# Reimagining Digital Well-being: A Theoretical Framework Based on the Psychology of Felt Structure and Illustrated through Creative Storytelling

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Digital environments today often lack affordances that cultivate a sense of place and embodied being and acting. We develop a theoretical framework for embodied place-making based on people's psychological tendency to balance structure (clarity, predictability, and certainty) with unstructuredness (openness and possibility). This framework provides a unified theoretical foundation for examining continuity and discontinuity in social psychological processes and behaviors across digital, physical, and natural environments. We illustrate this framework through an original story (*NewsWood*) that reconceptualizes digital news reading as an experience akin to wandering through woods. We hope to inspire radical reimagining of how future digital environments can foster well-being across individuals, communities, societies, and the natural world within their interconnected relationships.

CCS Concepts: • **Human-centered computing** → **HCI theory, concepts and models**;

Additional Key Words and Phrases: well-being, psychology, behavior, behavioral sciences, meaning-making, embodied place-making, creative storytelling, digital and natural environments, human-nature connection, social media design

## 1 Introduction

Despite their promise to connect people and ideas, today's digital environments have been critiqued for diminishing social co-presence, physical health, and well-being. Social media, in particular, has been implicated in spreading misinformation [3, 147, 149], fueling political polarization [7], enabling online harassment [109, 146], and perpetuating epistemic injustice [2]. These interrelated issues impede social coordination and shared action necessary to address societal challenges [80, 123].

To better support individual and socio-ecological well-being, exploring alternative designs for digital environments is essential [6, 16, 18, 157]. However, we argue existing efforts have yet to fully tap into two vital opportunity areas: *fostering a sense of place* and *enhancing embodied presence*. A sense of place manifests as an intuitive feeling of "being somewhere" through emotional bonds with enduring features of a socio-ecological context, shaping identity, fostering belonging, and facilitating decision-making and social interaction [32, 138]. Meanwhile, embodied presence

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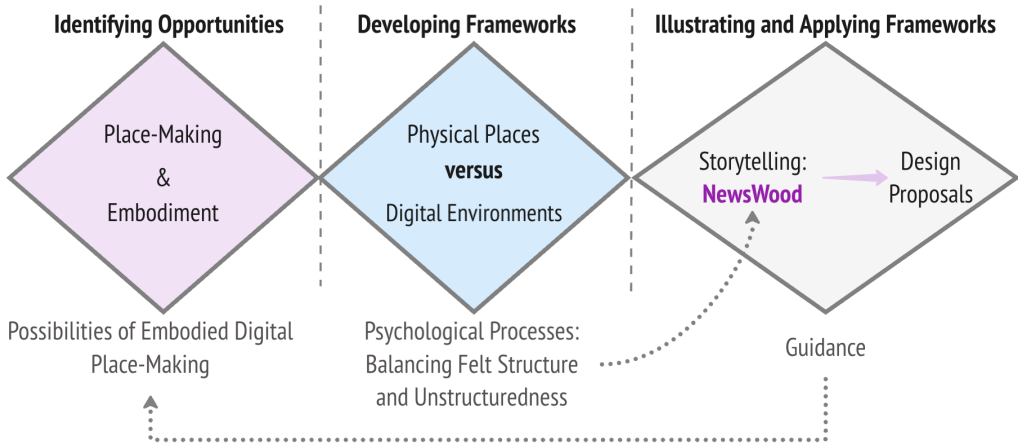
Fig. 1. Paper structure and relationships among sections. In sections 1-3, we review prior work and identify alternative visions of digital environments. In section 4, we explore key psychological processes (i.e., felt structure and unstructuredness) underlying embodied place-making. In sections 5-6, we develop creative storytelling (*NewsWood*) to illustrate our framework and derive novel design proposals. Finally, we discuss contributions, implications, and future directions.

foregrounds and engages a fuller range of human sensorium and modalities [34, 96, 150, 157], enriching how people think, feel and act in relation to their contexts.

Previous efforts to restore a sense of place and embodied presence have been disparate and limited, partly due to the lack of rigorous guiding frameworks. Most interventions remain anchored to existing media platforms. Little work steps back to imagine original digital environments that center well-being for people, society, and the natural world. We develop a theoretical framework for *embodied place-making* by integrating insights from psychological science. We propose that well-designed digital and physical places enable people to balance their experience of structure (clarity, predictability, and certainty) with unstructuredness (openness and possibility)—a balance key to fostering well-being in future digital environments.

