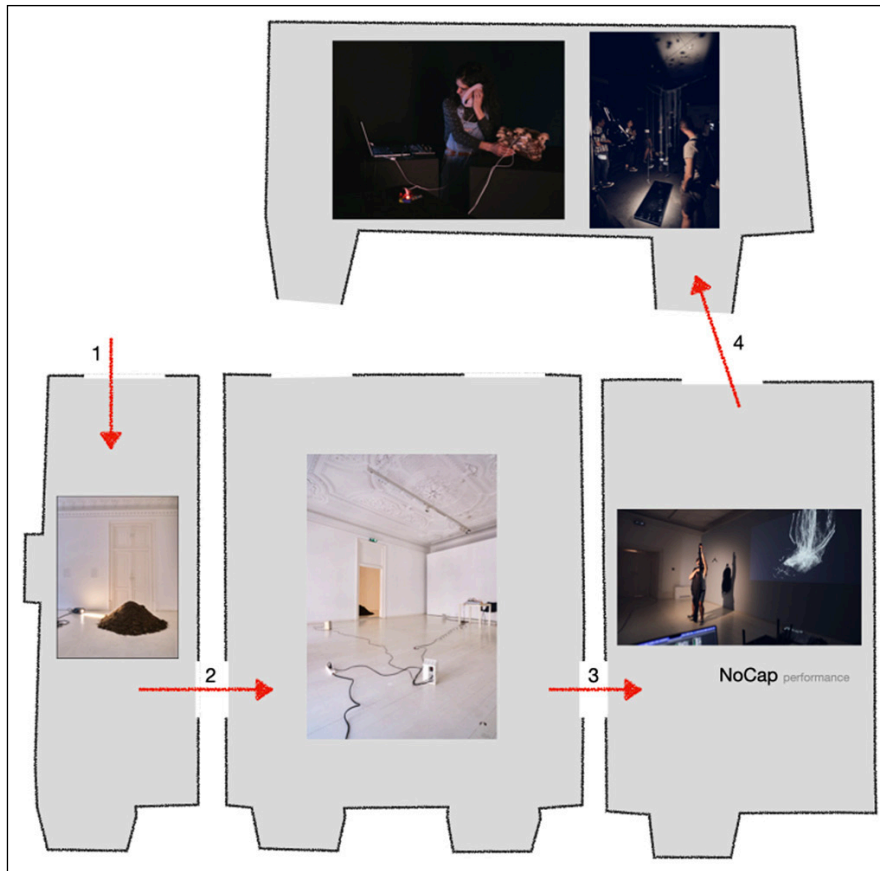
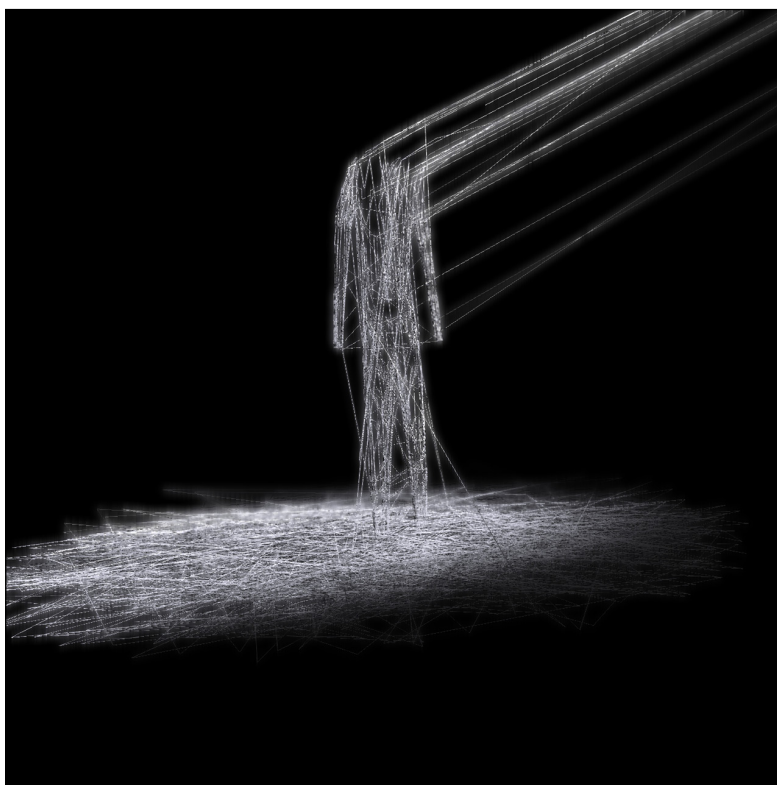


Figure 1: Floor plan created by Stephan Jürgens; photographs of the performance (2025).

Upon entering, the visitors encountered a large mound of earth positioned at the centre of the first room. It was illuminated by a theatrical light, which, despite the daylight entering the space, produced a concentrated and warm spotlight on the soil. After some time, sounds from the adjacent room signalled another event's beginning. As shown in the floor plan photographs, several speakers were distributed throughout Room 2, allowing the audience to move freely within the evolving soundscape. They could experience the spatial composition while listening to text continuously transformed through a custom sound modulator, operated by a media artist.