## 2 Prior Research on Place and Embodiment

### 2.1 A Sense of Place

"Where am I?" Knowing the socio-ecological environments constitute our moment-to-moment life experience. A place can be construed as a holding environment [154] for self-concept—*If I exist, where do I exist?* This holding environment enables the social construction of realities, providing a grounding force and a playground for thoughts, feelings, and actions to emerge and evolve. Research on place-making and place-based identity attests to place's importance for providing certainty about who one is and how to be and act [78, 148]. Hawaiian scientist and cultural scholar Dr. Samuel M. 'Ohukani'ōhi'a Gon III captured this self-place connection: "You cannot be whole without your place, and your health depends on the health of the land" [79]. As people navigate places—libraries, town squares—their feelings, thoughts, and actions shift seamlessly according to location [32, 88]. Knowing the place creates a comforting sense of belonging and supports situated action [56].

Although *being somewhere* is an everyday experience, what transforms a physical setting into a meaningful place is not immediately clear. In *The Social Life of Small Urban Spaces* [152], William

Whyte explored what makes public places desirable for people, offering keen observations—such as comparing the city street to "the river of life," a dynamic medium for social connection. Whyte suggested public places incorporate elements including ample seating, food vendors, natural acoustics, and sensitivity to local weather [152]. Extending Whyte's pioneering work, the Project for Public Places [53] examines what invigorates public places worldwide. Beyond these contributions, place-making has been extensively studied in geography [46, 82], anthropology [73, 103], urban design [56], political science [122], cultural heritage preservation [60], and more recently, in digital media design [12]. A converging view holds that a place is a social and relational unit of space tied to lived experiences and shared aspirations, manifesting itself as narratives, physical artifacts, rituals, and more [143]. Far from static, a place is continuously constructed through social interaction, ultimately producing lasting socio-spatial relationships [90, 122]. These associations enable a space and its material features to evoke emotional resonance and invite future rounds of social interaction. Absent this dynamism, material elements like physical objects are deprived of meaning especially when taking out of their initial settings [150].

When people move from physical environments to digital spaces, familiar contextual components like norms and social roles can blur. This initially presented opportunities for novel social interaction. The early internet was envisioned as the "third place" beyond work and home where people could access heterogeneous views outside traditional networks [135]. Chatrooms, newsgroups, and discussion forums were often portrayed as non-hierarchical arenas for playful, immersive interactions, where members felt unconstrained from "real" world concerns [13, 37, 87, 145]. Later research continues exploring digital media's unique affordances. For instance, Shibuya and colleagues argue social media sustains engaged citizen networks and could serve as a "democratic participatory structure" for sustainability transitions [132]. Zhu and colleagues highlight how social media supports second-generation immigrants in navigating identity challenges in the U.S. [160].

Nonetheless, reliance on digital spaces also disrupts traditional social interaction. In a seminal 1985 book *No Sense of Place*, scholar Joshua Meyrowitz argued that electronic media such as TV and radio blended different audiences and selves into one ambiguous setting [114]. This placeless nature catalyzed myriad social changes, both stemming from and fueling shifts in everyday interaction.

Contemporary digital environments have intensified the transformation Meyrowitz observed. Kitchin and Dodge argue that software transduces space through intermingling traditional places —airport check-in areas and cafés—with workplaces [89]. Media platforms' pursuit of scale has generated amorphous digital spaces; Frost-Arnold argues this *context collapse* facilitates online harassment and misunderstanding [58]. Without meaningful contexts, spaces where everyone seemingly can make a point instead celebrate "view(s) from nowhere" [43].

## 2.2 Embodied Presence and Interaction

People's interpretive competencies of a place are implicitly inscribed in the body, enabling them to—in Lahlou's words—"map a given situation (state of the body, position in a larger setting, object of attention) into specific action (emotion, thought, movement) of the body" [93]. Place carries meaning and frames experience [110, 124], while embodiment localizes this meaning-making [11]. Jones and Evans [82] vividly described how place memory extends beyond general recollections: "not simply about, for example, memories of childhood play, but that it was playing in *this* particular location by the River Rea, climbing down into *this* culvert, splashing through *that* tunnel in search of a monster and that today you can still walk past the location where it all happened" (p. 2327).