The interactive sound installation lacked a clear conclusion, its open structure inviting ongoing negotiation between listening and attention. Eventually, a guide instructed the visitor-spectators to proceed to the next space where the *NoCap* performance unfolded. A man sat at a table behind computers, while a woman stood in the centre wearing a Rokoko MoCap Smartsuit, she held an A-pose, seemingly for calibration. Their gazes met briefly, establishing a silent dialogue between human operators, technological apparatus, and the observing audience.

A video projection displayed a 3D model corresponding to the suit, continuously disintegrating into polygons and lines (see **Figure 2**). The fragments fell to the ground, only to be reconstituted again, rising back into the A-pose in a cyclical rhythm of collapse and resurrection. It remained unclear whether motion tracking was actively taking place. The presence of the suit and the A-pose suggested a live connection, yet the performer's immobility contrasted sharply with the incessant movement of the digital model, producing a dissonance between physical and virtual.



**Figure 2:** Screen capture (with Touch Designer graphics) by Ana Isa Araújo (2024).

Eventually, the performer began to move, and the projected image switched to a live screen recording of the motion capture software, revealing a custom digital avatar that mirrored her gestures in real time. With deliberate transitions, she adopted new positions, each one faithfully echoed by the digital double. Gradually, she began to remove the suit, dismantling the interface between body and data. As the sensors detached, the avatar onscreen faltered and collapsed, scattering into fragmented limbs. The performer placed the suit on a clothes hanger and exited the room. Only the media artist remained, initiating an automatic recalibration, that caused the avatar to straighten into a neutral stance, silently awaiting further input.

A young man stepped forward from the audience. He retrieved the suit from the hanger and laid it on the floor, stretched out like a body in an accident. Gradually, he began to manipulate the suit. On the video projection, the avatar appeared as a silhouette, revealing a fluid, abstract landscape within its form, before fading and blending into the surrounding environment. The performer engaged in a series of technical manipulations of the suit: spinning it, suspending it upside down, letting it 'fly' and folding or rolling it (see Figure 3).

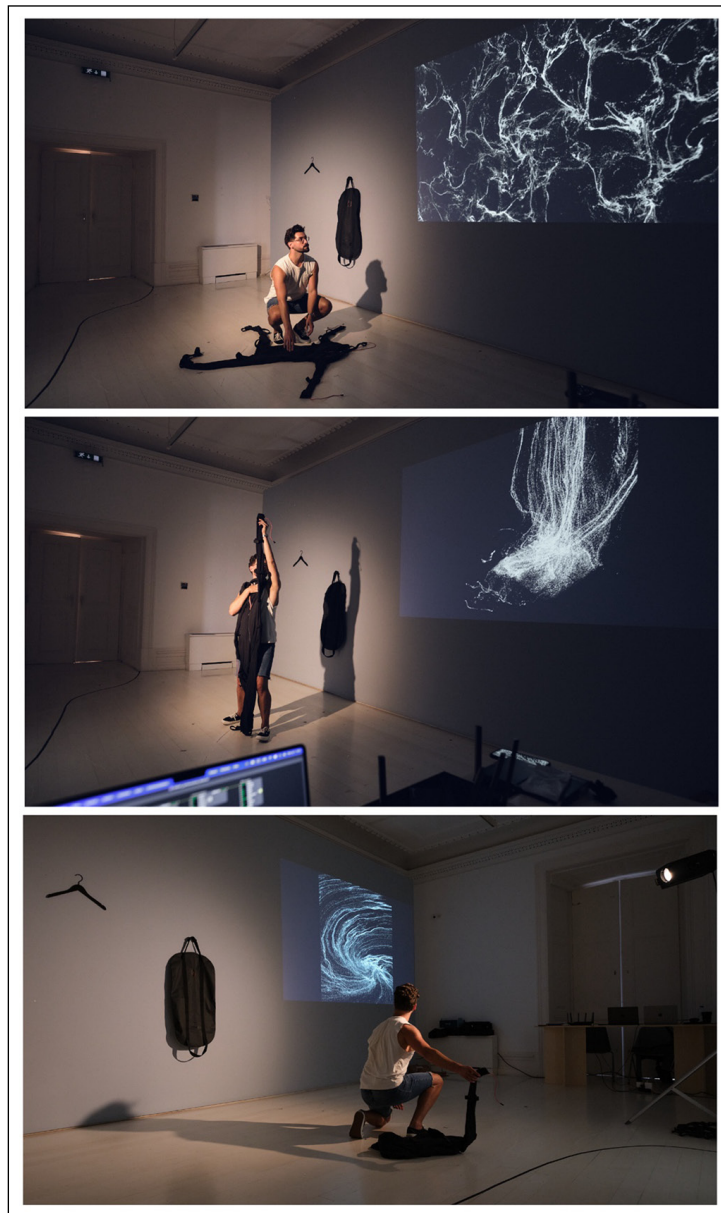


Figure 3: 3 rehearsal photographs taken by Stephan Jürgens (2024).

These simple gestures contrasted sharply with the generative, poetic visuals produced through the computational system, a non-human agent whose outputs were sometimes guided by the media artist. The tension between the performer's utilitarian actions and the autonomous digital imagery created a dialogic interplay between human and machine agency. The *NoCap* performance concluded as the performer folded the suit into a compact bundle and exited with it, bringing the unusual duet to a quiet close.

As the audience followed the performer into the final exhibition space, they entered a dimly lit room where two interactive performance-installations coexisted. The audience encountered a large mirror positioned on the floor, reflecting theatre light hitting an intricate web of over thirty smaller mirrors suspended from the ceiling, which could be actively manipulated by the audience, as demonstrated by a performer they recognised as the young man from *NoCap*.

Some reflected light reached the second interactive installation: a section of branch on which fungi had grown during preparatory days. Bio-sensors affixed to the fungi transmitted data in real time to a computational system that interpreted, transformed, and emitted an evolving auditory environment derived directly from the living organisms. At moments, the media artist, recognisable as the individual who had removed the *MoCap* suit in *NoCap*, intervened in collaboration with the system. The audience was invited to carefully touch the fungi, adding a tactile layer to the installation-performance. The sequence concluded when the media artist poured water onto the large mirror, after which both performers departed.

*NoCap* inverts motion capture's conventional logic. No traditional motion capture takes place. Instead, what unfolds is a demonstration of the system's components themselves, a foregrounding of the apparatus typically rendered invisible in service of seamless representation. Similarly, there is no dance in *NoCap*. What emerges instead is a poetic reflection on the expectations and techniques embedded within live performance using motion capture sensors. The suit's deliberate manipulations resist spectacularization, generating conceptual and aesthetic force through matter-of-fact actions.

The 'dance with data' that the project's subtitle invokes occurs not solely within the *NoCap* segment but across the entire (CON)FUNDIR ecosystem. Each room stages different non-human performativity: the illuminated earth mound in Room 1 operates as a silent protagonist; the modular sound synthesis in Room 2 deconstructs linguistic meaning into vibrational frequencies; the biosensors attached to fungi in Room 4 translate organic processes into auditory environments; and the suspended mirror installation choreographs light through material interaction. *NoCap* functions as one node within this larger network, its technological apparatus conversing with soil,

sound, fungi, and reflection. The dance with data becomes an ecological proposition, where agency circulates among heterogeneous actors.

### **Situating *NoCap* within Posthuman and Digital Performance Discourse**

*NoCap*'s dramaturgical gesture recalls Jérôme Bel's *Shirtology* (1997), where the act of undressing and the garments become central performers. Where Bel made clothing visible as content, *NoCap* makes the motion capture suit and infrastructure the primary agents. The performance does not use the technology but *performs* it, rendering its conventions and materiality visible as the substance of the work itself. To our knowledge no published research discusses such disruptive gestures that foreground the apparatus independently of the body.

Early scholarship on digital performance established the terrain for understanding how human bodies interact with technological systems. Dixon's *Digital Performance* (2007) provided comprehensive accounts of how computation, interactivity, and networked media reshaped theatre and dance. Birringer (2008) articulated the aesthetic and ethical implications of telematic and interactive environments, framing digital performance as an entangled choreography between human and machine. For Salter (2010), such entanglements reveal performance as a complex system of interdependencies among bodies, materials, and environments. These contributions displaced technology as a neutral tool, arguing instead for its role as a co-creative agent within performative assemblages.

Alongside this technological turn, dance scholarship reconsidered embodiment. Kozel and Eeuwens (2008) reintroduced phenomenology to the digital domain, demonstrating that digital mediation can intensify bodily perception through technological feedback. Mark Downie and Trisha Brown's collaboration (2005) introduced performative dialogue between dancers in mocap suits and projected autonomous virtual agents, programmed with perception, motor and action systems enabling posthuman interspecies-dialogue.

Lepecki (2006), in *Exhausting Dance*, proposed reconfiguring modern choreography's emphasis on representation through gestures resonating with posthuman concerns: stillness, slowness, and disappearance. Together, these authors laid groundwork for rethinking choreography as relational practice in the posthuman framework.

The term 'posthuman choreography' gained currency in the 2010s, reflecting broader philosophical shifts towards posthumanism and new materialism. These theoretical movements, informed by thinkers such as Braidotti, Barad, and Bennett, challenge the

humanist separation between subject and object, proposing a distributed ontology of co-agency. Within performance studies, this translated into approaches understanding choreography as emergent property of human–nonhuman entanglements.

Stalpaert, Van Baarle, and Karreman's *Performance and Posthumanism: Staging Prototypes of Composite Bodies* (2021) explicitly articulates this turn. The authors conceptualise performance as a site where 'composite bodies' emerge through technological, animal, and environmental interactions, arguing that posthuman choreography foregrounds the instability of bodily identity and ethical implications of nonhuman participation.