In this paper, we define *embodied place-making* as meaning-making that sustains particular associations between the self and socio-ecological environments. Once formed, these associations can powerfully elicit behaviors, thoughts, feelings, and bodily sensations specific to that environment [88, 104]. For instance, once a library becomes linked to quietude norms, any library-related cues

can activate mindsets and behaviors consistent with silence [1]. An outdoor rock climbing site, conversely, associates with risk-taking and exploration, activating different psychological states and behaviors. The often spontaneous, active, or meditative bodily engagement with place proves essential to context-responsive meaning-making [23, 32, 52, 57, 75, 153].

## 2.3 Existing Approaches to Embodied Digital Place-Making

Researchers and designers from urban computing, tourism, architecture, and museum studies have explored alternative digital experiences [12, 70, 101, 119]. For example, teamLab, a diverse artist group based in Japan, creates immersive installations enabling interaction with virtual flowers and water in digitally rendered natural environments [142]. This interest is also fueled by rapid developments in virtual and augmented interaction technologies [40, 71]. Emerging areas such as geo-social and locative media seek to deepen place-based experiences beyond mere location sharing [28, 47, 49]. A small body of inclusive design research aims to enhance embodied experience through haptic media [102], as well as multi-modal and multi-sensory interaction [38, 134].

However, existing research tends towards narrow conceptions of user needs and is often construed from the standpoint of technological feasibility. These endeavors lack strong theoretical foundations—particularly theories grounded in psychological processes and behaviors essential for meaning-making and well-being. Innovation remains hindered by difficulties in rigorously conceptualizing embodied place-making—given the variety of place-related experiences, discovering common psychological and behavioral denominators can be daunting. Designers lack guidance on what experiences to design for and which psychological processes to support.

## 3 HCI Research on Improving Social Media

Recent HCI work reflects a growing interest in redesigning social media for societal good [131], driven by concerns over ad-based profit models and social media's pervasive role in daily and civic life [3, 7, 109, 144, 146, 147, 149]. Researchers have proposed interventions including moderating toxic speech [158], promoting transparency in algorithmic news curation [48], and improving well-being through intention-setting [159]. As algorithmic systems often orchestrate digital experiences, emerging work examines designing algorithmic experience (AX) [4]. Others focus on specific use contexts—for example, supporting college students' career exploration through integrated learning based on online interaction about work [105].

## 4 A Theoretical Framework for Well-being through Embodied Place-Making

We center our theoretical framework on quintessential psychological processes characterizing embodied, place-based experiences: people seek to balance felt structure (certainty, clarity, and predictability) with unstructuredness (openness and possibilities) [67, 69, 117, 141, 156]. Thoughtful design can support this dynamic balance. Table 1 summarizes key psychological research on the dynamics of felt structure.

### 4.1 Psychological Dynamics of Felt Structure

Felt structure is crucial to developing agency or acting in the world. Heider stated [68]:

*An unstructured region, that is, a region whose properties are not known to the person, can be considered a barrier which makes action and therefore control difficult if not impossible.*

People create and experience structure by detecting patterns in noise [151], adhering to superstitions and conspiracies [61, 92], defending sociopolitical institutions that offer a sense of control [86], or believing in an interventionist God [85]. They fluidly draw quick inferences about others to reduce uncertainty [51, 116], and often hold a biased assumption that the world is fair and just [98]. When faced with psychological threats, people reaffirm meaning in a different domain [69],

Table 1. Key Psychological Research on the Dynamics of Felt Structure.