Despite this proliferation, much literature maintains the assumption that human performers remain the generative origin of choreographic data. Even when agency is described as shared or extended, the human body typically initiates system activity. This anthropocentric residue is precisely what *NoCap* interrogates.

Within broader posthuman discourse, agency has been reconceptualised as distributed and emergent rather than individual. Barad's (2007) notion of 'intra-action' emphasises that phenomena materialise through mutual entanglements, while Bennett's (2010) vibrant matter attributes liveliness and affective force to all material forms. Braidotti (2013) describes the *nomadic subject* as constituted through flows of matter and meaning, and Ferrando (2013) identifies posthumanism as an ontological pluralism including the digital and environmental. These frameworks suggest that choreography is no longer individual bodily expression but an event of relational materiality.

Artistic research increasingly adopts these principles. Cvejić explores choreographic practice as 'distribution of attention' among bodies and things; Stalpaert discusses performance as negotiation between animate and inanimate matter, and Ellis uses live coding and sensor systems to generate 'algorithmic dances'. Across these cases, posthuman choreography investigates how movement, data, and material conditions co-produce each other.

*NoCap* extends this discourse by foregrounding technological autonomy and absence. The smartsuit performing outside the dancer demonstrates the apparatus's own liveliness. The generative relationship between sensor, data stream, and projected avatar inverts conventional hierarchy: technology enacting its own choreography rather than merely visualising human movement. This emphasis on *nonhuman performativity* resonates with Barad's agential realism but adds an affective dimension rooted in Morton's (2010) uncanny strange stranger.

### Methodology: Creating Conditions for Non-Human Co-Performance

The emergence of the non-human co-performer in *NoCap* arose not from predetermined design but through iterative practice. Our early experiments with the Smartsuit followed standard calibration, sensor mapping, and motion capture until an unexpected discovery changed our approach. When removing the suit, we noticed the avatar in Rokoko Studio collapsing into distorted configurations—limbs folding at impossible angles, the torso twisting through itself. Rather than dismissing the malfunction, we recognised a native choreographic logic in the system itself, which shifted our entire approach (Figure 4).

We began manipulating the suit off-body, spinning, suspending, moving limbs, or laying it flat, while observing the avatar's behaviour. These behaviours revealed that the digital model was not merely representational but an entity with algorithmic constraints and temporal rhythms. Parallel to this exploration, we developed generative visualisations in TouchDesigner using environments made available to us by Simon David Ryder.

Building on his framework, we created interactive fields of particles and shifting textures feeding off data streams in real time. Randomness and feedback ensured distinct outcomes from identical inputs, transforming what we were witnessing into non-human performance: the system behaving as an agent with emergent properties. This agent operated in dialogue with human performers. The media artist, seated at the computer, adjusted parameters and triggered transitions as the choreography unfolded. The relationship was one of collaboration where each element influenced the other's behaviour.

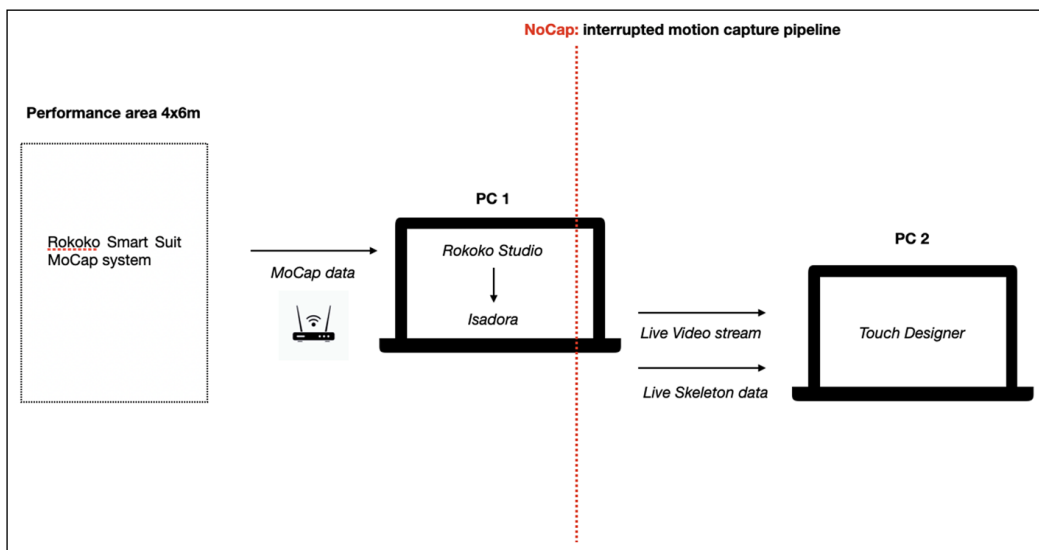


Figure 4: Flow chart created by Stephan Jürgens (2025).

This methodology directly addresses our first research question: the removal of the smartsuit redistributes agency by allowing sensors, algorithms and computational systems to function as genuine co-performers, each contributing their own material capacities to the emerging work.