| Research Area | Felt Structure | Felt Unstructuredness |
|---|---|---|
| Self and identity | Self-concept clarity [25, 26], self-essentialism [31, 65], self verification [140] | Phenomenal self and working self-concept [72, 84, 108, 133], possible selves [107], identity and self change [22, 83, 91] |
| Social group | Group identification for uncertainty reduction [76, 77] | Dynamic agency theory of group entitativity [21, 99] |
| Social perception and behavior | Ensemble coding [44, 62], automatic impression formation [51, 116], routine and habit [155], choice overload [128] | Novelty-seeking [74], risk-taking [10, 36], sensation-seeking [161], exploration [45, 50] |
| Belief system and mindset | Compensatory control [85, 86, 151], belief in a just world [98], illusion of control [94], magical thinking [137] | Implicit theories [27, 41], choice mindset [126] |
| Psychological tendency | Need for structure [118], need for cognition [24] | Openness to experience [112], tolerance of ambiguity [59], psychological reactance [19] |

or strengthen group identification to regain certainty [77]. Overall, lacking structure—particularly without means to restore it—can attenuate well-being. Conversely, people who perceived the world as structured were less susceptible to stress and enjoyed better health [5]. Felt structure also yields benefits including reduced outgroup hostility and enhanced intellectual openness [45, 130, 156].

As important as structure is, people do not simply seek to maximize it; a monotonic increase in felt structure is neither necessary nor desirable for social and psychological well-being. People also seek unstructuredness ranging from positively framed experiences of possibility to more ambiguous situations involving risk, mystery, and uncertainty. In fact, when their sense of freedom is restricted, people can exhibit psychological reactance [19, 95]. Despite its varied manifestations, a degree of unstructuredness is vital to well-being, learning, and self change.

Previous research suggested that people seek to maintain psychological "homeostasis"—a state supported by multiple, interconnected motivational and behavioral systems [20, 67, 100]. When structure is lacking, they are motivated to restore it; when it feels excessive, they seek to reduce it [69, 77, 81, 156]. For instance, research on "choice overload" shows that larger choice sets induce a stronger preference for simple, easy-to-understand options [29]. In another study, based on longitudinal diary data, researchers proposed a model of the *social-safety system* [117]: Under conditions that agents in people's relational world (e.g., family members) behaved unexpectedly, people defensively strengthened beliefs in agents in their sociopolitical relational world (e.g., President or Congress); conversely, when uncertainty arose from the actions of sociopolitical figures—such as during elections—people turned to personal relationships for reassurance.

Insights into balancing structure with unstructuredness emerge from several theoretical frameworks in psychology, including optimal distinctiveness theory [97], balance theory [67], social equilibria [100], the dynamic equilibrium model of well-being [66], meaning maintenance model [69], narrative identity [111], and adult attachment theory [45].

## 4.2 Affordances for Felt Structure through Embodied Physical Place-Making

Many well-designed places strike a balance between felt structure and unstructuredness. William Whyte's pioneering work on public place design highlighted this balance, noting the psychological impact of crowd dynamics: "*There is a rash of studies underway designed to uncover the bad consequences of overcrowding. This is all very well as far as it goes, but it only goes in one direction. What about undercrowding? The researchers would be a lot more objective if they paid as much attention to the possible effects on people of relative isolation and lack of propinquity*" [54]. Whyte suggested that both overcrowding and undercrowding present challenges in urban space composition: while too many people can create constraint or excessive structure, too few social relations can generate insufficient structure. Nonetheless, it remains unclear which affordances most effectively support this balance. In Table 2, we theorize potential affordances, and in Figure 2, we illustrate balanced experience using a vivid example ("Miana takes an evening walk").

Table 2. Affordances for Structure and Unstructuredness through Embodied Experiences in Physical Places.

| Experience | Affordance | Example |
|---|---|---|
| Structure | *Boundedness*: having boundaries | Walkways; symbolic boundaries like district names |
| | *Coherence*: arranging components to achieve a coherent theme | Harmonious landscapes; a coherent story |
| | *Temporal Regularity*: tangible experiences of time passing | Natural rhythms like sunrise and sunset |
| | *Gradual Unfolding*: processing stimuli gradually | Walking on a street and gradually seeing new scenes |
| | *Pausing*: reducing sensory inputs | Stop walking; closing eyes or ears |
| Unstructuredness | *Contextualized Bodily Movement*: moving and adjusting context-specific inputs and perspectives | Gardening; examining exhibits in a museum |
| | *Emotional Range and Ambiguity*: holding varied emotions open to interpretation | Navigating out of a swamp for the first time; revisiting an old home |
| | *Responsive Exploration*: responding to context without well-defined goals | Wandering through woods nearby home |
| | *Impermanent and Random Factor*: encountering ever-changing and unpredictable phenomena | Sudden weather change; bumping into a friend on the street |

*4.2.1 Affording Felt Structure.* Conditions of structure are readily furnished as people navigate physical places. Places often have clear boundaries—for instance, a library is housed within a defined building (*Boundness*). Natural landscapes often offer visually coherent scenes (*Coherence*), while natural rhythms like sunrise and sunset engender predictability and order (*Temporal Regularity*). Further, felt structure is bolstered through *Pausing*—temporarily halting sensory input by stopping movement or closing one's eyes or ears. With *Gradual Unfolding*, people can choose to process information at a gradual pace such as walking more slowly or turning the pages of a book.

*4.2.2 Enabling Felt Unstructuredness.* Most evidently, *Contextualized Bodily Movement*—the freedom to move within a space—evokes a sense of being untethered. Experiencing a wide range of

After work, Miana takes a walk in a park (**boundedness**). The sunlight envelops her in warmth. On her way, she spots a swing and spontaneously sits on it to play (**contextualized bodily movements**).

Miana approaches her favorite reading spot, opens a book, and reads it by gently turning pages (**gradually unfolding**). After a while, she pauses, picks up a fallen seed pod (**pausing**), then wanders among trees to find its origin (**responsive exploration**).

Miana comes across a former neighbor and starts chatting with her (**impermanent and random factors**). After that, she watches the sun setting (**temporal regularity**), and the vibrant merge of landscape and sky (**coherence**), feeling awe, peace, nostalgia, and gratitude all at the same time (**emotional range and ambiguity**).

Fig. 2. Illustrating Balanced Experiences of Felt Structure and Unstructuredness in Physical Places

emotional states, including ambiguous or mixed feelings, reflects *Emotional Range and Ambiguity*, another hallmark of felt unstructuredness. Many places invite *Responsive Exploration*, allowing for open-ended exploration rather than goal-oriented optimization. For instance, dancing in the kitchen marks a departure from common expectations about a place and creates a sense of possibility. Lastly, people are exposed to random patterns in nature like shifting wind or changing weather; the *Impermanent and Random Factor* offers another source of unstructuredness.

*4.2.3 Balancing Felt Structure and Unstructuredness.* Felt structure and unstructuredness often intertwine. For example, a town square enables *Responsive Exploration* through public speeches or gatherings, while offering benches for *Pausing* and marking walkways for *Boundedness*. A mountain where one grows up affords all four facets of unstructuredness in Table 2. Meanwhile, it evokes feelings of certainty, belonging, and regularity: a long-term mountain resident discerns *Temporal Regularity* through seasonal patterns of wind and vegetation; they enjoy *Coherence* through serene scenes like snow on pine trees.

## 4.3 Dynamics of Felt Structure in Current Digital Environments

Digital environments are not merely machinery for information exchange; they profoundly shape people's sense of structure. First, without intentional design, a digital site risks providing too little felt structure. Hyperlinks and promoted videos prompt "deep-dives" of solo media consumption, while personalization features facilitate continuous exploration. As a result, a person might read news about overseas conflict on one platform, then scroll through friends' music festival photos on another. This juxtaposition of different mindsets and emotions can disrupt felt structure, further

eroded by the swift spread of misinformation and inflammatory content [30]. On the other hand, a digital platform can impose or subtly generate excessive structure. The easy storage of digital records—contacts, photos, and chat histories—can sustain inflated senses of connection, hinder adaptive "forgetting" processes [42], and constrain identity change [141]. These effects are compounded by recommendation algorithms that reinforce existing networks and reduce exposure to heterogeneous perspectives [9, 33, 55, 106].

## 4.4 Exploring Novel Affordances and Distinct Mindsets in Digital Environments

Compared with physical places, digital environments remain nascent and have yet to leverage the many affordances we outlined in Table 2. We apply our theoretical framework to create *NewsWood*—an original story that reimagines digital news reading as an experience akin to wandering through woods. While not intended as immediately feasible design, *NewsWood* seeks to defamiliarize taken-for-granted assumptions and routines [120, 129], exploring novel digital affordances and distinct mindsets for relating to contexts.

## 5 Storytelling: NewsWood

### 5.1 Prologue: Please Unhide NewsWood

Finished all my meetings today! I stretch my arms and sink into the sofa in a starfish position. As I lie down, my coworker Dahlia's words from the end of the meeting echo in my head: "Can ordinary people like us do anything to help?"