### **The (CON)FUNDIR Ecosystem: Non-Human Performativity Across Media**

To address our second research question, we examine how *NoCap*'s placement within the broader ecosystem requires frameworks capable of accounting for diverse forms of human and non-human performativity operating simultaneously. While the Detailed Description section outlined the spatial sequence of the four rooms, this section analyses how these elements function as an integrated system of relations.

Each room engages non-human performativity through different systems and processes. Room 1's earth mound performs through stillness, generating sustained attention as visitors circle it in contemplation. Room 2's modular synthesizer deconstructs linguistic meaning: a recorded poetic text fragments as it passes through the system, words dissolving into phonemes, then sustained vowels, finally reduced to pure frequencies through control voltage. Room 3's *NoCap* extends this deconstructive logic into the digital realm, breaking down the human body's movement into sensor data while rejecting conventional reconstruction. Room 4 synthesizes these threads, where audience-manipulated mirrors and biosensors attached to fungi integrate biological, optical and computational processes within a single networked system.

These cyclical patterns reveal a temporal dimension central to the installation's ecological dramaturgy. The avatar's rhythmic collapse and resurrection in *NoCap* (see **Figure 2**), its dispersal into the surrounding environment like a body returning to earth (**Figure 5**), the particle systems' oscillating rise and fall (**Figure 5**), and the decision to 'let rot proliferate freely' with the fungi all enact what might be understood as ecological temporality—time scales and rhythms fundamentally different from human performance duration. Woynarski's (2020) concept of bioperformativity helps frame this: more-than-human agencies don't merely act differently than humans, *they perform on different temporal scales*. The digital avatar's algorithmic cycles operate in microseconds; the fungi's decay unfolds across days; the earth mound's materiality suggests geological deep time. Rather than synchronizing these temporalities to human perception, the installation allows them to coexist, creating what we might call a *polyphonic temporality* where growth and decay, order and entropy, collapse and regeneration perform simultaneously. This refusal to privilege human time scales exemplifies the posthuman choreographic principle that meaning

emerges not from human intention alone but from the distributed rhythms of more-than-human collaborators.

These data streams from mirrors, fungi, and audience movement converge in VCV Rack software, a digital workstation emulating an analog modular synthesizer. The oscillation between analog (synthesizer, mirrors, biosensors) and digital (VCV Rack, avatar, TouchDesigner) defines a post-digital practice that, as Pereira and Fernandes-Marcos (2020) note, blurs physical-digital boundaries within a shared computational aesthetic, where manual, computational, and organic elements intertwine. The media artist operating the VCV Rack patch stood with her back to the audience, engaging the computer rather than the viewer.

Audience participation was constitutive rather than supplementary: visitors' movement and touch actively shaped sound and light through biosensors and light sensors, integrating them as performative agents. The VCV Rack patch functioned autonomously: inputs from fungi, mirrors, and light controlled synthesis parameters without predetermined outcomes. The media artist's role became modulation rather than composition, managing emergence rather than imposing order. The resulting soundscape arose from interaction among biological processes, digital systems, materials, and human response, without single authorship.

Documentation from the artistic process reveals this commitment to non-human agency. One artist reflected: 'After trying to keep the mushrooms alive, I can finally give up fighting the conditions. It's time to let rot proliferate freely.' This gesture of relinquishing control (allowing decomposition to act as creative force) embodies the project's methodological principle of creating conditions for autonomous behaviour rather than dominating collaborators.

Through these flows from matter to voltage, analog to digital, organic to synthetic, agency distributes across the ecosystem. The suit's sensors, the avatar's algorithmic behaviour, the fungi's electrical signals, and human decisions act as co-constitutive forces within a single event. This systemic approach demonstrates why analyzing *NoCap* requires frameworks accounting for multiple simultaneous forms of agency operating across different substrates and temporalities.

### **Posthumanism and New Materialism as a Frame for Reflecting upon the *NoCap* Performance**

When the avatar's legs bend in impossible directions that no human joints could ever achieve, the image provokes a jolt of estrangement. This otherworldly figure on the screen is simultaneously alien and recognisable, human-shaped yet exceeding the body's physical logic (see **Figure 5**).

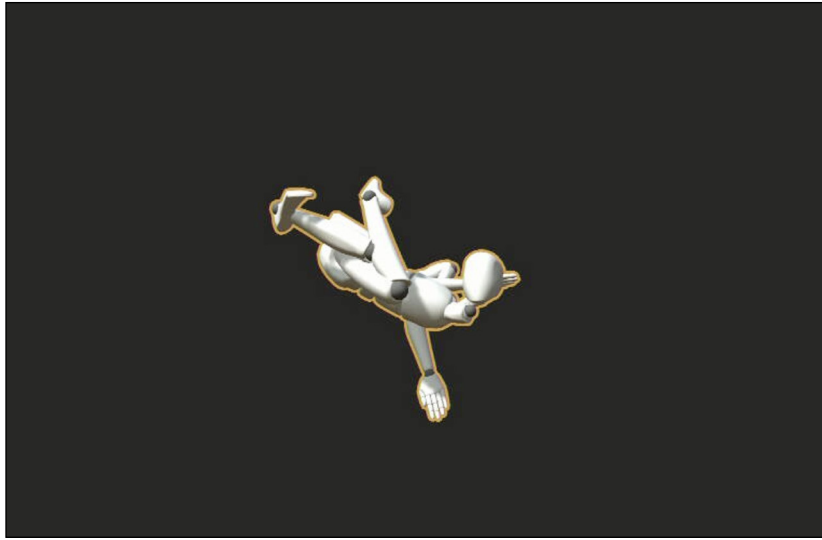


Figure 5: Screen capture (Rokoko Studio) by Ana Isa Araújo (2024).