She was referring to an overseas conflict that had just broken out.

Pondering her question, I stand up and walk toward the window. From the vantage point of my eighth-floor apartment in a 31-story building, I see a familiar, busy stream of urban traffic like a colorful serpent swimming in the deep ocean.

I momentarily feel a bit dizzy—I feel so small in this vast world. How do I even begin to make sense of something happening so far away? The world today isn't like the cozy little woods I played in and knew intimately as a child. Still, is there a way to learn what's happening without feeling overwhelmed?

I close my eyes and turn away from the window. I see my silhouette on the floor, and early summer sunlight is gently hugging my back. *Alright.* At least I have time before sunset to read some news.

"Please *unhide NewsWood.*"

My voice activates a mixed-reality setting integrated with the living room and synchronized with real-world time. Soon, virtual native grass, trees, and seasonal flowers appear. They immediately lighten up my mood. I step into the virtual woods, ready to explore.

### 5.2 Act 1: Encountering NewsBall, NewsPlant, and Seed Pod

The first step is to find a *NewsBall*—a smart interface that executes various tasks. As I walk around, I spot a little crystal ball hiding in a bird's nest nestled among the elderberry bushes.

*Found it*!

I'm amused by how cunning the NewsBall is—it tried to blend in with the virtual bird eggs. I carefully tap its surface as an invitation. Some NewsBalls might simply refuse you and fly away.

Fortunately, this one accepts my invitation. It floats up as if yawning and slowly waking. Soon, it expands to about half my height. One might describe a NewsBall as a lightweight, floating clay ball, as it's a moldable medium.

With the NewsBall by my side, I set out to find a *NewsPlant*—a virtual plant that offers a medium for presenting news. If you anticipate a lot of information and have the time, you can use a sugar

maple with a lot of leaves. But today, I stumble upon a monstera and its big leaves catch my eyes. *Just the right size*!

"Can you water the monstera plant with information about the conflict from several credible and diverse news sources?" I ask the NewsBall, then describe my request in more detail.

Hearing my words, the NewsBall transforms into a watering kettle. It will water the news information into the root of the NewsPlant, causing words and images to appear on its leaves. As time goes by, all the information will evaporate and disappear, so there's only a limited window during which I can interact with this particular NewsPlant.

As the NewsBall waters the monstera, I decide to find some *Seed Pods*. These are virtual containers for storing ideas or questions as I interact with a NewsPlant. I can place an idea in a Seed Pod and eventually plant it in soil. In this way, an idea can grow into a *CommentPlant* or an *OpinionPlant*.

Usually, I can easily find a bunch of Seed Pods in NewsWood, but sometimes I have to remove the nuts to empty the pods. Here are some buckeye tree Seed Pods—and cacao tree Seed Pods, too! I place them on my physical table in the living room.

As I look back, the NewsBall has returned to its original shape and is playfully bouncing between my physical sofa and a virtual tree. The shining monstera NewsPlant is ready!

## 5.3 Act 2: Reading NewsPlant with NewsBall

To read this NewsPlant, I walk around its various leaves, sometimes tiptoeing or crouching to get a specific view. This time, the NewsBall transforms into a floating igloo as my workstation. I step inside to carve, mold, and color its inner structure. I can take notes by transferring a picture, a paragraph, or a number from the NewsPlant into the NewsBall.

I like walking in and out of the NewsBall to reorganize information and make connections between opinions from opposing parties. By viewing information from various physical perspectives, I begin to see emerging common ground.

When the NewsBall focuses on an audio recording of a girl sharing her story of doing math homework despite turmoil, it gathers relevant information about the region's education system, family structure, and local cultural storytelling traditions. With this context, I sense nuances rather than stereotypes; my empathy grows as imagination leads the way.

With various pieces of information located in different parts of the igloo, there's no single dominant view; each piece cordially invites critical thinking and awaits potential repositioning. When I need a moment to reflect, I simply step outside and let it gently float away, giving me space to lie down on the floor and think.

Every now and then, I feel an urge to share my experiences; new ideas and feelings are bubbling up in me. When this happens, I turn to a Seed Pod to record or write a message, hoping to grow these nascent ideas later.

## 5.4 Act 3: Growing a New OpinionPlant

As I hop around the NewsPlant, NewsBall, and Seed Pods, I feel a deeper grasp of the problems and opportunities within the current situation. Now, I want to grow an OpinionPlant.

Wandering among different Seed Pods I gathered, I settle on one idea in the buckeye tree Seed Pod—it seems particularly eager for a new phase of life, a wish I'm happy to help fulfill.

The NewsBall—remaining as my igloo-shaped workstation—extends a monkey tail that curls around a small plotting pot. I chuckle at the sight; today this NewsBall friend appears to be in quite the naughty mood. Each NewsBall takes on different forms for various tasks—just last week, another NewsBall insisted that a teapot made the perfect vessel for cultivating a CommentPlant!

I gently place the Seed Pod into the monkey-tail pot and begin speaking to it.

As I elaborate on the idea, a new buckeye tree sprouts. Its branches, leaves, and flowers grow, becoming mediums for my audio messages, as well as drawings and writings. I observe the OpinionPlant from different angles, fondly knowing it's part of me, yet amazed by how well its layers and figure embody the subtlety and quirkiness of my thinking.

I feel happy and proud that my OpinionPlant looks healthy and is growing vibrantly. NewsWood is a lively, participatory information ecosystem. I feel responsible for any content I create, which directly nourishes my OpinionPlant—and NewsWood as a whole.

### 5.5 Act 4: Seeing and Relating to my Emotions

Actually, not only are my thoughts expressed, so are my emotions. Little fires and gray clouds float around a few leaves that stick out at the bottom, reminding me of the anger and sadness I initially felt. Meanwhile, I see two blue butterflies flapping their wings on the side, effusing joy and inspiration.

These ambiance features help me *see* and relate to my emotions. Last time in NewsWood, I ended up rewriting a paragraph that was initially filled with anger. Otherwise, any receiver of that OpinionPlant might fixate on the raging thunder and miss the important ideas I wanted to convey. On the other hand, an overly pruned OpinionPlant with few ambiance features might feel less lively, somehow?

Today, I feel content because my OpinionPlant is sincere and carries the depth and range of my expressions. I ask the NewsBall to send it to my coworker Dahlia's NewsWood—at least, this is one way to respond to her question!

### 5.6 NewsWood Embraces Night Time

Now, everything is getting darker, and little fireflies appear. The NewsBall starts to get sloppy, as if the igloo were melting. I gently patted it and said "thank you." Hearing this, the NewsBall shrinks and becomes a small crystal ball again. It quickly jumps into the darkness and disappears.

## 6 From NewsWood to Future Digital Well-being

NewsWood offers safety and empowerment by transforming news reading into playing and working with plants and seed pods. We analyze the dynamics of felt structure in the story, based on Table 2.

### 6.1 Fostering Felt Structure

*Pausing* affirm necessary friction, creating "a space for hesitation and resistance" [136] essential for emotion regulation, creativity, and rest. In NewsWood, the protagonist can "simply step outside (the NewsBall) and let it gently float away, giving me space to lie down on the floor and think." This floor is infused with "virtual native grass, trees, and seasonal flowers," anchoring NewsWood to the physical living room and endowing it with distinct *Boundedness*.

At the end of the story, darkness descends and the NewsBall becomes sloppy—this *Temporal Regularity* naturally invites a transition from the activity. Future design can support well-being by synchronizing with natural rhythms. Merely displaying abstract "time" does not suffice. For instance, "morning" is not simply 8 a.m. on a clock; the experience of morning may emerge from sensing sunlight, catching lingering dream memories, and moving through routines—dynamic elements that converge to create an embodied and situated sense of time. Related to temporality, NewsWood departs from the often normalized *fast* mode of attention [127, 139]; it intentionally slows down through *Gradual Unfolding*. Each page of news appears on a NewsPlant leaf: "I walk around its various leaves, sometimes tiptoeing or crouching to get a specific view." This pacing fosters reflection, longer-term thinking, and empathy for distant others.

## 6.2 Enabling Felt Unstructuredness

In NewsWood, the protagonist's bodily movements transform abstract thinking into situated action—"I can place an idea in a Seed Pod and eventually plant it in soil." Intentionally privileging *Contextualized Bodily Movement* enables people to become nimble and agile in thinking and action [8, 35, 121, 136]. NewsWood showcases relaxed yet responsive encounters with a cunning NewsBall and various Seed Pods; this *Responsive Exploration* exemplifies freedom worth designing for.