When we first witnessed this, our response oscillated between fascination and discomfort, we sensed Morton's strange stranger. In *The Ecological Thought* (2010), Morton argues that all beings exist within an interdependent mesh of relations that makes them both intimately connected and fundamentally unknowable. He defines the strange stranger as beings who are 'strangely strange...intrinsically strange' (Morton, 2010, p. 41), entities whose strangeness cannot be resolved through familiarity: 'The more we know them, the stranger they become' (p. 41). This strangeness is ontological rather than merely psychological, rooted in what Morton calls the 'mesh' (2010, pp. 38–40). Confronting such beings produces an uncanny affect, an unsettling awareness that what seems external is also within us. In *NoCap*, the avatar's twisting body becomes precisely this kind of encounter by embodying an entangled otherness that reflects the human performer's traces while performing an autonomy that cannot be subsumed by them. The uncanny becomes a phenomenological event through which we perceive more than the 'failure' of representation with limbs collapsing and joints rotating beyond anatomical limits.

The prevailing use of motion-capture treats the body as origin and technology as conduit, to visualise human movement translated by sensors and software. By using motion-capture technology but choosing to not actually *do* motion-capture, *NoCap* subverts this hierarchy. Once the performer removes the smartsuit and the avatar persists in its erratic loops, agency is redistributed among body, suit, sensor and algorithm. This redistribution exemplifies the posthuman turn described by Braidotti (2013), who defines the posthuman subject as nomadic, what she theorises as 'a post-individualistic notion of the subject, which is marked by a monistic, relational

structure' that remains differentiated across 'social coordinates' (p. 87). Drawing on Spinoza, she conceptualises bodies as 'collective assemblages of forces or intensities stabilised or bound for a limited period in space and time' (Braidotti, 2011, p. 186). The smartsuit, its data, and the performers together form precisely such an assemblage and the performer's removal of the suit re-embodies technological matter as part of the performance's affective network.

This posthuman reframing dislodges anthropocentrism. The question ceases to be how technology represents the dancer's body, and becomes how technological materials themselves *perform*. The suit's sensors, cables, and fabrics behave with a kind of agency by twisting, responding to gravity, generating unpredictable data streams. The avatar on the projection no longer mirrors the human but acts as a collaborator, co-creating rather than reproducing movement. Barad's theory of agential realism provides a rigorous ontological vocabulary for this condition. Barad (2007) proposes 'intra-action' to name 'the mutual constitution of entangled agencies' (p. 33). Unlike 'interaction', which assumes pre-existing entities, intra-action recognises that 'distinct agencies do not precede, but rather emerge through, their intra-action' (p. 33). This fundamentally reworks causality: phenomena produce entities through intra-action (Barad, 2007, p. 128). For Barad 'agency is not an attribute but the ongoing reconfigurings of the world' (2007, p. 141).

The apparatus of motion capture in *NoCap* constitutes such a phenomenon comprised of performers, suit, sensors, computer, software, projection, and audience. Each component's behaviour is contingent upon its relation to the others. From this perspective, *NoCap* is less a choreography performed by humans than a choreography of intra-acting agencies. When the suit is removed and manipulated independently, Barad's 'agential cuts' are redrawn. Apparatuses 'enact agential cuts that produce determinate boundaries and properties of 'entities' within phenomena' (Barad, 2007, p. 148)—cuts that are simultaneously ontological and semantic. The distinction between observer and observed, human and non-human, collapses into a dynamic field of co-constitution. The work thereby stages material agency as both aesthetic and epistemological by making visible how knowledge of the body, of movement, of technology, is produced through matter's self-organization. Barad's framework also illuminates the ethical dimension of this practice. She argues that 'ethicality is part of the fabric of the world; the call to respond and be responsible is part of what is' (Barad, 2007, p. 182), embedded in the fabric of intra-acting phenomena rather than located in autonomous agents. In *NoCap*, relinquishing control over the apparatus becomes an ethical gesture, an acknowledgment of what arises through collaboration with non-human forces rather than domination over them.