*Emotional Range and Ambiguity* indicates "freedom to feel" [15]. NewsWood renders emotions as fire, thunder, or butterflies alongside a plant's evolving life stages; these manifestations are fluid, relational, and more open to interpretation than linguistic concepts. Exploring unconventional emotion expression—using clay shapes [113], or dance and acoustic phrases—cultivates fruitful "ambiguous zones" [125] that preserve experiential richness. Lastly, while impermanence may feel disquieting, it can liberate people from entrenched patterns. NewsWood keenly embraces this dynamism: information on NewsPlants will evaporate, creating brief windows for interaction. Carving out digital spaces with *Impermanent and Random Factor* opens transformative possibilities for meaning-making.

## 7 General Discussion

As John Dewey described in *The Public and its Problems* [39], without clear communication of the "invisible and intangible thoughts and aspirations congruous with" humanity's tools, the public will "remain shadowy and formless, seeking spasmodically for itself, but seizing and holding its shadow rather than its substance."

Echoing Dewey, we argue today's digital environments rest on crucial assumptions that need to be made explicit to help the public grasp their essence. In this paper, we begin to unpack key implicit social psychological dynamics; our framework unveils a new guiding question: "How can we foster well-being through balancing felt structure with unstructuredness?"

## 7.1 Theoretical Contribution

As digital and physical environments continue to intersect and diverge, questions of what constitutes place have attracted considerable attention across disciplines [63]. Halegoua proposed that "a sense of place is integral to understanding contemporary relationships with digital media" [64]. Our framework demonstrates that meaningful place connections—digital, physical, or hybrid—emerge through embodied meaning-making that balances structure with freedom. This framework offers a unified theoretical foundation for examining continuity and discontinuity in social psychological tendencies and behaviors across various arenas. Our theory reorients digital environment research toward deeper engagement with the sources of emotional resonance and identity formation and change, ultimately safeguarding both individual and socio-ecological well-being.

## 7.2 Design Implication

The placeless and disembodied approach to digital design reflects Eurocentric philosophies and neoliberal beliefs [115, 120, 136, 141]. In contrast, emphases on place-based identity, embodied presence, and balancing opposing tendencies can be found across various non-Western contexts. Our framework calls for incorporating diverse global cultural perspectives and lived experiences for envisioning future digital environments. Moreover, embodied place-making positions people as meaning-makers who naturally care for and revisit places that carry significance for identity construction and relationship building. Our framework thus highlights the principle of designing for *meaning* rather than for *use* or *usability* alone [14].

### 7.3 Future Direction

How can designers recognize when they have created affordances for balanced psychological dynamics? We suggest future research develop measures for assessing this balance. Balanced experiences manifest as dynamic, embodied, and situated knowledge—insights that static metrics often fail to capture [96]. We recommend designers also cultivate embodied place-making in any context they hope to design for. Moreover, it is worthwhile to examine when felt structure and unstructuredness reinforce each other and when they conflict. For instance, a stable channel for disseminating high-quality information can provide certainty while encouraging personal learning and societal change; however, seeking certainty and being open to change can also create tension. Investigating which combinations of felt structure and unstructuredness prove viable—and which falter—will be necessary.

We encourage future work to examine variations in felt structure and unstructuredness across digital environments. There is not a monolithic digital space; considerable heterogeneity exists among platforms and online communities [33]. In particular, it is crucial to consider people's agency in overriding intended uses of designed environments and their creativity in reshaping them [9, 17]. We suggest future researchers explore emerging properties and unexpected consequences when new affordances are introduced.

## 8 Conclusion

Given the issues plaguing existing digital environments, imagining alternatives becomes essential. We develop a theoretical framework for balancing felt structure and unstructuredness, employing creative storytelling to illustrate embodied digital place-making. This work encourages critical examination of the often taken-for-granted assumptions about people's goals, mindsets, and behaviors as they relate to digital spaces. We hope to inspire radical reimagining of how future digital environments can foster well-being across individuals, communities, societies, and the natural world within their interconnected relationships.

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