This material liveliness of the smartsuit finds resonance in Bennett's *Vibrant Matter* (2010) where she proposes a political ecology in which material forms possess their own vitality and capacity for action. Her notion of *thing-power* names 'the strange ability of ordinary, man-made items to exceed their status as objects and to manifest traces of independence or aliveness' (Bennett, 2010, p. xvi). Drawing on Spinoza's *conatus*—the striving by which each thing 'endeavors, as far as in it lies, to continue' (Bennett, 2010, p. 2)—Bennett theorises material agency as intrinsic to matter itself. Her concept of *vital materiality* 'horizontalizes the relations between humans, biota, and abiota,' drawing attention 'sideways, away from an ontologically ranked Great Chain of Being' (2010, p. 112). When hanging on the clothes hanger, the smartsuit continues to sway, its sensors sending signals that keep producing movements on screen. This lingering activity exemplifies Bennett's claim that matter acts as well as is acted upon. The suit's sensors and textile tensions all participate in the event's choreography and even the data themselves acquire an ontological thickness where, far from being abstract representations, the streams of numbers and vectors possess temporal rhythms and patterns that shape aesthetic experience. The generative images produced in *TouchDesigner* translate these data and can be understood as 'vibrant data': performative matter that exceeds representation to become active participants in sense-making.

Ferrando (2013, pp. 26–32) insists on careful conceptual discrimination, parsing the multiple genealogies of posthumanism, transhumanism, antihumanism, and new materialisms, highlighting their differing epistemic commitments and ethical orientations.

Crucially for practice-led work like *NoCap*, Ferrando warns against both naive techno-utopianism and indiscriminate anti-humanist rhetoric. While transhumanist thought often valorises technological mastery, critical posthumanisms and new materialisms foreground distributed agency and relational accountability. Ferrando's contribution helps us reframe *NoCap* from a merely technological experiment to a critical tactic that performs a posthuman critique simultaneously theoretical and ethical.

Returning to the scene of the distorted avatar, the uncanny arises both as an aesthetic effect and an affective articulation of these philosophical positions. The discomfort produced by the avatar's impossible anatomy signals a recognition of the other as both separate and intertwined, a paradox that underlies all ecological relations. Encountering the digital body as strange stranger fosters what Morton calls 'ecological awareness' (Dark Ecology, 2016), the sense that every entity, including the technological, participates in the mesh of coexistence. The uncanny thus becomes an affective entry into posthuman ethics, a call to coexist with entities whose agency we cannot fully comprehend. Invoking Morton's strange stranger to relate to the avatar's

erie behaviour helps us, as artist-researchers, not to drift into abstraction, but rather to base this on the *felt experience* of the performance. It allows us to see and sense what ‘distributed agency’ or ‘non-human performativity’ might mean in practice, connecting concepts such as Bennett’s vibrant matter and Barad’s intra-action through shared notions of *interconnectedness* and *unknowability*.

Keeping with the considerations about praxis through these lenses brings us to the understanding that the theoretical positions discussed above converge on the premise that matter thinks. Dolphijn and van der Tuin’s book *New Materialism: Interviews & Cartographies* (2012) describes new materialism as the recognition that thought is a material practice and that the world itself performs theory. The improvisational manipulations of the suit, the real-time feedback of data, and the generative visuals constitute a process of *thinking-through-doing*, a research method that produces knowledge within, rather than about, material engagement. Through practice, we discovered that the apparatus possesses its own rhythm of cognition. Calibration sequences alternate with unpredictable sensor glitches, producing patterns of error. These moments of breakdown are not failures but epistemic events where the system articulates its material limits and possibilities.

Woynarski’s concept of bioperformativity offers a valuable lens for understanding *NoCap* within the broader installation’s ecological dramaturgy. Woynarski (2020) proposes bioperformativity as a framework that names ‘the performativity of more-than-humans,’ challenging anthropocentric hierarchies by recognising the capacity for agency in non-human elements. This concept resonates with how the four-room installation operates: the earth mound’s stillness in Room 1, the modular synthesizer’s linguistic deconstruction in Room 2, *NoCap*’s autonomous avatar in Room 3, and the fungal biosensors in Room 4 each perform through what Woynarski describes as ‘assemblages of humans and more-than-humans’ that generate meanings through material processes rather than representational content alone. Her framework helps us understand the installation not merely as technological experimentation but as ecodramaturgical practice, performance that enacts ecological thinking through embodied, material engagement with more-than-human agencies. These more-than-human agencies perform not only through different materials but across different temporal scales: the avatar’s cyclical collapse and resurrection operates in algorithmic time, the fungi’s decomposition unfolds in biological time, revealing that bioperformativity requires attention to ecological temporality as much as material agency.

Taken together, these encounters suggest that *NoCap* enacts a *posthuman choreography*, a mode of performance in which it is recognised that agency circulates across human and non-human participants. In our view *NoCap* demonstrates how

the use of motion capture tools besides its traditional use as a representational tool, can become a site of ‘intra-action’ and vibrant materiality. By foregrounding the liveliness of data and the autonomy of technological matter, it joins in reframing choreography as a negotiation among distributed forces rather than an inscription of solely human intention.

This perspective extends the project’s ethical and aesthetic implications. If bodies and technologies are co-constitutive, then artistic practice becomes a form of ecological participation. The performers’ acts of deconstructing and the subsequent work outside of the smartsuit, allows the audience to experience a dialogue between the non-human software agent, the media artist and the performers. In other words, data is allowed to dance on its own. This approach models an ethics of collaboration across species, materials, and systems, and it asks how we might live and create responsibly within networks of shared vitality.

### **Conclusion: Toward a Choreography of Distributed Presence**

*NoCap* – Dancing with Data stages a central question for contemporary performance: what happens when the apparatus designed to represent the body begins to perform alongside it? This question extends beyond motion capture, touching on embodiment, agency, and presence in an age of post-digital mediation. *NoCap* enacts a posthuman choreography in which agency circulates among human performers, technological systems, and material processes.

By detaching the smartsuit from the body, the performance redistributes authorship across sensors, algorithms, avatars, and collaborators. This redistribution is enacted materially: the suit sways on its hanger, the avatar collapses and regenerates according to algorithmic logic, the generative visuals respond with emergent, unpredictable patterns. These behaviours exemplify non-human performativity that unsettles anthropocentric notions of creativity.

Posthumanist and new materialist frameworks help articulate this dynamic: Barad’s intra-action describes how the work emerges through entanglement rather than intention, Bennett’s vibrant matter frames the sensors and data as vital and affective, Braidotti’s assemblages reveal how bodies and technologies form temporary configurations, Morton’s strange stranger captures the uncanny encounter with the avatar’s alien yet familiar anatomy. The dramaturgical act of removing the suit, recalling Jérôme Bel’s *Shirtology*, transforms it from interface to performer. Within the broader (CON)FUNDIR project, these theoretical lenses illuminate how each room stages different modes of non-human performativity: the illuminated mound performs material presence, the deconstructed text performs sonic transformation, the

biosensor-equipped fungi perform organic processes as data. Each stage redistributes agency among human and non-human actors, turning visitors into participants whose presence reshapes the environment. Woynarski's (2020) concept of bioperformativity helps us understand these performances as ecological dramaturgy, where more-than-human elements generate meanings through their own material agencies. Crucially, these agencies perform across multiple temporal scales—the avatar's cyclical collapse and resurrection, the fungi's gradual decomposition—enacting what we term polyphonic temporality: ecological time that refuses synchronization to human duration. What emerges is not a depiction of the body but an ecology of relations where data, bodies, and technologies co-constitute one another.

This has ethical as well as aesthetic consequences. If agency is distributed, responsibility is embedded in 'the fabric of the world' rather than located in autonomous agents (Barad, 2007, p. 182). The media artist's task becomes less about control and more about modulation, managing emergence, collaborating with non-human agents, cultivating shared becoming. As artistic research, *NoCap* models how artistic work can critically investigate technology. Its practice-based, responsive methodology exemplifies thinking-through-making, where concepts emerge from material engagement.

Looking ahead, such experiments invite other dialogues between body, space, and technology. As motion capture becomes ubiquitous, *NoCap* proposes alternative approaches grounded in materiality, autonomy, and vitality. It asks: What might motion capture become if treated as a collaborator? What presences might appear when absence is embraced? How might we dance with data instead of through it?

Ultimately, *NoCap* proposes that choreography in the posthuman era can account for the agency of its materials, the autonomy of its systems, and the multiplicity of its participants. It can embrace absence as generative, error as revealing, and collaboration as distributed across species, substrates, and scales. In doing so, it contributes to an evolving understanding of what it means to perform and to be in a world where human and non-human, organic and digital, presence and absence are inextricably intertwined.

The dance with data continues.

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### Competing Interests

The authors have no competing interests to declare.

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**Ana Isa Araújo** (b. Lisbon, Portugal) is an intermedia artist, researcher, and teacher whose work spans the intersections of performance, choreography, somatics, digital media, and installation. Her artistic research delves into the entanglements between humans and other-than-humans, drawing from embodied practices, posthuman perspectives, and speculative approaches.

An ongoing doctoral candidate at the Faculty of Fine Arts, University of Lisbon, Araújo holds postgraduate specializations in media and performance, a master's in contemporary dance, and a bachelor's degree in performing arts. Additionally, she was awarded a CAMPING scholarship from the Centre National de la Danse, Paris. She has taught at various art universities, covering topics related to performance, new media, and visual arts, and has authored papers and a book chapter featured in both international and national publications.

Araújo's work has been recognised internationally through residencies, festivals, and exhibitions. An active member of the Creative Body Institute (US) and the Bioart Society (FL), she is also a co-founder of collaborative arts collectives, alongside co-creations with a diverse range of transdisciplinary artists and structures in the performing arts.

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He collaborated on several international research projects, such as Moving Digits, BlackBox Arts&Cognition, TKB, TeDance, and Eurodans.net, all of which investigate the use of recent technology in Contemporary Dance and Live Performance. As a choreographer he has presented several works supported by the Portuguese Ministry of Culture. His collaborative digital performance work .txt won the national multimedia prize in 2010. Author of several papers and book chapters in international and national publications.

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